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Log Kya Kahenge: Psychological well-being and perceived stigma in the South Asian American Community

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Abstract

Current research has independently studied depression, stigma, and coping mechanisms in relation to culture, yet the effects of perceived stigma on the relationship between depression and control coping are heavily understudied. Typically, studies have broadly focused on comparing eastern and western cultures, but have not analyzed how populations with mixed cultural influences experience depression and stigma and further engage in control coping mechanisms. This study thus explores how perceived stigma moderates the relationship between depressive symptoms and control coping mechanisms for South Asian Americans. The study hypothesizes that the level of perceived stigma will moderate the relationship between depression and control coping such that increases in perceived stigma will increase depressive symptoms and increase secondary control coping, but not primary control coping. South Asian American participants aged 18-24 (M=20.57, SD=1.43, n=110) were recruited via social media and asked to complete three questionnaires assessing intensity of depressive symptoms, perceived stigma, and engagement in control coping. Results indicated that perceived stigma significantly moderated the relationship between depression and primary control coping. As perceived stigma increased, depression increased and primary control coping decreased. The relationship between depression and secondary control coping was not significantly moderated by perceived stigma. Findings imply that perceived stigma in the South Asian American community leads to poor mental health outcomes due to decreased engagement in primary control coping.

Log Kya Kahenge: Psychological wellbeing and perceived stigma in the South Asian American Community

According to the World Health Organization, depression is known to be a mental illness that crosses borders and cultures, affecting individuals of ages young and old worldwide. The estimated proportion of people living with depression and experiencing the symptoms of depression increases significantly each year, such that between 2005 and 2015, the prevalence of depression increased by 18.4% (World Health Organization, 2007). Depression is categorized by the occurrence of specific symptoms (i.e. weight gain or loss, anhedonia, feelings of worthlessness, anergia, etc.) yet these symptoms often fail to tell the whole story of people's experiences with depression. The symptoms, although universal, are experienced and expressed differently across cultures making the experience of depression nuanced and full of complexities (Bhui, Bhugra, & Goldberg, 2004; Karasz et al., 2007, etc.).

The specific population of interest to this study is the South Asian American community. Within this group, the expression of depression and the reasons behind experiences of depression vary greatly and need to be further studied. To gain a better understanding of these variances, Karasz and colleagues (2007) compared South Asians' experiences with depression to those of White Americans. Although both groups conveyed similar numbers of symptoms, both varied greatly in their categorization and explanation of their symptoms. Specifically, South Asian American participants expressed somatization of symptoms more frequently than psychologization of symptoms as compared to white American group. That is, South Asian Americans equated symptoms of depression with physical problems, such as feeling weak, cold, and experiencing heart pains, rather than emotionally explaining their symptoms (i.e. feeling emotional distress, sadness, unease) as the white American group did (Karasz et al., 2007).

When looking at specific populations within the South Asian identity, Bhui and colleagues (2004) reported similar findings amongst South Asian individuals in the United Kingdom (U.K.). Because the U.K. and America are both western societies, and South Asians residing in such places have a diasporic identity, research from both contexts can provide more information on the expression of depression. Upon studying white English and Asian Punjabi individuals in the U.K., depression was reported to be more common for those that expressed somatic symptoms than those that did not, regardless of culture (Bhui, Bhugra, & Goldberg, 2004). However, upon looking at a between group comparison, Punjabi Asians in the U.K. did indeed have an increased risk for depression and displayed greater number of somatic symptoms than the white English participants within the UK (Bhui, Bhugra, & Goldberg, 2004).

Furthermore, somatization of symptoms within the broader Asian population has been used before to explain why Asian Americans are more likely to seek physical treatments through physicians rather than psychological treatments, such as cognitive behavioral therapy, via mental health care (Lin et al., 1999). When presenting symptoms to health professionals, South Asian patients often use medical/somatic terminology as well as religious explanations to explain experiences of psychological distress (Bhui, et al., 2004). Naturally, South Asian patients use somatization to explain their experiences, whereas in the case of white English patients, somatization is likely to occur when emphasis is placed on using somatic language by the professional (Jadhav, Weiss, and Littlewood, 2001).

Similarly, for British South Asian women experiencing postpartum depression, there is a greater use of somatization when expressing symptoms of depression and, in general, physicians are approached more so than mental health service providers (Goyal, 2015). Many may question why depression still persists despite seeking out physicians, as it would seem that any

professional help at all should improve symptoms of depression. The reality, however, seems to be that cultural misunderstanding and differences in physicians can influence the patient largely (Goyal, 2015). For example, in a sample of British South Asian women experiencing depression, the lack of cross cultural competency of the physician and language barriers caused decreased access to patient specific health care. In addition, these women reported increases in depressive symptoms (Wittkowski, Zumla, Glendenning et al., 2011). Therefore, a physician's' inability to understand cultural differences in depression expression and further direct patients to mental health services becomes one of the reasons for progressive symptoms of depression (Goyal, 2015). In addition, lack of mental health professional help-seeking is associated with increased stigma around mental illness in the British South Asian community. Thus to cope with symptoms, South Asian individuals tend to hide symptoms from the public in order to conceal the intensity or existence of the problems or issues they may be facing (Hussain and Cochrane, 2003).

