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What Are the Best Predictors of Opinions of Mental Illness in the Indian Population?

ABSTRACT: Mental illness affects millions of people around the world, and yet support, advocacy, and acceptance of people with psychological disabilities is lacking. The stigma of mental illness hinders those who want and need help from getting it, which only perpetuates the problem. The purpose of this study was to identify those factors that have predictive value for opinions of mental illness. Mechanical Turk was used to distribute the Opinions of Mental Illness scale along with a demographics survey. Taking part in the initial survey were 195 people (82 females) of Indian descent. Utilizing a backwards stepwise regression, we constructed a model that included the four most influential factors. Gender, political affiliation, parental nurturing, and age emerged as the best predictors of opinions of mental illness within the Indian population.

Mental illness has a long and complex relationship with social perception. Globally, mental health issues are often neglected and stigmatized in spite of their prevalence. Worldwide, it is estimated that 450 million people suffer from some form of mental health problem [1]. Additionally, one in four adults will

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experience some form of mental illness in his/her lifetime [2]. Mental illness impacts people of all ages, ethnicities, and backgrounds [3]. However, while problems of this nature can “account for around 14 percent of global health conditions, they generally receive less than 1 percent of a nation’s healthcare budget” [4]. Patel [5] contends that even in developed countries, only about half of those in need receive the proper mental health treatment, while in underdeveloped countries only 10 percent receive appropriate care. Besides its pervasiveness, mental illness comes with a high cost to the overall quality of life; in Denmark, those with mental illness may have a life expectancy of almost nineteen years shorter than those without such problems [6]. In the United States, this number may be as high as twenty-five years [7] (cited in [8]), which suggests that the stigma attached to those with mental health problems contributes to the large gap in life expectancy. As evidenced by outreach programs designed to provide aid to those in developing countries, stigma often prevents help from reaching those with mental health problems [9].

In India, as many as 40 million people may require immediate mental health attention, but with a severe shortage of trained psychiatrists and social workers, the majority of these individuals do not receive the care they need [10]. Another survey of the prevalence in Indian mental health care indicates that one in five people will need counseling services at some point in their lives, while about 6 percent of the population requires medication for mental health issues [11]. Additionally, 5–10 percent are affected by minor disorders while 1 percent have more serious mental health concerns [11]. Stigmatization may arise from the fact that while mental illness is relatively common among the general population, the most severe cases affect a much smaller percentage [1]. The conceptual divide between depression and schizophrenia has become so great that some do not recognize depression as a valid mental illness [12].

Attitudes Toward Mental Illness

Although there have been trends in recent history indicating a progressively more accepting attitude toward mental illness [13], stigmatization remains prevalent throughout the world. For example, in the United Kingdom, a survey of those with mental illness indicated that 70 percent experience discrimination [4], while in the United States, 75 percent of respondents with mental health issues revealed a belief that people are not compassionate toward their situation [14]. Further, The World Health Organization [9] asserts that those with mental illness are some of the most ostracized in developing nations.

Global stigmatization may largely result from a lack of education about the causes, treatment, and manifestations of mental illness [15]. As poignantly

stated by Chambers [4], there exists no “picture” of mental illness, and, consequently, people often have a difficult time displaying empathy for those with mental illness. Stereotypes are common among the general population and are often perpetuated by both media dramatizations [16–18], and through everyday social exchanges [19]. Lawrie [19, p. 129] puts forth stereotypical perceptions of mental illness as being “frightening, shameful, imaginary, feigned, and incurable,” while the individual gets labeled as “dangerous, unpredictable, and worthless.” Such glaring generalizations from society may create pressures for those with mental health symptoms to keep their needs hidden [20].

