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The Impact of Stigmatized Identities and Culture on the Mental Health of East and South Asian Americans

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The Impact of Stigmatized Identities and Culture on the Mental Health of East and South Asian
Americans

Alefiyah Zulfiqar Pishori

University of Connecticut, 2015

Asian Americans are a large and growing population, but there is limited understanding of the factors impacting the mental and physical health of this population. Stigma has been identified as an important contributor to poor mental and physical health in the general population (DHHS, 1999) and as a barrier to seeking mental health services in the Asian American community (e.g., Ting & Hwang, 2009). The current study aimed to further the current literature by evaluating a model of the impact of stigma against concealable stigmatized identities (CSIs) on the mental and physical health outcomes of Asian Americans. The current sample consisted of 246 Asian Americans recruited from various Asian American listservs and organizations. The participants included 168 East Asian (Chinese, Japanese, or Korean) and 78 South Asian (Indian, Pakistani, or Bangladeshi) Americans. Participants with a CSI were asked to report the degree to which they believe others will stigmatize them because of their CSIs (anticipated stigma), how important their CSI is to them (stigma centrality), how frequently they think about their identity (stigma salience), their adherence to traditional Asian values, their anticipation of discrimination based on their ethnicity, their symptoms of depression and anxiety, and physical well-being. Participants without a CSI were asked to rate the cultural stigma associated with various CSIs (i.e., domestic violence, mental illness, substance abuse, child abuse, sexual assault, and sexual orientation). The results indicated that stigma salience was the only stigma construct to significantly predict depression and anxiety symptoms in a community sample of East and South

Asian Americans. Anticipated ethnic discrimination and Asian values significantly predicted depression and anxiety. The only significant unique predictor of physical health was Asian values. The degree to which Asian Americans with CSIs think about their CSI (stigma salience), their adherence to traditional Asian values, and their anticipation of ethnic discrimination are important areas for intervention to improve their mental and physical health outcomes.

The Impact of Stigmatized Identities and Culture on the Mental Health of East and South Asian
Americans

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A Dissertation

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APPROVAL PAGE

Doctor of Philosophy Dissertation

The Impact of Stigmatized Identities and Culture on the Health of East and South Asian
Americans

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The Impact of Stigmatized Identities and Culture on the Health of East and South Asian Americans

Despite the large and fast growing Asian American population in the United States, research examining the physical and mental health experiences of Asian Americans is limited. Much remains to be understood about factors that may impact the mental and physical health of this community. Currently, Asian Americans constitute 4.8% of the U.S. population but that percentage is expected to double over the next 30 years (Hoeffel, Rastogi, Kim, & Shahid, 2012). Research with Asian Americans is challenging in part because of the great diversity within the category: “Asian American” includes individuals from more than 20 countries of origin encompassing multiple ethnic groups and languages (Chu & Sue, 2011). Mental health outcomes may vary significantly across different Asian American ethnic groups due to a number of factors, such as differences in immigration histories (e.g., voluntary versus refugee), physical characteristics (e.g., facial features, skin color), religious identity (e.g., Muslim versus Christian), and socioeconomic status (higher versus lower). In addition, stereotypes of Asian Americans, such as the “model minority,” perpetuate images of Asian Americans as highly educated, industrious, self-reliant, and psychologically well-adjusted individuals, and therefore, less likely to experience psychological problems and/or need psychological interventions. The relative higher socioeconomic status of Asian Americans compared to other groups (50% have college degree compared to 34% for Whites; median income is \$68,636 compared to \$51,017 for Whites) reinforce perceptions of Asian Americans as better adjusted and psychologically healthier than other racial/ethnic groups (U.S. Census Bureau, 2011). These higher socioeconomic indicators, however, do not necessarily predict better health for Asian Americans relative to other groups.

In the general population, higher socioeconomic indicators are associated with better mental health outcomes and less traditional service utilization (McKenzie, Gunasekara, Richardson, & Carter, 2014). Thus, one might expect Asian Americans to be less likely to use traditional mental health services as a consequence of better psychological health. While it is the case that Asian Americans are less likely to utilize traditional mental health services than other Americans (e.g., Abe-Kim et al., 2007; Zhang, Snowden, & Sue, 1998), they show comparable or higher rates of some mental health disorders. For instance, Asian Americans have been found to report significantly more depressive symptoms than White Americans (Bernstein, Park, Shin, Cho, & Park, 2011; Tabora & Flaskerud, 1994; Young, Fang, Zisook, 2010). In addition, contrary to the general population, socioeconomic factors such as education and income have not been found to predict health outcomes or mental health service utilization of Asian American populations (Cho, Kim, & Velez-Ortiz, 2014; Gong, Xu, & Takeuchi, 2012). Thus, the underutilization of mental health services among Asian Americans likely does not reflect an actual reduction in need, but rather barriers to treatment. A number of barriers may affect service utilization and mental health outcomes for Asian Americans; however, the impact of stigma may be an especially relevant barrier for Asian Americans (DHHS, 1999).

There is evidence that stigma against mental illness is greater among Asian Americans than White Americans and that mental illness stigma is associated with decreased seeking and utilization of psychological services among Asian groups (e.g., Loya, Reddy, & Hinshaw, 2010; Masuda & Boone, 2011; Ting & Hwang, 2009). Furthermore, values such as maintaining family honor, self-control, and “saving face” (Kim, Atkinson, & Umemoto, 2001), coupled with the greater collectivist orientation found among many Asian groups, highlight the priority placed on reputation and social standing within Asian cultures and the degree to which individuals are seen

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as representative of their families. Thus, possessing a stigmatized identity, such as mental illness or substance abuser, would not only impact the individual, but could potentially dishonor and shame the entire family, which could increase an Asian American's negative psychological and physical health outcomes and decrease the likelihood of revealing these identities, relative to individuals from other ethnic groups. For instance, Ting and Hwang (2009) found in a study of Asian American college students that greater stigma tolerance of mental illness (i.e., less concern or worry about the cultural stigmatization of mental illness) predicted more positive psychological help-seeking attitudes. The higher rates of mental illness stigma among Asian Americans also persist despite the high educational attainment within this population. In fact, higher educational attainment has not been associated with a reduction in mental illness stigma among Asian Americans, although self-perceived social standing has been linked to better outcomes (Gong et al., 2012). These findings suggest that possessing a socially stigmatized identity (i.e., public stigma) may result in a more devaluated social standing and may place Asian Americans at risk of experiencing worse mental and physical health outcomes. Thus, factors specific to Asian American cultural values likely perpetuate stigma and increase the negative outcomes for Asian American individuals possessing stigmatized identities. Despite evidence that stigma may be important in predicting mental health outcomes within the growing Asian American population, stigma has not been a significant focus in research on Asian Americans and moreover, Asians Americans have not been well represented in the stigma literature.

Impact of Stigma on Health

Stigma has been found to have a negative impact on a variety of outcomes, including employment, health, and relationships (Link & Phelan, 2001; Sickel, Seacat, & Nabors, 2014).

The Surgeon General's Report on Mental Health identified stigma as the "most formidable obstacle to future progress in the arena of mental illness and health" (DHHS, 1999), highlighting the large negative impact stigma can have on health outcomes, service utilization, and recovery. Erving Goffman first described stigma as the possession of a characteristic that is "discrediting" (Goffman, 1963), but more recently, researchers have also emphasized the role of power and status loss as critical to the impact of stigma (Link & Phelan, 2001). Stigma can be associated with a variety of characteristics that encompass social devaluation and can be either readily evident to others (e.g., ethnicity, gender; Lee, Lei, & Sue, 2001) or hidden (e.g., mental illness, rape; Crocker, Major, & Steele, 1998). Both visible stigmatized identities (VSIs) and concealable stigmatized identities (CSIs) have been associated with negative outcomes (e.g., Lee, Lei, & Sue, 2001; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). For example, internalization of stigma (believing the negative views associated with a stigmatized identity are true of oneself) is associated with negative mental health outcomes for individuals living with HIV/AIDS (Lee, Kochman, & Sikkema, 2002), disabilities (Harris, et al., 2015), smoking (Brown-Johnson, et al., 2015), and mental illness (Corrigan, Watson, & Barr, 2006; Ritsher & Phelan, 2004). It is important to note that the mere possession of a stigmatized identity does not necessarily result in a stigmatized experience for the individual nor does it necessarily result in negative outcomes. For instance, a person diagnosed with mental illness may be aware of the negative stereotypes associated with mental illness but may not feel personally devalued as a result of possessing the identity. In some cases, the stigmatized identity may be empowering to the individual (e.g., substance abuser in recovery, rape survivor, mental illness advocate).

Despite the large body of literature examining the effects of visible and concealable stigmatized identities, relatively little of this literature has focused on Asian Americans or has

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focused primarily on Asian Americans as a visible stigmatized identity. Studies that have looked at concealable stigmatized identities among Asian Americans have also found negative consequences associated with stigma. For example, HIV+ Asian/Pacific Islander American women reported in a qualitative study that HIV stigma negatively influenced their decisions to disclose their statuses (Chin & Kroesen, 1999), which could have negative mental and physical health consequences for them. Large-scale studies and literature reviews have included few, if any, Asian Americans in their analyses. A meta-analysis in 2010 (Livingston & Boyd) found that greater internalized stigma (an individual's belief that stereotypes against his identity are true of himself and that he is devalued in society because of his identity) was associated with more severe psychiatric symptoms and decreased treatment adherence. However, of the 45 studies included in the meta-analysis, only eight were conducted in Asia, and only differences between Caucasian and non-Caucasian participants were assessed. Sickel, Seacat, and Nabors's (2014) literature review highlighted the multiple domains that are negatively impacted by mental health stigma (e.g., self-esteem, interpersonal relationships, physical health, employment), but did not consider the role of ethnicity in these outcomes. The GAMIAN Study (Global Alliance of Mental Illness Advocacy Networks) examined mental illness stigma across 14 European countries and found self-stigma (the adoption of a stigmatized view of the self; also sometimes referred to as internalized stigma) was associated with more negative outcomes (Brohan, Elgie, Sartorius, & Thornicroft, 2010). The INDIGO study (International Study of Discrimination and Stigma Outcomes) examined mental illness stigma associated with schizophrenia in 27 countries and found that schizophrenic individuals consistently reported high levels of anticipated mental illness discrimination; however, only two Asian countries (India and Malaysia) were included (Thornicroft, Brohan, Rose, Sartorius, & Leese, 2009). As these studies reflect, the primary

focus of stigma studies with Asian populations has been with Asians living in Asia and not with Asian Americans.

Although there has been a significant amount of research in the area of stigma and mental illness stigma, specifically, there are limitations in the literature. First, there are a number of terms and constructs that are used interchangeably or reflect similar or overlapping processes (e.g., public stigma, societal stigma, personal stigma, self-stigma, internalized stigma, etc.). Second, stigmatized identities are operationalized in different ways--as an experience, identity, or expectation. For example, Thornicroft et al. (2009) operationalized stigma as anticipated discrimination whereby an individual does not engage in certain behaviors because of his/her mental illness (e.g., applying for a job) or by concealing his/her mental illness. Other researchers have referred to concerns about negative outcomes based on a stigmatized identity as anticipated stigma rather than anticipated discrimination (e.g., Earnshaw & Chaudoir, 2009). A third limitation is the lack of integrated models to help explain the relationships among different stigma constructs and their impact on psychological and health outcomes. Researchers (e.g., Quinn et al., 2014) have advocated for greater distinction among stigma constructs and their interrelationships. Fourth, most stigma models do not incorporate cultural factors that may also impact the degree to which a concealable and stigmatized identity is experienced. Patrick Corrigan and colleagues (2011) have proposed a stigma model that distinguishes between internalized stigma (self stigma) and societal stigma (public stigma) with a primary focus on those processes associated with self-stigma. However, in the case of Asian Americans who tend to demonstrate a more collectivist orientation, conformity to norms, and filial piety (Abdullah & Brown, 2011), the importance of social roles and societal stigma may be as or more important than self-stigma. A fifth limitation is the lack of research on the joint impact of both visible and

concealable stigmatized identities on psychological and physical health among different racial, ethnic, and cultural groups despite these factors being independently associated with worse mental health outcomes. Investigators have theorized about whether the effects of multiple stigmas are additive or interactive (Clark, Anderson, Clark, & Williams, 1999; Crandall, 1991), but empirical support to examine this question are currently lacking. It is important to better understand how multiple stigmatizing identities and the psychological meaning of the identities interact and/or aggregate to impact health outcomes in order to identify potential protective and/or vulnerability factors and to better address the needs of the population. Much remains to be understood regarding the factors that mediate or moderate the relationship between stigma and mental and physical health (Hatzenbuehler, 2009; Williams, Neighbors, & Jackson, 2003), especially within the Asian American population.

Using social identity theories as a foundational framework, Earnshaw and Chaudoir (2009) and Quinn and Chaudoir (2009) proposed a stigma model describing the relationship between stigma and health outcomes among individuals with concealable stigmatizing identities (CSI) (e.g., mental illness, HIV status). Their model identifies key pathways by which stigma impacts mental health outcomes. The constructs and pathways will be described in greater detail below. The current study extends this model of CSI stigma and psychological distress (Quinn & Chaudoir, 2009) by applying the model to an Asian American sample. This model has been used with college students (Quinn & Chaudoir, 2009) and with a predominately low-income community sample of White, Black, and Latino individuals (Quinn et al., 2014), but not with Asian Americans. Among college students with CSIs, greater anticipated stigma, centrality, salience, and cultural stigma were all independently predictive of psychological distress (Quinn & Chaudoir, 2009). Among ethnically diverse community participants, however, greater

anticipated stigma and salience were predictive of psychological distress, but centrality was not (Quinn et al., 2014). Thus this study aims to expand our understanding of the effects of stigma across diverse groups by incorporating the experiences of Asian Americans.

Stigma Constructs and Concealable Stigmatized Identities

Centrality of the stigmatized identity refers to how important the identity is to an individual's sense of self. The more central or core the identity is to an individual's overall self-concept relative to other identities held by the individual, the greater the impact of the stigmatizing effects (Crocker & Major, 1989). That is, possessing a stigmatized identity may have minimal impact on an individual's psychological well-being if that identity is of little importance to the individual's overall sense of self. Much of the literature investigating the impact of centrality of an identity on health outcomes has focused on visible identities, specifically race or ethnicity. Ethnic identity has been associated with increased psychological well-being and decreased depression among Asian Americans more generally (Lee, 2003; Lee, 2005; Mossakowski, 2003), but not specifically with Korean Americans (Hovey et al., 2006; Kim & Rew, 1994). Racial identity has been associated with positive mental health outcomes for Black Americans (e.g., Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003), while it has been found to be either not related or to have a negative effect for women and Latinos (Eccleston & Major, 2006; Major, Quinton, & Schmader, 2003; McCoy & Major, 2003). The positive consequences of increased centrality associated with a VSI may not be an equivalent parallel for CSIs however, as individuals with CSIs may not be able to utilize others with similar experiences as sources of support without first revealing their CSI (Crocker & Major, 1989). The hidden nature of a CSI may require greater effort on the part of the individual to identify and negotiate

sources of support versus potential rejection, which may make individuals more aware of or sensitive to rejection and discrimination as a result of the CSI. Whereas stigma centrality was both directly and indirectly associated with psychological distress in a college student population (Quinn & Chaudoir, 2009), it was not predictive of psychological distress in racially diverse community sample (Quinn et al., 2014).

