

Article

Cultural Factors Influencing Mental Health Stigma: Perceptions of Mental Illness (POMI) in Pakistani Emerging Adults

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Abstract: Pakistan has a fast-growing, young, and highly religious population. Mental health literacy and care in Pakistan do not meet the population's needs, and mental health stigma (MHS) is cited as the cause. Explanations for MHS across cultures include collectivism, and sociocultural-religious/spiritual beliefs and values surrounding mental illness and those who experience it. MHS interventions and campaigns that aim to improve help-seeking behaviors require insight into the emic perspectives of each target population. Although these perspectives have been elusive for Pakistanis, they are more available today due to growing interest in studying and improving Pakistani mental health. This cross-sectional study of 92 Pakistani emerging adults explored whether collectivism was associated with stigmatizing attitudes toward mental illness. This study also piloted the Perceptions of Mental Illness (POMI) questionnaire, a 44-item true/false survey customized to the Pakistani context, to assess how mental health knowledge, perceptions, exposure, and help-seeking preferences related to stigmatizing attitudes. Results indicated that the POMI provided unique insights into Pakistani beliefs and attitudes that relate to both stigmatizing attitudes and collectivism. With further development, the POMI may be used to guide the design of mental health awareness programs in Pakistan, ultimately helping to reduce MHS and increase help seeking when needed.

Keywords: Pakistan; mental illness stigma; help seeking; religion/spirituality; collectivism; exposure; emerging adulthood



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1. Introduction

Pakistan is the fifth most populous country in the world, with an estimated 220 million individuals (World Bank 2020a)—of which 96.4% are Muslim (Pew 2019)—and a median age of 22.4 years. The developmental and mental health needs of Pakistanis are largely unmet (Grantham-McGregor et al. 2007; Mirza and Jenkins 2004; Shafiq 2020; Taj 2016). As a result, Pakistan has recently been a focus of global mental health projects, such as Harvard's Global Mental Health (e.g., Yousafzai et al. 2014, 2016). Pakistanis are less informed about mental health as it is highly stigmatized, and sociocultural-religious/spiritual explanations and interventions for mental illnesses are prioritized (Shafiq 2020).

As in other cultures, it is understood that mental health stigma among Muslims is a major barrier to receiving care and can result in multiple downstream social and functional consequences (Çiftçi et al. 2013). This is particularly salient for emerging adults (ages 18–29 years), who are in a sensitive developmental period that is also associated with the occurrence of various mental health difficulties. Explanations for mental health stigma in cross-cultural research generally investigate paradigms such as individualism–collectivism (Triandis 1988, 1995). A more nuanced understanding of the context-specific factors that influence mental health stigma is needed in order to better understand stigma in Pakistanis, and ultimately to reduce barriers to mental health literacy and care. This study was a preliminary exploration of how knowledge and perceptions of mental illness (and the mentally ill) that have been endorsed by Pakistanis in the literature may be contributing to

mental health stigma in Pakistani emerging adults. The aim of this work was to contribute to the development of an ecologically grounded mental health knowledge questionnaire for Pakistanis that can be used to inform and assess the efficacy of mental health stigma interventions in this population. Such a measure may help to identify aspects of the Pakistani cultural context that may be adaptive, maladaptive, or neutral when it comes to how they impact mental health stigma and help-seeking behaviors, furthering our understanding of how culture influences mental illness and its outcomes.

1.1. Culture and Mental Illness

Culture can be defined as “an integrated constellation of practices, symbols, values, and ideals that are constructed and shared by a community, transmitted from one generation to the next, constantly renegotiated and subject to change, and operating at the individual and societal levels” (Causadias et al. 2018a). Although the global lifetime prevalence of common mental illnesses (i.e., mood, anxiety, and substance use disorders) is estimated to be approximately 29.2% (Steel et al. 2014), culture plays a large role in the experience and conceptualization of mental illness and how to overcome it. Rather than each disorder showing culturally distinctive configurations of symptoms, as noted in the latest diagnostic and statistical manual of mental disorders (DSM-5; American Psychiatric Association 2013, p. 758), “all forms of distress are locally shaped”.

Perhaps the strongest evidence supporting the claims to cultural differences in the explanations and experiences of distress comes from research in serious mental illnesses (SMI) such as schizophrenia, which finds that the social environment is both a risk factor for psychosis and a predictor of disease outcomes. For example, the World Health Organization (WHO) finds that individuals with schizophrenia in developing countries (e.g., Nigeria and India) generally have a better prognosis (i.e., lower mortality, fewer hospitalizations, and better functioning) than those in developed countries (e.g., UK and USA), despite taking less medications and having less access to care (Jablensky et al. 1992; Jablensky and Sartorius 2008). In addition, a form of schizophrenia that is characterized by prolonged periods of complete freedom from all symptoms, called non-affective acute remitting psychosis (NARP), is ten times more common in developing than in developed countries. Social isolation was a predictor of poorer outcomes across countries in the WHO studies, and Jablensky and Sartorius (2008) contend that culture, defined by them as the context of gene–environment interactions, strongly influences the outcome of clinical disease.

To explore this further, the medical anthropologists Luhrmann and Marrow (2016) investigated schizophrenia across cultures. Their investigations uncovered the construct of social defeat, whether physical or symbolic, as a core mechanism of the difference in rates of and outcomes from psychotic illness across cultures. In Western countries such as the United States that follow the medical model of illness, schizophrenia is still viewed by many as an incurable disability, despite strong support for psychosocial recovery and rehabilitation (Stacy and Davidson 2022). Although usual care for schizophrenia has moved away from long-term institutionalization and toward a combination of hospitalization, temporary housing, stipends, medication, and counseling, many individuals still refuse these services, or are turned away (e.g., from housing due to non-compliance with medication). This often leads to unemployment, homelessness, and abandonment, putting those with illness in what has been referred to as an “institutional circuit” (Hopper et al. 1997) instead of recovery, making them more likely to experience social defeat repeatedly. Today, experts in psychosocial treatments for psychosis have come together and called for “recovering the US mental healthcare system” (Stacy and Davidson 2022). Jails and prisons have become the largest mental health service providers in the US, and Davidson et al. (2022) describe the “revolving door” in which individuals with SMI re-enter the criminal justice system because they did not have access to mental health resources needed to re-enter the community. The authors highlight the medical vs. social models of disability, recognizing that society often inadequately accommodates diverse behaviors and characteristics, and that treating dopamine alone (i.e., via psychotropic medications) negates the need to address the civil

and human rights of individuals with SMI so that they may be dignified, legitimized, and empowered in US society and systems.

On the other hand, in many developing countries, the experience around schizophrenia often diminishes the likelihood of experiencing the social defeat that individuals in the West may face frequently. This is thought to occur because the general social conditions around the disease are less harmful. For some examples, there are more (i.e., non-medical) ways in which schizophrenia can be understood, including as a temporary, or even a positive, religious or spiritual experience. Further, individuals often return to work after a psychotic episode, and family/community involvement is high (i.e., living with families who often provide support; marrying and raising children).

The vastly different environments that individuals with schizophrenia may be living in do not represent monoliths of Western and non-Western countries. Many in the West receive adequate care and achieve full recovery, and those in non-Western countries may face compounding difficulties such as a lack of mental health knowledge and access to care. The cross-cultural literature on outcomes from SMI suggests that although the experience of mental illness—like other illnesses—is distressing, the distress often varies significantly depending on one's social context. Social isolation and defeat may be critical in understanding the influences of culture on better or worse outcomes from mental health difficulties, and both may be subsumed under the umbrella of one mechanism of exclusion when it comes to mental illness, titled mental health stigma (MHS).

