Perceptions of Mental Illness in Rural Nepal: Dimensions of Stigma and Their Social Origins

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Abstract

The signs and symptoms of mental illness, especially serious mental illness, are universally associated with stigma and discriminatory behavior. For these reasons, it is crucial that we understand the complex structure of stigma and its possible origins so that effective public policy and anti-stigma programs can be designed. We use data from a sample of 365 households in a small village in Nepal to empirically determine the range of stigmatic reactions (dimensionality and attributions of responsibility) to metal illness. We identified four dimensions; social exclusion, social distance, emotional distance and dangerousness. We found that measuring a number of separate dimensions of stigma as well as perceptions of causation yield a textured and complex view of stigma. It is our contention that cultural differences in the meaning of stigma and, therefore, societal responses to mental illness can be captured in a meaningful way by assessing the dimensions of stigma.

Keywords: Stigma, scale, Nepal, policy social status.

Introduction

The signs and symptoms of mental illness, especially serious mental illness, are universally associated with stigma and discriminatory behavior (Link et al 1999; Pescosolido et al 1999; Fabrega 1991; Lauber & Rössler 2007; Kirmayer 1989; Ng 1997; Rosen 2003; Corrigan, Markowitz& Watson 2004).Many studies have described the ways in which the stigma associated with mental illness can affect individual, family, community and institutional responses to persons with identified mental illness (Pescosolido 2013; Estroff 1981; USDHHS 1999; Martin, Pescosolido & Tuch 2003).Moreover, stigma as a discrediting attribution, as a burden and as a basis for institutional discrimination is considered a major impediment to treatment and recovery from mental illness (USDHHS 1999; WHO 2001; Sartorious & Schulze 2005).For these reasons it is crucial that we understand the complex structure of stigma and its possible origins so that effective public policy and anti-stigma programs can be designed.

Stigma is defined by several criteria (people identify and label human differences; labeled persons are linked to undesirable characteristics; labeled persons are separated from “us”; stigmatized people experience discrimination and loss of status and stigma requires the exercise of power (Link and Phelan 2006)) and so it makes sense to measure multiple dimensions of stigma to give us a more complex and nuanced understanding of stigma as a social problem. Moreover, since we also expect that individual and societal responses to mental illness contain a moral dimension (locus of personal responsibility), there is a need to consider the effect of perceived causes of mental illness as they affect stigmatic attributions (Feldman & Crandall 2007; Corrigan et al. 2003).

In this paper, we use data from the SGC-MHS stigma survey collected in a village in Nepal to address the range of reactions (dimensionality and attributions of responsibility) to illness. We will compare reactions to physical and mental illness symptoms among members of the same community. We will show that the Nepali villagers in our survey hold a complex view of persons who experience symptoms of illness. In turn, we will suggest that gauging the actual dimensions of stigma and the relationships between those dimensions can also usefully informant-stigma public policy responses to illness.

The Dimensions of Stigma

The stigma associated with mental illness and/or physical illnesses such as HIV/AIDS, leprosy, tuberculosis, mental disability is conceived to include a number of dimensions (Bresnahan & Zhuang 2010; Feldman & Crandall 2007; Fife & Wright 2000; Dovido et al 2000).Link et al (2004:515) list the components of stigma as, "labeling, stereotyping, cognitive separating, emotional reactions, status loss/discrimination (expectations), status loss/discrimination (experiences), structural discrimination, and behavioral responses." Others conceptualize stigma in terms of "the endorsement of a set of prejudicial attitudes, negative emotional responses, discriminatory behaviors, and biased social structures toward members of a subgroup" (Mak et al 2007). Pescosolido and Martin (2007) summarize the stigma dimensions in their "Etiology and Effects of Stigma Model" to include the dimensions of attribution, assessment, stigmatizing beliefs and discriminatory behavior. This dimensionality means that a number of elements need to be assessed in order to characterize stigma. Further, it is unlikely that these elements will all be identical in intensity or configuration. That is to say, the content and scope of stigma is likely to vary by the illness being studied, as well as the characteristics of the illness such as, conceal ability, course, disruptiveness, aesthetics, origin, and peril (Jones et al 1984).

Because stigma is a multi-dimensional construct and it is likely that when its dimensions are assessed they will vary by the disorder and context, it stands to reason that generalizations about the societal response to stigma obscure a great deal of important variation in stigmatic responses and intensity. In turn, from a policy perspective, it is unlikely that any one strategy for ameliorating stigma or its effects will fit all. Moreover, the dimensionality of the stigma construct and its measurement suggests that cultural beliefs about illness will be reflected in variations in the dimensional content of stigma (Olafsdottir & Pescosolido 2011; Pescosolido et al 2008).