Anticipated Stigma refers to the expectation that others will devalue oneself if the stigmatized identity is revealed. Individuals often learn the negative stereotypes for a CSI before actually acquiring the identity (Link, 1987; Link, Cullen, Struening, & Shrout, 1989), and thus may be concerned about the consequences of revealing their CSI. For example, an individual may be exposed to stereotypes of the mentally ill as dangerous and disturbed before developing a psychiatric disorder and subsequently anticipate or expect mistreatment or rejection as a consequence of having the identity. Anticipated stigma has been found to directly and indirectly (through centrality of the CSI) impact distress and physical symptoms (Quinn & Chaudoir, 2009). Greater anticipated stigma has also been found to predict decreased accessing of healthcare and decreased quality of life among individuals with a chronic illness (e.g., diabetes, asthma; Earnshaw & Quinn, 2012). Among White, Black, and Hispanic Americans with mental illness, studies have found a strong relationship between increased fears of discrimination and devaluation because of their CSIs and decreased psychological well-being (e.g., Link, 1987; Link et al., 1989; Link et al., 2001; Rosenfield, 1997). Stigma research has not investigated the impact of concealable stigmatized identities on Asian Americans; however, the effects of having a visible stigmatized identity (e.g., racial discrimination) has been associated with negative mental health outcomes among Asian Americans (e.g., Atri, Sharma, & Cottrell, 2007; Hahm, Ozonoff, Gaumond, & Sue, 2010; Rahman & Rollock, 2004). It is unclear, however, if a similar link exists

between anticipating CSI discrimination/devaluation and psychological outcomes for Asian Americans.

Stigma Salience is the degree to which individuals think about and/or are aware of their CSI. An individual may be more or less aware of their stigmatized identity depending in part on the overall importance of the identity (centrality) and the relevance of the identity in a given situation or context. For example, an individual who is HIV+ may think about his/her status frequently in a dating context but may give minimal thought to it while at work. How frequently individuals think about their stigmatized identities has been associated with intrusive thoughts and psychological distress (Major & Gramzow, 1999; Nolen-Hoeksema, 1991). In the case of VSIs, Sellers and colleagues' (1998) theorize that the salience of race for African Americans would vary based on the situation and would influence interpretations of the situation and individuals' subsequent behaviors. Stigma salience was found to directly influence psychological distress, which in turn impacted physical health symptoms in a CSI stigma model (Quinn & Chaudoir, 2009). Thus, the degree to which one fears negative consequences of having a CSI (anticipated stigma) is dependent upon the importance of the CSI (stigma centrality) and how often one thinks or worries about the CSI (stigma salience; Quinn & Chaudoir, 2009). However, researchers have not empirically examined the role of stigma constructs for CSIs when predicting psychological or physical health outcomes among Asian Americans.

The CSI stigma model also incorporates the influence of stigma within one's culture on anticipated stigma and psychological distress (Quinn & Chaudoir, 2009). Cultures vary in the degree to which identities are devalued and stereotyped; for instance, researchers have found greater cultural stigma against mental illness among Asian Americans than White Americans (Hsu et al., 2008; Masuda & Boone, 2011). In addition, within a culture, different CSIs may vary

in the degree of stigmatization attributed to the identity. For example, Asian drug users reported greater stigma against injection drug use than other drug use. Furthermore, cultural affiliation of the drug users moderated the impact of the stigma: greater cultural affiliation (stronger identification with being Asian) was a deterrent to injecting drugs, but also possibly contributed to greater denial of substance abuse problems and treatment among injection drug users (Nemoto et al., 2000). In the original CSI model (Quinn & Chaudoir, 2009), cultural stigma was broadly defined as the degree to which “society” stigmatizes a concealable identity; however, which culture or group one uses as a frame of reference may influence perceptions of societal stigma. As noted earlier, cultural stigma against mental illness differs among Asian and White Americans, thus stigma against CSIs may differ within an individual Asian American’s ethnic community (e.g., stigma of mental illness among East Asians) and the broader society in which they live (e.g., stigma of mental illness among Americans). The majority of East and South Asians are concentrated in certain parts of the country (e.g., California, New York) (Min, 2006; Pew Research Center, 2013), suggesting that Asian Americans with CSIs likely live in communities with sizable proportions of other individuals from their ethnic groups and that the degree to which an identity is socially stigmatized (e.g., public stigma) may depend on the cultural group being referenced (e.g., society versus American versus Asian versus South Asian versus Pakistani). More recently, cultural stigma has been reconceptualized as perceived devaluation within “one’s cultural group” (Quinn et al., 2014) rather than a general or unspecified reference group. The current study also incorporates this cultural stigma construct rather than the more general measures of public stigma. In addition to cultural stigma, other cultural constructs may also be important to understanding the psychological consequences for Asian Americans who possess a concealable and stigmatized identity.

Impact of Cultural Factors on Asian American Health and Stigma

When considering the factors impacting the health of Asian Americans, studies have investigated the relationship between several different cultural factors, stigma, and mental health, including Asian values, ethnic discrimination, ethnic identity, and acculturation. Asian values refer to the degree to which individuals endorse beliefs associated with traditional Asian culture (e.g., individuals should care for their parents, one should place family needs above individual needs). Greater adherence to Asian values has been associated with decreased psychological well-being (Iwamoto & Liu, 2010) and increased depressive symptoms among Korean American undergraduates (Hovey, Kim, & Seligman, 2006), but has not been predictive of depressive symptoms among other Asian undergraduate groups (Iwamoto, Liao, & Liu, 2010). HIV+ Asian and Pacific Islander American women reported that cultural values impacted the perception of HIV stigma and their decision to disclose their status; individuals who held strong Asian values were seen as having more stigmatizing views of HIV and study participants reported not disclosing their statuses to these individuals (Chin & Kroesen, 1999). Asian values has also been found to indirectly impact willingness to seek counseling through its effect on perceptions of general public stigma of seeking counseling and individuals own stigma against seeking counseling (Choi & Miller, 2014). Thus Asian values have been associated with mental health outcomes and have influenced the relationship between public and personal stigma and help-seeking.

The perception and experience of ethnic discrimination has consistently been found to have negative consequences on the development of depression and distress among Asian Americans. Increased experiences of discrimination have been associated with decreased physical health and

increased psychological distress, depression, and suicidal ideation among Asian Americans (Atri et al., 2007; Gee, Spencer, Chen, Yip, & Takeuchi, 2007; Grossman & Liang, 2008; Hahm, Ozonoff, Gaumond, & Sue, 2010; Hwang & Goto, 2009; Nadimpalli & Hutchinson, 2012; Rahman & Rollock, 2004; Yip, Gee, & Takeuchi, 2008). Researchers have also noted that discrimination predicts future depressive symptoms and that increases in discrimination over time are associated with greater depression among Chinese American adolescents (Juang & Cookston, 2009). Thus, not only is discrimination associated with depression, but longitudinal studies also provide evidence of the causal nature between these two constructs. Although less consistent, discrimination has also been associated with negative physical health and health behaviors (cardiovascular risk, diabetes, smoking, substance use) for Asian Americans (Gee, Ro, Shariff-Marco, & Chae, 2009). Other cultural constructs have also been investigated in conjunction with discrimination to assess the combined impact on mental health problems. Asian values was found to moderate the relationship between stress associated with experiences of racism and psychological well being among Asian Americans, such that individuals high on Asian values experienced better psychological well-being when faced with greater race-related stress (Iwamoto & Liu, 2010). Moreover, discrimination has been found to have a stronger effect on the presence of depressive symptoms than acculturative stress and to account for the relationship between acculturative stress and depression in Asian Americans (Bernstein et al., 2011; Gee et al., 2007). Thus, racial discrimination appears to be a relatively robust predictor of psychological health for Asian Americans and may be an important predictor for physical health outcomes.

Other investigators have reported that greater ethnic identity, or how affiliated an individual is with his/her ethnic culture, is associated with increased psychological well-being and decreased

depression among Asian Americans (Lee, 2003; Lee, 2005; Mossakowski, 2003), although this relationship does not seem to hold among Korean American individuals (Hovey et al., 2006; Kim & Rew, 1994) or for Asian Americans under 30 years old (Lee, 2003; Yip et al., 2008). Racial identity, or the importance of race to one's identity, has been found to be associated with positive mental health outcomes for Black Americans (e.g., Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Yip, Seaton, & Sellers, 2006), while it has been found to be either not related or to have a negative effect among women and Latinos (Eccleston & Major, 2006; Major, Quinton, & Schmader, 2003; McCoy & Major, 2003). The variability in the relationship between racial/ethnic identity and psychological outcomes may be a consequence of two related factors. On the one hand, stronger ethnic/racial affiliation provides one with sources of support and positive cultural identification, which may be protective in the face of stigma. However, there is also evidence that stronger racial/ethnic affiliation may heighten one's awareness of or sensitivity to race-based rejection or discrimination, which may make one more vulnerable in the face of stigma (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). In the case of CSIs, this distinction may be especially important as one's ability to derive support and affiliation with others who share the stigmatized identity may be more challenging as the identities can be hidden or concealed.

Lastly, investigators have reported mixed findings on the impact of acculturation, the degree to which an immigrant has adopted the norms and customs of the host culture, on the mental and physical health outcomes of Asian Americans. Greater acculturation to American society has been associated with positive mental health outcomes among Asian Americans (Atri, Sharma, & Cottrell, 2007; Bernstein et al., 2011; Rahman & Rollock, 2004; Yeh, 2003) and negative outcomes (Hwang, Myers, & Takeuchi, 2000). Acculturative stress, or the cultural and

social conflict experienced by immigrants, is another related construct associated with greater psychological difficulties (Bernstein et al., 2011; Hwang & Ting, 2008; Yeh, 2003). Among a sample of primarily East Asian American college students, acculturation was not predictive of depression or psychological distress, but acculturative stress significantly accounted for psychological distress, beyond the variance accounted for by level of acculturation, general perceived stress and financial stress (Hwang & Ting, 2008). Thus, the authors suggested the stress associated with the cultural changes experienced by Asian Americans may be more relevant to the development of psychological problems than acculturation alone. Contrary to these findings, acculturative stress was not associated with depression among middle-aged Korean American women in New York City who had immigrated within the previous decade (Shin, 1993).

The inconsistencies in the acculturation literature may be due to variance in measurement and construct development. For instance, researchers have used questionnaires to determine participants' acculturation levels (e.g., Hwang & Ting, 2008) and proxy measures of acculturation, such as language abilities and generational status (e.g., Bernstein et al., 2011; Hwang, et al., 2000). Questionnaire measures also vary, with no established gold standard for many constructs. For example, some acculturation measures focus on behavioral adaptations to the host culture (e.g., preferred food, music), while others focus more on value adaptation (e.g., endorsement of values that are characteristic of the host culture). Acculturation is better conceptualized as a multidimensional construct rather than an overall measure of cultural affiliation. In the context of understanding the impact of stigma on Asian Americans, value adaptation (adherence to traditional Asian values) may be more relevant than behavioral dimensions (e.g., prefer Asian foods) or generational status (e.g. first or second generation). As a

result, only adherence to Asian values was included in the current study. In addition, ethnic discrimination was included because of the strong evidence supporting the relationship between ethnic discrimination and mental and physical health outcomes.

The current study investigated the role of culture by including cultural affiliation (Asian values), racial stigma (ethnic discrimination), and cultural stigma associated with one's CSI in the relationship between CSI stigma constructs and psychological outcomes. Evidence suggests the degree of cultural affiliation of Asian Americans can impact the stigma-related outcomes (Nemoto et al., 2000; Choi & Miller, 2014). Thus, cultural stigma alone may not predict mental and physical health outcomes, but the interaction between cultural stigma and cultural affiliation may best predict outcomes. Specifically, individuals with greater cultural affiliation and more culturally stigmatized CSIs would be expected to have worse psychological and physical health than those individuals who are less culturally affiliated. A modified version of the CSI stigma model (Quinn & Chaudoir, 2009) with the inclusion of additional cultural factors is depicted in Figure 1. In the current study, cultural affiliation was operationalized as endorsement of Asian values. Asian cultural values have been positively correlated with cultural stigma against mental health services (Abdullah & Brown, 2011; Choi & Miller, 2014), which may increase the distress experienced by people with both high Asian values and mental health needs. Although the original CSI model study found a direct relationship between cultural stigma and physical health, only an indirect relationship to psychological distress was found when physical health was also included in the model.

Differences between East and South Asian Americans

Few studies have considered the differences within the Asian American population in the impact of culture on health. When investigators have compared Asian American ethnic groups, they have found significant differences in outcomes (e.g., Takeuchi et al., 2007; Yeh, 2003). East Asian Americans have been found to be less likely to utilize mental health services, despite the presence of mental health problems, than South and South East Asian Americans (Lee, Martins, & Lee, 2015; Tiwari & Wang, 2008). South Asians have reported a lower prevalence of substance use disorders than East Asians (Lee et al., 2015), while Korean Americans have reported higher rates of depression than other Asian American groups (e.g., Lee et al., 2000; Yeh, 2003; Young et al., 2010). The differences in prevalence of mental health problems suggest it is important to consider within group differences in the Asian American population. However, these studies have not identified possible factors, aside from ethnic group membership, that may contribute to these important differences in mental health problems and service use. Investigating the contribution of factors, such as cultural values, that could account for these group differences is critical to better understand and target the health needs of this diverse population (Abdullah & Brown, 2011).