1.2. Mental Health Stigma (MHS)

Mental health stigma (MHS) consists of the knowledge (ignorance), attitudes (prejudice), and behavior (discrimination) toward those with mental illness (Thornicroft 2006), and can be divided into public stigma and self-stigma (Corrigan et al. 2011). Public stigma refers to the negative views that members of the public hold about those with mental illness. When one internalizes such views toward themselves, it is referred to as self-stigma. Both public stigma and self-stigma contribute to the likelihood that someone who needs mental health care will not seek help (Corrigan 2004). MHS can lead to significant negative outcomes as it can cause discrimination, exclusion, and injustice (Corrigan 1998; Corrigan et al. 2001). MHS is associated with lower self-esteem, and may constrain an individual's ability to socialize, acquire employment, or find housing (WHO 2015). Feeling stigmatized related to one's mental illness may intensify the illness (Ayazi et al. 2014; Razali and Ismail 2014; Shidhave and Kermodé 2013). In fact, the effects of stigma related to one's mental illness have been noted as potentially being more harmful than the illness itself (Finzen 1996; Sartorius 2012).

To address stigma, the WHO (2015) and others (e.g., National Institutes of Health and Clinical Excellence; NICE 2007) have recommended large-scale awareness programs that are (a) designed according to the unique needs of individual cultures, and (b) address topics such as knowledge and attitudes about the prevalence and treatment of mental illness and the potential for recovery. To that end, numerous efforts have been made to assess knowledge of mental illness across cultural contexts, with popular tools for Western cultures including the Mental Health Knowledge Schedule (MAKS; Evans-Lacko et al. 2010). Awaad et al. (2019) also developed a mental health knowledge questionnaire and validated it in a sample of Muslim American women. Wei et al. (2016) systematically reviewed measurement tools used to assess knowledge of mental illness, and recommended developing tools that catered to the unique beliefs held by individual communities, rather than trying a one-size-fits-all approach.

Generally, men experience higher rates of MHS than women, and those from racial/ethnic minorities endorse higher MHS than those from Western cultures (Corrigan and Watson 2007). Further, experiences of MHS likely vary at the intersections of culture and gender, as these concepts are closely related and overlap with each other in unique ways across groups. A review of MHS (Çiftçi et al. 2013) highlighted that the stigmatizing experience of a working-class Muslim woman with depression may consider-

ably differ from that of a middle-class White woman with depression, both in degree (i.e., higher stigma) and kind (i.e., qualitatively different stigma, with different effects). Cultural differences are presumably due to a lack of knowledge about mental health and its care, leading to high stigma associated with mental illness and the mentally ill.

1.3. MHS across Cultures

The manifestation of MHS varies from culture to culture. Marrow and Luhrmann (2012) investigated what they referred to as the “zone of social abandonment” for individuals with SMI across cultures. The authors found that, compared to Americans who are often visible, Indians are often invisible as they may be kept in their homes for fear of bringing shame to the family. Feeling shame related to having or disclosing about mental illness in oneself or one’s family has been observed in many non-Western cultures, including in Muslims such as Arabs, Africans, and South Asians (for a review of stigma in Muslims, see Çiftçi et al. 2013). Among Muslims, seeking professional psychological help is not prioritized, often due to the stigma associated with mental illness.

Explanations for MHS are also strongly influenced by culture. A review of MHS in the United States found that ethnocultural beliefs and values about mental illness predict stigma in different ways for different communities (Abdullah and Brown 2011). Further, it has been suggested that the individualism–collectivism paradigm (Triandis 1988, 1995) may be an explanatory device when studying MHS across cultures, with collectivism particularly cited as a key factor in explaining stigma (Abdullah and Brown 2011; Çiftçi et al. 2013; Papadopoulos et al. 2013). High in-group value (i.e., collectivism) may lead to more stigma as phenomena outside of the norm (e.g., mental illness) may be considered an aberration, leading to social exclusion. However, collectivistic values also result in more support during difficulties, and given the aforementioned findings about social isolation and defeat, fostering collectivism has recently become a central component of evidence-based family treatments for schizophrenia (e.g., Weisman de Mamani et al. 2021). In addition, within a given culture, both individualism and collectivism may vary by sub-cultural (e.g., between conservative and liberal), familial (e.g., single-child household vs. living with extended family), and community (e.g., religious) contexts, and as a function of the unique makeup of a mental illness (e.g., presence vs. absence of paranoid ideation in SMI). Such variations highlight that although the individualism–collectivism dichotomy is a heuristically useful analytical tool, there is no definitive reality when it comes to how it impacts MHS across cultures.

In fact, Causadias et al. (2018a, 2018b) reviewed over 1000 studies and conducted two experiments, and argued that the role of individualism–collectivism has been exaggerated in developmental and psychological research, naming this the “cultural (mis)attribution bias”. They found that researchers often emphasize cultural and collectivistic explanations for phenomena when it comes to minoritized individuals (overlooking their individual characteristics), and emphasize individual psychological explanations when it comes to the White majority (overlooking their culture). The authors suggested that more nuance in research is needed to better explain how individualistic as well as cultural and collectivistic beliefs and values influence psychological outcomes among all groups, as individualism and collectivism are highly correlated, often act as confounds of each other, and likely intersect. Other experts (e.g., Abdullah and Brown 2011; Çiftçi et al. 2013) also recommend exploring specific cultural values and beliefs surrounding mental illness when studying MHS across cultures, and this trend is not new. For example, Papadopoulos et al. (2002) have previously explored how individualism–collectivism and knowledge of mental illnesses relate to MHS among first- and second-generation Greek-Cypriots living in the UK, and compared them to White British nationals. Lack of knowledge regarding mental illnesses was the strongest predictor of stigmatizing attitudes toward the mentally ill in their study.

It is worth noting that religious and spiritual explanations for illnesses and their resolution are also common in many cultures. In some cases, they contribute to benevolent

attitudes toward those with mental illness; and in other cases, they contribute to negative attitudes. This is not surprising, as although religion and spirituality have been associated with a multitude of physical and mental health benefits (e.g., [Koenig et al. 2012](#)), they are also associated with greater authoritarian attitudes and out-group bias ([Johnson et al. 2012](#)). Research that explores the function of religious beliefs for individuals who hold authoritarian and prejudicial views of minority groups may help us understand how best to address disparities in culturally appropriate ways ([Abo-Zena and Barry 2014](#)), and this is also true for the disparities that follow MHS. [Çiftçi et al.'s \(2013\)](#) review of MHS in the Muslim community suggested that causal beliefs about the origin and nature of mental illnesses may be contributing to stigma and consequently to negative help-seeking attitudes and behaviors. Even among Muslims who reportedly view mental health healing in a positive light, social stigma against those with mental illness is often high, leading to shame and hiding the development of mental illness in oneself and others. As noted, programs that seek to address MHS should consider the unique cultural contexts of the target population. [Corrigan \(2005\)](#) has even published a toolkit to evaluate programs that tackle MHS.

1.4. Pakistan

The Islamic Republic of Pakistan was founded in 1947 to provide a nation for the Muslims of British India upon the dissolution of British rule. The partition from India represented an unparalleled mass migration and loss of life, with approximately 20 million people displaced and one million losing their lives ([Zamindar 2013](#)), although the exact numbers are not known. The intergenerational trauma that followed the partition, coupled with the fact that Pakistan remains the only country created in the name of Islam ([Hussain 2009](#)), has likely shaped how much Pakistani society values religion and interdependence. For example, according to Pew Research Center's ([Pew 2018](#)) international surveys, Pakistan is among the most religious countries in the world today, with 94% of those surveyed indicating that religion is very important to them. Pakistan is also considered a collectivistic culture ([Culture Atlas 2016](#); [Hofstede 2017](#)), where the roles of family and relationships are emphasized when making decisions. However, these identities are not as straightforward. Even among the faithful, there is an ongoing (and often violent) conflict between those seeking classical Islamic law and those seeking supposedly individualistic Westernization ([Farhat-Holzman 2012](#)), such as through women's education or marital equality, movements that are perceived by others still as collectivistic. Due to the diverse ethnicities, languages, and cultures within Pakistan, these experiences likely differ from region to region, and also at the intersections of generations and socioeconomic classes. Ultimately, Pakistan's strong connection to religious values and collectivism is also reflected in her citizens' views of mental health and its treatment. In some cases, a preference for religious and spiritual (and against Western) conceptualizations of mental illness, in conjunction with the aforementioned roles of intergenerational trauma and collectivism that followed the formation of the nation, may also be contributing to high mental health stigma and low help seeking in Pakistan.