To deconstruct perceptions and causes of mental illness, the diverging social experiences across cultures can be examined. In a study comparing South Asians and white Americans, white Americans expressed having self-based stressors, such as job stress and personal pressures, whereas South Asians expressed inter-relationship worries and family-based problems as the strongest stressors (Karasz, et al., 2007). These differences in the social experiences are highly defined by cultural values, as the white American group experienced greater problems associated with individualism, whereas South Asians experienced problems and stressors associated with collectivistic culture. When looking at the causes of mental health issues in a South Asian American population, the increase in family problems seemed to increase depression susceptibility by 3.74 times (Leung, Cheung & Tsui, 2011). Because South Asians tend to come

from a family-oriented culture, any deviations from normal family relations can increase stress and induce depressive symptoms (Bhandari, 2003).

In itself, depression experienced by South Asians is thus very different than western Whites. Specifically, populations that lead more of an individualistic lifestyle largely differentiate in their explanations, experiences, and definitions of depression as compared to South Asians. As noted earlier, the way in which South Asians in western contexts tend to deconstruct experiences of depression also highlights differences, such that somatization is highly used and psychological interpretations not so much. This in itself has been shown to cause decreased treatment seeking and thus increased depressive symptoms. Unlike western populations, the causes of depression for South Asians tend to mimic those of collectivistic cultures, as family-based stressors stand at the root of increased symptoms. These findings thus exemplify the complexities within deconstructing mental illnesses within the South Asian Americans population.

Perceived stigma

Several definitions of stigma against mental illness exist in current literature, of which many focus on the social categorization and stereotyping of individuals with characteristics that deviate from the societal idea of normal (Griffiths, Nakane, Christensen, et al., 2006). This form of stigma, named public stigma, comes in the form of holding attitudes and beliefs with negative connotations that discount the experiences and perception of those that live with a mental illness. In the presence of public stigma, two other forms of stigma develop, perceived stigma and self-stigma, yet it is still the case that literature largely focuses on public stigma (Yap et al., 2011).

By definition, perceived stigma is a phenomenon in which individuals focus on what others' perceive and believe of mental illness. Several studies have documented the occurrence

of perceived stigma in homogenous groups such as white Americans (Pyne, Kuc, Schroeder, et al., 2004; Ehmann, Beninger, Gawel et al., 1990), but the ways in which different cultures influence and characterize perceived stigma are unclear. It may be the case that some individuals find themselves in vulnerable positions where they are unable to seek help due to the implicit mental illness stigma that exists in their culture. Thus, investigating the cultural variation in stigma may open the field of psychology to understand and address the differences in perceived stigma.

Prior studies have suggested that levels of stigma vary greatly in terms of the culture of the individual. To understand such cultural differences, studies have often opted to apply the individualism-collectivism framework as their explanatory model. Specifically, this model seems to be particularly useful to deconstruct how cultures exhibit authoritarianism, positive attitudes towards mental illness as well as negative reactions to mental illness (Papadopoulos, Foster, Caldwell, 2013). Perceived stigma has not been heavily studied among South Asian Americans, but there exists literature that compares eastern and western cultures that may be applicable. For example, when comparing white Americans from an individualistic culture and Asian Americans from more of a collectivistic culture, Asian Americans typically reported greater levels of stigma than white Americans (Cheon, 2012). Specifically, when Cheon (2012) compared implicit and explicit attitudes within these populations, findings suggested that Asian Americans held stronger negative implicit attitudes towards mental illness. Asian Americans expressed a greater desire for social distance from mental illnesses, suggesting that eastern cultural perspectives on mental illness are associated with greater negative connotations (Cheon, 2012). As South Asian American identities involve an eastern cultural component, it is interesting to consider whether

similar mental health stigma is present and influential in this community as it is in broader Asian communities.

In the process of associating mental illness to a negative entity, individuals experiencing mental illnesses may self-stigmatize, or apply the public's stigma onto oneself, which in itself negatively influences mental health and symptoms (Yap et al., 2011). A study compared Japanese and Australians' perception of mental illness and found that both countries reported greater levels of perceived stigma than public stigma. Despite the consequences of public stigma, perceived stigma had greater negative consequences on the self, such that internalization of the public stigma caused participants to have increased levels of perceived stigma on mental illness (Griffiths et al., 2006). However, when comparing interviewee data of Japanese and Australians responding to mental illness-based vignettes, Japanese respondents depicted greater public stigma than Australians and, in general, more frequently suggested that mental illness was not a real problem, but rather a form of weakness (Griffiths et al., 2006). Thus, when comparing western and eastern cultures, levels of public and perceived stigma both seem to rise in Eastern cultures.