Asian Americans encompass a variety of ethnic groups (e.g., Chinese, Japanese, Indian, Pakistani, Filipino, Thai, etc.) with some cultural similarities, such as patriarchal customs, collectivism, and “saving face.” Cultural traditions that emphasize the extended family unit and filial piety, including family reputation and self-sacrifice for elders have been found for both East and South Asian ethnic groups (Abdullah & Brown, 2011; Min, 2006). The importance of maintaining honor and the behaviors of individuals reflecting on their families could increase the stigma and health problems experienced by Asian Americans with CSIs relative to individuals from other ethnic groups. This population also encompasses diverse experiences during their

migrations, life in the host society, culture, and outcomes and thus the degree of affiliation to traditional Asian values may differ for Asian American ethnic groups whose histories and experiences in the United States differ (Leong & Lau, 2001; Min, 2006; Suinn, 2010). Chinese immigrants were among the first Asians to immigrate to the United States as early as the 1800s and Chinese Americans encompass a wide variety of backgrounds (e.g., immigration prior to 1965, professional and working class immigrants, biracial/bicultural, etc.). The earliest Japanese Americans similarly arrived in the 1800s, primarily as students and laborers. Although a small number of Indian men immigrated in the late 1800s, the majority of South Asian Americans came after 1965, and the South Asian American population doubled between 1990-2000. Thus, many East Asian Americans today have lived in the United States for multiple generations, which may decrease their affiliation with their ancestral culture and increase their affiliation with American culture. South Asian Americans are more likely than East Asians to be foreign-born and as a result may be more closely affiliated with their cultural heritage (Min, 2006; Pew Research Center, 2013). Furthermore, there is evidence that third-generation Asian Americans utilize mental health resources at rates similar to the general population, while first- and second-generation immigrants are less likely to utilize mental health services relative to the general population. First- and second-generation individuals may have stronger ties to their Asian cultures, which may increase the stigma associated with seeking mental health services (Abe-Kim et al., 2007).

As discussed previously, discrimination negatively impacts the mental and physical health of Asian Americans. In fact, “Chinatowns” were originally formed to provide protection from discrimination and racism faced by Chinese individuals from the larger community. More recently, however, South Asian Americans have reported more experiences of discrimination and

racism than East Asian Americans because of their perceived similarities (e.g., religious affiliation, Sikh men who wear turbans) with terrorists responsible for the attacks on the World Trade Center in 2001 (Min, 2006). Thus, South Asian Americans may be more vulnerable to the negative impact of discrimination on mental and physical health than East Asian Americans.

There may also be differences in the cultural values held by the individuals who choose to emigrate from their native countries. For example, a large proportion of Japanese immigrants are women pursuing better educational and employment opportunities as a result of gender role expectations and bias against women in the Japanese workforce. These women are more likely to arrive in the United States with egalitarian gender beliefs. In contrast, among South Asian Americans, women are often viewed as bearers of traditional South Asian culture and traditional gender roles are emphasized within the family. It has also been argued that South Asian male immigrants may be more culturally traditional than men who remain in their native countries (Min, 2006). It is possible that the traditional gender role beliefs of South Asian Americans may contribute to an increase in the occurrence, concealment, and stigma of CSIs such as domestic violence or sexual assault (Min, 2006) compared to East Asian Americans.

Another important difference to consider between East and South Asians is the religious affiliations of the majority of the populations. Islam has had a strong influence on the Indian subcontinent with two predominately Muslim countries (Pakistan and Bangladesh) and a large percentage (10%) of the Indian American population identified as Muslim. Among East Asian countries (China, Japan, and Korea), Buddhism and Christianity have been the predominant religious influences, with Christianity as the predominant religious orientation for East Asian Americans (Min, 2006; Pew Research Center, 2013). The different religious affiliations of East and South Asian Americans could have a significant impact on the degree of stigma associated

with certain CSIs, such as substance abuse. Drinking alcohol is prohibited for Muslims, while Chinese and Korean individuals are more likely to normalize heavy alcohol use (Lee et al., 2015). Thus, the stigma associated with and experienced by individuals possessing substance abuse as an identity may differ for East versus South Asian Americans.

The current study will add to the existing body of literature by specifically targeting and recruiting East and South Asians groups, the two largest Asian American ethnic groups (Hoeffel et al., 2012), to better understand the impact of stigma on Asian American health.

Current Study

Considering the significant negative impact of stigma on mental health outcomes of diverse groups, it is critical to address the limited knowledge of the impact of stigma for Asian Americans. Stigma against various concealable identities has been reported in the Asian American community, including psychological difficulties (e.g., Masuda & Boone, 2011), minority sexual orientation (e.g., Chng, Wong, Park, Edberg, & Lai, 2003; Yoshioka & Schustack, 2001), and sexually transmitted infections (e.g., Takahasi, 1997; Russ et al., 2012), and the degree of stigma attributed to these identities has been found to be greater among Asian Americans than among other ethnic groups in America (e.g., Saetermoe, Scattone, & Kim, 2001). Thus, increasing understanding of the role of stigma on mental and physical health outcomes of Asian Americans with VSIs (ethnicity) and CSIs (mental illness, substance abuse, domestic violence, sexual assault, child abuse, and/or minority sexual orientation) will allow clinicians to better address the needs of this population. The current study also aims to explore similarities and differences in CSI stigma and culture on mental health outcomes of East Asian (i.e., Chinese, Japanese, and Korean) and South Asian (i.e., Indian, Pakistani, and Bangladeshi) Americans.

Hypotheses

It is hypothesized that a modified version of Quinn and Chaudoir's (2009) stigma model will capture the impact of CSI stigma on psychological and physical health among Asian Americans.

The following relationships are hypothesized (see Figure 1):

1. Greater anticipated CSI stigma is hypothesized to directly and indirectly predict, through its impact on CSI centrality and CSI salience, decreased psychological health. Greater anticipated stigma is also hypothesized to be directly associated with decreased physical health.
2. Greater CSI centrality is hypothesized to predict decreased psychological and physical health.
3. Greater CSI salience is hypothesized to predict decreased psychological and physical health.
4. Greater cultural stigma against one's CSI is hypothesized to predict more negative psychological and physical health outcomes for individuals with higher cultural affiliation as compared to individuals with lower cultural affiliation.
5. Greater ethnic discrimination is hypothesized to predict decreased psychological and physical health.
6. Differences in the strength of these relationships are expected between East and South Asian Americans.

Methods

Recruitment and Procedures

Participants were recruited from across the United States through online listservs targeting Asian American populations and listservs for Asian American organizations. Participants were also encouraged to share the survey link with their acquaintances who were also eligible for the study. Because more East Asians than South Asians initially completed the survey, South Asian Americans were specifically targeted during a second wave of recruitment to allow for group comparisons. Participants were asked to complete an online survey that was expected to take approximately 20-40 minutes. Participants received \$10 electronic gift cards for Amazon.com as compensation for their time. Participants were able to save their responses and return to complete the survey at a later time if they chose.

Measures

Participants were first asked if they keep any aspects of themselves hidden from others. They were presented with a list of experiences, 7 CSIs (mental illness, childhood abuse, domestic violence, sexual assault, minority sexual orientation, sexually transmitted infections [STI], and substance abuse) and 3 filler experiences (e.g., victim of a non-violent crime, cancer treatment, and heart problems) from which they were asked to identify any that they keep hidden regularly. Participants were able to select multiple CSIs if applicable, but were asked to identify the CSI that was most important to them for the stigma-related measures. These CSIs were chosen as they are common, likely to be represented across genders, and have been associated with psychological distress. Participants could also select that they do not have any CSIs they keep regularly hidden.

Anticipated Stigma. Two scales were utilized to assess the degree to which individuals believed others would stigmatize them because of their CSIs. The Discriminatory Outcomes

measure (Kessler, Mickelson, & Williams, 1999) asked participants about their expectation of experiencing 11 types of major (e.g., fired from a job, hassled by police) and 9 types of minor (e.g., treated with less courtesy than others) discriminatory experiences because of their CSIs. Nine additional items assessed the degree to which participants anticipated others (e.g., family, friends, acquaintances) would distance themselves because of these CSIs (e.g., “Friends avoiding or ignoring you,” or “Family being embarrassed or ashamed of you”; Quinn & Chaudoir, 2009). Responses to this scale were given on a 7-point Likert scale and summed to create a total score; higher scores reflected greater anticipated CSI stigma. This scale had good reliability ($\alpha = .985$ among East Asians; $\alpha = .975$ among South Asians).

Stigma Centrality. Eight items assessed how important a CSI was to an individual. The “Importance to Identity” subscale of the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992) is a 4-item scale assessing how critical the CSI is to an individual’s sense of self (e.g., “In general, my concealed identity is an important part of the way I see myself.”) with strong reliability ($\alpha = .86$). In addition, 4 items from an unpublished scale (Quinn & Williams, 2009) assessed the degree to which the CSI defines the individual (e.g., “My concealed identity defines who I am.”). Responses to this scale were given on a 7-point Likert scale and summed to create a total score; higher scores indicated greater importance of the CSI to individuals’ self-perceptions. This scale had good reliability among the CSI participants ($\alpha = .701$ among East Asians; $\alpha = .800$ among South Asians).

Salience of Identity. Participants were also asked to respond to five items about how frequently they think about their CSIs and their concerns about their CSI being discovered by others (e.g., “I spend a lot of time thinking about my concealed identity.”) on a 7-point Likert scale. Responses to the items were summed, with higher scores indicating more frequent

thoughts about one's CSI, and the scale was found to have good reliability ($\alpha = .871$ among East Asians; $\alpha = .914$ among South Asians).

Depression. Depression was assessed with the Center for Epidemiological Studies – Depression Scale (CES-D), a widely used measure of depressive symptoms with strong reliability (α range = .85 -- .90; Radloff, 1977). This measure also had strong reliability ($\alpha = .934$ among East Asians; $\alpha = .932$ among South Asians). Scores on this 20-item measure can range from 0-60, with higher scores indicating a greater endorsement of depressive symptoms.

Anxiety. The degree to which individuals endorsed general feelings of anxiety was evaluated by the Beck Anxiety Inventory-Trait (BAIT; Kohn, Kantor, DeCicco, & Beck, 2008). Scores on this 21-item measure ranged from 0-63, with higher scores indicating greater endorsement of feelings of anxiety. Kohn and colleagues have found that this measure has strong internal consistency ($\alpha = .88$) and test-retest reliability ($\alpha = .79$ to .83). This measure had strong reliability as well ($\alpha = .981$ among East Asians; $\alpha = .964$ among South Asians).

Physical health. Health measures from the Patient Reported Outcomes Measurement Information System (PROMIS; www.nihpromis.org), a compilation of highly reliable measures of physical and mental health by the National Institutes of Health, were also included. Four items from the PROMIS SF v1.1 Global Health assessment were used to assess general health, quality of life, and pain (e.g., “In general, how would you rate your physical health?”) on a 5-point scale. Higher scores indicate worse physical health. This scale was found to have moderate reliability in the study sample ($\alpha = .638$ among East Asian Americans; $\alpha = .746$ among South Asian Americans).

Cultural Affiliation. Participants' Asian cultural affiliation was assessed with the Asian Values Scale-Revised (AVS-R), a commonly used 25-item measure of enculturation to Asian

values with good reliability ($\alpha = .80$; Kim & Hong, 2004). Higher scores reflect greater endorsement of traditional Asian values. This measure was found to have moderate reliability ($\alpha = .655$ for East Asians; $\alpha = .524$ for South Asians).

Anticipated and Experienced Ethnic Discrimination. Participants were asked about their anticipation and experiences of ethnic discrimination. Kessler et al.'s (1999) Discriminatory Outcomes measure was used to determine participants' anticipation of 11 major (e.g., fired from a job), 9 minor (e.g., treated with less courtesy), and 9 social (e.g., others not wanting to be in a relationship) discriminatory events because of their race or ethnicity. Higher scores indicated greater anticipation of racial or ethnic discrimination. This scale had very strong reliability among CSI participants ($\alpha = .985$ among East Asians; $\alpha = .975$ among South Asians).

Participants were also asked if they had ever experienced each type of discriminatory event and total number of discriminatory events experienced were summed.

Participants who did not identify having a CSI were presented with the following measure:

Cultural Stigma. Participants were asked about cultural perceptions of individuals with each of the targeted stigmatized identities. This measure included four items created for a previous study regarding individuals' perceptions of the cultural stigma against each of the CSIs in their racial/ethnic group, assessing general identity devaluation (2 items; e.g., "How do you think people with this identity are generally viewed in your community?"), perceived acceptability of discrimination (1 item; e.g., "How acceptable do you think it is to discriminate against people with this identity?"), and likelihood of actual discrimination (1 item; e.g., "How likely do you think it is that people with this identity would be fired from a job if others know about the identity?"). This measure had moderate to strong reliability (α range = .686 - .848 among East Asians; α range = .651 - .832 among South Asians). Cultural stigma against mental

illness had the lowest reliability and cultural stigma against minority sexual orientation had the highest reliability among both East and South Asian participants without a CSI. The mean cultural stigma score for each CSI within each ethnic group was used to identify the cultural stigma faced by each participant with a CSI, based on the CSI they selected as most important to them. That is, for individuals identifying mental illness as their CSI, the cultural stigma score for mental illness constituted their cultural stigma variable. Higher scores indicated greater stigma attributed to the CSI in one's community.

All participants were asked:

Demographics. Information about age, gender, income, education, marital status, number of children, generational status, age at immigration of first generation immigrants, ethnicity, family's country of origin, nativity, if they hold dual citizenships, type of migration (e.g., voluntary, refugee), English language ability, highest level of education, parents' highest education level, and types of health and social services they have utilized in the previous month was collected from all participants. Participants who had a concealed identity were also asked how much (e.g., "does not know at all" to "knows and we've talked about it") different people (e.g., parents, partner, best friend, etc.) in their lives knew about their CSIs (Quinn & Williams, 2009).

Social Desirability. To account for the possibility participants' may not respond completely honestly as a result of the sensitive nature of some of the items, the impression management subscale of the Balanced Inventory of Desirable Responding (Paulhus, 1984) was included to control for socially desirable response patterns. As recommended (Paulhus, 1984), only scores at the ends of the Likert scale (i.e., 1, 2, 6, and 7) were coded as socially desirable responding; higher scores reflected more socially desirable responding. This measure had low to

moderate reliability in the full sample ($\alpha = .582$ among East Asians; $\alpha = .384$ among South Asians).

Results

Participants

After removing 27 participants as they appeared to be duplicate respondents, a total of 274 East (i.e., Chinese, Japanese, Korean) and 120 South (i.e., Indian, Pakistani, Bangladeshi) Asian Americans participated in the current study. The ethnic groupings are based in part on geographic proximity of country of origin as well as similarities in cultural values, physical characteristics, and US immigration histories (Min, 2006). Despite attempts to recruit an equal number of East and South Asian participants, including a second round of data collection targeted at only South Asian Americans, many more East Asian Americans completed the study than South Asians. Forty-three percent of the East Asian ($n = 119$) and 51% of the South Asian participants ($n = 61$) had a CSI; 44% of the East Asian ($n = 122$) and 41% of the South Asian ($n = 49$) participants did not have a CSI; the remaining participants had a stigmatized identity they did not conceal and were not included in the current study.