Variations in Stigma across Societies

Indeed, variations in stigma in terms of the phenomenon it is applied to and, the dimensions of societal reaction that constitutes stigma (perceptions, behavior, institutional) vary substantially across societies (Kirmayer 1989; Fabrega 1991; Olafsdottir & Pescosolido 2011). Kirmayer (1998) argues that societal reactions to deviance vary because there are different standards for recognizing and assessing deviant behaviors across cultures. In turn, he also argues that in some cultures, the response to deviance is toleration and attempts at reintegration (i.e., minimization of social distance while in others the opposite is the case).There can be substantial variations in the recognition of symptoms, the meaning of behaviors and ideation, attribution of origins and, the intervention of social institutions that affect the degree of stigmatization associated with expressed or observed deviance. Fabrega (1991) points out that the great medical traditions (particularly non-Western) understand illness in cosmological, environmental, social, and moral contexts and, therefore, define illnesses and reactions to illness differently across these medical traditions. In turn, he argues that different and complex cultural, sociological and economic factors affect what illness is stigmatized and to what extent. Olafsdottir and Pescocolido (2011) investigated differences among eight Western nations related to the clinical description of schizophrenia. They investigated the lay diagnostic process and discovered that this process varies across countries. They conclude that the meaning and response to illness similarly varies.

These considerations have also been evaluated in Asian and developing country contexts. Rosen (2003) investigated differences between developed and developing countries vis-à-vis stigma based on the observation that individuals diagnosed with schizophrenia appear to have better long-term outcomes in developing countries. He noted that "psychiatric stigma appears to be considerably more benign, with a higher threshold for expression in the rural parts of developing countries." (Rosen 2003: s91). He notes that the better recovery of persons in developing countries has been hypothesized to be related to social organizational characteristics that are the opposite of characteristics of stigma including; greater inclusion or retained integration in the community, reaffirmation of communal inclusion in the form of traditional healing rituals, non-isolation of the family and, continued access to a work role.

All of this implies that the stigma associated with a particular set of behaviors related to mental illness is variable and multi-dimensional across societal development status and culture. Lauber and Rössler (2007) conducted a Medline search of the English literature on stigma in Asia. They report the wide prevalence of stigma in this research and note that beliefs about causes of and attitudes toward mental illness are very similar to those in Western countries. Their conclusion stands in partial opposition to the observations of Fabrega (1997) but they note that it is possible that their conclusion is an artifact of their method for including published papers in their analysis and the absence of information from many Asian countries In this regard, Ng (1997) notes that attitudes towards mental illness, as well as responses in Asia vary considerably across various Asian countries and cultures although they also note some common elements.

Attribution of Stigma

In comparison to the volume of research on the experiences of persons with mental disorders and how their lives are affected by stigmatic labels, research into the process whereby stigmatic public perceptions are generated and affect individual and societal responses to those labeled with a psychological disorder are relatively few (Corrigan et al. 2003). This imbalance of research can be traced to several factors; the framing of stigma research as a debate between labeling theory and behavioral explanations, the interest in understanding the consequences of stigma on the stigmatized and the interest in stigma as a cultural/societal response to behavior (Pescosolido 2013). Social attribution models largely focus on the psychological processes whereby individuals process perceptions of behavioral differences. Only a few investigators have found variations in perceptions that are a function of socio-demographic statuses such as gender or race (Schnittker 2000; Corrigan & Watson 2007; Schnittker, Freese & Powell 2000). A number of investigators have found that social status differences do not affect stigma attributions (Pescosolido 2013).

In our view the question of whether the social status characteristics of the perceiver affect the attribution of stigma has not been thoroughly examined simply because the notion that stigma perceptions can be described as a social process has not been empirically evaluated. There are, however, good reasons to investigate the possibility. First, there are innumerable examples of public attitudes and beliefs that differ by the social statuses of the individuals reporting the attitude (Hall & Ferree 1986; Smith 1984; Kohn 1977). Second, an essential component of stigma is power (Link & Phelan 2001) and power is reflected in social status differences. Third, attempts to alter stigmatic perceptions must be based on an understanding of how stigma perceptions are formed and, if social status affects that formation, then public policy must account for the effects of social status on stigma perceptions.

Perceptual Variations in Stigma based on Social Status

Attribution models of stigma are based on the notion "that behavior is determined by a cognitive-emotional process: persons make attributions about the causes and controllability of a person's illness that lead to inferences about responsibility. These inferences then lead to emotional reactions…" (Corrrigan et al 2003: 164-5).Some findings support this argument, showing that attributions of responsibility/controllability affect the desire for social distance from persons with mental illness symptoms and helping-avoidance or coercion-segregation responses (Martin, Pescosolido & Tuch 2000; Corrigan et al 2003). In these and other instances, the focus on attribution process models relegates social status indicators to be "controls." In doing so, discussion of significant effects of social status variables are noted but then not examined further.