The perceived causes of mental illness are also a key factor in the degree of acceptance that those with symptoms experience. Beliefs vary across cultures, but the need for increased education about mental illness is universal. In Nigeria, drug and alcohol abuse are the most common perceived causes of mental illness [21]. Supernatural sources and divine punishment also rank high as potential origins for mental disorders [21]. Dessoki and Hifnawy [3] likewise cite that many societies hold strong beliefs about the relatedness of preternatural sources and mental illness. In India, stigmatization stemming from supposed supernatural etiology may obstruct proper medical care [22]. For example, Kennedy [22] describes a case study in which a mother was told by a general practitioner that an improper diet and lack of meditation were the causes of her daughter’s schizophrenia. The mother’s experience also highlights the social aspect of mental health stigmatization in that she delayed seeking medical attention for her daughter for fear that word would get out about her condition, destroying her chances for marriage. In India, as with other countries and cultures around the world, opinions of mental illness are complex [3].

Correlates of Attitudes Toward Mental Illness

Age, gender, upbringing, and political affiliation can all be linked to various attitudes toward mental illness. Globally, perceptions of mental illness still warrant further examination. However, the factors listed above offer a valuable starting point for reducing stigma among the Indian population. A study by Weiss [23] indicates that negative attitudes toward those with mental illness may begin at a very young age; school children in grades kindergarten through eighth already showed signs of antipathy and fear on a scale of social distance. Lawrie [19] also suggests that negativistic opinions of mental illness are established in childhood. In adolescents, more stigma is found as more intimate levels of contact are proposed [16]. While these studies have been conducted within the United States, research conducted around the world has

yielded variable results in regard to the relationship between age and opinions toward mental illness.

While prejudicial attitudes may begin in childhood, a younger age often correlates with a more positive view of those with mental illness in comparison to older cohorts [21, 24, 25]. In Nigeria, older people were more likely to attribute mental illness to supernatural causes, which in turn may cause aversive attitudes [21]. Buizza et al. [24] reported that Italian participants over the age of sixty-one were more inclined toward physical distance and fear, while those over forty-one associated mentally ill individuals with social isolation. In Israel, older participants showed a greater tendency to have socially restrictive views, which translated into more negative attitudes toward individuals with mental illness [25]. Whereas younger age is often correlated with more acceptance toward mental illness in many parts of the world, the opposite may be true in India. In a survey of psychiatric ward attendants, older age was a predictor of more positive attitudes toward mental illness [26]. Additionally, older caregivers in Madras, India, had less stigmatizing views toward those with mental illness than did younger caregivers [27].

Globally, gender also often acts as a correlate of opinions toward mental illness. Among adults in northern Nigeria, female respondents tended to report more sympathy but greater fear of mental illness than males [28]. Similarly, on scales of dangerousness, characteristics, and skill assessment, female participants in Turkey displayed less negativity toward mentally ill individuals than males [29]. The authors speculate that the female's greater sympathy may result from a more positive outlook on mental health treatment [29]. Although female respondents have been shown to be more positive in their views of mental illness in some cultures [28–30], the complexity of social stigma has also led to contrary findings. For instance, female university students in Egypt showed higher levels of stigma in comparison to male students on the Attitudes Toward Psychiatric Illness in the Arab Culture Scale [3]. This may be accounted for by gender differences in the cultural consequences of stigmatization such as opportunities for child-bearing and marriage. Des-soki and Hifnawy [3] point out that mental illness may be associated with poorer marriage prospects and a higher divorce rate among women in Egypt. Discrepancies between social consequences for males and females may also cause disparities in treatment. In both Morocco [31] and Senegal [32], men outnumber women in psychiatric health care facilities, most likely because greater stigma is attached to women having issues with mental illness [33].

The trend of greater stigmatization, both by women and toward women with mental illness, is also seen in India. A study conducted by Thara and Srinivasan [27] in Madras, India, reported that women expressed higher levels of stigma toward those with mental illness. Greater stigma was also seen

among women in rural West Bengal according to a survey by Chowdhury et al. [34]. In regard to gender, stigma may be experienced in different settings by male and female mental health patients [35]. In India, men with schizophrenia reported experiencing discrimination in their professional and personal lives, while women testified to inequitable medical care [35].