As an online study, it is possible that some participants may have not fully attended to the study or simply provided random responses in order to obtain the compensation. Efforts were made to identify repeat responders (e.g., email addresses provided). In addition, time to completion was computed for those participants who completed the survey within a 24-hour period. The complete study included approximately 150 individual items, and was expected to take about 20-30 minutes to complete. Concerns regarding data integrity could be raised for participants completing the study in less than 15 minutes as it would be difficult to read, assess,

and respond to all the survey items in such a short time. Forty-seven percent ($n = 56$) of East Asians and 52% ($n = 32$) of South Asians with a CSI spent 15 minutes or more completing the study; 92% ($n = 112$) of East Asians and 94% ($n = 46$) of South Asians without a CSI completed the study in 15 minutes or more. Detailed demographic information for the entire sample can be found in Table 1. Detailed demographic and study measures for participants based on time to completion can be found in Table 2.

A few significant differences were found between groups when including all participants in demographic characteristics. Among individuals with a CSI, the mean age of South Asians ($M = 28.94$ years) was significantly younger than East Asians ($M = 31.71$ years). South Asians were more likely than East Asians to be female (60.9% versus 38.7% respectively), to have 16 or less years of schooling (53.8% versus 51.80% respectively), to have an annual household income of less than \$50,000 (49.2% versus 20.7% respectively), and to only have one CSI (72.3% versus 48.6% respectively). South Asians were less likely (41.5%) than East Asians (65.5%) to be married. Thus, the South Asian participants were more likely to be single, female, less educated, and have less income.

Among all East Asian participants, individuals with a CSI were more likely than individuals without a CSI to be male (61.3% versus 33.9% respectively), have an annual household income of \$100,000 or more (47.1% versus 29.2% respectively), and to be married (65.5% versus 39.3% respectively). Among South Asian participants, individuals with a CSI were significantly less likely than individuals without a CSI to have a graduate education (46.2% versus 66.7% respectively) and 2.5 generation or later immigrants (33.8% versus 6.1% respectively).

Significant differences were also found among participants who took 15 or more minutes to complete the study and individuals who took less than 15 minutes. Among East Asians with a CSI (see Table 2), individuals who took more than 15 minutes to complete the study were less depressed and anxious; reported less anticipated CSI stigma, less CSI salience, and less anticipated ethnic discrimination; were more likely to be female; and less wealthy than individuals who spent less than 15 minutes completing the study. Nearly all East Asian CSI participants (94.4%) who completed the study in less than 15 minutes scored above the clinical cutoff for significant depressive symptoms (clinical cutoff = 16), while 61.4% of individuals spending more than 15 minutes scored above the cutoff. More importantly, the mean depression scores for participants taking less than 15 minutes were in the high clinical range (above 30), which is very unusual for a non-clinical population, whereas the depression mean for participants taking longer than 15 minutes while above the clinical cutoff is consistent with other studies using community samples of Asian Americans (Wada, et al, 2006). It is questionable whether individuals experiencing such high levels of distress could complete such a lengthy study in under 15 minutes. The difference in mean anxiety scores was also noteworthy; the average anxiety score of participants spending 15 or more minutes completing the study was more than 25 points less than the mean scores for participants spending less time. And a pattern similar to the one for depression appeared in the distribution of scores for anxiety: more than 90% of participants completing the study in less than 15 minutes had scores above 16 (clinical cutoff) while only 34% of East Asian CSI participants spending more than 15 minutes had scores in the clinically significant range above 16.

Among South Asians with CSIs (see Table 3), individuals who spent more than 15 minutes completing the study were older, wealthier, and less depressed and reported less CSI

centrality, CSI salience, and anticipated ethnic discrimination than individuals who completed the study in less than 10 minutes. Nearly 90% of participants completing the study in less than 10 minutes scored above the clinical cutoff for depression, while only 50% of participants spending more than 15 minutes reported clinically significant depressive symptoms. For anxiety, about 30% of individuals completing the study in less than 10 minutes scored above 16, while only 12% of participants spending more than 15 minutes had scores of 16 or higher. Participants who spent more than 15 minutes completing the survey were also more educated, more recent immigrants, and reported less anticipated CSI stigma than individuals who completed the survey in less than 15 minutes.

South Asian CSI participants who spent more than 15 minutes completing the study were significantly more likely to be more recent immigrants, have higher income, and be more educated than East Asian CSI participants taking more than 15 minutes to complete the study (see Table 4). No significant demographic differences were found between individuals with and without a CSI who spent more than 15 minutes completing the study within each ethnic group.

Among both South and East Asian participants with a CSI, child abuse was the most commonly experienced CSI, followed by mental illness and substance abuse (see Table 5). For East Asian participants, these CSIs were also the identities that were most important for participants and the ones they were asked to think about when answering the stigma questions. In contrast, over 70% of South Asians identified child abuse or mental illness as their most important CSI. No participants identified having a STI as the most important CSI for themselves.

Differences in the reliability of the measures were also found within each ethnic group based on the amount of time individuals spent completing the study (see Table 6). Among both South and East Asian participants who spent less than 15 minutes on the study, study measures

had variable reliability, ranging from low to high. The reliability of the measures among individuals who spent 15 minutes or more completing the study was consistently strong.

Correlations

Pearson correlations were conducted to assess the relationships among the variables of interest within the sample as a whole and each subgroup (South and East Asian) separately. Many of the variables of interest were significantly correlated within both the CSI East and South Asian American samples (see Table 8). Interestingly, total experienced discrimination was not correlated with any of the variables of interest in this study, but experiencing major discriminatory events was significantly correlated with the variables of interest. Although the variables of interest in this study were expected to be correlated given previous research and the conceptual overlap (e.g., Quinn & Chaudoir, 2009) the high degree of correlation between some of the variables (e.g., anxiety and anticipated ethnic discrimination $\alpha = .898$ for East Asian Americans with CSIs) was concerning. When assessing relationships among the variables of interest among participants who spent 15 minutes or more completing the study, the variables were low to moderately correlated, indicating related but unique constructs (see Table 9 and 10). Given the multiple peculiarities in the data of participants who completed the study in under 15 minutes, serious concerns were raised regarding the data integrity for these participants and subsequent analyses only included participants spending 15 minutes or more completing the study.

Depression

Multiple regression analyses were conducted to assess the role of stigma and cultural variables in predicting depression within the total CSI sample. Because of the small size of the East and South Asian American CSI sample who spent 15 minutes or more completing the study, analyses could not be conducted for each ethnic group separately. Demographic characteristics and control variables (sex, age, education, income, generational status, and social desirability) were entered in the first step to control for the impact of these variables on depression. To test the hypothesized stigma model, each stigma construct (anticipated stigma, centrality, and stigma salience) was then added in subsequent blocks.

When considering the model for the subsample taking longer than 15 minutes, demographic variables accounted for 16.3% of the variance in depression (see Table 11). Sex ($\beta = -.313, p = .006$) and income ($\beta = -.239, p = .029$) were significant predictors of depression in the first step. Anticipated stigma significantly increased the variance accounted for to 18.2% in the second step of the model. Anticipated stigma was also a significant independent predictor of depression ($\beta = .334, p = .004$). Centrality, however, did not significantly increase the R^2 and was not a significant independent predictor. When salience was added to the model, the R^2 again significantly increased, to 30.6%. Salience was also a significant independent predictor ($\beta = .363, p = .009$), as well as sex ($\beta = -.232, p = .035$) and income ($\beta = -.262, p = .010$) in the final step of the regression. Anticipated stigma, however, was no longer significant once salience was included. Among Asian Americans with a CSI, an expectation of devaluation as well as frequently thinking about one's CSI was associated with more depressive symptoms.

A second hierarchical multiple regression was conducted to evaluate the impact of the cultural variables on the health of Asian Americans (Table 12). The same control variables were added in the first step (sex, age, education, income, generational status, and social desirability).

Since salience was the only predictive stigma variable in the initial set of analyses, salience was added in step 2 of the model. The addition of experienced and anticipated ethnic discrimination in step 3 of the model significantly increased the variance accounted for by the model to 35.9%. Anticipated ethnic discrimination ($\beta = .305, p = .027$), salience ($\beta = .253, p = .023$), and income ($\beta = -.234, p = .017$) were all significant predictors of depression for the CSI sample. The addition of cultural stigma and Asian values in step 4 significantly increased the total variance of the model to 41.4%; only Asian values ($\beta = .209, p = .027$) was a significant predictor of depression however. The addition of the 2-way and 3-way interaction terms among each of the cultural variables in steps 5 and 6, respectively, did not significantly increase the total variance accounted for by the model and none of the interaction terms were significant predictors of depression. In the final step, Asian values ($\beta = .252, p = .017$) was the only variable of interest that predicted depression and the strongest predictor of depression in this sample was income ($\beta = -.257, p = .011$). Contrary to predictions and previous research, experienced ethnic discrimination did not significantly predict depression. Anticipated ethnic discrimination, on other hand, did predict depression but was no longer predictive when Asian values was included in the model.

Anxiety

Predictors of anxiety were similar to those for depression. When assessing the relationship of the stigma variables on anxiety, 24.2% of the variance was accounted for by demographic variables (Table 13). Sex ($\beta = -.436, p = .000$) was the only unique predictor of anxiety in the first step and remained significant in each subsequent step of the analyses. The addition of anticipated stigma in the second step of the model significantly increased the variance

accounted for to 34.5%. Anticipated stigma was also the strongest predictor of anxiety in block 2 ($\beta = .361, p = .001$). As with depression, the addition of centrality to the model did not account for additional variance in anxiety and centrality was not predictive of anxiety. In block 4, the addition of salience increased the total variance accounted for to 40.1%. Salience ($\beta = .330, p = .011$) was again the only stigma construct to independently predict anxiety; anticipated stigma was no longer uniquely predictive of anxiety. Furthermore, in the final step, the strongest predictor of anxiety was sex ($\beta = -.380, p = .000$).

In the second set of regressions (see Table 14) to evaluate the additional contribution of cultural variables, the addition of experienced and anticipated ethnic discrimination in step 3 significantly increased the total variance accounted for to 44.9%. Gender ($\beta = -.344, p = .001$), salience ($\beta = .228, p = .023$), and anticipated ethnic discrimination ($\beta = .350, p = .006$) were significant predictors of anxiety. The addition of Asian values and cultural stigma in step 4 did not significantly increase the variance accounted for by the model and neither of these variables were independently predictive of anxiety. The addition of the 2-way interactions in step 5 significantly increased the total variance of the model (58.0%) and the largest independent predictor of anxiety was the interaction between cultural stigma and anticipated ethnic discrimination ($\beta = .308, p = .000$). The addition of the 3-way interaction term in block 6 did not increase the total variance of the model and did not predict anxiety. In the final step, sex ($\beta = -.287, p = .003$), salience ($\beta = .204, p = .040$), anticipated ethnic discrimination ($\beta = .269, p = .028$), Asian values ($\beta = .220, p = .013$), and the interaction between cultural stigma and anticipated discrimination ($\beta = .318, p = .000$) were all unique predictors of anxiety. Posthoc analyses showed that when cultural stigma was low, anxiety did not significantly differ at different levels of anticipated ethnic discrimination. When cultural stigma was high however,

greater anticipation of ethnic discrimination was associated with significantly higher anxiety symptoms (see Figure 2).

Physical Health

Hierarchical multiple regression analyses found few predictors of physical health in this study. When assessing the relationship of the stigma variables on physical health, a significant portion of the variance was accounted for by demographic variables (19.3%; see Table 15) and income was a strong and consistent independent predictor in each step of the regression ($\beta = -.287, p = .006$). The addition of anticipated stigma in the second step of the model significantly increased the variance accounted for to 25.4%. Anticipated stigma was also a unique predictor of physical health ($\beta = .278, p = .010$). The addition of centrality to the model did not account for additional variance in physical health and anticipated stigma ($\beta = .265, p = .025$) and income ($\beta = -.296, p = .003$) continued to be the only unique predictors. In block 4, a significant portion of the total variance in the model was accounted for (28.0%), but none of the stigma variables independently predicted physical health outcomes in the current sample; income continued to be predictive ($\beta = -.287, p = .004$) and generational status uniquely predicted health in the final step ($\beta = -.198, p = .048$). Having less income and being a first generation immigrant was associated with poorer physical health.

However, salience ($\beta = .290, p = .003$) significantly predicted physical health in step 2 of the second set of regressions (Table 16), as did income ($\beta = -.278, p = .005$) and generational status ($\beta = -.205, p = .039$). The addition of anticipated and experienced ethnic discrimination in step 3 again did not significantly increase the total variance of the model nor predict physical health. The addition of cultural stigma and Asian values in step 4 also did not significantly

increase the variance, but Asian values was a significant predictor ($\beta = .276, p = .004$). The addition of the interaction terms in step 5 and 6 did not increase the variance accounted for by the model and they were not independently predictive of physical health. The final model accounted for 35.6% of the variance in physical health, but only income ($\beta = -.281, p = .006$) and Asian values ($\beta = .243, p = .022$) were unique predictors. Lower income, first generation status, and more traditional Asian values were associated with poorer physical health for Asian Americans with CSIs.

Discussion

The current study assessed the impact of anticipated stigma, stigma centrality, stigma salience, cultural stigma, ethnic affiliation, and anticipated ethnic discrimination on the mental and physical health of Asian Americans with concealable and stigmatized identities. Some of the hypothesized relationships were supported in a series of hierarchical regression analyses. Greater anticipated stigma was hypothesized to directly and indirectly decrease psychological health. This hypothesis was partially supported. Greater anticipated stigma predicted more depression and anxiety initially, but was not significantly predictive once salience was included in the regression, suggesting only an indirect effect of anticipated stigma through salience. Greater anticipated stigma was also hypothesized to be directly related to decreased physical health. This hypothesis was not supported. Although anticipated stigma was initially predictive of physical health outcomes, it did not predict physical health when salience was added to the model, nor was salience predictive of physical health.