1.5. Mental Health in Pakistan

The mental health infrastructure of Pakistan does not meet the population's needs. The frequency of mental illnesses has increased in Pakistan against the backdrop of rising insecurity, economic issues, political uncertainty, unemployment, and terrorism ([Taj 2016](#)). [Mirza and Jenkins \(2004\)](#) observed that rates of depression in Pakistan were 36%, compared to the global average of 20%. [Taj's \(2016\)](#) review of mental health in Pakistan noted that there is a substance addiction epidemic in Pakistan, and that rates of suicide are also rising, but reliable data are unavailable due to religious and societal stigma against substance use (e.g., alcohol) and suicide. The [WHO \(2016\)](#) reported that, for a population of approximately 220 million, there were under 5500 psychiatric inpatient beds in Pakistan, with data regarding number of psychiatrists and psychologists missing from the online

repository. In all likelihood, there are more psychiatrists of Pakistani origin working abroad than at home (Lazaro 2015). A number of organizations have been working to improve the mental health situation in Pakistan, and discussions about mental health have been increasing, especially among youth, due to social media and internet access (Mangobaaz 2018, 2022).

A recent systematic review of 19 qualitative and quantitative studies explored perceptions of mental health in Pakistanis, and found that Pakistanis generally show very little understanding regarding mental health difficulties and care (Shafiq 2020). Although a minority rightly suggested that biological, genetic, environmental, and stress-related factors contribute to the development of mental illnesses, explanations for mental illnesses in all of the reviewed studies largely followed religious/spiritual, supernatural, and other ethnocultural beliefs. These included attributing the causes of mental illnesses such as schizophrenia to a test or punishment from God, spiritual possession (i.e., jinn), sorcery/curses, or loneliness (e.g., Zafar et al. 2008). In Pakistan, the role of traditional or faith healers in overcoming mental illness can also be significant. In one study of 97 psychiatric patients that was conducted across various Pakistani clinics, all participants had sought traditional services such as homeopathy, naturopathy, Islamic faith healing, and sorcery (i.e., “black magic” used to harm or help someone) prior to psychiatric help, with the majority of patients having sought more than one form of traditional treatment (Farooqi 2006). Although using religion to appraise and cope with health difficulties has benefits, especially for such a religious population who believe in its power, this can be an issue when those who need mental health care do not seek it out.

For many in Pakistan, seeking out professional psychological services for mental health difficulties is avoided, and stigma has consistently been cited as the cause (Mubbashar 2003; Shafiq 2020; Shah et al. 2019; Zafar et al. 2009). Pakistanis frequently share privacy concerns about receiving mental health care due to perceptions of others in their communities, and fears that others would not marry into their families are regularly endorsed (Shafiq 2020). Even associating with those who have mental illness may be avoided. In a qualitative study of 30 Pakistani families that was conducted in the UK, none of the participants stated that they would be willing to marry an individual with mental illness, whereas one-quarter indicated that they would consider a close relationship, and just half said that they would be willing to socialize with someone who has a mental illness (Tabassum et al. 2000). Although not representative of Pakistanis living in the country today, it does highlight how high MHS can be in Pakistani families, even within a Western context.

We are just beginning to understand what the experience of MHS is like in this unique and diverse population, and what contributes to its development. A cross-sectional survey of Pakistani University students by Waqas et al. (2014) found that more stigmatizing views (i.e., more authoritarian and socially restrictive, and less benevolent and community-oriented) were associated with less exposure to mental health literature and the mentally ill, perceived causes of mental illness as being due to poverty or drug/alcohol use, and religious/spiritual beliefs about mental illness. Croot et al. (2008) interviewed Pakistani parents of children with disabilities, and found that although all parents endorsed theological explanations for the illnesses, those who also endorsed biological explanations utilized them to refute stigmatizing attitudes prevalent in the Pakistani community.

There is a need to further develop our understanding of Pakistani beliefs and values that may be contributing to mental health stigma, and to develop culturally informed measurement tools that can be used to assess the beliefs held by audiences and the efficacy of interventions in improving attitudes toward mental health care. This is particularly important for emerging adults (ages 18–29 years), who are in a sensitive period of religious/spiritual (Arnett 2014), professional, psychological, and social development. In addition, the average population of Pakistan is young and comprised mostly of emerging adults who are more educated and have more access to technology. This population may provide a good metric through which providers may develop and disseminate stigma interventions, and may also increase the likelihood that such interventions and knowledge may

be disseminated among families and communities through various media. Thus, exploring the contextual factors that influence Pakistani emerging adults' stigmatizing attitudes may be more impactful when attempting to develop interventions that seek to reduce MHS, and ultimately to address mental health literacy and care in Pakistan. Identifying the contextual factors that contribute to MHS in this understudied population may also help to identify future directions for the study of MHS across cultures.

1.6. Current Study

The purpose of this study was to increase our understanding regarding the knowledge and perceptions of mental health in Pakistani emerging adults, and how they may be contributing to mental health stigma (MHS), measured via the Community Attitudes toward the Mentally Ill (CAMI) scale. This was performed by piloting the Perceptions of Mental Illness (POMI) questionnaire, developed by the authors. The present study sought to explore the relationships between MHS (i.e., CAMI subscales of Authoritarianism, Social Restrictiveness, Benevolence, and Community Mental Health Ideology), individualism–collectivism (measured via the Horizontal and Vertical Individualism–Collectivism [HVIC] scale), perceptions of mental illness and the mentally ill, exposure to mental illness or psychiatric hospitalization in oneself or others, and mental health help-seeking preferences in Pakistani emerging adults. We hypothesized that: (1) collectivistic values would be associated with higher MHS; (2) participants who endorse a lack of knowledge regarding mental illness would report higher MHS scores than those who do not; (3) participants who endorse religious/spiritual explanations and treatments for illnesses would report higher MHS than those who do not; (4) participants who report having less exposure to mental illness would report higher MHS than those who do not. Beyond this, via the POMI, we explored whether participants' help-seeking preferences were related to MHS, and explored other perceptions of mental illnesses and the mentally ill that may be relevant to address when developing MHS interventions in Pakistan.

2. Materials and Methods

2.1. Participants

This online study recruited Pakistani emerging adults ($n = 144$) from August 2017 to September 2018. However, at the midway point of the survey, a large number of participants ($n = 47$) were simultaneously lost. Although we can speculate that this was possibly due to a lost internet connection, this indicates that missingness was not at random and we could therefore not perform imputations on the sample. In addition, a few participants ($n = 5$) withdrew from the survey in the early stages. The remaining participants ($n = 92$) made up the final sample for this study. Recruitment was conducted by posting advertisements at local universities in Lahore, as well as through social media, snowballing, and through online articles published by a social media marketing agency, [Mangobaaz \(2018\)](#), whose main audience is young adults all over Pakistan. Participants were not compensated for taking part in this study, and were allowed to skip questions on the survey in order to encourage participation. Demographic information related to the participants can be seen in [Table 1](#).

Table 1. Sociodemographic Information Related to Study Participants (N = 92).