While demographics such as age and gender supply a useful means of linking opinions toward mental illness with distinguishing group factors, personal information also serves to connect individuals with their respective attitudes. Upbringing and political affiliation are two qualities that can be linked to opinions on mental health. Specifically, one such contributing factor is where an individual falls within the liberal/conservative ideological spectrum.

Corrigan and Watson [36] contend that while parties of both major U.S. political affiliations occasionally withhold needed resources from mental health programs, conservatives are more likely to hold negative opinions about those who, they feel, are responsible for their own problems. As such, conservatives who believe in the controllability of mental illness may subsequently hold more negative views than their liberal counterparts. Altemeyer [37] further asserts that conservative individuals are more likely to disapprove of violations of social norms. A study by Segal, Baumohl, and Moyles [38] found a greater instance of adverse responses to the integration of mental health patients into a conservative community versus a liberal one. Compared to other low-income countries, India is more progressive in terms of mental health care [39]. Indeed, Jain and Jadhav [40] suggest that although mental health institutions receive a lack of respect, many rural Indians express merit for the effectiveness of psychotropic medication. However, it has been remarked that an increase in public opinion would lead to further government action [41].

Elements of an individual's childhood background may also be correlated with their opinions toward mental illness. According to Baumrind's theory of parenting styles [42, 43], authoritarian parenting is associated with a lack of emotional closeness and a high degree of order, command, and pressure. Individuals with authoritarian parents are brought up to value tradition and authority [44]. Researchers [45] have been unable to support the findings by Adorno, Frenkel-Brunswik, Levinson, and Sanford [46] that suggest an authoritarian upbringing leads to egocentrism and aggression toward minority groups. However, those who maintain authoritarian traits into adulthood may be more likely to exhibit closed-minded tendencies, especially toward those whom they perceive to be "other kinds of people" [47, p. 320], such as those with mental health problems. Conversely, an authoritarian upbringing may not have the same consequences for individuals across cultures.

In more collectivistic societies such as China [48], Turkey [49], and Korea [50], authoritarianism is often associated with high levels of parental care and

is indicative of warmth, attention, and support. In such cases, Baumrind's concept of social responsibility may still be cultivated among children with authoritarian parents. Indeed, Jambunathan and Counselman [51] note that Indian mothers generally adopt a more authoritarian parenting style than mothers from the United States. However, in India, authoritarian parenting may have much the same result as the preferred authoritative style of parental care that is more widely supported in the United States [51]. As a result, Indian children of authoritarian parents may have a more highly developed sense of moral responsibility toward those with mental illness than their Western cohorts.

An additional aspect of upbringing is parental nurturing. The influence of attentive nurturing in childhood has many long-lasting effects on individuals throughout their lifetime. In an experiment with rats, offspring of highly nurturing mothers showed better emotional functioning as adults [52]. Similarly, Calkins and Hill [53] state that nurturing mothers had children who were better able to control their emotional responses in stressful situations. Zeedyk [54] argues that, consequently, poor emotional signaling and understanding can lead to a polarized thought process. Therefore, the emotional intelligence conferred by a nurturing upbringing may be important to the maturation of moral reasoning, social skills, and empathy [55]. For instance, those university students in Egypt who reported positive familial relationships had more optimistic opinions on the topic of mental illness [3]. In India, there may exist the belief that individuals who were raised in an environment with a lack of nurturing may be more susceptible to the development of a mental disorder [56].

Current Study

The purpose of the current study was to use demographic information—gender, sexual orientation, age, religiosity, political orientation, authoritarianism of parents, and level of nurturing of parents—as possible predictors of both opinions of mental illness (OMI) and response consistency. First, we collected data from Indian participants regarding (OMI) along with a variety of demographic information. We asked participants to answer the same survey twice with a break between the two “blocks.” This was done in order to generate a measure of consistency. Specifically, this measure of consistency was generated by calculating the correlation between the two sets of survey responses. Second, we created a regression model from the OMI and demographics data, with the goal of using the demographics data to make predictions about future OMI scores and consistency. This study was then replicated so that the regression model developed from the initial study could be assessed against a new dataset.