Corrigan et al (2003), for example, consistently find effects for age, gender, and race on attributions of stigma but do not pursue the implications of these findings. Similarly, Phelan et al. (2000) note that perceptions of mental illness characteristics are affected by both education and race. They conclude that socio-demographic characteristics play a role in shaping conceptions and attitudes toward mental illness but they do not explain the implications of this observation for understanding public reactions to mental illness. Pescosolido et al (1999) reported that the age of respondents and their level of education affected evaluations of persons with mental illness symptoms. However, they also conclude that, collectively, there is little evidence for arguing that stigma can be explained by socio-demographic factors (Pescosolido 2013; Martin, Pescosolido & Tuch 2000).

Overall, a number of investigations have explicitly examined the roles of gender; education and race/ethnicity on perceptions of persons with mental illness symptoms (Schnittker, Freese & Powell 2000; Corrigan & Watson 2007; Schnittker 2000).These findings suggest that the effects of race and gender on stigma perceptions are both small and limited to specific aspects of stigma perception. Pescosolido et al. (1999), however, did report that respondents with higher education were less likely to view those with mental illnesses as dangerous.

Corrigan and Watson (2007) reported that those with higher levels of education were less likely to stigmatize than those with lower education.

A Sociological Explanation of Stigma Attribution

Link and Phelan (2001) argue that the essence of stigma is the labeling of human differences that lead to status loss and unequal outcomes. This process, they have argued, occurs in a context of power that enables labeling to occur and to have consequences. Following from this perspective, stigma is viewed as a means for creating or reinforcing social inequalities (albeit based on attribution of difference rather than socio-demographic access to social resources). Link and Phelan (2001: 375) argue that "it takes power to stigmatize." "When people are labeled, set apart, and linked to undesirable characteristics, a rationale is constructed for devaluing, rejecting, and excluding them" (Link et al. 2004:513).As such, stigma is the outcome of a sociological process that is likely to be consistent with other ways in which social resources are unequally distributed and maintained in a given society. According to Pescosolido (2013: 15), "stigma is fundamentally a social phenomenon rooted in social relationships and shaped by the culture and *structure of society*" (italics added).

It thus makes sense to develop an explanation for the origins of stigmatic perceptions that is based on the social status characteristics (structure of society) of those who perceive the signs and symptoms of mental illness. Since the outcome of stigmatization is status loss and loss of access to social resources, it is possible that the development of stigmatic perceptions is systematically related to existing social status inequalities.

Figure 1 presents a model of the formation of stigmatic attributions that emphasizes the possible social structural origins of those attributions. The model proposes that both illness type and social status variables affect the attribution of responsibility for mental illness and that this attribution, in turn, affects stigmatic perceptions. There may also be direct effects of social status variables or illness type on stigma attributions. This model is somewhat similar to the model proposed by Corrigan et al (2003) with its focus on psychological processes of stigmatic attribution. That model argues that attributions are made about the cause and controllability of a person's illness. In the current model that we propose, part of the attribution process is reflected in the perceived causation of the illness and the implied controllability associated with different causes. Illnesses caused by biology or external forces are not controllable; but we suggest that illnesses understood to be caused by social processes are perceived to be controllable.

Through the filter of social stratification, one can argue that perceivers in lower status positions will be less likely to attribute illnesses to "controllable" causes and, as a consequence, they will be less likely to attribute negative characteristics to persons with mental illness symptoms. Alternatively, to put it the other way, those in higher status positions are more likely to view mental illness as caused by controllable behaviors and to assign responsibility for deviant behavior to the ill person than those in lower status positions. Doing so justifies imposing social control and regulation of behavior.

There are other sociological explanations for differences in stigmatic labeling based on social status markers. Schnittker (2000) suggests that women may be more willing to interact with, and are more tolerant of persons with mental illness. Corrigan and Watson (2007) found that women expressed less blame for health conditions which is consistent with the explanation offered above about the effects of social status on perceptions. Schnittker, Freese and Powell (2000) argued that African Americans may be more skeptical than whites of both genetic and family-based explanations for mental illness because those explanations are similar to ones that are used to justify racial discrimination. Differences in roles and role expectations, socialization patterns and, differences in access to information may also affect people's reactions to mental illness signs and symptoms. Still, these sociological explanations have something in common; that individuals in lower social status positions are less likely to harshly judge and stigmatize those with mental illness. The consequences of social status on perceptions of stigma, then, include variations in the attributions of cause, the implications for interpersonal relationships and sentiments about the allocation of social resources for treatment.