Sociodemographic Variable	Men		Women		Full Sample	
	n	%	n	%	n	%
Gender	32	36.78	55	63.21	-	-
Education						
High School/Matriculation	10	31.25	20	36.36	30	34.48
Bachelor’s Degree	19	59.38	26	47.27	45	51.72
Master’s Degree	3	9.38	9	16.36	12	13.79
Annual Household Income ^a						
<\$30,000	9	28.12	12	22.64	21	24.71
\$30,000–\$60,000	4	12.50	12	22.64	16	18.82
\$60,000–\$100,000	6	18.75	15	28.30	21	24.71
\$100,000–\$150,000	8	25.00	6	11.32	14	16.47
>\$150,000	5	15.63	8	15.09	16	18.82
Religion						
Islam	28	90.32	52	94.55	80	93.02
Judaism	1	3.23	0	0.00	1	1.16
Hinduism	0	0.00	1	1.82	1	1.16
Non-religious	2	6.45	2	3.64	4	4.65
Marital Status						
Single	25	78.13	42	77.77	70	77.80
In a Relationship	4	12.50	6	11.11	10	11.10
Married	3	9.38	6	11.11	9	10.00
Psychology, sociology, and/or medicine students	3	9.38	12	21.82	16	17.60
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	21.13	3.15	21.04	3.48	21.13	3.43

Note. Total n does not add to 92 due to missing data. ^a Annual household income was assessed in US Dollars, and is not representative, as the gross national income per capita in Pakistan is \$1270 (World Bank 2020b).

2.2. Measures

2.2.1. Demographics

Participants were asked to self-report their gender (man or woman), age, highest educational level attained, family’s annual household income, religion (five options given in addition to non-religious), marital status, and if they were psychology, sociology, and/or medicine majors (single yes/no item).

2.2.2. Horizontal and Vertical Individualism–Collectivism (HVIC)

The Horizontal and Vertical Individualism–Collectivism (HVIC; Triandis and Gelfand 1998) scale consists of 16 items answered on a 9-point Likert-type scale (*Strongly Agree* to *Strongly Disagree*). Triandis and Gelfand (1998) operationalized two new constructs related to culturalism, which left room for four distinct categories: Horizontal Individualism (HI), Vertical Individualism (VI), Horizontal Collectivism (HC), and Vertical Collectivism (VC). However, Triandis et al. (1998) suggested that combining the total individualism and collectivism scores in this scale (for scores of up to 72 in each subscale) is an appropriate way to assess individualism–collectivism. This method was utilized here. In our sample (N = 92), the eight Individualism items on the HVIC scale had a Cronbach’s alpha of 0.70, the eight Collectivism items had a Cronbach’s alpha of 0.85, and the 16 items had a combined Cronbach’s alpha of 0.81, indicating good reliability.

2.2.3. Community Attitudes toward the Mentally Ill (CAMI)

The Community Attitudes toward the Mentally Ill (CAMI; Taylor and Dear 1981) scale is a measure of public mental health stigma (MHS). It is a 40-item assessment tool used to measure both positive and negative attitudes toward the mentally ill, as well as attitudes toward mental health facilities and the mentally ill being located in one’s community. The CAMI is in a 5-point Likert-type scale, with options ranging from “strongly agree” to

“strongly disagree”. It measures four dimensions, or subscales, of mental health stigma: Authoritarianism (AR), Benevolence (BN), Social Restrictiveness (SR), and Community Mental Health Ideology (CMHI). Authoritarianism (AR) is a negative MHS subscale and refers to labeling the mentally ill as an inferior class that must be coercively controlled. A sample AR item is: “As soon as a person shows signs of mental disturbance, he should be hospitalized”. Benevolence (BN) is a positive MHS subscale and refers to the humanistic and religious position of sympathizing with the mentally ill. A sample BN item is: “The mentally ill have, for too long, been the subject of ridicule”. Social Restrictiveness (SR) is a negative MHS subscale and refers to the view that the mentally ill are a threat to society. A sample SR item is: “The mentally ill should not be given any responsibility”. Community Mental Health Ideology (CMHI) is a positive MHS subscale and explores feelings related to having mental health facilities and the mentally ill close to one’s community. A sample CMHI item is: “The best therapy for many mental patients is to be part of a normal community”.

The CAMI has 10 questions for each subscale, for a total of 40 questions. Within each subscale, five questions are pro-mental illness, and five are anti-mental illness. Total scores for the four subscales are calculated by reversing the appropriate items and adding the scores, for total scores of up to 50 in each subscale. The CAMI has previously been used in a sample of Pakistani University students (Waqas et al. 2014), who reported median scores for their sample. Median scores of the two positive MHS subscales in our sample (BN = 41; CMHI = 38) were higher than those found in the Waqas et al. (2014) study (BN = 36; CMHI = 32.5). Median scores of the negative MHS scales were lower in our sample (AR = 24; SR = 21) than that observed in Waqas et al.’s (2014) study (AR = 29; SR = 28). This indicates that participants in our study generally had lower MHS than those in the Waqas et al. (2014) study. The CAMI was found to have acceptable reliability in our sample ($N = 92$) for the four subscales and the combined measure, as assessed via Cronbach’s alphas (AR $\alpha = 0.65$; BN $\alpha = 0.77$; SR $\alpha = 0.64$; CMHI $\alpha = 0.75$; combined $\alpha = 0.79$).

2.2.4. Perceptions of Mental Illness (POMI)

This 44-item assessment tool was developed for the purposes of this study. It follows past work (Aloud and Rathur 2009; Evans-Lacko et al. 2010; Papadopoulos et al. 2002; Wolff et al. 1996) that assesses knowledge and perceptions of mental illness in different cultures, including the study conducted among Pakistani university students (Waqas et al. 2014), and contains other items that have been noted as perceptions of mental health in Pakistanis (see Shafiq 2020). The questionnaire is in a true/false format, as this is considered most appropriate when assessing knowledge of mental illnesses, although it may highlight a lack of knowledge for certain respondents or make them feel less intelligent (Evans-Lacko et al. 2010). As such, participants were allowed to skip items that they did not want to answer in order to encourage their participation, as suggested by the Institutional Review Board (IRB).

Ten items ask participants to “Identify the following conditions as mental illnesses”, and options include “anger”, “insanity”, “depression”, and “possession”. Ten items ask participants if “It is possible to identify an individual with mental illness through”, and options include “strange behavior”, “bad relationships with others”, and “talking to oneself”. Ten items ask if “Mental illnesses are caused by”, and options include “loneliness”, “genetics”, and “spirits (jinn) and sorcery”. Seven items ask participants about the difference between mental illness and mental handicap to assess perceived permanency of mental illness (e.g., Wolff et al. 1996), about views of the mentally ill as less intelligent or more aggressive, and if it would be better not to marry someone with a mental illness. These 34 items had a Kuder–Richardson 20 (KR-20) value of 0.69, and were conceptualized as reflecting Accurate Knowledge (AK, KR-20 = 0.61 for 17 items) or Inaccurate Perceptions (IP, KR-20 = 0.67 for 17 items). Four unscored items are related to past exposure to mental illness in oneself or an acquaintance. Finally, four unscored items ask about help-seeking preferences, as such: “If I believed I had a mental illness, I would:” with options including “Visit a religious healer

or expert”, “Confide in my family”, “Seek help from a mental health professional”, and “Keep it to myself”. KR-20 was 0.69 for the entire measure (i.e., 44 items).