Methods

Participants

One hundred and ninety-five (82 females) people from India participated in the first study used for building the regression model. The mean age was 28.72 ($SD = 7.15$). Two hundred and twenty-two (94 females) people from India participated in the study replication used to test the predictive regression model. The mean age was 29.24 ($SD = 7.85$). All participants stated that English was their native language.

Materials

The opinions of mental illness (OMI) survey created by Kobau et al. [57] was used in the current study. Questions from the survey can be found in the Appendix. Amazon's® Mechanical Turk® was used to recruit participants, and FluidSurveys® was used to collect the data.

Procedure

Participants first signed a consent form. They were then asked to fill out the OMI survey. Next, they took a short break and then filled out the same identical survey. This was done in order to determine response consistency. Thus, we were able to collect data both on the criterion variable of OMI and also on the criterion variable of consistency.

Participants were then asked to provide their gender, sexual orientation, age, religiosity, political orientation, the level of their parents' authoritarianism, and the level of their parents' nurturing. Gender choices were male, female, and other. Sexual orientation choices were heterosexual, gay or lesbian, bisexual, and other. Religiosity was measured on a 5-point Likert scale from "not at all religious" to "extremely religious." Political orientation was measured on a 7-point Likert scale from "extremely liberal" to "extremely conservative" with a neutral option. Authoritarianism was measured on a 5-point Likert scale from "not at all" to "extremely." Nurturing was measured on a 5-point Likert scale from "not at all" to "extremely."

Results

We began by conducting a regression analysis of the initial dataset using OMI as the criterion variable, and sexual orientation, gender, religiosity, age, ethnicity, authoritarian parents, politicality, and nurturing parents as

predictors. We used a backward stepwise regression to eliminate ineffective predictors. The resulting model included four of the original eight predictors: age, gender, nurturing parents, and political. The regression model from this dataset was:

$$\hat{Y} = -0.061 + 0.03X_1 - 0.436X_2 + 0.33X_3 - 0.163X_4$$

where \hat{Y} is the predicted OMI score, and X_1 through X_4 are age, gender, nurturing, and political, respectively. This model accounted for 15.3 percent of the variance in the criterion, $F(4, 190) = 8.565$, $p < 0.001$. We then measured the accuracy of the model by assessing it against a new dataset with new participants. The mean absolute error (MAE) in prediction was 0.70.

We conducted the same analysis using response consistency as the dependent variable. Consistency was calculated by correlating the responses of the same participants to the same questions across blocks. Starting with the same initial set of predictors as in the OMI analysis, backward stepwise regression resulted in a model that eliminated all but age, nurturing, political, and sexual orientation as predictors:

$$\hat{Y} = 0.34 + 0.09X_1 + 0.126X_2 - 0.052X_3 - 0.123X_4$$

where \hat{Y} is the predicted consistency, and X_1 through X_4 are age, nurturing, political, and sexual orientation, respectively. This model accounted for 21 percent of the variance in consistency, $F(4, 190) = 12.594$, $p < 0.001$. We assessed the accuracy of the model using the second dataset as before: the MAE in prediction was 0.33.

Discussion

A widespread misunderstanding of what constitutes mental illness, what causes it, and how it should be treated resonates throughout the world and, consequently support for these groups is limited. Past studies have used attribute theory to come up with models to predict stigmatizing attitudes. They used causal attributions such as controllability, personal responsibility, and dangerousness to identify the source of discrimination against the mentally ill. This study went a step further to investigate the very basic personal attributes and their relationship to attitudes about mental illness.