Greater CSI centrality was hypothesized to predict decreased psychological and physical health, but was surprisingly found to not predict any outcomes in this sample. The degree to

which an Asian American individual believes his/her CSI is important to his/her self-perception does not appear to impact the depression, anxiety, or physical health problems he/she experiences. This finding is consistent with a community sample of White, Black, and Latino participants (Quinn, et al. 2014), but inconsistent with a predominately White college student sample (Quinn & Chaudoir, 2009). As hypothesized, greater stigma salience was found to be uniquely predictive of greater depression and anxiety and was the only stigma construct that remained significant when all stigma variables were included in the regression model. Thus, the stigma constructs originally presented by Quinn and Chaudoir (2009) to be predictive of mental and physical health outcomes of college students with CSIs were not similarly predictive for Asian Americans with CSIs. However, the relationship between the stigma constructs and mental health outcomes found among Asian Americans with CSIs was similar to the relationship found among a community sample of White, Latino, and Black Americans (Quinn et al., 2014). The relationship between stigma and mental health may be different among college students versus adults in the community, especially the construct of stigma centrality. The importance of the CSI identity relative to other identities may be especially salient for college students who are more likely to be in a developmental stage of identity exploration (Schwartz, Luyckx, & Vignoles, 2011). In contrast, salience did not significantly predict physical health outcomes when anticipated stigma and stigma centrality were included in the model. However, a significant portion of the total variance in physical health was accounted for by the model, but none of the stigma constructs independently predicted physical health outcomes. When only stigma salience was added in the first step of the hierarchical regressions assessing the relationship between cultural variables and physical health, stigma salience did predict physical health outcomes. Thus, the overlap among the stigma constructs and the small sample size may have resulted in salience

not uniquely predicting a significant portion of the variance in physical health outcomes. The data were trending towards salience predicting physical health outcomes of this population as well ($p = .091$)

Among Asian Americans with CSIs, stigma salience did not predict depression or physical health when accounting for all cultural variables, but it did predict anxiety. Increased stigma salience may result in greater rumination or worry about one's CSI being discovered and the potential negative consequences associated with the CSI, which in turn may cause increased anxiety. The findings from the current study partially supported the hypothesis that greater anticipated ethnic discrimination would predict decreased psychological health. In the current study, both anticipated ethnic discrimination and experiences of discrimination were included. Experiences of discrimination did not predict health outcomes and anticipated discrimination remained predictive in the final model for anxiety only, though it was initially predictive for all health outcomes. Perceptions of ethnic discrimination have consistently predicted depression, anxiety, and physical health among Asian Americans (e.g., Gee, Spencer, Chin, Yip, et al., 2007; Hahm et al., 2010; Hwang & Goto, 2009; Nadimpalli & Hutchinson, 2012; Yip et al., 2008). The unexpected findings of this study may be a result of the relatively small sample size and the large number of variables of interest in the current study. In addition, many of the participants were recent immigrants or first generation Asian Americans who may fear being discriminated against but have not actually experienced discrimination. Including anticipation of ethnic discrimination in models predicting health of Asian Americans with CSIs is essential in order to accurately assess the unique impact of other factors on these outcomes. In addition, addressing perceptions of ethnic discrimination is critical to improving the mental health of this group.

Greater adherence to traditional Asian values was independently predictive of increased depressive and anxiety symptoms and decreased physical health in the current study. Asian values and income were in fact the only unique predictors of both depression and physical health in the final step of the model. For anxiety, Asian values became a significant predictor only when interaction effects were added. These findings parallel previous findings that greater adherence to traditional Asian values is associated with decreased psychological well-being of Asian Americans (Hovey et al., 2006; Iwamoto & Liu, 2010). In addition, for anxiety, the interaction between cultural stigma and anticipated ethnic discrimination was also predictive. Greater endorsement of anticipated ethnic discrimination among individuals with more stigmatized concealed identities was associated with significantly greater anxiety. The combination of external stigma against one's CSI and ethnicity may increase the anxiety symptoms Asian Americans experience.

The strongest predictor of greater depression and physical health problems was lower income. Previous literature has not found a relationship between income and depression among Asian Americans, although lower socioeconomic status has been frequently reported to be associated with decreased mental and physical health in the general population (Gong et al., 2012). Income in this sample may be a proxy for other factors that have been found to be associated with health, such as financial strain (Chi & Chou, 2000) and subjective socioeconomic status (Gong et al.). Surprisingly, being male was the only demographic predictor of anxiety in the current sample. In the general population, women have consistently been found to be more likely to develop anxiety disorders than men (McLean & Anderson, 2009). However, among Asian American men and women, no differences have been found in the lifetime prevalence of anxiety disorders (Hong, Walton, Tamaki, & Sabin, 2014). The current study

suggests Asian American men with CSIs may be more likely to endorse anxious traits, even if they do not meet criteria for an anxiety disorder.

Interestingly, cultural stigma alone was not predictive of depression, anxiety, or physical health, although it was significantly correlated with these outcomes. This finding is surprising given the importance of “saving face” and reputation in Asian culture (Kim, Atkinson, & Umemoto, 2001). Although the cultural stigma measure had strong to moderate reliability, it is possible that this measure did not fully capture the stigma associated with these CSIs. Cultural stigma was also reported by individuals who did not have a CSI; perceptions of cultural stigma by individuals with a CSI may be more predictive of health outcomes of Asian Americans with CSIs than cultural stigma assessed by individuals without a CSI. Further investigation is needed to better understand the relationship between cultural stigma and mental health.

Limitations and Future Directions

There are a few limitations to the current research. First, although this study aimed to disaggregate findings within the Asian American population, the small sample size of East and South Asian Americans with CSIs prevented examination of similarities and differences in the impact of stigma and culture on the mental and physical health of these populations. Previous literature has reported the cultural similarities within and between East and South Asian American ethnic groups (Leong & Lau, 2001), as well as the differences (Min, 2006). Studies have found differences in mental health outcomes of East and South Asian Americans. For example, South Asians have reported a lower prevalence of substance use disorders than East Asian Americans (Lee et al., 2015), but a greater likelihood of utilizing mental health services (Tiwari & Wang, 2008). These studies did not identify factors that contributed to these

differences in mental health outcomes and service utilization, but suggest that important variance may be masked when these groups are aggregated. Future research should aim to understand the similarities and differences between and within the East and South Asian American subgroups.

The sample was also not large enough to assess similarities and/or differences in the impact of stigma and culture on individuals with different CSIs (e.g., mental illness, childhood abuse, domestic violence, sexual assault, minority sexual orientation, sexually transmitted infections, and substance abuse). Greater anticipated stigma and centrality have been associated with less distress only for individuals concealing a history of sexual assault, but no other significant differences were found in the relationships among stigma constructs and mental health outcomes when comparing individuals concealing mental illness, childhood abuse, domestic violence, and substance abuse (Quinn et al., 2014). Thus, while there may be similarities across a variety of CSIs in the impact of stigma on health outcomes, differences also exist among some CSIs. Further assessing within group differences will enhance understanding of the factors contributing to negative mental and physical health outcomes of East and South Asian Americans with CSIs and increase clinicians' abilities to target treatment.

Some measurement factors may also have limited the findings of this study. First, this study did not include internalized stigma, which has been found to be associated with psychological outcomes of stigmatized communities in the general population (e.g., Lee, Kochman, & Sikkema, 2002; Livingston & Boyd, 2010; Sandil et al., 2015). The original CSI model (Quinn & Chaudoir, 2009) has also been expanded to include internalized stigma (Quinn et al., 2014). Future research should consider the impact of internalized stigma on East and South Asian Americans with CSIs as this may be an important factor in understanding their mental health outcomes. Second, although the Asian Values Scale has been widely used in previous

studies, the scale had lower reliability in the current study among South Asian CSI participants than previously found (Kim & Hong, 2004). This measure has been primarily utilized with East Asian American samples and may not fully assess or reflect South Asian American cultural values. Lastly, the current study utilized a cultural stigma measure rated by individuals without a CSI in order to best understand the degree to which the CSIs of interest are stigmatized in Asian American cultures. However, the perception of cultural stigma against a CSI by individuals possessing that CSI may be more critical to individuals' mental and physical health outcomes than perceptions in the general cultural group.

Lastly, the cross-sectional nature of this study prevents causal inferences. Future longitudinal studies would allow researchers to determine if stigma and cultural factors result in psychological or physical health problems, or if the direction of the causal relationship is different.

Conclusions

This study aimed to understand the impact of anticipated stigma, stigma centrality, stigma salience, cultural stigma, cultural affiliation, and anticipated ethnic discrimination on the mental health of East and South Asian Americans with concealable stigmatized identities (CSIs). The data suggest that although anticipated stigma is related to mental and physical health outcomes, stigma salience is the only unique predictor of depression and anxiety. Stigma constructs did not independently predict physical health in this sample however. Among the cultural variables, greater adherence to traditional Asian values was a consistent predictor of worse mental and physical health outcomes. Better understanding the influence of Asian values on mental and physical health may be important to better address the needs of this population. Anticipated

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ethnic discrimination predicted mental, but not physical, health in this population. Including ethnic discrimination in models predicting mental health of Asian Americans with CSIs is also important to best understand the unique impact of stigma on the mental health of this population. Thus, the degree to which Asian Americans with CSIs are worried about their CSI being revealed (stigma salience), their adherence to traditional Asian values, and their anticipation of ethnic discrimination are important areas for intervention to improve their mental and physical health outcomes.

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Table 1

Participant Demographics and Mean Scores on Stigma and Culture Variables of All Participants

Characteristic	East Asian		South Asian	
	CSI (<i>n</i> = 142)	No CSI (<i>n</i> = 122)	CSI (<i>n</i> = 65)	No CSI (<i>n</i> = 49)
	% of Sample			
Female	38.7 ^{a,b}	66.1	60.9	54.2
Education				
≤ Associate degree	28.4	22.1	44.6 ^c	12.5
Bachelors degree	23.4	21.3	9.2	20.8
≥ Some graduate school	48.2	56.5	46.2	66.6
Currently employed	82.1 ^b	77	90.8 ^c	75.5
Income				
\$50K or less	20.7	44.2	49.2	25
\$50K-\$100K	32.2	26.7	18.5	41.7
\$100K-\$200K	12.8	22.5	21.5	20.8
≥ \$200K	34.3 ^b	6.7	10.8	12.5
Generational Status				
1 or 1.25	32.0	23 ^c	32.3	38.8
1.5 or 2	46.7	61.5	33.8 ^c	55.1
≥ 2.5	21.3	15.6	33.8	6.1
Married	65.5 ^b	39.3	41.5	46.9
	M (SD)			
Age	31.08 (7.18) ^a	32.00 (11.54)	28.66 (6.90)	30.64 (8.96)
Social Desirability (range 7-70)	42.53 (6.01)		42.20 (4.61)	
Total Number of CSIs	1.76 (1.00) ^a		1.43 (0.87)	
Anticipated Stigma (range 1-7)	4.48 (1.69) ^a		3.80 (1.49)	
Centrality (range 1-7)	4.61 (.93) ^a		4.28 (1.06)	
Salience (range 1-7)	4.89 (1.52)		4.24 (1.56)	
Asian Values (range 25-100)	62.69 (6.76)		62.46 (5.56)	
Anticipated Ethnic Discrimination (range 1-7)	3.63 (1.70)		3.28 (1.50)	
Experienced Ethnic Discrimination – Professional	1.34 (1.34)		1.10 (1.39)	
Cultural Stigma (range 1-7)				
Mental Illness		4.38 (1.00)		4.49 (1.32)
Substance Abuse		4.91 (1.05)		5.13 (1.41)
Domestic Violence		3.49 (1.23)		3.81 (1.27)
Sexual Assault		3.36 (1.17) ^c		4.05 (1.38)
Child Abuse		3.18 (1.11) ^c		3.69 (1.36)
Sexual Orientation		4.37 (1.39) ^c		4.81 (1.27)
Depression (range 0-60)	29.01 (13.30) ^{a,b}		22.75 (12.20) ^c	
Anxiety (range 0-63)	28.80 (19.70) ^{a,b}		11.71 (12.88)	

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Physical Health (range 1-5)	2.50 (0.71) ^a	2.82 (0.62)
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^a Significantly different ($p < .05$) from South Asians with a CSI

^b Significantly different ($p < .05$) from East Asians with no CSI

^c Significantly different ($p < .05$) from South Asians with no CSI

Table 2

Differences in East Asian American Participant Demographics and Mean Scores on Variables of Interest by Amount of Time Spent Completing Study

Characteristic	≤10 minutes (n = 18)	10 - 14:59 minutes (n = 27)	≥15 minutes (n = 56)
	% Sample		
Female	5.6	11.1	66.2 ^{a,b}
Education			
≤ Associate degree	55.6	42.3	17.6 ^a
Bachelors degree	22.2	15.4	24.3
≥ Some graduate school	22.3	42.2	58.1
Currently employed	72.2	84.6	82.4
Income			
≤ \$50K or less	11.1	3.7	36.1 ^{a,b}
\$50K-\$100K	33.4	33.3	36.2
\$100K-\$200K	11.1	11.1	18.0
≥ \$200K	44.4	51.9	9.7
Generational Status			
1 or 1.25	42.9	36.4	22.2
1.5 or 2	14.2	40.9	61.1
≥ 2.5	42.9	22.7	16.7
Married	72.2	85.2	45.9
	M (SD)		
Age	30.39 (5.61)	31.41 (5.30)	32.43 (9.21)
Social Desirability (range 7-70)	42.11 (3.58)	42.81 (2.56)	42.53 (7.28)
Total Number of CSIs	1.83 (0.79)	2.04 (1.02)	1.46 (0.91) ^b
Anticipated Stigma (range 1-7)	5.26 (0.99)	5.50 (0.77)	3.42 (1.66) ^{a,b}
Centrality (range 1-7)	4.72 (0.61)	4.86 (0.52)	4.36 (1.13)
Saliency (range 1-7)	5.56 (0.74)	5.72 (0.72)	4.02 (1.60) ^{a,b}
Asian Values (range 25-100)	64.72 (2.14)	64.81 (2.70)	61.77 (8.65)
Anticipated Ethnic			
Discrimination (range 1-7)	5.08 (1.14)	5.48 (1.10)	3.08 (1.30) ^{a,b}
Experienced Ethnic			
Discrimination – Professional	1.94 (1.26)	2.44 (1.05)	0.78 (1.13) ^{a,b}
Depression (range 0-60)	34.89 (8.25)	35.84 (7.39)	21.97 (14.01) ^{a,b}
Anxiety (range 0-63)	41.28 (11.56)	41.96 (12.86)	14.65 (14.96) ^{a,b}
Physical Health (range 1-5)	2.37 (0.50)	2.35 (0.52)	2.58 (0.80)

^a Significantly different ($p < .05$) from participants completing in 10 minutes or less

^b Significantly different ($p < .05$) from participants completing in 10-14:59 minutes

Table 3

Differences in South Asian American Participant Demographics and Mean Scores on Variables of Interest by Amount of Time Spent Completing Study