Exploratory Factor Analysis (EFA) was performed on all items of the POMI to explore its factor structure and inform its future development. After creating a tetrachoric correlation matrix for binary data, Parallel Analysis (Horn and Engstrom 1979) and Very Simple Structure Analysis (Revelle and Rocklin 1979) revealed that responses on the items may be extracted in three, four, or six factor dimensions. These included type of question for the three factor solution (identifying illnesses [items 1–10], identifying the mentally ill [items 15–24], and causes of mental illnesses [items 25–34]), or domains of knowledge in the four and six factor solutions. The four factor solution included lack of knowledge and religious views (e.g., being around the mentally ill causes illness; the mentally ill are less intelligent; preference to visit a religious/faith healer), behaviors and blaming the individual (the three substance use questions; bad relationships with others cause illness; aggressive behavior), medical (Parkinson’s disease, insanity, and possession are mental illnesses; genetics as a cause), and external influences/connecting with the mentally ill (poverty, trauma, and bad parenting are causes of illness; rejecting that strange faces or talking to oneself can be used to identify the mentally ill; endorsing experience with mental illness in oneself). The POMI can be seen in Table 2, which also shows the distribution of participant responses on the various items, and average scores on all measures in this study.

Table 2. Descriptive Statistics of Horizontal and Vertical Individualism–Collectivism (HVIC), Community Attitudes toward the Mentally Ill (CAMI), and Perceptions of Mental Illness (POMI) (N = 92).

Variable	n	M	SD
Horizontal and Vertical Individualism–Collectivism (HVIC)			
Individualism	92	54.16	9.59
Collectivism	92	58.74	9.01
Community Attitudes toward the Mentally Ill (CAMI)			
Authoritarianism (AR)	92	21.59	6.10
Benevolence (BN)	92	33.44	11.26
Social Restrictiveness (SR)	92	18.66	7.45
Community Mental Health Ideology (CMHI)	92	31.23	10.29
Perceptions of Mental Illness (POMI)			
Identify the following conditions as mental illnesses:	<i>n</i>	True	False
1. Anger	89	41.6%	58.4%
2. Bipolar disorder	89	87.6%	12.4%
3. Insanity	89	89.9%	10.1%
4. Parkinson’s disease	82	41.5%	58.5%
5. Memory loss	88	53.4%	46.6%
6. Depression	89	86.5%	13.5%
7. Borderline personality disorder	87	83.9%	16.1%
8. Loneliness (IP)	87	49.4%	50.6%
9. Drug/alcohol abuse	87	57.5%	42.5%
10. Possession	90	53.3%	46.7%
11. There is no difference between a mental illness and a mental handicap (IP)	91	15.4%	84.6%
12. Mental handicaps are temporary and can appear at any moment (IP)	89	49.4%	50.6%
13. Mental illnesses reduce an individual’s IQ and result in learning difficulties (IP)	91	61.5%	38.5%
14. The mentally ill are less intelligent than normal individuals (IP)	90	26.7%	73.3%
It is possible to identify an individual with mental illness through:			
15. Strange behavior	92	82.6%	17.4%
16. Aggressive behavior (IP)	90	78.9%	21.1%
17. Bizarre speech	89	69.7%	30.3%
18. Jealousy (IP)	89	29.2%	70.8%
19. Bad relationships with others	90	60.0%	40.0%
20. Obesity (IP)	89	28.1%	71.9%
21. Bizarre way of dressing/hairstyles (IP)	87	42.5%	57.5%
22. Drug/alcohol abuse	91	62.0%	38.0%
23. Strange facial expressions (IP)	90	54.4%	45.6%
24. Talking to oneself (IP)	90	62.2%	37.8%
Mental illnesses are caused by:			
25. Loneliness	87	81.6%	18.4%
26. Environment	81	86.4%	13.6%
27. Genetics	81	76.5%	23.5%

Table 2. Cont.

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
28. Poverty	81	64.2%	35.8%
29. Being around the mentally ill (IP)	76	36.8%	63.2%
30. Childhood or adult trauma	78	91.0%	9.0%
31. Stress (due to family, finances, or relationships)	78	94.9%	5.1%
32. Bad parenting (IP)	78	83.3%	16.7%
33. Substance abuse	76	67.1%	32.9%
34. Spirits (jinn) and sorcery (IP)	77	58.4%	41.6%
35. The mentally ill are more aggressive than normal individuals (IP)	79	64.6%	35.4%
36. It would be better not to marry someone with a mental illness (IP)	76	52.6%	47.4%
Exposure to mental illness:			
37. I have been hospitalized for a mental illness	78	6.4%	93.6%
38. I have known somebody who has been in psychiatric care in a hospital	78	43.6%	56.4%
39. I know somebody who has a mental illness	78	80.8%	19.2%
40. I have personally suffered from a mental illness	78	37.2%	62.8%
If I believed I had a mental illness, I would:			
41. Visit a religious healer or expert	78	38.5%	61.5%
42. Confide in my family	79	60.8%	39.2%
43. Seek help from a mental health professional	78	88.5%	11.5%
44. Keep it to myself	77	46.8%	53.2%

Note. IP = Inaccurate Perceptions (remaining questions represent Accurate Knowledge). Score ranges were as follows: Individualism 18–72, Collectivism 28–72, AR 11–37, BN 26–50, SR 12–36, and CMHI 25–50.

2.3. Procedure

This study received IRB approval from Barry University. The questionnaire was translated to Urdu by a master's student who was enrolled at a university in Pakistan, and was independently back-translated to English by a Pakistani assistant professor who holds a doctorate degree. Discrepancies in translations were discussed with the first author (a native Urdu speaker and graduate student in clinical psychology), and decisions were made with the Pakistani assistant professor on how best to proceed. The survey was administered in both English and Urdu (provided side by side). Participants were invited (via advertisements posted at university bulletin boards, social media, an online article, and snowballing) to take part in a study that ultimately sought to address disparities in mental health literacy and care in Pakistan. All participants were given informed consent, and those who consented were directed to take the survey. The original and translated questionnaires are accessible via the corresponding author.

2.4. Statistical Methods

All analyses were performed in SPSS (Version 28), except factor analysis on the POMI, which was performed in R. First, HVIC, CAMI, and the two POMI subscales (AK and IP) were assessed for the assumption of normality. As suggested by Kline (2016), non-normality of the data was determined via absolute values of the skewness (greater than three) and kurtosis (greater than eight) indices. Covariate analyses (Pearson's correlations for age, *t*-tests for gender and major, and ANOVAs for categorical variables) were performed to assess the relationships between the outcome (i.e., CAMI subscales) and demographic characteristics of the sample.

Bivariate correlations were used to assess the relationships between the HVIC, CAMI, and POMI subscales. For significant associations, hierarchical linear regressions were used to determine associations after controlling for covariates. In addition, Individualism was regressed on the respective CAMI subscale after controlling for Collectivism (and relevant covariates), and vice versa, to determine if Individualism and Collectivism were acting as confounding variables in this relationship. Moreover, for the POMI subscales AK and IP, Individualism and Collectivism were also added as covariates in the second step of a hierarchical linear regression, after controlling for demographic covariates in the first step. ANCOVAs were performed to assess how individual responses on the POMI scale related to scores on the four subscales of the CAMI, after controlling for relevant covariates. Alpha values of 0.05 were used to determine whether participants who indicated a response (true

vs. false) were likely to hold more stigmatizing attitudes (on average) than those who did not, after controlling for covariates. Due to the low sample size (which increased the likelihood of Type II errors) and the exploratory nature of this study, Bonferroni corrections were not applied at this stage, but are considered in the discussion.

3. Results

3.1. Preliminary Analyses

The Horizontal and Vertical Individualism Collectivism scale (HVIC), Community Attitudes toward the Mentally Ill scale (CAMI), and Perceptions of Mental Illness (POMI) subscales were assessed for normality. Absolute values of all the skewness and kurtosis indices fell within acceptable ranges (<1.18 and <0.97, respectively). Covariate analyses revealed that more educated participants reported higher stigmatizing attitudes, as observed for Authoritarianism (AR), Social Restrictiveness (SR), and Benevolence (BN). In addition, men endorsed higher stigmatizing attitudes than women, as observed for Authoritarianism (AR), Benevolence (BN), and Community Mental Health Ideology (CMHI). Therefore, gender and education were used as covariates for subsequent analyses with respective subscales (both gender and education for AR and BN, education only for SR, and gender only for CMHI).