It may be the case that stigma is so culturally specific due to the definitions and understanding people have of mental illness itself. Often times the vocabulary and literacy around mental illness is limited due to lack of conversation and education around the topic, such that it is common for such beliefs to arise about those who experience mental illness (Wang and Lai, 2008). However, stigmas may also arise due to the reactions and meanings people ascribe to behaviors. In Amman, Jordan, researchers found that patients experiencing depression, schizophrenia, or anxiety associated stigma with three factors including preconceived stereotypes, personal responsibility/blame, and the perceived inability of a patient to recover

(Hasan & Musleh, 2017). People with schizophrenia were more likely to be perceived as a danger to others, whereas depressed individuals were seen as being unpredictable and having the inability to improve even if given treatment. It is interesting to consider that individuals' perceived stigma highlights inability to be trusted and recover as key elements, suggesting that stigma around such illnesses are so apparent in the community that even individuals experiencing illness themselves come to internalize the stigma. Hasan and Musleh (2017) explained stigma by highlighting that Jordan is very community and religion oriented and, in general, any deviations in mentality and behavior are seen as either punishments for sin or punishments for weak religious faith. And having sinned and/or having weak faith contributes to the stigma around mental illness in Arabic cultures, which causes increased discrimination and insult to those affected by it (Aloud & Rathur, 2009; Weatherhead, 2010; Abdullah, 2011).

In comparison, in a sample of majority white American parents caring for and supporting a child with a mental illness, parents reported perceiving higher levels of stigma and lower levels of social support from individuals outside of the immediate family (Mickleson, 2000). This may be due to the fact that individuals living outside of the home may not fully understand the extent of the illness or what it actually encompasses, and are more susceptible to the public stigma that surrounds mental health. Despite this, white American families did report that stigma coming from external outputs did not change their decision to seek treatment for apparent symptoms of mental illness (Mickleson, 2000). Unlike western populations, perceived stigma in eastern communities limits help-seeking initiatives, potentially worsening the trajectory of symptoms experienced (Hasan & Musleh, 2017). Simply the perception of mental illness and what others may think about it becomes the deciding factor to opt in or out of treatment. Unlike western

cultures, perceived stigma in eastern cultures negatively influences seeking mental health treatment.

Although levels of stigma seem to differ across cultures, stigma is still present and capable of influencing individuals who experience mental illness. Public stigma often increases negative perceptions of illness in individuals experiencing them such that their own behaviors and responses to their symptoms can be negatively impacted. Thus far, several studies on whites in western contexts have shown how seeking social support can help depressed individuals recover from their symptoms and significantly reduce the likelihood of experiencing subsequent depressive episodes (Dehle, Larsen & Landers, 2001; Nasser & Overholser, 2005). Often, depressed individuals opt out of seeking support, despite the benefits, and this choice in itself is highly understudied. Blais and Renshaw (2012) studied the factors that influence individuals' willingness to seek social support through a self-report measure that asked American teenagers from diverse backgrounds to complete questions about personal attributions, perceived attributions, and social support seeking intentions. Instead of participants' own attributions for depressive symptoms influencing willingness to seek support, perceived psychological attributions made by an external source were related to lower help seeking behaviors (Blais and Renshaw, 2012). Findings suggest how important it is to consider an individual's perceived stigma when addressing symptoms, as it may explain which coping strategies are adopted to address depression. Furthermore, rather than generalizing to a diasporic population, measuring perceived stigma and depression in the South Asian American community can provide insight on engagement in coping strategies.

Moreover, in order to see whether cultural differences in stigma influence preconceived stereotypes and help seeking, Mokkarala and colleagues (2015) focused on the association of

shame, mental illness, and perceived family support for help seeking among South Asian Americans. Within the study, a sample of undergraduate students completed online surveys that required them to report their perceptions of the causes of mental illness. Results indicated that South Asian American undergraduate students were significantly more likely than whites American students to perceive deficits in character as being the core reason for mental illness, to associate shame with mental illness, and to report low levels of perceived family support for help-seeking. South Asian Americans who believed mental illness had biological origins had more shame and less family support for seeking psychological help. In comparison, South Asian Americans who connected mental illness to character deficits had greater family support. For white participants, the opposite was true such that those who perceived mental illness as being of biological origins perceived less shame and more family support. Thus, researchers concluded that stigma is culturally specific and it does indeed play a role in the perception of mental illness as well as help-seeking (Mokkarala, O'brien, & Siegel, 2015).