In this study, we test our hypotheses with data collected within a village in rural Nepal. According to Regmi et al (2004), stigma associated with mental illness is widespread in Nepal but not well-studied. There are a large number of ethnic groups in Nepal that suggests that conceptions of mental illness (violation of norms) and reactions to it are highly variable and complex (DesJarlais 2000). Kohrt & Harper (2008; 486) note that stigmatization of behaviors in Nepal correspond to similar roots of stigma in the West.

They, however, note that the specific social violations most admonished, and the specific pattern of ripple effects on the family are influenced by Nepali culture. In addition, they contend that stigmatization in Nepal is based on violation of social norms related to caste hierarchy and gendered interactions and predate the introduction of Western constructs of biomedicine and mind-body separation. Caste and gender are the two most relevant dimensions of social status in Nepal. There is a great deal of economic inequality in Nepal but it is largely determined by caste, gender, and rurality and not by education and occupation as is the case in the U.S. In villages, such as the one studied here, variations in economic status are suppressed by the general poverty of the village. In addition, in our study, caste plays no role among the ethnic population of this village-it is not Hindu. It is however, likely that gender and education will be the social status variables having the greatest effect on stigma perceptions in this village.

In addition to caste (which is not relevant in the village), gender is the most important social structural factor for understanding behavior in rural Nepal (Beutel & Axinn 2002; Stash & Hannum 2001; Shrestha et al 1986). Especially in rural areas with subsistence agricultural economies girls/women's value is perceived to lie in strategic marital opportunities, childbearing and contributions to family agricultural production (Stash & Hannum 2001).One consequence of this generic disregard for women is their lack of education and its low priority for girls relative to boys (Beutel & Axinn 2005; Shrestha et al., 1986). In turn, educational attainment (or lack of attainment) should affect ideas about mental illness and attitudes toward the mentally ill (Angermeyer & Dietrich 2006; Martin, Pescosolido & Tuch 2003).In the current study, therefore we expect that gender and educational attainment will independently and jointly affect the construction of stigmatic perceptions of persons with mental illness.

Data and Methods

In this study we used the SGC-MHS (Stigma in Global Context-Mental Health Study) survey that isbased on the "Problems of Modern Living" module from the 1996 General Social Survey (Pescosolido et al. 2000). That survey was modified in collaboration with research partners from 18 participating countries who participated in the Stigma in Global Context project. Ethics approval was granted by the Indiana University IRB.

The survey is centered on responses to three vignettes. The first two describe a person who meets DSM-IV diagnostic criteria for schizophrenia or depression. In the GSS surveys, a vignette describing a "troubled" person (with no diagnosable symptoms) was used as a "control" or baseline to compare responses to vignettes describing ill persons. In the CGS-MHS, however, the "troubled" person was replaced by a person exhibiting the symptoms of asthma. Hence, the comparison can be made between stigmatic responses to mental and physical illness. The characteristics of the person described in the vignette can be systematically altered (by gender, ethnicity and, education) so that variations in stigmatic responses that might be dependent on those characteristics can be studied.

Stigma is measured along a variety of dimensions. Specifically there are items in the survey that assess; desire for social distance, traditional prejudice, exclusionary sentiments, negative effect, treatment carryover, disclosure spillover, and perceptions of dangerousness.

Data for the Jiri Health Survey were collected in 2008 during a larger study of genetic risk factors for helminthic infection among the population of the Jiri Valley, in Eastern Nepal (Williams-Blangero et al. 1998). The Jiri valley consists of a total of nine villages with a population of about 7400 in the Dolakha District of Nepal. The region is 190 kilometers east of the capital city of Kathmandu. In general, the Jirels are subsistence farmers whose domestic economy is based on agro-pastoral production that is now integrated into the larger agricultural economy of Nepal. The villages of Jiri have access to electricity and tap water, and a few houses have radios and television sets as well. The CGS-MHS survey has generally been used with nationally representative cross-sections but since this survey was part of a large, multi-year survey/ethnography that was designed to include all members of this small village, no sampling was conducted. Rather all 483 households in the Jirel community were contacted and appropriate respondents in 365 households agreed to participate. Within each household, any person over the age of eighteen was eligible to participate so we used the Kish method to randomly identify a respondent in each household. Surveys were conducted by trained researchers. The survey was translated from English into Nepali using standard translation protocols, including using fully bilingual translators, local cultural linguistic adaptation, and back-translation.

Each respondent was read a single vignette that described either a male or female with symptoms that are descriptive of a person with diagnosable schizophrenia, depression, or asthma. The Jirel are a single ethnicity and education (Western) is a bi-modal characteristic (none or some).Hence, the vignettes did not contain variations that were based on persons with majority/minority ethnic/racial identity or by education level.