3.2. The CAMI and the HVIC

Results of the bivariate correlation analyses revealed little support for our first hypothesis, that Collectivism would be associated with higher MHS. At the bivariate level, Individualism was significantly associated with higher AR ($r = 0.29, p = 0.005$) and SR ($r = 0.22, p = 0.039$) scores, and Collectivism was also significantly associated with higher AR scores ($r = 0.31, p = 0.003$). After controlling for education and gender, Individualism was still significantly associated with AR ($\beta = 0.23, p = 0.020$), but Collectivism was no longer significantly associated with AR ($\beta = 0.06, p = 0.110$). After controlling for education, Individualism was only trending toward high SR scores ($\beta = 0.18, p = 0.078$). Follow-up analyses revealed that, even after controlling for Collectivism, Individualism was trending toward being associated with higher AR scores ($\beta = 0.20, p = 0.052$). Correlations for all study variables are displayed in Table 3.

Table 3. Bivariate Correlations between Horizontal and Vertical Individualism–Collectivism (HVIC), Community Attitudes toward the Mentally Ill (CAMI), and Perceptions of Mental Illness (POMI) Subscales ($N = 92$).

Scale	1	2	3	4	5	6	7	8
1 Individualism	-							
2 Collectivism	0.31 **	-						
3 AR	0.29 **	0.31**	-					
4 BN	-0.08	-0.03	-0.60 ***	-				
5 SR	0.22 *	0.15	0.66 ***	-0.63 ***	-			
6 CMHI	-0.15	-0.18	-0.62 ***	0.72 ***	-0.59 ***	-		
7 AK	-0.11	-0.08	0.08	0.00	0.11	-0.02	-	
8 IP	0.16	0.37 ***	0.46 ***	-0.28 ***	0.40 ***	-0.38 ***	0.03	-

Note. AR = Authoritarianism, BN = Benevolence, SR = Social Restrictiveness, CMHI = Community Mental Health Ideology, AK = Accurate Knowledge, and IP = Inaccurate Perceptions. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

3.3. The POMI

Accurate Knowledge (AK) was not significantly associated with Individualism–Collectivism nor with the CAMI subscales. Inaccurate Perceptions (IP) was significantly associated with Collectivism, as well as with more stigmatizing attitudes on all CAMI subscales ($p < 0.001$). After controlling for relevant covariates, IP was still significantly associated with AR ($\beta = 0.41, p < 0.001$), BN ($\beta = -0.25, p = 0.016$), SR ($\beta = 0.38, p < 0.001$), and CMHI ($\beta = -0.41, p < 0.001$). These associations remained significant after controlling

for Individualism (AR $\beta = 0.38, p < 0.001$; BN $\beta = -0.26, p = 0.015$; SR $\beta = 0.36, p < 0.001$; CMHI $\beta = -0.40, p < 0.001$) and Collectivism (AR $\beta = 0.40, p < 0.001$; BN $\beta = -0.33, p = 0.002$; SR $\beta = 0.41, p < 0.001$; CMHI $\beta = -0.41, p < 0.001$). Table 4 shows results of the ANCOVA analyses, which are reported as the answer that was related to significantly more stigmatizing scores on each CAMI subscale, after controlling for relevant covariates.

Table 4. POMI Responses Indicating Stigmatizing Attitudes on the CAMI Subscales via ANCOVAs.

POMI Items	CAMI Subscales			CMHI
	AR	BN	SR	
Identifying conditions as illnesses:				
Anger ^{a,b}	T ($p = 0.002$)	T ($p < 0.001$)	T ($p = 0.004$)	T ($p < 0.001$)
Bipolar disorder ^b		F ($p < 0.001$)	F ($p = 0.014$)	
Insanity				F ($p = 0.003$)
Parkinson’s disease				
Memory loss				
Depression	F ($p = 0.029$)		F ($p = 0.032$)	
Borderline personality disorder		F ($p = 0.050$)		F ($p = 0.051$)
Loneliness ^a				
Drug/alcohol abuse				
Possession				
No difference b/w illness and handicap ^a		T ($p = 0.050$)	T ($p = 0.024$)	T ($p = 0.004$)
Handicaps are temporary ^a				
Illnesses reduce IQ ^a	T ($p = 0.017$)		T ($p = 0.002$)	T ($p = 0.015$)
Mentally ill are less intelligent ^{a,b}	T ($p = 0.006$)	T ($p = 0.001$)	T ($p = 0.001$)	T ($p < 0.001$)
Identify mentally ill through:				
Strange behavior	T ($p = 0.012$)			T ($p = 0.025$)
Aggressive behavior ^a	T ($p = 0.030$)			
Bizarre speech			T ($p = 0.031$)	
Jealousy ^{a,b}		T ($p = 0.019$)		T ($p < 0.001$)
Bad relationships with others				
Obesity ^a				
Bizarre dressing/hairstyles ^a	T ($p = 0.021$)			
Drug/alcohol abuse			F ($p = 0.050$)	
Strange facial expressions ^a				
Talking to oneself ^a		T ($p = 0.020$)		T ($p = 0.046$)
Causes:				
Loneliness				
Environment		F ($p = 0.008$)		
Genetics				
Poverty				
Being around the mentally ill ^a				
Trauma				
Stress ^b		F ($p = 0.010$)	F ($p < 0.001$)	
Bad parenting ^a				
Substance abuse				
Jinn and sorcery ^a	T ($p = 0.013$)	T ($p = 0.031$)	T ($p = 0.009$)	
Mentally ill are more aggressive ^{a,b}	T ($p < 0.001$)	T ($p = 0.026$)	T ($p = 0.003$)	T ($p = 0.013$)
Better not to marry ^{a,b}	T ($p = 0.007$)	T ($p = 0.032$)	T ($p < 0.001$)	T ($p = 0.004$)
Exposure to mental illness:				
Past hospitalization				
Know someone hospitalized				
Know someone with illness			F ($p = 0.023$)	F ($p = 0.013$)
I have had a mental illness ^b	F ($p = 0.006$)	F ($p < 0.001$)	F ($p < 0.001$)	F ($p < 0.001$)
Help-seeking preferences:				
Visit a religious healer or expert	T ($p = 0.003$)		T ($p = 0.007$)	T ($p = 0.014$)
Confide in my family				
See a mental health professional				
Keep it to myself ^b		F ($p = 0.041$)	F ($p < 0.001$)	F ($p = 0.021$)

Note. AR = Authoritarianism; BN = Benevolence; SR = Social Restrictiveness; CMHI = Community Mental Health Ideology; T = True; F = False. Entries reflect answers that were associated with significantly more stigmatizing attitudes (i.e., higher AR and SR, and lower BN and CMHI). Bonferroni corrected alpha value is 0.0011. ^a Inaccurate Perceptions. ^b Significant after considering Bonferroni corrections.

Results of the ANCOVAs revealed that participants who said that (a) anger was a mental illness (selected True) and who rejected (b) bipolar disorder, (c) insanity, (d) de-

pression, and (e) borderline personality disorder as mental illnesses (selected False) held more stigmatizing views on average compared to those who indicated otherwise. Participants who indicated that: (a) there is no difference between a mental illness and a mental handicap, that (b) illnesses reduce IQ and result in learning difficulties, and that (c) those with mental illness are less intelligent than normal individuals, also endorsed higher stigmatizing attitudes on average than those who did not. Participants who indicated that those with mental illness can be identified through: (a) strange behavior, (b) aggressive behavior, (c) bizarre speech, (d) jealousy, (e) bizarre dressing/hairstyles, and f) talking to oneself, also endorsed higher stigmatizing attitudes on average. Those who indicated that drug/alcohol abuse is not a way to identify mental illness also endorsed more stigmatizing attitudes. Participants who indicated that causes of mental illness include (a) spirits (jinn) and sorcery, as well as those who denied that (b) the environment and c) stress cause mental illness, also endorsed more stigmatizing attitudes. Participants who indicated that (a) the mentally ill are more aggressive, and that (b) it is better not to marry someone with a mental illness, also endorsed more stigmatizing attitudes. These findings largely support our second hypothesis, that participants who lack knowledge regarding mental illnesses would endorse more stigmatizing attitudes.