In some eastern communities, such as those in Jordan, the association of stigma with mental illness can negatively influence one's access to treatment, such that psychiatric services often go underused (Gearing et al., 2015). When looking at an Arab population based in Australia, the underuse of psychiatric services was found to be associated with the belief that engaging in psychiatric interventions is against the culture as well as against religion (Tobin, 2000). Moreover, stigma associated with mental illness led to delays in seeking treatment and thus poor diagnosis (Fakhr, 2008).

In sum, the literature suggests that when comparing eastern and western populations, eastern populations exhibit increased levels of perceived stigma that further prevents them from seeking treatment that has shown to be beneficial for decreasing symptoms. Stigma varies

culturally, as for some cultures stigma is associated with deficits in character and for others the stigma rises from external stigma on mental illness. Generally, in Asian populations studied, there seems to be a relationship between stigma perception and cultural identity, such that those with an Asian identity have increased perceptions of stigma against mental illness. However, it must be noted that the model previously used to study perceived stigma specifically compares two cultures, often from two countries with homogenous cultural identities. So when looking at South Asian Americans alone, the individualistic- collectivistic model of deconstructing cultural aspects of stigma may not be applicable or representative of the experience of mental illness in such a diasporic community. This study thus examines perceived stigma within South Asian Americans specifically experiencing depression, and further investigates how coping may be influenced due to this.

Coping: Primary and Secondary Control

When mental illness starts to intervene with people's day to day life, coping becomes a crucial way to gain a sense of relief from symptoms. Within coping, gaining a sense of control is often a strategy individuals choose in order to alleviate symptoms and cope with the realities of their mental health (Rothbaum & Weisz, 1982). In the western world, the control coping framework typically used in research involves evaluating the behaviors within inner and external locus of control. Essentially, the framework suggests that individuals either believe that their health is a direct result of their behaviors (internal locus) or a result of chance and thus something that they have little control over (external locus) (Wallston, 2014). Yet it is important to consider that this framework may not be applicable across populations, as it may be the case that coping is defined by behaviors and beliefs specific to one's culture and thus not accounted for by the same frameworks molded for the western population. Indeed the foundations of coping

using control may be similar at its roots across cultures, but since expression of illness differs depending on cultural influence, it is important to recognize that so should the interpretations of the expression.

Rothbaum and Weisz (1982) identify the importance of the complexities within control and behaviors and suggest the concept of primary control coping and secondary control coping. This two-process control involves individuals engaging in some level of primary control and secondary control as methods of coping. Primary control is defined to be a more active form of coping in which individuals engage in behaviors that attempt to change external environments and in doing so prioritizing own needs. Secondary control, on the contrary, involves becoming one with the realities of the environment by exerting control on own psychological condition. Essentially, by using secondary control, individuals engage in behaviors that modify themselves and prioritize the surrounding environment (Rothbaum & Weisz, 1982). Typically, examples of primary control include modifying interpersonal relationships, expressing emotions, increasing social support, whereas secondary control would involve distractions, positive thinking, and even withdrawal. Often, primary coping has produced better mental health outcomes as compared to secondary coping due to its more active approach in tackling symptoms (Rothbaum & Weisz, 1982).

The lack of engagement with primary and/or secondary control coping, and thus potential engagement in maladaptive coping has been found to increase depression symptoms over time across cultures within the U.K. (Morris, Kouros, Fox, et al., 2014). Unlike control coping, maladaptive behaviors are poor behaviors that provide temporary relief to problems but do not actually address the problem. It may be the case that people find themselves engaging in similar behaviors with each depressive episode, such that depression symptoms only increase with

repetitive engagement in maladaptive behaviors. Thus applying the primary and secondary control coping framework may unveil important findings about depression and its progression.

Several studies have used this model to examine coping in a variety of populations. The two-process framework of primary and secondary control was applied to compare white American adolescents with depressed mothers who are experiencing depressive symptoms themselves to depressed white American adolescents with non-depressive mothers (Jaser, Champion, Dharamsi et al., 2011). Adolescents with depressed mothers used lower levels of primary control strategies to cope with the stress of their mother's depression as well as their own emotional regulation compared to adolescents with non-depressive mothers. Furthermore, adolescents with depressed mothers reported using higher levels of secondary control (i.e. engaging in distractions or accepting that their mother's depression is not their own fault) to maintain their own emotional regulations and symptoms. The findings suggest that secondary control coping can be adaptive for depressed adolescents with depressed mothers, however decreased engagement in primary control ultimately allows for persistent depressive symptoms (Jaser, et al., 2011). Moreover, when looking at the association of at-risk youth of diverse cultural backgrounds to parental depression, findings depicted that higher levels of primary control in response to parental depression was associated with lower levels of depression within the kids (Bettis, Forehand, McGee, et al., 2016). Yet as found in previous studies, secondary control was more widely used as the model of coping in these American children (Bettis, Forehand, McGee, et al., 2016).