Stigma is measured by responses to 28 items that represent various dimensions of stigma. These are; *social distance* (willingness to have person as a neighbor, socialize with, take care of your children, make friends with, work with, allow to marry into the family); t*raditional prejudice* (the person is as intelligent as anyone else, is as productive on the job as others, is trustworthy and is unpredictable); e*xclusionary sentiment* (the person should be allowed to hold office, allowed to have children, allowed to supervise others, should be hired if qualified for a job and should not be allowed to teach children); n*egative affect* (people like [name] are hard to talk to, being around this person would make me feel uncomfortable and, being around this person makes me feel nervous);*treatment carryover*(getting mental health treatment for this person would make him/her an outsider in the community, If people knew [name] had received mental health treatment [name] would lose friends and, no matter how much [name] achieves, opportunities would be limited if people knew [name] had received treatment);d*isclosure spillover*([name] should feel embarrassed about his/her situation, members of [name's] family would be better off if [name's] situation was kept secret and, a person like [name] has little hope of being accepted as a member of the community) and; *perceptions of dangerousness*([name] would do something violent to others and, [name] would do something violent to him/herself).This set of 28 items was factor analyzed to develop the empirically measured dimensions used in the study. That analysis is described in the results section below.

*Illness Type*is a dichotomous measure, Asthma (0) vs. mental illness (1) since we found no variations in responses to any other variable that differed by depression or schizophrenia. In other words, Nepalis did not distinguish between the descriptions of these two forms of mental illness in the way they responded to the separate vignettes. Nepalis were quite clear that asthma is a physical health problem and that depression and schizophrenia are mental health issues but they did not distinguish between depression and schizophrenia as they were described in the vignettes. It is certainly true that the villagers are unaware of Western diagnostic criteria and thus, while recognizing symptoms of mental disorder, do not recognize them as distinctive disorders (Kohrt & Harper 2008).
Perceived cause of illness symptoms was measured by a series of seven items; Is it very likely, somewhat likely, not very likely, or not at all likely that (name's) situation is caused by: his/her own bad character, a brain disease or disorder, the way he/she was raised, stress, a genetic or inherited problem, God's will or, bad luck. These items were grouped into three "causes"; *Social* (bad character, way raised, stress), *Biological* (brain disease, genetic) or *External* (bad luck, God's will).Both biological and external causes of illness are interpreted as not-controllable while social causes are interpreted as controllable.

We also measured respondent *gender* (0= female, 1= male), *age* (in years) and, *education* was measured in years but recoded to 0= no formal school, and 1= some formal school.

Results

Although the SGC-MHS survey includes a set of 28 items that are intended to represent dimensions of stigma (see above), those items are either borrowed from an original index that might not have been intended as a measure of stigma and/or they are conceptually derived and may not be empirically related to illness stigma. Accordingly we first performed a factor analysis (principal component, varimax rotation) to determine the factor structure of the items: Table 1. The factor analysis yielded a set of four factors, containing 20 of the original 28 items that account for 61 percent of the variance. The component items in each factor were averaged to represent the value of each index (high scores equal higher stigma).The four measured dimensions of stigma are: social exclusion, social distance, emotional distance, and dangerousness. The corresponding alpha reliability coefficients for each index were; 0.87, 0.97, 0.86 and 0.80, respectively. The empirical dimensions reflect notions of difference, undesirable characteristics, loss of status and, desire for separation (Link & Phelan 2001), prejudicial attitudes, negative emotional response and, discriminatory behavior (Mak et al. 2007) and, attribution, assessment and stigmatizing beliefs (Pescosolido & Martin 2007).Our further analysis will attempt to understand how social status characteristics of the survey respondents and attribution of responsibility for the illness condition affect the level of each stigma dimension.

In Table 2 we examine mean scores on measures of perceived causation and stigma by socio-demographic dichotomies and illness type. Tests of mean difference between alternates in each dichotomy are also shown. We start by observing the values for the sample means (all cases). Respondents in the sample were most likely to believe that the cause of the illness presented in the vignette they read was social in nature (caused by bad character, the way the person was raised or by stress).This was followed by the belief that the cause was biological and then that it was caused by external factors (God's will and/or bad luck). Note that respondents could indicate that more than one factor caused illness so that the percentages across cause types do not add to one hundred percent. Assessments of stigma (all stigma scales vary from 1= low stigma to 4= high stigma) show that these villagers quite strongly believe that ill persons should be excluded and/or withdraw from social participation and that they should keep a sharp social distance from ill persons. They believe that ill persons pose a danger to others or to themselves but do not strongly believe this. Interestingly, they slightly disagree that they should keep emotional distance from ill persons. We see here that respondents do not uniformly condemn in strong terms those who appear to be ill.