The purpose of this study was to identify those traits that have the greatest impact on the perception of mental illness in the Indian community. The results of this study have given us an outline of four major factors that contribute to

OMI: age, gender, nurturing parents, and politicality. This model can be used to diminish some of the mental health disparities by targeting those groups that have greater potential for stigmatizing mentally ill persons. Arguably, this model is more effective for practical purposes because it utilizes easily identifiable categories than can be targeted individually.

Education has been at the forefront of the fight against stigmatization of mental illness. However, a study conducted in the Department of Psychiatry at the Christian Medical College and Hospital in Tamil Nadu [58] revealed that mere education does not alleviate the issue of stigma about mental illness. Participants completed a survey to assess their attitudes toward psychiatry, psychiatric patients, and working in the psychiatric field. All participants were medical students, which necessitates an understanding of illness beyond that of the average person. Even within this elite population, the results yielded evidence indicating that before direct exposure to psychiatric patients and the institution, participants generally had more negative attitudes toward the mentally ill. This suggests that a more individualized, hands-on approach is vital for a true attitude modification within the population. Earlier we put forth some possible explanations about the reasons behind stigmatization of persons with mental illness. We will now discuss each predictor to understand better how to remedy this issue.

Age and OMI

There are a number of possible explanations for our reported positive correlation between age and OMI. Older adults in India view causes of mental illness to be more of a social problem rather than a health problem [57]. When asked about ways to treat depression, psychiatric care was one of the last avenues mentioned. If older adults in India are attributing mental health to simply being a part of getting older, they are also less likely to seek outside help for those symptoms. People who are diagnosed with dementia are usually denied admission into nursing homes [59]. This study revealed that many people in that specific area of India associated the most severe forms of mental illness with being weak, rather than as a biological issue. Some responded by saying that the family members of the elderly with dementia just had to be patient until they died [59]. With this type of attitude being perpetuated, older adults are driven to hide their ailments in order to avoid being cast out.

Another possible explanation for the positive correlation between age and OMI is that older individuals are more likely to have had direct exposure to someone suffering from mental illness. First- or second-hand experience with mental illness may allow the individual to replace fear-based societal attitudes with more compassion-based attitudes toward those suffering from mental

illness. It was not long ago in the history of psychology that psychologists considered bloodletting an effective way of treating psychological disorders. Mental illness was a condition to be feared, and often psychiatric patients were perceived as uncontrollable and lacking self-restraint by the general public. Despite the increase in education about mental illness between 1950 and 1996, perceptions of fear and violence doubled among the population [13]. Only those who had the opportunity actually to interact with someone with mental illness were able to form their own understanding about it. This is evidenced by a study from India involving psychiatric ward attendants and caregivers that found that older age, higher education, and the amount of contact with the mentally ill were correlated with more favorable attitudes toward psychiatric patients [26].

Gender Effects on OMI

The issue of gender is slightly different from the other predictors because the differences exhibited by each sex are emotional in nature rather than cognitive. Studies have found that while women in general possess more positive views toward the mentally ill, they are still socially distant due to fear [59–60]. In most cases, this fear does not stem from an actual experience but rather a misguided mental representation of mental illness. Again, experience emerges as the main necessity for attitude change.

In regard to mental illness, women are more likely to receive the necessary help for psychological disturbances in comparison to men [60]. It had been suggested that women might be better at determining when psychiatric care was necessary. However, studies have found that this difference is not due to a heightened ability in women to detect signs of psychological disturbance [61]. Although, women in India face an increased risk of losing their marital prospects [33], they are receiving care more often than men. In India, “mental disorders are associated with the female sex as well as low socioeconomic status when other social and demographic variables are held constant” [33].

Parental Nurturing and OMI

A child’s home environment is where their first social interactions will take place. Our parents set the example for what is considered to be acceptable behavior and what will not be tolerated. This upbringing sets the tone for future social situations and provides the necessary knowledge to handle them appropriately. Authoritative parenting involves making children feel as though they have a say in decisions concerning them. These parents intentionally promote some degree of autonomy in their children, which is thought

to generate a greater sense of self-responsibility. These same outcomes have been found in children that grow up in India under authoritarian parents [62]. A child brought up with a heightened sense of autonomy may overestimate the amount of responsibility a person has over a disability.