In an older population of 60-70 year old American cancer and non-cancer patients, coping strategies changed with age affecting the overall prevalence of experienced depression. Higher levels of depression are generally associated with cancer patients as sudden changes in

physical well-being in old age influences overall mental state (Massie, 2004). And with increased age, it seems that there is a decrease in active coping habits, such as help seeking, and the levels of depression persists and worsens symptoms associated with cancer (Aarts, et al., 2015). Even when looking at a population experiencing an intersection of physical and mental problems, the framework finds that depression severity is associated with greater usage of non-active secondary control coping. It is important to acknowledge however that the studies mentioned thus far do outline the interaction between depression symptoms and coping for a majority white population. More than 80% of the participants of these studies are white and come from a homogenous culture whether that be in the US or in the UK. Despite the fact that children, adults, and older individuals alike express similar secondary behaviors when trying to cope with depression, the behaviors recorded may be atypical for other cultures.

To examine the use and effectiveness of the framework across cultures, Trommsdorff (1993) compared the control framework and orientation between German and Japanese parent-child relationships. By taking a German and Japanese population, researchers wanted to differentiate patterns of control coping between a western, individualistic culture and an eastern, more community-oriented culture. Due to the characteristics of individualism and collectivism, it is assumed that German parent-child relationships would involve greater primary control characteristics that would translate into the child's own coping strategies. In contrast, to accommodate social responsibility and maintain a collectivistic environment, the Japanese parents are expected to use more secondary control strategies, such as increasing mutual understanding and influencing child obedience, and thus shaping child's own coping strategies. To observe type of control, levels of stress elicited on mother-child relationships were modulated to create low to high stress situations. In high stress, cultural differences in control were

observed such that Japanese mothers exhibited more secondary control, such as respecting the child's needs and decisions in doing the high stress task, and responsiveness towards their children. German mothers exhibited high levels of primary control, helping child complete problem thus placing self over child, to ensure child completes task in high stress. In both cultures, the child's behavior mimicked the mother's behaviors, such that German children exhibited greater primary control and Japanese more secondary control (Trommsdorff, 1993). It is interesting to consider that western populations studied alone thus far exhibit secondary coping habits but when contrasted with eastern cultures, the coping strategies mimic those of primary control.

Thus far studies have looked at control coping in a homogenous or a culturally framed independent vs. collectivist community, but whether the framework can be used to understand individuals with mixed cultural influences has not yet been investigated. The application of the model cross-culturally has exhibited the importance of accounting for cultures when deconstructing control coping. Yet it is unclear whether this framework can be applied to populations that carry both western and eastern influences, and whether one style of coping, primary or secondary, will surface when doing so. South Asian Americans are highly underrepresented in the study of this coping framework. However, examples of each control as well as knowledge about the cultural variation in coping can be applied to deconstruct the levels of primary and/or secondary coping in a South Asian American population.

The present study

The present study investigated how perceived stigma influenced the relationship between depression and coping mechanisms, specifically primary and secondary control coping, in a South Asian American population. Thus far, studies have expressed how culture shapes

experiences with mental illness, yet the ways in which populations that have mixed cultural experiences, such as the South Asian American experience, has not been analyzed. This study predicted that perceived stigma would moderate the relationship between depression and coping style. Because previous literature has associated eastern cultures with increased collectivism and thus increased levels of stigma, the study predicted that South Asian Americans, despite the western influence, would be influenced as other eastern populations (Trommsdorff, 1993; Anglin et al., 2008; Mokkarala et al., 2015). Specifically, the study hypothesized that under increased perceived stigma, symptoms of depression would increase and the level of primary control coping would decrease whereas the level of secondary control coping would increase (see Appendix A).

Method

Participants

A total of 110 participants were recruited from the Claremont Colleges, Tufts University, and other 4-year universities across the nation. All participants were between the ages 18-24 (M = 20.57, SD = 1.43) and identified as South Asian American. Of the 110 participants, 71 identified as female, 37 as male, and 2 opted to not specify gender. Majority of the participants, specifically 75.4% identified as being second generation immigrant followed by first generation at 21.8%, and 2.7% as third generation immigrant (see Appendix A).

Procedures

To collect data, a Qualtrics survey was created and distributed across Facebook pages specific to South Asian college students. Flyers outlining the study were printed and posted across the Claremont Colleges as well as on Facebook pages. Participation was encouraged via monetary incentivization, as the possibility of winning 1 of 12 $40 amazon gift vouchers was made

possible by the Department of Psychology at Pomona College. Upon completion of the Qualtrics survey, participants were debriefed and provided with additional resources, such as hotlines. A link to the monetary raffle was made available.