Next, we examine the contrast between the responses of those who were presented with the vignette describing a person with asthma and those describing either depression or schizophrenia (physical illness vs. mental illness).Respondents were significantly more likely to attribute biological causes and significantly less likely to attribute social causes to persons in the mental illness vignettes. In addition, respondents who reacted to the mental illness vignettes were significantly less likely to desire emotional distance from such a person but also significantly more likely to attribute danger to such individuals. Respondents did not differ in desire for social distance or the importance of social exclusion based on illness type.

Among socio-demographic variables, males were less likely to attribute illness cause to external causes and more likely to prefer more social distance from ill persons. Respondents with no formal education were more likely to attribute both social and external causes for the illness. They were marginally more likely to prefer greater emotional distance and less social distance from ill persons. Younger persons were significantly less likely to attribute external causes for illness. Finally, we created a dummy variable that contrasts women with no formal education with all others. This contrast showed that uneducated women were more likely to attribute external causes for an illness and less likely to prefer to maintain high social distance.

In sum, respondents differ in the extent to which they attribute causes to illness and they differ in the extent that they endorse stigma dimensions related to illness-in-general and to types of illness. Moreover, the attribution of causes and the extent of stigma vary by socio-demographic statuses. These findings suggest the complexity of understanding stigma and its effects on societal responses to illness (and for developing public policy).We now turn to a multivariate assessment that tests the model described in Figure 1. In Table 3 we show the results of regression equations that predict perceived cause of illness from socio-demographics and illness type (models 1-3) and then a set of equations that predict stigma dimensions based on socio-demographics, illness type and perceived illness cause (models 4-7).

The perception that illness is caused by social factors (way raised, bad character and stress) is not well-explained by socio-demographics and illness type. Model 1 (Social) is not significant overall and no socio-demographic variable is significantly related to the perception that illness is caused by social factors. Villagers who reviewed the vignette describing a person with Asthma were slightly more likely to attribute social causes for the illness. In model 2 (Biological) a very large amount of variance in this causal attribution (brain disease, genetic problem) is explained by low (actually, no) education as well as having reviewed a vignette that described a person with a mental illness. The equation explains 69 percent of the variance in the perception of biological cause. Model 3 (External) shows that the attribution of external causes (bad luck, God's will) is explained only by low (no) education.

Models 4 to 7 show the results of regression equations predicting each type of stigma from socio-demographics, illness type, and perceived illness causes. Model 4 explains the belief that the ill person should be excluded from or conceal his/her illness from the general public. Vignettes about persons with a mental illness, where social causes are attributed to the illness, or where external causes are not attributed to the illness increase the idea that the individual should be excluded from social life and/or that the illness is best left undisclosed. The model accounts for 35 percent of explained variance. In model 5, the belief that social distance should be maintained from the ill person is increased when the case is reviewed by a male and when the cause is not perceived to be external (but is also not social or biological).

In equation 6 we note that greater emotional distance is desired for people with symptoms of Asthma and among those whose illness is not seen as caused by social causes. The results of this model can also be described as showing that persons reviewing the mental illness vignettes were less apt to desire emotional distance from such individuals. Finally, model 7 focuses on the belief that persons with an illness might be dangerous. Persons described as having mental illness symptoms, where the illness is ascribed to social or biological causes are most apt to view the individual in the vignette as dangerous. The model itself accounts for 78 percent of the variance in our measure of dangerousness.

In sum, there is somewhat limited evidence that socio-demographic factors explain either perceived illness causes or stigmatic perceptions. Lack of education does predict attributions of biological and external illness causation and males seem to prefer greater social distance from ill persons. Mental illness is very strongly viewed as a biologically caused illness. But, perceptions of biological causation are only related to the stigmatic notion of dangerousness. Illness type contributes strongly to stigmatic attributions. Persons who were described with mental illness symptoms in the vignettes were expected to be socially excluded and/or more likely to be encouraged to hide their condition and, more likely to be perceived as dangerous. At the same time, villagers felt that such persons should not be subject to emotional distancing. When illness is perceived to be under one's control (social causation), an identical pattern is observed. Individuals should be excluded, conditions should be hidden, more danger is perceived, and less emotional distance is desired. Finally, when external causation is recognized, there is less sentiment for social exclusion and expectations to keep the condition hidden and less desire for social distance. Danger is not related to perceptions that illness is externally caused.