Characteristic	≤10 minutes (n = 19)	10 - 14:59 minutes (n = 5)	≥15 minutes (n = 37)
	% Sample		
Female	52.6	40.0	69.4
Education			
≤ Associate degree	100.0	40.0	10.8 ^{a,b}
Bachelors degree	0	60.0	8.1
≥ Some graduate school	0	0	81.0
Currently employed	94.7	100.0	86.5
Income			
≤ \$50K or less	36.8	60.0	21.6 ^a
\$50K-\$100K	10.5	40.0	21.6
\$100K-\$200K	0	0	37.8
≥ \$200K	0	0	18.9
Generational Status			
1 or 1.25	0	0	56.8 ^{a,b}
1.5 or 2	26.3	40.0	40.5
≥ 2.5	68.4	60.0	2.7
Marital Status			
Never Married	68.4	60.0	45.9
Married	31.6	40.0	51.4
		M (SD)	
Age	24.06 (2.21)	26.00 (4.58)	32.60 (7.41) ^a
Social Desirability (range 7-70)	41.16 (1.98)	40.60 (2.19)	42.95 (5.61)
Total Number of CSIs	1.47 (0.77)	2.00 (1.22)	1.38 (0.89)
Anticipated Stigma (range 1-7)	5.03 (0.59)	4.43 (0.89)	2.94 (1.36) ^{a,b}
Centrality (range 1-7)	4.75 (0.39)	4.40 (0.51)	4.00 (1.29) ^a
Saliency (range 1-7)	5.19 (0.62)	5.04 (0.65)	3.49 (1.65) ^a
Asian Values (range 25-100)	63.63 (2.77)	64.20 (5.36)	61.27 (6.64)
Anticipated Ethnic			
Discrimination (range 1-7)	4.52 (1.07)	3.84 (1.43)	2.98 (1.37) ^a
Experienced Ethnic			
Discrimination – Professional	1.58 (1.26)	1.60 (1.52)	0.78 (1.38)
Depression (range 0-60)	30.05 (8.14)	19.75 (13.02)	17.97 (12.04) ^a
Anxiety (range 0-63)	15.59 (17.69)	18.40 (19.36)	8.33 (6.51)
Physical Health (range 1-5)	3.14 (0.38)	2.85 (0.84)	2.64 (0.63) ^a

^a Significantly different ($p < .05$) from participants completing in 10 minutes or less

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^b Significantly different ($p < .05$) from participants completing in 10-14:59 minutes

Table 4

*Participant Demographics and Mean Scores on Stigma and Culture Variables of CSI**Participants Completing in 15 Minutes or More*

Characteristic	East Asian		South Asian	
	CSI (n = 56)	No CSI (n = 112)	CSI (n = 32)	No CSI (n = 46)
	% of Sample			
Female	66.2	69.6	67.6	54.3
Education				
≤ Associate degree	17.6	19.6	10.8	8.9
Bachelors degree	24.3	22.3	8.1	20.0
≥ Some graduate school	58.1	58.1	81.0	71.1
Currently employed	82.4	76.8	86.5	78.3
Income				
\$50K or less	36.1	40.9	21.6	26.7
\$50K-\$100K	36.2	29.1	21.6	39.9
\$100K-\$200K	18.0	22.7	37.8	22.2
≥ \$200K	9.7	7.3	18.9	11.1
Generational Status				
1 or 1.25	22.2	24.1	56.8	41.3
1.5 or 2	61.1	63.4	40.5	56.6
≥ 2.5	16.7	12.6	2.7	2.2
Married	45.9	41.1	51.4	47.8
	M (SD)			
Age	32.43 (9.21)	32.45 (11.80)	32.60 (7.41)	31.15 (9.05)
Total Number of CSIs	1.46 (0.91)		1.38 (0.89)	
Social Desirability (range 7-70)	42.53 (7.28)		42.95 (5.61)	
Anticipated Stigma (range 1-7)	3.22 (1.61)		2.97 (1.42)	
Centrality (range 1-7)	4.38 (1.17)		4.15 (1.23)	
Saliency (range 1-7)	3.89 (1.61)		3.57 (1.60)	
Asian Values (range 25-100)	61.21(8.46)		61.34 (6.95)	
Anticipated Ethnic Discrimination (range 1-7)	2.99 (1.25)		3.03 (1.42)	
Experienced Ethnic Discrimination -- Professional	0.78 (1.13)		0.78 (1.38)	
Cultural Stigma (range 1-7)				
Mental Illness		4.36 (0.99)		4.60 (1.19)
Substance Abuse		4.96 (1.06)		5.18 (1.34)
Domestic Violence		3.40 (1.25)		3.80 (1.31)
Sexual Assault		3.31 (1.21) ^c		4.04 (1.37)
Child Abuse		3.11 (1.11) ^c		3.63 (1.40)

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Sexual Orientation		4.35 (1.38) ^c	4.88 (1.30)
Depression (range 0-60)	21.27 (13.88) ^{a,b}		17.97 (12.05) ^c
Anxiety (range 0-63)	13.68 (14.05) ^{a,b}		8.81 (6.43)
Physical Health (range 1-5)	2.58 (0.80)		2.64 (0.63)

^a Significantly different ($p < .05$) from South Asians with a CSI

^b Significantly different ($p < .05$) from East Asians with no CSI

^c Significantly different ($p < .05$) from South Asians with no CSI

Table 5

Percentage of Participants Endorsing Each CSI by Ethnicity

Concealed Stigmatized Identity	East Asian (%)	South Asian (%)
Most Important		
Mental Illness	29.0	21.6
Substance Abuse	15.9	5.4
Domestic Violence	2.9	8.1
Sexual Assault	5.8	8.1
Child Abuse	31.9	51.4
Sexual Orientation	14.5	5.4
Experienced		
Mental Illness	39.2	35.1
Substance Abuse	27.0	16.2
Domestic Violence	10.8	10.8
Sexual Assault	18.9	13.5
Child Abuse	44.6	67.6
Sexual Orientation	24.3	8.1
Sexually Transmitted Infection	10.8	5.4

Table 6

Reliability of Study Measures by Ethnic Group and Time Spent Completing Study

Measure	East Asian			South Asian		
	≤10 minutes	10 - 14:59 minutes	≥15 minutes	≤10 minutes	10 - 14:59 minutes	≥15 minutes
Anticipated Stigma	.971	.954	.980	.923	.942	.968
Stigma Centrality	.516	.592	.801	.288	.427	.875
Stigma Salience	.567	.588	.859	.718	.576	.901
Asian Values	-2.727	-.800	.806	-.430	.584	.657
Anticipated Ethnic Discrimination	.978	.981	.972	.981	.981	.970
Depression	.849	.807	.945	.844	.940	.936
Anxiety	.932	.960	.970	.984	.986	.860
Physical Health	.345	.301	.753	.253	.943	.793
Social Desirability	-.144	-1.028	.558	-.463	-1.025	.218

Table 7

Reliability of Study Measures for All Participants and Time Spent Completing Study

Measure	≤10 minutes	10 - 14:59 minutes	≥15 minutes
Anticipated Stigma	.957	.959	.977
Stigma Centrality	.450	.556	.831
Stigma Salience	.639	.646	.874
Asian Values	-1.278	-.424	.770
Anticipated Ethnic Discrimination	.980	.984	.971
Experienced Ethnic Discrimination-Major			
Depression	.847	.881	.943
Anxiety	.982	.975	.963
Physical Health	.472	.450	.755
Social Desirability	-.215	-.913	.470

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Table 8

Intercorrelations for Stigma, Culture, and Mental Health Variables by Ethnic Group of all CSI Participants

Measure	1	2	3	4	5	6	7	8.	9.	10
1. Anticipated Stigma	—	.492 ^a	.792 ^a	.800 ^a	.507 ^a	.467 ^a	.229 ^a	.642 ^a	.770 ^a	-.024
2. Centrality	.496 ^a	—	.560 ^a	.407 ^a	.226 ^b	.079	.089	.373 ^a	.382 ^a	-.044
3. Salience	.735 ^a	.562 ^a	—	.731 ^a	.508 ^a	.427 ^a	.253 ^a	.694 ^a	.726 ^a	.139
4. Anticipated Ethnic Discrimination	.606 ^a	.414 ^a	.559 ^a	—	.745 ^a	.215 ^a	.159	.716 ^a	.898 ^a	-.119
5. Experienced Ethnic Discrimination-Major	.320 ^b	.327 ^b	.225	.639 ^a	—	.168	.111	.498 ^a	.737 ^a	-.162
6. Asian Values	.261 ^b	.033	.007	.018	.107	—	.140	.301 ^a	.288 ^a	.233 ^b
7. Cultural Stigma	.525 ^a	.347 ^a	.520 ^a	.354 ^a	.135	.024	—	.229 ^a	.225 ^a	.144
8. Depression	.546 ^a	.284 ^b	.527 ^a	.710 ^a	.416 ^a	.123	.426 ^a	—	.809 ^a	.324 ^a
9. Anxiety	.371 ^a	0.111	.371 ^a	.380 ^a	.281 ^b	.077	.267 ^b	.538 ^a	—	-.044
10. Physical Health	.442 ^a	.249	.419 ^a	.685 ^a	.419 ^a	.024	.301 ^b	.682 ^a	.384 ^a	—

Note. Correlations for East Asian American participants with CSIs ($n = 142$) are presented above the diagonal and correlations for = South Asian American participants with CSIs ($n = 65$) are presented below the diagonal.

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^a Correlation is significant at the 0.01 level (2-tailed).

^b Correlation is significant at the 0.05 level (2-tailed).

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Table 9

Intercorrelations for Stigma, Culture, and Mental Health Variables of CSI Participants Completing in 15 Minutes or More

Measure	1	2	3	4	5	6	7	8.	9.	10.
1. Anticipated Stigma	—	.378 ^a	.656 ^a	.585 ^a	.251 ^a	.345 ^a	.511 ^a	.353 ^a	.482 ^a	.372 ^a
2. Centrality		—	.487 ^a	.259 ^a	.193 ^b	-.043	.259 ^a	.147	.111	.187
3. Saliency			—	.425 ^a	.196 ^b	.204 ^b	.525 ^a	.404 ^a	.410	.376 ^a
4. Anticipated Ethnic Discrimination				—	.616 ^a	.158	.301 ^a	.439 ^a	.534 ^a	.361 ^a
5. Experienced Ethnic Discrimination-Major					—	.094	.133	.280 ^a	.455 ^a	-.024
6. Asian Values						—	.261 ^b	.334 ^a	.318 ^a	.271 ^a
7. Cultural Stigma							—	.380 ^a	.418 ^a	.249 ^b
8. Depression								—	.677 ^a	.600 ^a
9. Anxiety									—	.471 ^a
10. Physical Health										—

^a Correlation is significant at the 0.01 level (2-tailed).

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

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Table 10

Intercorrelations for Stigma, Culture, and Mental Health Variables by Ethnic Group of CSI Participants Completing in 15 Minutes or More

Measure	1	2	3	4	5	6	7	8.	9.	10.
1. Anticipated Stigma	—	.401 ^a	.660 ^a	.604 ^a	.268 ^b	.415 ^a	.558 ^a	.335 ^a	.523 ^a	.420 ^a
2. Centrality	.328 ^b	—	.481 ^a	.176	.093	-.048	.275 ^b	.138	.117	.202
3. Saliency	.643 ^a	.489 ^a	—	.494 ^a	.288 ^b	.361 ^a	.568 ^a	.454 ^a	.457 ^a	.445 ^a
4. Anticipated Ethnic Discrimination	.555 ^a	.383 ^b	.324 ^b	—	.651 ^a	.070	.445 ^a	.446 ^a	.688 ^a	.325 ^a
5. Experienced Ethnic Discrimination-Major	.233	.331 ^b	.063	.568 ^a	—	.069	.223	.316 ^a	.627 ^a	-.157
6. Asian Values	.146	-.042	-.137	.354 ^b	.156	—	.344 ^a	.351 ^a	.330 ^a	.371 ^a
7. Cultural Stigma	.425 ^a	.276	.463 ^a	.133	-.045	-.041	—	.427 ^a	.455 ^a	.294 ^b
8. Depression	.374 ^b	.145	.286	.450 ^a	.222	.304 ^b	.307 ^b	—	.679 ^a	.690 ^a
9. Anxiety	.351 ^b	.035	.272	.292	.026	.380 ^b	.424 ^a	.686 ^b	—	.524 ^a
10. Physical Health	.261	.163	.253	.432 ^a	.251	-.001	.136	.377 ^b	.277	—

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Note. Correlations for East Asian American participants with CSIs ($n = 56$) are presented above the diagonal and correlations for =
South Asian American participants with CSIs ($n = 32$) are presented below the diagonal.

^a Correlation is significant at the 0.01 level (2-tailed).

^b Correlation is significant at the 0.05 level (2-tailed).