Materials

Participants completed a series of three questionnaires each presented in a random order.

The Modified Beck Depression Inventory (Dori, Galit, & Overholser, 2000)

The modified Beck Depression Inventory ($\alpha = 0.90$) has twenty-one statements measuring the severity of depressive symptoms experienced by participants using a likert scale from 1(strongly disagree) to 5(strongly agree). Scores acquired from the measure were then reverse coded and summated, such that higher sums represented greater depression and lower sums represented lower depression.

The Self-Stigma and Perceived Public Stigma Measures (Kendra, Mohr, and Pollard, 2014)

Although statements assessing self stigma and perceived stigma were presented in the measure ($\alpha = 0.60$), the current study only used eight statements that best elicited perceived stigma. Participants were presented with a likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree) and were asked to rank each statement. As an example, participants were asked to rank the following statement: In general, others believe that having psychological problems is a sign of personal weakness or inadequacy. Scores acquired from the measure were then averaged.

The Standard Primary and Secondary Control (Moses & Tally, 2015)

This measure ($\alpha = 0.51$) presented sixteen statements concerning primary and secondary control coping. Statements such as “When experiencing problems I just try to focus on all of the good

things going on in my life" were used to measure secondary control coping and statements like "When experiencing problems I tell my parents immediately" were used to measure engagement in primary control coping. Additional coping statements were also created by the researcher to account for experiences specific to the South Asian American experience with mental illness. A likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was implemented after which averages were calculated. More specifically, scores were averaged to create primary and secondary control coping scales.

Data analytic plan

Prior to conducting analyses, we examined the distribution of variables to check for normality and any outliers. To test the hypothesis, bivariate correlations and moderation analyses using PROCESS Model 1(Hayes, 2012) in SPSS were conducted. This tests significance by using 1000 samples to estimate 95% bias-corrected confidence intervals for the effects. In the moderation models, the independent variable is the sum of depressive symptoms and the moderator is perceived stigma. Dependent variables include primary and secondary coping. Gender was included in each model as a covariate (see Appendix D).

Results

Bivariate correlation analyses indicated that, as expected, there was a negative relationship between depression and primary control coping, $r = -0.329$, $p < 0.001$. As depression increased, engagement in primary coping decreased. The relationship between depressive symptoms and secondary coping was not statistically significant, $r = -0.083$, $p = 0.388$. As predicted, there was a positive correlation between depression and perceived stigma, $r = 0.201$, $p = 0.035$, such that as perceived stigma increased, depression also increased (see Appendix C).

The model testing moderation of perceived stigma on the relationship between depression and primary coping was significant, $b = 0.0173$, $R^2 = 0.1646$, $F(4, 105) = 4.0000$, $p = 0.0008$. However as shown in Figure 2, only low ($b = -0.0195$, $p = 0.0001$) and moderate ($b = -0.0114$, $p = 0.0040$) levels of perceived stigma (PS) had a significant effect on the relationship between depression and primary coping (see Appendix E). The cutoff value of PS for significant conditional effects was 3.628 (70% of the sample has PS scores less than or equal to 3.628). Gender did not have a main effect on primary coping.

The model testing moderation of perceived stigma on the relationship between depression and secondary coping was not statistically significantly, $b = 0.0109$, $R^2 = 0.0749$, $F(4, 105) = 2.1260$, $p = 0.0827$. Gender did not have an effect on the dependent variable (see Appendix B & C).

Discussion

This study aims to examine how perceived stigma influences South Asian Americans' experience with depression and control coping. Thus far, literature has explored the expression and experience of depression in Asian populations, but has done so such that the findings are limited to non-diasporic communities and identities. Studies have often examined depression and coping in frameworks comparing eastern and western, individualistic vs. collectivistic contexts, and generalized findings to specific identities (Cheon, 2012; Griffiths et al., 2006; Mokkarala et al., 2015; Karasz, Dempsey, and Fallek, 2007, etc.). But in doing so, experiences specific to a cross-cultural identity are overlooked and potentially simplified. This study therefore looks to analyze experiences specific to the South Asian American -- someone who has South Asian roots but resides and is raised in an American context. Using insight from previous studies, this study was designed to examine the moderation of perceived stigma on the relationship between

depression and control coping. Prior, studies suggest that increased depression is associated with increased secondary control coping and decreased primary control coping (Jaser, Champion, Dharamsi et al., 2011; Massie, 2004). Stigma has been shown to influence this trend such that primary coping decreases when those experiencing depression also have increased levels of stigma towards mental illness (Mokkarala, O'brien, & Siegel, 2015; Blais and Renshaw, 2012, etc.). Keeping this in mind, we hypothesized that with increased perceived stigma, the level of primary control coping will decrease, whereas symptoms of depression and the level of secondary control coping will increase.