Discussion and Conclusion

Assessing dimensions of stigma appears to be superior to the use of a single indicator. Among the benefits is that the construct takes on nuances that give us a more textured understanding of stigmatic sentiments and that may help us to grasp the way that culture and society influence reactions to illness. For example, in the Nepali village of Jeri, we find that there is a very strong sentiment that individuals with any sort of illness should be socially excluded and/or hide their illness, social distance should be maintained and that, in the case of mental illness, the individual is likely to be dangerous. However, there is also low sentiment for maintaining emotional distance from ill persons-even less so for those with a mental illness. Similarly, attributions of causation/responsibility as they affect attributions of stigma are not straightforward. Perceived social causation of illness (controllable) is strongly related to sentiments for social exclusion, emotional distance, and perceptions of dangerousness. The perception of social causation is not, however, well-explained by socio-demographic status or illness type (only Asthma is related to perceived social causation).

Stress, a component of social causation as measured here, is cited by Des Jarlais (1992; quoted in Furr 2004) as a principal cause of mental disorder in Nepal and our results now link it to stigmatic perceptions of disorder as well. Mental illness in the village we studied is also attributed to biology (genetics and brain disease) but this causal attribution (non-controllable) plays no role in explaining stigmatic reactions. Seeing illness as biological is not related to stigma but seeing illness as mental illness is linked to stigma. Perceptions of external causation (bad luck, God's will) decrease sentiments for social exclusion and social distance; that is, reduces attributions of stigma. Because villagers believe that individuals can be possessed by demons (Des Jarlais 1992), the perception that deviant behavior is caused by demons or spirits (external cause) appears to provoke a more inclusive response (rather than exclusionary) from villagers in the way that Lauber and Rössler (2007) proposed.

We also proposed a social status attribution process that we felt might elucidate stigma origins. Together with an understanding of stigma dimensions, knowledge of how stigma develops would certainly provide helpful insights for developing public policy designed to reduce stigma and its consequences. We did not find very strong evidence that socio-demographic statuses can be used to explain perceived causes of illness, nor perceptions of stigma. With a single exception (males wishing greater social distance), there were no direct effects of social status variables on stigma dimensions. Some indirect effects through perceived causes were observed. Education was negatively related to the attribution of both biological and external causes for vignette illnesses. Persons with low education were less likely to make causal attributions for stigma based on biology or external causes. Interestingly, in the West it is assumed that more education will lead to more biological explanations of cause and therefore, less stigma (Martin, Pescosolido & Tuch 2003).

There was some indication (results not shown) that women with no formal schooling were especially likely to explain illness as externally caused. This would be consistent with the traditional view of the causes of mental illness among villagers in Nepal. Type of illness had consistent effects on stigma perception. Vignettes about mental illness made it more likely that villagers expected social exclusion/efforts to hide the disorder and had greater concerns about danger compared with the vignette about a physical illness. On the other hand, mental illness provoked less sentiment to establish emotional distance. Attempts to assess the prevalence of Western-defined mental disorders underestimate the prevalence of genuine psychiatric disorder in Nepal (Tausig et al 2003; Tausig et al. 2004; Tausig et al 2011).Further, there are no Western-oriented mental health services in the village that might function to decrease prevalence or recast perceptions of mental illness. There is also no institutional model of mental health treatment similar to that found in the West that could serve to counter stigma (Tausig & Subedit 1997).While Western conceptions of mental illness cannot account for stigmatic reactions, the dimensions of stigma that are relevant in Jiri and their associations with measured variables do suggest the content of anti-stigmatic programming.

In Jiri the strongest elements of stigma are a desire to socially exclude those with mental illness, a desire to keep a significant social distance from such persons and a belief that such persons are dangerous. The stigma attached to mental illness in Jiri has serious consequences for the stigmatized. Mental illness as understood by villagers affects participation in the arranged marriage system and affects how wealth is transferred. In addition, it affects the entire family. However, compared to physical illness reactions, villagers are less apt to desire emotional distance from persons thought to have a mental illness. Villagers are most likely to attribute mental illness to biological and social causes that are consistent with the traditional belief that mental problems arise from interactions with the spirit world or from losing “balance” (Furr 2004).

In Jiri, the desire to exclude persons with mental illness is increased when the perceived cause is social and decreased when it is perceived to be external. Since we believe that social causes are within the responsibility of the individual to control and external causes are not, an anti-stigma program might work to alter the belief in personal responsibility. On the other hand, perceptions that mental illness are related to social causes decreases desire for emotional distance so that it could make sense to emphasize the emotional ties among villagers as a mechanism for decreasing stigma attributions. In essence, understanding the dimensions of stigma and their importance allows the development of a “customized” anti-stigma program.

In the small, still largely traditional village of Jiri, we found that measuring a number of separate dimensions of stigma as well as perceptions of causation yielded a textured and somewhat complex view of stigma among villagers. Our findings complement those reported by Olafsdottir and Pescosolido (2011) in that the recognition process for mental illness differed across societies/cultures. This gives us some confidence that our findings are generalizable. Like Olafsdottir and Pescosolido (2011:929), we suggest that greater understanding of the complexities of stigmatic attributions and dimensionality is desirable and for the same reasons; understanding this complexity will affect community efforts, clinical programs, and health policy directed toward the pernicious effects of mental illness stigma.