The authoritarianism attitude associated with mental illness is the view that “people with mental illness cannot take care of themselves” [63]. If children are brought up to value personal responsibility, this may foster stronger feelings of negativity toward the mentally ill. Authoritarianism was found to have an influence on social distance [63].

Political Affiliation as an OMI Predictor

Political conservatism has previously been associated with prejudice and discrimination [64]. Knowing how conservative or liberal the audience is can help give a clearer picture of what the stigma is stemming from. It is important to take into account that the political structure in India is somewhat religiously based [65]. Until recently, political leaders condoned unequal treatment of women and discrimination against them. This faith-based culture considered more religiously sound reasons for mental illness, rather than strictly biological ones. This is evidenced by a study based in a very rural area in India that documented stigmatizing attitudes within the community. Both community members and health workers reported that they did not agree that psychological symptoms presented in the vignettes defined a “real medical illness” [66]. When working with more conservative groups, there should be a special emphasis on the source of mental illness. More conservative groups tend to attribute the ailments of the mentally ill to their own lack of self-control rather than the result of a biological disease.

Limitations of the Model

The generalizability of the model to be applied to other cultures must be called into question. There is evidence that cultural differences impact gender roles [67], perceived parental nurturing [62], ideas of aging [68], and political affiliation [69]. Although the model could be used to predict OMI scores in other cultural settings, the relation between the predictors and the criterion is quite likely to differ across cultures, thereby limiting the utility of the current regression model. In addition, there are clearly many other factors that affect OMI scores, as our set of predictors accounted for considerably less than 100 percent of the variability. Specifically in America, there are large gaps in acquisition of mental healthcare between Latinos, African Americans, and non-Latino whites [70]. Ethnicity could have a large impact on the way mental

illness is perceived in the United States, but in countries in which race is not a prominent issue, this factor would have minimal influence. The model is also limited in terms of its predictive value. Past studies have shown that exposure is one of the best ways to eradicate stigma, yet proximity was not included as a possible factor. As with any regression analysis, there is the possibility of suppression. The addition of another key factor could significantly increase the amount of variability that can be accounted for by this model.

Implementation of the Model: Stigma Reduction Intervention

An important necessity for reducing stigma is to tailor the educational programs to the specific audience being targeted [71]. The model proposed in this paper is of significant value for developing programs that are capable of tapping into the concerns of each particular person. An intervention for a twenty-four-year-old, female Republican, brought up in an authoritative home will differ from the appropriate intervention for a sixty-seven-year-old, male Democrat, raised under authoritarian parents. Their concerns surrounding mental illness greatly differ as well as their attitudes about how those concerns should be handled. Personality traits such as willingness to help and desire for social distance are important for predicting attitudes, but when it comes to intervention, a better way to create an individualized approach is needed. If we can match those personality traits to the personal attributes outlined in our model, we could create an even better medium for understanding the cause of stigma as well as the best way to get rid of it.

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Appendix

Questions from the Opinions of Mental Illness (OMI) Survey

1. I believe a person with mental illness is a danger to others.
 2. I believe a person with mental illness is unpredictable.
 3. I believe a person with mental illness is hard to talk to.
 4. I believe a person with mental illness has only himself/herself to blame for his/her condition.
 5. I believe a person with mental illness would improve if given treatment and support.
 6. I believe a person with mental illness feels the way we all do at times.
 7. I believe a person with mental illness could pull himself/herself together if he/she wanted.
 8. I believe a person with mental illness can eventually recover.
 9. I believe a person with mental illness can be as successful at work as others.
 10. Treatment can help people with mental illness lead normal lives.
 11. People are generally caring and sympathetic to people with mental illness.
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