Understanding levels of depression and perceived stigmas experienced in South Asian Americans was crucial to understanding expression of control coping. In regards to control coping, engagement in primary and secondary control coping was analyzed across participants. Bivariate correlations found that as expected, when perceived stigma increased, depression also increased. Furthermore, perceived stigma and control coping were significantly correlated such that increased perceived stigma was associated with decreased secondary control coping. Despite not being significant, a similar trend between primary coping and perceived stigma was found such that increased perceived stigma was associated with decreased primary control coping. These findings suggest that coping is influenced by perceived stigma around mental illness, such that those who think mental health is stigmatized in the community's eyes are likely to engage in lower levels of both styles of coping themselves. It may be possible that perceived stigma increases self-stigma and thus interacts with one's own perception and habits associated with mental health. Broader Asian communities have shown stigmatized views on mental illness (Cheon, 2012; Mokkarala et al., 2015; Griffiths, Nakane, Christensen, et al., 2006), and it seems that perception of what others in the community think about mental health greatly affects South

Asian Americans as well.

To examine whether perceived stigma influences the relationship between depression and control coping, moderation analyses were conducted. Prior to running the analyses, the dependent variable, control coping, was divided into primary control and secondary control coping to analyze whether perceived stigma would have different effects. Results indicated that the model is significant only when primary control coping is the dependent variable. Specifically, depression increases and primary control coping decreases when low or moderate perceived stigma is reported. Secondary control coping and depression did not have a significant relationship. Thus, low and moderate perceived stigma seems to only influence the relationship between depression and coping when coping habits involve changing and involving the external environment to better deal with depression in this sample. Examples of this include seeking therapy, informing loved ones about mental health, or even removing people that trigger symptoms from the close environment. High levels of perceived stigma within the community would interfere with how one would implement primary control coping, as fears of being belittled or undermined would prevent direct approaches to treating depression.

Previous studies have highlighted an interaction between depression and control coping such that as depression increases, primary coping decreases and secondary coping increases (Jaser, Champion, Dharamsi et al., 2011; Aarts, et al., 2015). The present study fails to report significance between depression and secondary control coping (e.g. meditation, praying, positive self-speaking, etc.) suggesting that increases or decreases in depression levels does not determine whether secondary coping is implemented in this sample. It is positive that secondary coping may be used regardless of perceived stigma. Although not significant in the model, the current study presents a trend such that secondary coping (i.e. meditation and positive thinking) was on

average more greatly used over primary coping (see Appendix B). This is in agreement with past literature and is indicative of how South Asian Americans interact with coping in general (Jaser, Champion, Dharamsi et al., 2011; Bettis, Forehand, McGee, et al., 2016, etc.). Previous studies have found eastern communities to show lower primary control coping engagement as well, and a similar finding within the South Asian American community makes one speculate whether coping in this diasporic community is influenced more so by components of its eastern identity.

Along with its relationship with coping, it is often the case that women experience higher levels of depression than men across cultures (Culbertson, 1997). To see if gender also had a main effect on our models, moderation analyses were conducted while including gender as a covariate variable. The moderation analysis found that the relationship between depression and the different styles of coping did not change. There was not a main effect of gender on depression and primary or secondary control coping. This may suggest that regardless of gender, depression, perceived stigma, and coping is experienced to the same extent for all South Asian Americans represented within this study.

Findings from this study suggest that coping, more so primary coping, is highly influenced by perceived stigma, often resulting in worsened depression. Although correlations between perceived stigma and secondary control coping engagement depicted a significant relationship, when analyzed within the moderation models the relationship was not significant. Therefore, depression and engagement with secondary control coping is not moderated by perceived stigma. Those who are depressed may engage in secondary control coping, but for the sample tested for the present study, this relationship is not statistically significant.

There are several limitations to this study that must be accounted for when extending the findings. The current study did not account for how strongly participants felt apart of their

identity, or what a diasporic identity meant for participants. Because the identity is diasporic, it may be the case that participants felt closer or a part of one cultural identity than the other. Addressing this in future studies may help inform the results and further explain any significance or lack thereof. This may be done by measuring ethnic identity, acculturation to the western culture, and enculturation to South Asian culture. Future studies should also have greater diversity in participant pool. The participants in this study were heavily second generation, middle-upper class and attended either liberal arts colleges or four-year universities. Studying participants with a greater range in educational backgrounds and generation could provide more insight on how perceived stigma influences mental health outcome across the greater South Asian American community.

Future studies might further current findings by questioning whether age influences the interaction between depression and control coping mechanisms. Participants from different age groups, such as teens, young adults, and adults, can be compared to examine how coping changes over time, and whether one type of control coping is implemented more or less across the ages. Differences in perceived stigma could also be measured to see whether stigma is dependent on age. Certainly, more research on diasporic identities and their experiences with mental health must be conducted to widen the perspectives within psychology. Instead of using the eastern vs. western framework, comparing experiences across diasporic communities may provide insight on factors tied to the diasporic identity that may influence psychological well-being.