Participants who suggested mental illness is caused by spirits (jinn) and sorcery and that they would seek religious or faith healers for mental illness held more stigmatizing attitudes. This provides support for our third hypothesis, that participants who would endorse more religious explanations and treatments for mental illness would report more stigmatizing attitudes. Finally, participants who indicated that they did not know someone with a mental illness, and that they do not have personal experience with mental illness, also endorsed higher stigmatizing attitudes, which supports our fourth hypothesis, that less exposure to mental illness (or psychiatric care) in oneself or others would be related to more stigmatizing attitudes. For an alpha value of $p < 0.05$, Bonferroni corrections estimated that $p \leq 0.001$ should be used to reject the null hypothesis due to 44 tests performed for each CAMI subscale. Significance testing for 14 ANCOVAs fell within the corrected alpha value, which was spread across nine POMI items (anger, bipolar disorder, mentally ill are less intelligent, jealousy, stress, mentally ill are more aggressive, better not to marry, I have had a mental illness, and keep it to myself).

4. Discussion

Pakistan is, generally, a highly religious and collectivistic country. The mental health infrastructure in Pakistan does not match the population's needs, and mental health stigma (MHS) is often cited as the cause. Studies conducted in Pakistan reveal that sociocultural-religious/spiritual beliefs surrounding mental illness and how to overcome it prevail (e.g., [Farooqi 2006](#)), and the average Pakistani lacks knowledge regarding mental health and its care ([Shafiq 2020](#)). Public stigma surrounding mental illness often leads to a reluctance to disclose an illness, seek treatment, or associate with those who have mental illness. Although non-Western conceptualizations of mental illness and how to overcome it have shown some benefit in illness rates and outcomes, it has also been noted that collectivistic values and a lack of mental health knowledge are important variables in addressing mental health stigma. Improving mental health literacy may reduce public stigma toward mental illness and the mentally ill, ultimately improving attitudes toward seeking professional mental health care.

This study represents an initial effort to develop a culturally informed mental health knowledge questionnaire for Pakistanis, by piloting the Perceptions of Mental Illness (POMI) scale in 92 Pakistani emerging adults. The authors have attempted to develop an ecologically grounded questionnaire by combining items from popular tests of knowledge ([Evans-Lacko et al. 2010](#); [Wolff et al. 1996](#)) with studies of Muslim help-seeking ([Aloud and Rathur 2009](#)) and Pakistani mental health stigma ([Waqas et al. 2014](#)). We compared Individualism–Collectivism (HVIC) and Perceptions of Mental Illness (POMI) with the

Community Attitudes toward the Mentally Ill (CAMI) scale, a measure of public stigma of mental illness.

Individualism was associated with more authoritarian attitudes toward those with mental illness—even after controlling for covariates—and was close to significance after also controlling for Collectivism. However, Collectivism was not associated with MHS over and above relevant covariates. These results are in contrast to our hypothesis and suggest that individualism may be a more relevant variable than collectivism when it comes to authoritarianism in this sample of Pakistani emerging adults. Collectivism is seen as an important and protective part of Pakistani identity, and may be tied to intergenerational trauma that followed the founding of Pakistan. Our findings support [Causadias et al.'s \(2018a, 2018b\)](#) assertions, and suggest that the individualism–collectivism dichotomy has limited (i.e., not deterministic) utility when considering the variations and overlap between both ideologies within a given context. Although the sample size is small and the findings limited, they signal that greater nuance is needed when trying to understand how collectivistic values influence MHS in Pakistanis, something that the POMI was able to better capture.

The POMI was designed in a true/false format to detect the presence (or absence) of certain understandings regarding mental illness and the mentally ill. Although this dichotomous approach limited variability in responses on the POMI, results of this pilot study displayed the unique context within which Pakistani emerging adults understand mental illness and how to overcome it. Inaccurate perceptions of mental illness and the mentally ill were associated with higher Collectivism, as well as more stigmatizing attitudes on all subscales of the CAMI, providing preliminary evidence of the POMI's convergent validity with Pakistani collectivism and mental health stigma. Our preliminary findings suggest that further development and validation of the POMI in diverse and larger Pakistani samples is needed. In addition, Likert-type scales as well as mixed methods or qualitative approaches should be used in future iterations to capture greater nuance in perceptions and coping within the Pakistani context. Nevertheless, the POMI may provide researchers with a useful tool for assessing Pakistani knowledge and beliefs related to MHS that may be targets for mental health educational programs.

Perceptions of the mentally ill as (a) more aggressive and (b) less intelligent, and of (c) anger as a mental illness were also common and associated with mental health stigma. Parkinson's disease, a common neurological disorder, and drug/alcohol abuse were not conditions recognized as mental illnesses by half of the sample. Over one-third of the sample also rejected that poverty causes mental illness. Although the majority of the sample recognized that mental illness does not necessarily equate to handicaps, half the sample could not differentiate whether handicaps were temporary or permanent, and over half responded that mental illnesses reduce an individual's IQ and result in learning difficulties, highlighting the lack of mental health literacy in this sample of educated emerging adults who were also higher in socioeconomic class than the average Pakistani. As in other cultures, and as hypothesized, a lack of mental health knowledge was associated with higher MHS in this sample. When it comes to MHS interventions, education about different mental illnesses and how they influence personality, including intelligence and aggression, may alleviate some of the concerns that Pakistanis have when it comes to the potential for developing mental health concerns.

Responses on the POMI also underlined the religious and spiritual context in Pakistan, and how it may influence MHS. Over half of the participants indicated that spirits (jinn) and sorcery cause mental illness, and approximately half endorsed that they would seek a religious/faith healer if they believed they had a mental illness. Both of these POMI items were associated with higher mental health stigma. Approximately half the participants perceived that spiritual possession was not the same as mental illness. These findings paint a portrait of Pakistani emerging adults' religious/spiritual beliefs and their relationship to interpreting symptomology of mental illness. Many Pakistani emerging adults may be just as likely to align with Islamic and Western understandings of mental illness (this is

more likely to be captured in non-binary response scales). Although these worldviews may be perceived by some as in conflict with each other, they may not necessarily be mutually exclusive (the growing field of Islamic Psychology is testament to this). Importantly, the WHO studies and experts in the recovery-oriented treatment of SMI signify the importance of different narratives surrounding mental illness. Recent efforts in developing spiritually integrated psychotherapies (e.g., [Captari et al. 2021](#)), including for schizophrenia (e.g., [Weisman de Mamani et al. 2021](#)), are improving the care available to religious groups such as Muslims, and this may be highlighted to increase acceptance of psychological education, clinical training, and mental health care in Pakistani society. Our findings are in line with the extant literature ([Shafiq 2020](#)), and future work may continue to explore other religious/spiritual beliefs (e.g., the evil eye and illness as a test/punishment from God) to add to the POMI scale and determine whether such appraisals contribute to MHS and the likelihood that Pakistanis who need mental health care will seek psychiatric or psychological help.