It is our contention that cultural differences in the meaning of stigma and, therefore, societal responses to mental illness can be captured in a meaningful way by assessing the dimensions of stigma and their distinctive relationships The patterns can be related to specific cultural influences on the one hand and can guide the development of anti-stigma policy on the other.

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Table 1: Rotated factor loadings for measures of stigma-Four factor solution

Item **Factor Name**	Factor Loadings				Alpha Reliability
Social Exclusion					
People like X should not be allowed to hold public office	.68				0.87
X should feel embarrassed about his/her situation	.77				
If a person like X is qualified for a job, he/she should be hired like any other person (reversed)	.63				
X should feel afraid to tell others about his/her situation	.75				
Members of X's family would be better off if X's situation was kept secret	.78				
Social Distance					
Would you be willing to …		.94			0.97
Have X as a neighbor					
Spend time socializing with X		.94			
Have X care for your children or children you know		.94			
Make friends with X		.93			
Work closely with X on the job		.93			
Have X marry someone related to you		.86			
Emotional Distance					
Being around X would make me feel uncomfortable			.57		0.86
People like X are unpredictable			.66		
People like X are hard to talk to			.77		
People like X should not be allowed to have children			.81		
Being around X would make me feel nervous			.69		
Dangerousness					
People like X are just as intelligent as anyone else (reversed)				.68	0.80
People like X are just as trustworthy as anyone else (reversed)				.69	
How likely is it that X would do something violent or harmful toward other people				.87	
How likely is it that X would do something violent or harmful to himself				.87	

Table 2: Mean values of causal attribution and dimensions of stigma by socio-demographic variables

Variable	n	Illness Cause			Dimension of Stigma			
		Biology	Social	External	Social Exclusion	Emotional Distance	Social Distance	Dangerousness
Sample	361	.67	.86	.16	3.55	1.45	3.53	2.85
Physical (Asthma)	118	.27***	.90*	.10	3.56	1.59***	3.58	1.97**
Mental (Depress+ Schiz)	241	.87	.84	.15	3.55	1.38	3.50	3.29
Male	150	.64	.86	.10[.06]	3.59	1.43	3.60*	2.86
Female	211	.68	.87	.16	3.53	1.46	3.48	2.85
No Education	196	.68	.90[.09]	.20***	3.56	1.47[.08]	3.51[.08]	2.84
Some Education	133	.64	.85	.05	3.63	1.38	3.61	2.91
Under 40	217	.64	.85	.10**	3.53	1.46	3.52	2.83
Over 40	142	.70	.88	.18	3.59	1.43	3.54	2.90
Uneducated Females	144	.68	.89	.21**	3.53	1.49	3.45***	2.84
All others	214	.65	.85	.09	3.56	1.42	3.58	2.85

Note:Significant differences are indicated within the dichotomous contrasts (e.g. female versus male).
Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3: The Effects of Socio-demographics, Illness Type and, Perceived Illness Cause on Stigma Dimensions

	Illness Cause			Dimensions of Stigma			
	Social	Biological	External	Social Exclusion	Social Distance	Emotional Distance	Dangerousness
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Male	.02	.01	-.03	.10	.16*	-.07	.01
	(.03)	(.03)	(.04)	(.06)	(.08)	(.06)	(.05)
Education	-.06	-.09**	-.11*	.02	.01	-.04	.03
	(.04)	(.03)	(.05)	(.07)	(.09)	(.08)	(.09)
Age	.00	-.00	.00	.00	-.00	.00	.00
	(.00)	(.00)	(.00)	(.04)	(.00)	(.00)	(.00)
Mental	-.07*	.60***	.04	.25*	-.15	-.45***	1.27***
(0=Asthma)	(.03)	(.06)	(.00)	(.10)	(.13)	(.11)	(.09)
Social				.90***	.15	-.37***	.30***
Cause				(.10)	(.12)	(.10)	(.09)
Biological				-.18	.10	.25	.26*
Cause				(.14)	(.17)	(.15)	(.13)
External				-.52***	-.26[.06]	-.02	.00
Cause				(.11)	(.14)	(.11)	(.10)
Intercept	.95***	.93***	.09	2.73***	3.43***	1.93***	1.48***
Adj R^2	.02 n.s.	.69	.07	.35	.04	.13	.78

Unstandardized b's, standard errors in parenthesis
*= p < .05; **= p < .01; ***= p < .001

Figure 1:A Sociological Model of Stigma Attributions.