Table 11

Hierarchical Multiple Regression Analyses Predicting Depression from Anticipated Stigma, Stigma Centrality, and Stigma Salience

Predictor	R^2 Change	β
Step 1	.163*	
Sex		-.313**
Age		-.182
Education		.104
Income		-.239*
Generational Status		-.063
Social Desirability		-.019
Step 2	.086**	
Sex		-.216
Age		-.148
Education		.183
Income		-.258*
Generational Status		-.063
Social Desirability		-.085
Anticipated Stigma		.334**
Step 3	.000	
Sex		-.216
Age		-.149
Education		.182
Income		-.257*
Generational Status		-.063
Social Desirability		-.085
Anticipated Stigma		.329**
Centrality		.013
Step 4	.064**	
Sex		-.232*
Age		-.153
Education		.200
Income		-.262*
Generational Status		-.082
Social Desirability		-.031
Anticipated Stigma		.125
Centrality		-.091
Salience		.363**
Total R^2	.313***	
n	87	

*** Correlation is significant at the 0.001 level (2-tailed).

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

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

Table 12

*Hierarchical Multiple Regression Analyses Predicting Depression from Stigma Salience, Asian**Values, Ethnic Discrimination, and Cultural Stigma*

Predictor	R^2 Change	β
Step 1	.163*	
Sex		-.313**
Age		-.182
Education		.104
Income		-.239*
Generational Status		-.063
Social Desirability		-.019
Step 2	.138***	
Sex		-.255*
Age		-.165
Education		.171
Income		-.251*
Generational Status		-.087
Social Desirability		-.016
Salience		.389***
Step 3	.058*	
Sex		-.187
Age		-.139
Education		.134
Income		-.234*
Generational Status		-.037
Social Desirability		-.118
Salience		.253*
Anticipated Ethnic Discrimination		.305*
Experienced Ethnic Discrimination - Professional		.001
Step 4	.055*	
Sex		-.136
Age		-.131
Education		.176
Income		-.252**
Generational Status		-.032
Social Desirability		-.063
Salience		.185
Anticipated Ethnic Discrimination		.245
Experienced Ethnic Discrimination - Professional		.006
Asian Values		.209*
Cultural Stigma		.143

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Step 5	.008	
Sex		-.124
Age		-.124
Education		.183
Income		-.252*
Generational Status		-.015
Social Desirability		-.071
Saliency		.209
Anticipated Ethnic Discrimination		.227
Experienced Ethnic Discrimination - Professional		.017
Asian Values		.225*
Cultural Stigma		.146
Cultural Stigma x Asian Values		.025
Cultural Stigma x Anticipated Ethnic Discrimination		.074
Asian Values x Anticipated Ethnic Discrimination		.028
Step 6	0.004	
Sex		-.115
Age		-.106
Education		.183
Income		-.257*
Generational Status		-.011
Social Desirability		-.076
Saliency		.206
Anticipated Ethnic Discrimination		.249
Experienced Ethnic Discrimination - Professional		.013
Asian Values		.252*
Cultural Stigma		.156
Cultural Stigma x Asian Values		.007
Cultural Stigma x Anticipated Ethnic Discrimination		.078
Asian Values x Anticipated Ethnic Discrimination		.045
Asian Values x Anticipated Ethnic Discrimination x Cultural Stigma		-.079
Total R^2	.426***	
n	87	

*** Correlation is significant at the 0.001 level (2-tailed).

Impact of Stigmatized Identities and Culture on Asian Americans

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

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

Table 13

Hierarchical Multiple Regression Analyses Predicting Anxiety from Anticipated Stigma, Stigma Centrality, and Stigma Salience

Predictor	R^2 Change	β
Step 1	.242***	
Sex		-.436***
Age		-.105
Education		-.001
Income		.000
Generational Status		.019
Social Desirability		.179
Step 2	.103***	
Sex		-.352***
Age		-.079
Education		.095
Income		-.008
Generational Status		.022
Social Desirability		.106
Anticipated Stigma		.361**
Step 3	.003	
Sex		-.346***
Age		-.074
Education		.103
Income		-.013
Generational Status		.026
Social Desirability		.109
Anticipated Stigma		.390 ***
Centrality		-.063
Step 4	.053*	
Sex		-.380***
Age		-.094
Education		.135
Income		.002
Generational Status		.013
Social Desirability		.137
Anticipated Stigma		.207
Centrality		-.158
Salience		.330*
Total R^2	.401***	
n	87	

*** Correlation is significant at the 0.001 level (2-tailed).

Impact of Stigmatized Identities and Culture on Asian Americans

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

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

Table 14

Hierarchical Multiple Regression Analyses Predicting Anxiety from Stigma Salience, Asian Values, Ethnic Discrimination, and Cultural Stigma

Predictor	R^2 Change	β
Step 1	.242***	
Sex		-.436***
Age		-.105
Education		.001
Income		.000
Generational Status		.019
Social Desirability		.179
Step 2	.126***	
Sex		-.427***
Age		-.118
Education		.089
Income		.019
Generational Status		.002
Social Desirability		.155
Salience		.369 ***
Step 3	.082**	
Sex		-.344***
Age		-.074
Education		.051
Income		.025
Generational Status		.078
Social Desirability		.042
Salience		.228**
Anticipated Ethnic Discrimination		.350**
Experienced Ethnic Discrimination - Professional		.012
Step 4	.038	
Sex		-.284**
Age		-.061
Education		.081
Income		.004
Generational Status		.082
Social Desirability		.095
Salience		.158
Anticipated Ethnic Discrimination		.300*
Experienced Ethnic Discrimination - Professional		.021
Asian Values		.163

Impact of Stigmatized Identities and Culture on Asian Americans

Cultural Stigma		.143
Step 5	.093**	
Sex		-.293**
Age		-.044
Education		.115
Income		-.003
Generational Status		.127
Social Desirability		.114
Saliency		.207*
Anticipated Ethnic Discrimination		.243*
Experienced Ethnic Discrimination -		
Professional		.022
Asian Values		.186*
Cultural Stigma		.158
Cultural Stigma x Asian		
Values		-.044
Cultural Stigma x		
Anticipated Ethnic Discrimination		.308***
Asian Values x		
Anticipated Ethnic Discrimination		.042
Step 6	.008	
Sex		-.287**
Age		-.018
Education		.114
Income		-.009
Generational Status		.137
Social Desirability		.110
Saliency		.204*
Anticipated Ethnic Discrimination		.269*
Experienced Ethnic Discrimination -		
Professional		.017
Asian Values		.220*
Cultural Stigma		.174
Cultural Stigma x Asian		
Values		-.075
Cultural Stigma x		
Anticipated Ethnic Discrimination		.318***
Asian Values x		
Anticipated Ethnic Discrimination		.069
Asian Values x Anticipated Ethnic		
Discrimination x Cultural Stigma		-.107
Total R^2	.500***	
n	87	

Impact of Stigmatized Identities and Culture on Asian Americans

*** Correlation is significant at the 0.001 level (2-tailed).

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

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

Table 15

Hierarchical Multiple Regression Analyses Predicting Physical Health from Anticipated Stigma, Stigma Centrality, and Stigma Salience

Predictor	R^2 Change	β
Step 1	.193**	
Sex		.127
Age		-.141
Education		-.059
Income		-.287**
Generational Status		-.187
Social Desirability		-.142
Step 2	.061**	
Sex		.203
Age		-.117
Education		.007
Income		-.296**
Generational Status		-.184
Social Desirability		-.190
Anticipated Stigma		.278**
Step 3	.001	
Sex		.201
Age		-.119
Education		.002
Income		-.293**
Generational Status		-.186
Social Desirability		-.190
Anticipated Stigma		.265*
Centrality		.029
Step 4	.025	
Sex		.187
Age		-.128
Education		.018
Income		-.287**
Generational Status		-.198*
Social Desirability		-.162
Anticipated Stigma		.137
Centrality		-.038
Salience		.229
Total R^2	.280***	
n	93	

*** Correlation is significant at the 0.001 level (2-tailed).

Impact of Stigmatized Identities and Culture on Asian Americans

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

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

Table 16

*Hierarchical Multiple Regression Analyses Predicting Physical Health from Stigma Salience,**Asian Values, Ethnic Discrimination, and Cultural Stigma*

Predictor	R^2 Change	β
Step 1	.193**	
Sex		.127
Age		-.141
Education		-.059
Income		-.287**
Generational Status		-.187
Social Desirability		-.142
Step 2	.078**	
Sex		.159
Age		-.140
Education		-.005
Income		-.278**
Generational Status		-.205*
Social Desirability		-.141
Salience		.290**
Step 3	.010	
Sex		.178
Age		-.131
Education		-.016
Income		-.273**
Generational Status		-.187
Social Desirability		-.169
Salience		.238**
Anticipated Ethnic Discrimination		.142
Experienced Ethnic Discrimination - Professional		-.063
Step 4	.069	
Sex		.214*
Age		-.121
Education		.006
Income		-.276**
Generational Status		-.161
Social Desirability		-.147
Salience		.201
Anticipated Ethnic Discrimination		.116
Experienced Ethnic Discrimination - Professional		-.064
Asian Values		.276**
Cultural Stigma		.002

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Step 5	.004	
Sex		.202
Age		-.117
Education		.001
Income		-.285**
Generational Status		-.175
Social Desirability		.130
Saliency		.190
Anticipated Ethnic Discrimination		.119
Experienced Ethnic Discrimination - Professional		-.076
Asian Values		.265**
Cultural Stigma		-.004
Cultural Stigma x Asian Values		-.054
Cultural Stigma x Anticipated Ethnic Discrimination		-.033
Asian Values x Anticipated Ethnic Discrimination		-.013
Step 6	.003	
Sex		.196
Age		-.133
Education		.002
Income		-.281**
Generational Status		-.180
Social Desirability		-.126
Saliency		.194
Anticipated Ethnic Discrimination		.101
Experienced Ethnic Discrimination - Professional		-.073
Asian Values		.243*
Cultural Stigma		-.013
Cultural Stigma x Asian Values		-.037
Cultural Stigma x Anticipated Ethnic Discrimination		-.035
Asian Values x Anticipated Ethnic Discrimination		-.029
Asian Values x Anticipated Ethnic Discrimination x Cultural Stigma		.065
Total R^2	.356**	
<i>n</i>	93	

*** Correlation is significant at the 0.001 level (2-tailed).

Impact of Stigmatized Identities and Culture on Asian Americans

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

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

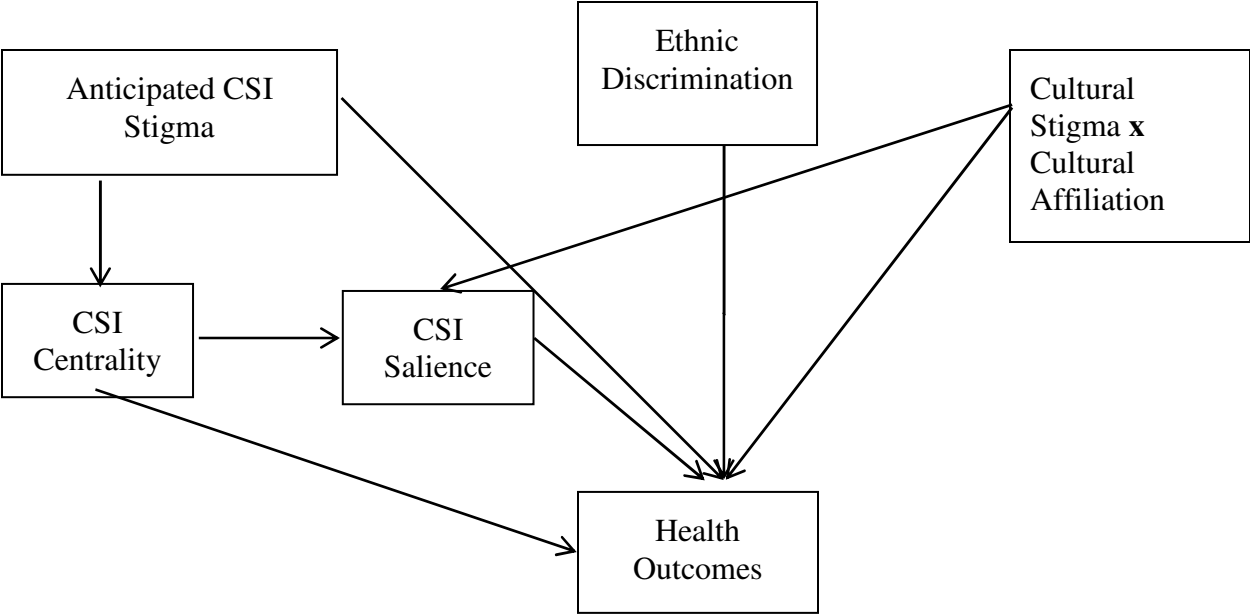


Figure 1. Proposed model of CSI stigma for East and South Asian Americans modified from Quinn and Chaudoir (2009).

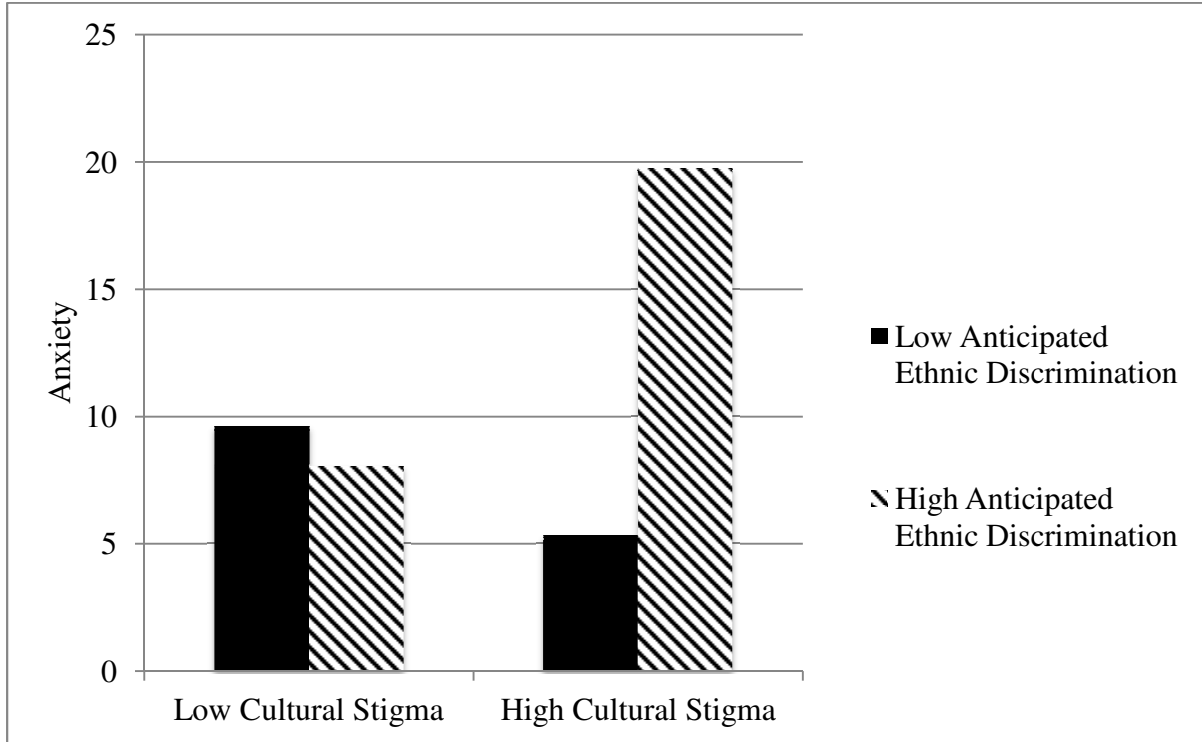


Figure 2. Anxiety scores for the interaction between ethnic discrimination and Asian values.

Anxiety scores when ethnic discrimination is high and cultural stigma is high are significantly different from all other scores.

Appendix A: Measures for CSI participants

Note: Subtitles in parentheses here are for clarity, they did not appear in measures as administered to participants.

{ Screening Question for Concealed Identities }

Almost all people have parts of their history or personal identity that they regularly keep hidden from other people. Please think about the following identities or experiences. If you have one of them **AND** usually don't tell people about it, place a check next to it.

- Domestic violence (experiences of physical abuse from a partner)
- Victim of a non-violent crime
- Sexual Assault
- Substance Abuse (Alcoholism or Drug Abuse)
- Mental Illness
- Experienced Childhood Abuse (physical, sexual, or emotional)
- Hospitalized for Heart Problems
- Previous Treatment for Cancer
- Minority Sexual Orientation (such as gay, lesbian, bisexual)
- Sexually transmitted infection (such as Gonorrhea, Chlamydia, HIV, etc)

- None of the above apply to me

- Some of the above apply to me but I didn't check them because I do not keep them hidden from others.