Appendix A

Table 1: Demographics

	Frequency
Gender	71 Female, 37 Male, 2 rather not specify
Age	8 eighteen y/o, 18 nineteen y/o, 27 twenty y/o, 30 twenty-one y/o, 17 twenty-two y/o, 10 twenty-three y/o and up
Generation	24 first gen, 83 second gen, 3 third gen

Appendix B

Table 2: Descriptives

	Mean (SD)
Depression	55.20(11.39)
Perceived Stigma	3.46(0.46)
Primary Coping	2.88(0.47)
Secondary Coping	3.56(0.49)

Appendix C

Table 3: Correlations among constructs of interests

	Depression	Perceived Stigma	Primary Coping	Secondary Coping
Depression	-	-	-	-
Perceived stigma	.035*	-	-	-
Primary Coping	<.001**	.472	-	-
Secondary Coping	.388	.043*	.606	-

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Appendix D

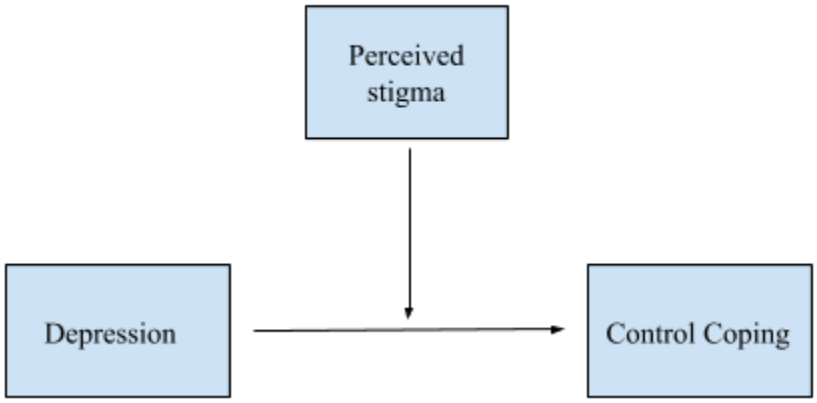

Figure 1: A moderation of perceived stigma on the relationship between the IV and DVs

Appendix E

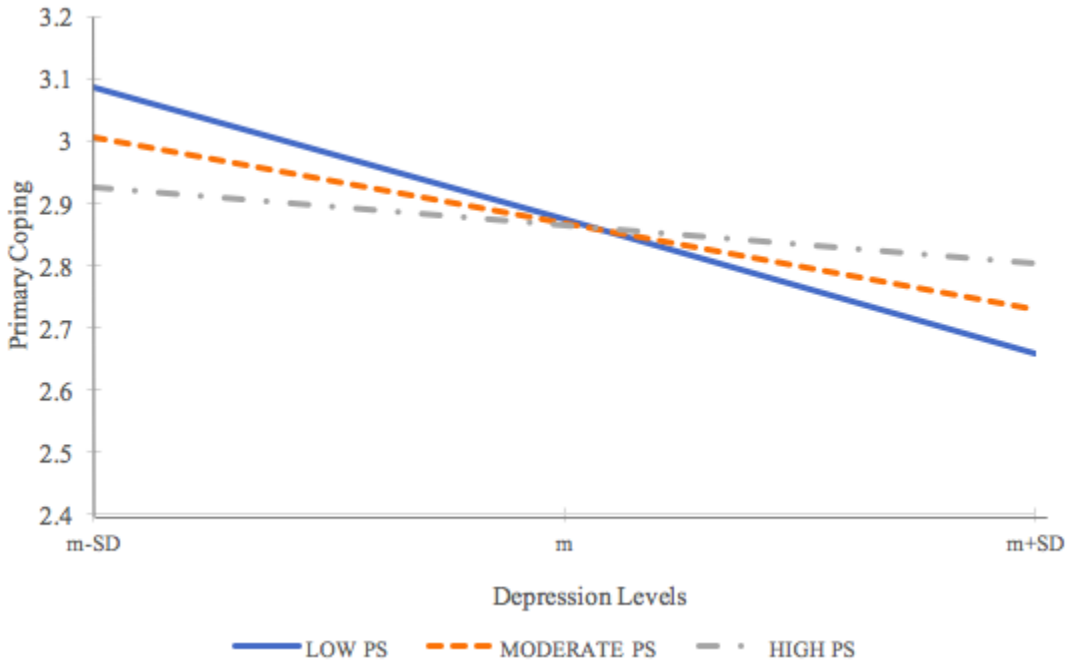

Figure 2: The Relationship between Depression and Primary Coping When Moderated by Perceived Stigma (PS).

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