Over half of our sample indicated that it would be better not to marry someone with a mental illness, and over one-third suggested that being around those with mental illness can cause mental illness in oneself. Societal stigma against those with mental illness is high in many Pakistani individuals, and such fears increase the negative impacts of mental illness on those who are affected by it. Although most participants stated that they would seek help from a mental health professional if they believed they had a mental illness, nearly half stated that they would keep a mental illness to themselves, and just over half stated that they would confide in their families. Pakistanis may be a collectivistic group, but the emerging adults in our sample also believe that mental illness should be kept secret from others, including families. While our findings are limited, such beliefs symbolize Pakistani MHS and the perceived societal impact of disclosing about mental illness. As social isolation and social defeat are predictors of poorer outcomes from mental illness, reducing the likelihood that individuals with mental health difficulties are hidden (or hiding) from others may be important when improving the mental health situation in Pakistan. Disseminating information related to the high prevalence rates of mental illness (and the potential for recovery) may reduce stigma, shame, and other negative feelings associated with mental health difficulties and their disclosure in Pakistan, but this warrants investigation.

Participants who reported greater exposure to mental illness were less likely to endorse stigmatizing attitudes. Nearly half of our sample endorsed that they know someone who has been in psychiatric care, or that they have personally experienced having a mental illness. This is a positive finding, and may suggest that the tide is turning when it comes to recognizing mental health concerns in oneself and others. At the same time, it is unclear whether this exposure to mental illness has also resulted in increased conversations (and disclosure) surrounding mental health, something that may be important to assess in further iterations of the POMI. Likewise, psychiatric facilities in Pakistan are understaffed and lack resources. As such, investigating (a) perceptions of mental health facilities and (b) psychotropic medication in Pakistan, and how these variables influence resistance to seeking mental health care, may be an important avenue of future research. Past work ([Shafiq 2020](#)) suggests that Pakistanis are more willing to engage with pharmacological than psychological interventions. So too, psychoeducational programs may also point out the dimensional nature and benefit of normal emotions such as anxiety and anger to assist individuals in recognizing the development of emotional dysregulation or cognitive difficulties. Reporting on the rates of recovery across treatment modalities (medication vs. psychotherapy vs. both) for various illnesses may be useful in assisting Pakistanis when it comes to deciding how best to manage symptoms in themselves and others, given their own resources and circumstances.

5. Conclusions

In sum, the POMI represents an initial effort toward an ecologically valid and culturally informed measurement tool for Pakistani mental health knowledge, perceptions regarding mental illness and the mentally ill, exposure to mental illness, and help-seeking preferences. Results of this study provide unique insights into the sociocultural-religious/spiritual factors that influence Pakistani mental health stigma. Findings evidenced a shift toward more understanding of mental illness in Pakistani emerging adults via recognition of the prevalence of illness in oneself and others. Moreover, greater exposure to mental illness was associated with lower stigmatizing attitudes. In support of the hypothesis that lack of knowledge is associated with MHS, those who denied accurate mental health knowledge (e.g., did not recognize mental illnesses or stress/environment as causes) were likely to endorse higher MHS. Although education was associated with greater MHS, the aforementioned findings held true even after controlling for education. This suggests that increasing awareness surrounding mental illnesses may be an avenue toward reduce stigmatizing attitudes in Pakistan.

Notably, collectivism may not be as important to MHS as originally thought, particularly in Pakistan. Inaccurate beliefs regarding mental illness and the mentally ill strongly contributed to MHS, and did so over and above both individualism and collectivism (i.e., after controlling for both of them). This highlights how any dichotomous framework (e.g., individualism vs. collectivism) may only make modest contributions to our understanding of complex phenomena when compared with more nuanced investigations. Nevertheless, inaccurate perceptions were associated with collectivism, and exactly how may be relevant to disentangle in the future. Appraisals of those with mental illness as “strange” were associated with MHS, and may signal a form of collectivism against those who stand out. On the other hand, emerging adults in Pakistan are endorsing increasingly individualistic beliefs, including (in this sample) that they would not share the emergence of mental illness with their family members. Individualism was also associated with more authoritarian attitudes toward those with mental illness. In support of cultural (mis)attribution bias, this highlights the complexity of the MHS process, and the need to move beyond binary conceptualizations of culture and toward emic perspectives and more contextually relevant research.

Higher MHS in this sample coincided with beliefs associating mental illness with less intelligence and more aggression, and with the preference for religious and spiritual coping methods. The former beliefs may warrant intervention, and the latter assimilation with mental health care knowledge, yet this needs to be investigated in the context of MHS interventions in Pakistan. With further development, the POMI may be used to guide the design of mental health awareness programs, such as those disseminated among professional groups (e.g., students and doctors), by assessing their level of understanding regarding mental health and its care, and tackling beliefs that are associated with higher MHS (e.g., intelligence, aggression, and treatment outcomes). The POMI may also be used to assess the efficacy of psychoeducational programs/interventions. Assessing the POMI’s reliability and validity in other samples, including South Asian (e.g., Bangladesh and India) and Western countries, may further help to determine its utility.

Limitations and Future Directions

This study has several limitations. The most notable one is that it is cross-sectional, which prevents us from making causal inferences about how perceptions of mental illness influence mental health stigma in Pakistanis. The small sample size also reduced our power to find significant results or to perform certain analyses (e.g., moderations and structural equation models). Future work may explore whether the POMI subscale Inaccurate Perceptions moderates the associations between Collectivism and mental health stigma. Inaccurate Perceptions and Collectivism were significantly correlated with each other, and items on the POMI may be capturing specific collectivistic beliefs in Pakistanis that influence MHS in ways that measures such as the HVIC are not.

Our sample is also not representative of Pakistani emerging adults today, who come from various ethnic backgrounds, speak multiple languages, and have a variety of socioeconomic backgrounds. As such, broad generalizations cannot be made from our findings, and translations into common Pakistani languages such as Punjabi, Saraiki, and Pashto are needed. The exploratory nature of the POMI is another limitation. Although it was based on previous mental health knowledge questionnaires and tailored to a Pakistani context, it consists of various domains (knowledge, exposure, help-seeking; views about mental illness vs. about those with mental illness) and is not comprehensive of all Pakistani beliefs and values surrounding mental illness. The POMI's factor structure yielded unclear results, possibly due to the small sample size. As such, the validity and reliability of this measure must continue to be established in future work. In addition, despite the findings by Evans-Lacko et al. (2010) that knowledge questionnaires are more appropriate when assessed as true/false, the binary nature of the POMI scale is a limitation. Upon reflection, certain items (e.g., 1–36) may be better suited to Likert-type scales. For example, a response choice of *Neither agree nor disagree* to the item “Is it possible to identify an individual with mental illness through strange behavior?” may capture greater variability in Pakistani understandings regarding mental health and those with mental illness. Future work with the POMI may utilize such a format, as well as open-ended responses.

Although the following analyses were limited by our sample size or methods, we also encourage future researchers to investigate the intersectional nuances of different individual and contextual characteristics with individualism/collectivism and religion/spirituality to elucidate influences on MHS and help-seeking in Pakistan. For some examples, future work may uncover whether MHS and openness to seeking treatment in Pakistan vary at the intersections of socioeconomic classes (e.g., more means/resources due to higher income or education), regions (e.g., help-seeking attitudes determined by access to care, individualistic vs. collectivistic orientations and MHS in urban vs. rural areas), or generational differences (e.g., lower stigma in emerging adults relative to their parents' and grandparents' generations, or whether intergenerational trauma influences MHS in Pakistan). In addition, MHS and help-seeking may vary at different levels of religiosity/spirituality or practice (e.g., use of prayer or reciting the Quran for healing), the interplay between religion/spirituality and medicine (e.g., spiritual bypass, or whether religious individuals who believe in science as a treatment for mental illnesses still prioritize spiritual healing or use it to avoid psychological work), and the perceived connections between spirits/jinn, sorcery/black magic, and mental illness. In particular, some of these complex issues may be highlighted in future iterations and studies using the POMI scale (with additions as needed) to gain further clarity regarding mental health help-seeking and stigma in Pakistan, and ultimately to address this population in need.

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