{ If the participant checks any of the above, this question will appear next. }

Of the following items that you checked, please pick the hidden identity or experience that is the most important to you: { *A Drop Down List of the Identities will Appear* }

{Anticipated Stigma Measures}

If others knew your concealed identity, how likely do you believe each of the following would be to occur:

1. Not get hired for a job

1 2 3 4 5 6 7
Very Unlikely Very Likely

2. Not be given a job promotion

1 2 3 4 5 6 7
Very Unlikely Very Likely

3. Fired from a job

1 2 3 4 5 6 7
Very Unlikely Very Likely

4. Discouraged by a teacher from continuing education

1 2 3 4 5 6 7
Very Unlikely Very Likely

5. Denied a scholarship

1 2 3 4 5 6 7
Very Unlikely Very Likely

6. Prevented from renting or buying a home

1 2 3 4 5 6 7
Very Unlikely Very Likely

7. Denied a bank or car loan or a credit card

1 2 3 4 5 6 7
Very Unlikely Very Likely

8. Forced out of neighborhood by neighbors.

1 2 3 4 5 6 7
Very Unlikely Very Likely

9. Denied (or given poorer) medical care

1 2 3 4 5 6 7
Very Unlikely Very Likely

10. Denied (or given poorer) services (e.g. by plumber, mechanic, etc.)

1 2 3 4 5 6 7
Very Unlikely Very Likely

11. Hassled by police

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1 2 3 4 5 6 7
Very Unlikely Very Likely

If others knew your concealed identity, how likely do think the following would be to occur?

1. People acting like they're better than you

1 2 3 4 5 6 7
Very Unlikely Very Likely

2. People acting like they are smarter than you

1 2 3 4 5 6 7
Very Unlikely Very Likely

3. Treated with less respect than other people

1 2 3 4 5 6 7
Very Unlikely Very Likely

4. Treated with less kindness than other people

1 2 3 4 5 6 7
Very Unlikely Very Likely

5. People acting like they are afraid of you

1 2 3 4 5 6 7
Very Unlikely Very Likely

6. Getting poorer service than others do at restaurants or stores

1 2 3 4 5 6 7
Very Unlikely Very Likely

7. People acting like you can't be trusted

1 2 3 4 5 6 7
Very Unlikely Very Likely

8. People calling you names or insulting you

1 2 3 4 5 6 7
Very Unlikely Very Likely

9. People threatening or harassing you

1 2 3 4 5 6 7
Very Unlikely Very Likely

10. Current friends stop hanging out with you

1 2 3 4 5 6 7
Very Unlikely Very Likely

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11. Friends avoiding or ignoring you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

12. Roommates wanting to move out of apartment or house.

1 2 3 4 5 6 7
Very Unlikely Very Likely

13. People not wanting to get to know you better

1 2 3 4 5 6 7
Very Unlikely Very Likely

14. People not wanting to date you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

15. People not wanting to get involved in a relationship with you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

16. Family avoiding, ignoring, or rejecting you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

17. Family being embarrassed or ashamed of you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

18. Family treating you with less respect.

1 2 3 4 5 6 7
Very Unlikely Very Likely

{ Centrality Measures }

There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by circling a number on the scale.

*1. Overall, my concealed identity has very little to do with how I feel about myself.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

2. My concealed identity is an important reflection of who I am.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

*3. My concealed identity is not important to my sense of what kind of a person I am.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

4. In general, my concealed identity is an important part of the way I see myself.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

5. My concealed identity defines who I am.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

6. It is impossible to understand me without knowing my concealed identity.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

7. I would be a different person without my concealed identity.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

8. My concealed identity is a central part of my self-definition.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

{Stigma Salience}

1. How often do you think about your concealed identity?

- almost never
- several times a year
- once a month
- once a week
- a few times a week
- once a day
- many times each day

2. I worry that people who do not know my concealed identity might find out.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

3. My concealed identity often crosses my mind for no reason.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

4. I actively attempt to hide my concealed identity.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

5. I spend a lot of time thinking about my concealed identity.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

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{CESD}

*Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way **during the past week**. Use the scale below and write the corresponding number for how often you felt each item next to the item.*

- 0 = Rarely or None of the Time (Less than 1 Day)
1 = Some or a Little of the Time (1-2 Days)
2 = Occasionally or a Moderate Amount of Time (3-4 Days)
3 = Most or All of the Time (5-7 Days)

During the past week:

1. ____ I was bothered by things that usually don't bother me.
2. ____ I did not feel like eating; my appetite was poor.
3. ____ I felt that I could not shake off the blues even with help from my family or friends.
- *4. ____ I felt that I was just as good as other people.
5. ____ I had trouble keeping my mind on what I was doing.
6. ____ I felt depressed.
7. ____ I felt that everything I did was an effort.
- *8. ____ I felt hopeful about the future.
9. ____ I thought my life had been a failure.
10. ____ I felt fearful.
11. ____ My sleep was restless.
- *12. ____ I was happy.
13. ____ I talked less than usual.
14. ____ I felt lonely.
15. ____ People were unfriendly.
- *16. ____ I enjoyed life.
17. ____ I had crying spells.
18. ____ I felt sad.
19. ____ I felt that people dislike me.
20. ____ I could not get "going."

{ Beck Anxiety Inventory – Trait }

In general, how much are you bothered by each of the following problems on a DAY-TO-DAY basis? Please select a number from 0 to 3 for each of the following items.

0 = rarely or never

1 = occasionally

2 = often

3 =almost always

1. Numbness or tingling
2. Feeling hot
3. Wobbliness in legs
4. Unable to relax
5. Fear of the worst happening
6. Dizzy or lightheaded
7. Heart pounding or racing
8. Unsteady
9. Terrified
10. Nervous
11. Feelings of choking
12. Hands trembling
13. Shaky
14. Fear of losing control
15. Difficulty breathing
16. Fear of dying
17. Scared
18. Indigestion or discomfort in abdomen
19. Faint
20. Face flushed
21. Sweating (not due to heat)

{Global Health}

1. In general would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

2. In general, would you say your quality of life is:

- Excellent
- Very good
- Good
- Fair
- Poor

3. In general, how would you rate your physical health?

- Excellent
- Very good
- Good
- Fair
- Poor

4. In the past 7 days, how would you rate your fatigue on average?

- None
- Mild
- Moderate
- Severe
- Very Severe

{Asian Values Scale – Revised}

1. One should not deviate from familial and social norms.
1 2 3 4
strongly disagree disagree agree strongly agree
2. Children should not place their parents in retirement homes.
1 2 3 4
strongly disagree disagree agree strongly agree
3. One need not focus all energies on one's studies.*
1 2 3 4
strongly disagree disagree agree strongly agree
4. One should be discouraged from talking about one's accomplishments.
1 2 3 4
strongly disagree disagree agree strongly agree
5. Younger persons should be able to confront their elders.*
1 2 3 4
strongly disagree disagree agree strongly agree
6. When one receives a gift, one should reciprocate with a gift of equal or greater value.
1 2 3 4
strongly disagree disagree agree strongly agree
7. One need not achieve academically in order to make one's parents proud.*
1 2 3 4
strongly disagree disagree agree strongly agree
8. One need not minimize or depreciate one's own achievements.*
1 2 3 4
strongly disagree disagree agree strongly agree
9. One should consider the needs of others before considering one's own needs.
1 2 3 4
strongly disagree disagree agree strongly agree
10. Educational and career achievements need not be one's top priority.*
1 2 3 4
strongly disagree disagree agree strongly agree
11. One should think about one's group before oneself.
1 2 3 4
strongly disagree disagree agree strongly agree
12. One should be able to question a person in an authority position.*

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1 2 3 4
strongly disagree disagree agree strongly agree

13. Modesty is an important quality for a person.

1 2 3 4
strongly disagree disagree agree strongly agree

14. One's achievements should be viewed as family's achievements.

1 2 3 4
strongly disagree disagree agree strongly agree

15. One should avoid bringing displeasure to one's ancestors.

1 2 3 4
strongly disagree disagree agree strongly agree

16. One should have sufficient inner resources to resolve emotional problems.

1 2 3 4
strongly disagree disagree agree strongly agree

17. The worst thing one can do is to bring disgrace to one's family reputation.

1 2 3 4
strongly disagree disagree agree strongly agree

18. One need not remain reserved and tranquil.*

1 2 3 4
strongly disagree disagree agree strongly agree

19. One should be humble and modest.

1 2 3 4
strongly disagree disagree agree strongly agree

20. Family's reputation is not the primary social concern.*

1 2 3 4
strongly disagree disagree agree strongly agree

21. One need not be able to resolve psychological problems on one's own.*

1 2 3 4
strongly disagree disagree agree strongly agree

22. Occupational failure does not bring shame to the family.*

1 2 3 4
strongly disagree disagree agree strongly agree

23. One need not follow the role expectations (gender, family hierarchy) of one's family.*

1 2 3 4
strongly disagree disagree agree strongly agree

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24. One should not make waves.

1	2	3	4
strongly disagree	disagree	agree	strongly agree

25. One need not control one's expression of emotions.*

1	2	3	4
strongly disagree	disagree	agree	strongly agree

{Racial/Ethnic Anticipation of Discrimination}

How likely do you think the following would be to occur because of your RACE or ETHNICITY?

1. Not get hired for a job

1 2 3 4 5 6 7
Very Unlikely Very Likely

2. Not be given a job promotion

1 2 3 4 5 6 7
Very Unlikely Very Likely

3. Fired from a job

1 2 3 4 5 6 7
Very Unlikely Very Likely

4. Discouraged by a teacher from continuing education

1 2 3 4 5 6 7
Very Unlikely Very Likely

5. Denied a scholarship

1 2 3 4 5 6 7
Very Unlikely Very Likely

6. Prevented from renting or buying a home

1 2 3 4 5 6 7
Very Unlikely Very Likely

7. Denied a bank or car loan or a credit card

1 2 3 4 5 6 7
Very Unlikely Very Likely

8. Forced out of neighborhood by neighbors.

1 2 3 4 5 6 7
Very Unlikely Very Likely

9. Denied (or given poorer) medical care

1 2 3 4 5 6 7
Very Unlikely Very Likely

10. Denied (or given poorer) services (e.g. by plumber, mechanic, etc.)

1 2 3 4 5 6 7
Very Unlikely Very Likely

11. Hassled by police

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11. Friends avoiding or ignoring you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

12. Roommates wanting to move out of apartment or house.

1 2 3 4 5 6 7
Very Unlikely Very Likely

13. People not wanting to get to know you better

1 2 3 4 5 6 7
Very Unlikely Very Likely

14. People not wanting to date you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

15. People not wanting to get involved in a relationship with you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

16. Family avoiding, ignoring, or rejecting you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

17. Family being embarrassed or ashamed of you.

1 2 3 4 5 6 7
Very Unlikely Very Likely

18. Family treating you with less respect.

1 2 3 4 5 6 7
Very Unlikely Very Likely

{Racial/Ethnic Experiences of Discrimination}

Have you actually experienced any of the above due to your concealed identity?

No.

Yes. If yes, please place a check by the ones you have experienced. {List of each of the above experiences presented}

{Demographics}

SEX: Female _____ Male _____

AGE: _____

Highest Level of Education Completed:

- ___ Elementary School
- ___ Middle School
- ___ Some High School
- ___ Completed High School Degree
- ___ Some Vocational or Technical School
- ___ Completed Vocational or Technical Program
- ___ Some college
- ___ Completed Associate Degree
- ___ Completed Bachelors Degree
- ___ Some graduate school
- ___ Completed Masters Degree or other 2-Year Professional Degree
- ___ Completed Doctoral Degree

ETHNICITY: (check the one that best describes you)

- ___ East Asian American (e.g., Chinese, Japanese, Korean American)
- ___ Southeast Asian American (i.e., Thai, Vietnamese, Indonesian, etc., American)
- ___ South Asian American (i.e., Indian, Pakistani, Bangladeshi, etc., American)
- ___ Arab American
- ___ Middle Eastern American
- ___ Black/African American
- ___ Hispanic/Latino American
- ___ Native American
- ___ White/of European origin
- ___ Other: Please Describe: _____

Which of the following best describes your generational status in the US?

- 1: You grew up in your country of origin and arrived in the US as an adult
- 1.25: You were born in your country of origin and arrived in the US as an adolescent.
- 1.5: You were born in your country of origin and arrived in the US as a child.
- 2: You were born and raised in the US (or another Western country), but both your parents arrived in the US (or another Western country) from their countries of origin as adults.
- 2.5: You were born and raised in the US (or another Western country) and one of your parents was also born and raised in the West, but the other parent was born and raised in his/her country of origin and arrived in the West as an adult.
- 3: You were born and raised in the US (or another Western country), both your parents were also born in the US (or another Western country), and your grandparents were born in their countries of origin and arrived in the West as adults.

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4+: You, your parents, and both sets of grandparents were born and raised in the US (or another Western country).

Currently employed? (yes/no)

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Marital Status:

- Single (Never Married)
- Married
- Separated
- Divorced
- Widowed
- Remarried

Yearly Household Income:

- Less than \$5,000 per year
- Between \$5,000 and \$10,000 per year
- Between \$10,000 and \$15,000 per year
- Between \$15,000 and \$20,000 per year
- Between \$20,000 and \$30,000 per year
- Between \$30,000 and \$40,000 per year
- Between \$40,000 and \$50,000 per year
- Between \$50,000 and \$60,000 per year
- Between \$60,000 and \$70,000 per year
- Between \$70,000 and \$80,000 per year
- Between \$80,000 and \$90,000 per year
- Between \$90,000 and \$100,000 per year
- More than \$100,000 per year

{Social Desirability Questionnaire}

1. Do you tell the truth?

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

2. When you take sick-leave from work or school, are you as sick as you say you are?

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

3. I am always courteous, even to people who are disagreeable.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

* 4. Once in a while I laugh at a dirty joke.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

* 5. I sometimes try to get even, rather than forgive and forget.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

6. I always apologize to others for my mistakes.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

7. Would you declare everything at customs, even if you knew that you could never be found out?

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

8. I never attend a sexy show if I can avoid it.

1 2 3 4 5 6 7

Impact of Stigmatized Identities and Culture on Asian Americans

Strongly
Disagree

Strongly
Agree

* 9. Sometimes at elections I vote for candidates I know little about.

1 2 3 4 5 6 7

Strongly
Disagree

Strongly
Agree

*10. I am sometimes irritated by people who ask favors of me.

1 2 3 4 5 6 7

Strongly
Disagree

Strongly
Agree

