The Role of Race/Ethnicity and Acculturation in Different Types of Stigma and Mental Health Service Utilization

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Abstract

Research has demonstrated that many college students underutilize mental health services. Specifically, racial/ethnic minority students are even more likely to underutilize mental health services. Previous studies have identified stigma as one of the biggest barriers to mental health treatment. Different types of stigma that have emerged as contributors to the underutilization of services include perceived public stigma, self-stigma, personal stigma, and social network stigma. Furthermore, acculturation has also been identified as a cultural factor contributing to the underutilization of mental health services. The current study aimed to 1) examine differences in the presentation of perceived public stigma, self-stigma, personal stigma and social network stigma, among African Americans, Hispanic Americans, Asian Americans, and European Americans, 2) examine how mainstream acculturation and heritage acculturation may explain differences in the presentation of each type of stigma among racial groups, and 3) identify race, stigma, and acculturation as predictors of mental health service utilization. Results revealed significant differences in the presentation of perceived public stigma specifically, among Hispanic Americans who identified with higher rates than European Americans. Results also identified race and low heritage acculturation as significant predictors of perceived public stigma, and Hispanic Americans and African Americans presented higher levels of perceived public stigma compared to European Americans. Low heritage acculturation and low mainstream acculturation were also identified as significant predictors of personal stigma. Last, results identified personal stigma, self-stigma, social network stigma, mainstream acculturation, and identifying as Asian American as predictors of mental health service utilization.

The Role of Race/Ethnicity and Acculturation in Different Types of Stigma and Mental Health Service Utilization

Research has demonstrated that close to 50% of college students have met diagnostic criteria for a psychological disorder in the past 12 months (Blanco et al., 2008). Despite this high incidence rate, only about 25% of these students sought mental health treatment (Blanco et al.). Of those who access treatment, many may not receive proper care (Blanco et al.; Eisenberg, Hunt, Speer, & Zivin 2011). Furthermore, a survey on mental health service utilization among college students found that among students with mental health concerns only about one in three students received any prior treatment within the previous year, and about one in five was currently receiving treatment (Eisenberg et al., 2011). Lack of proper treatment for mental health concerns can often be due to barriers such as lack of access to treatment or lack of education about mental health services. However, previous research has shown that stigma toward mental illness and mental health services is one of the biggest barriers to mental health service utilization (Hogan, 2003). Different types of stigma toward mental health treatment include perceived public stigma (Eisenberg, Downs, Golberstein, & Zivin, 2009), self-stigma (Vogel, Wade, & Haake, 2006), personal stigma (Eisenberg et al., 2009), and social network stigma (Vogel, Wade, & Ascheman, 2009).

Furthermore, racial and ethnic minorities are even less likely to utilize mental health services compared to whites (U.S. Department of Health and Human Services, 2001). Underutilization of services among racial and ethnic groups is related to stigma and negative views toward mental health treatment (Cheng, Kwan, & Sevig, 2013). Moreover, racial and ethnic minorities differ in levels of stigma toward treatment. For example, Asian Americans

presented the highest levels of stigma toward help-seeking compared to African Americans and Latino Americans (Cheng et al., 2013). One study that examined personal and public stigma toward mental health treatment found that Asians reported the highest levels of personal stigma compared to Whites, Blacks, Hispanics, Multiracial, and Other racial groups (Eisenberg et al., 2009). Previous research has also suggested that levels of acculturation can be associated with differences in stigma toward mental illness and mental health treatment. Atkinson and Gim (1989) explored Asian cultural identity and attitudes toward mental health services, and found that regardless of ethnicity, individuals who were more acculturated were more likely to recognize personal need for treatment as well as be more tolerant of stigma associated with treatment. The current study aims to 1) identify differences in various types of stigma toward mental health treatment among racial and ethnic groups, 2) demonstrate how acculturation may explain racial/ethnic differences in stigma toward mental health treatment, and 3) examine the relationship between race/ethnicity, acculturation and utilization of mental health services.

Stigma

Stigma is developed through a series of social cognitive processes that motivate people to avoid the label of mental illness and consists of two manifestations that deter individuals from seeking treatment (Corrigan, 2004). The first is the threat to diminished self-esteem, and the second is public identification when a person is labeled “mentally ill” (Corrigan, 2004). These two manifestations relate to two types of stigma identified as public stigma and self-stigma. Public stigma is originally identified as what a naïve public does to the stigmatized group, and self-stigma is identified as what members of a stigmatized group may do themselves if they internalize public stigma (Corrigan). Stigma toward mental health treatment or former mental

health patients has also been linked to social distancing (Link, Cullen, Frank, & Wozniak, 1987). As research about stigma related to help-seeking has evolved, newer definitions of public stigma and self-stigma have emerged as well as the development of new types of stigma constructs, such as personal stigma and social network stigma. Definitions of all types of stigma that this study examines are provided below.

Public Stigma

Public stigma is defined as negative perceptions about individuals with a mental illness or mental health services, and these negative perceptions can involve prejudice, stereotypes, and discrimination (Corrigan, 2004). Perceived public stigma is defined as an individual's perception of public stigma (Corrigan). In other words, perceived public stigma refers to an individual's perception of the general public's view of mental illness or mental health treatment. Previous studies have found perceived public stigma to be significantly higher than personal stigma among college students (Eisenberg et al., 2009). In addition, other studies have found a difference in levels of public stigma among racial groups. For example, one study found that college students who identified as male or Asian, and reported high self-stigma and high public stigma were less likely to seek mental health services (Wu et al., 2017). Perceived public stigma can deter individuals from seeking mental health treatment due to the fear that others will judge them or perceive them as weak.

Self-Stigma

Individuals may also avoid seeking treatment in order to avoid the negative effects stigma may have on one's self-esteem (Corrigan, 2004). Self-stigma is defined as the reduction in one's self-esteem or self-worth due to the perception that they are socially unacceptable (Vogel et al.,

2006). Self-stigma may deter individuals from seeking psychological help because it may create the perception that one is inferior to others for seeking treatment. Previous research has suggested racial and ethnic differences in levels of self-stigma. Cheng and colleagues (2013) examined psychocultural correlates of racial and ethnic minority colleges students' stigma associated with help-seeking. Results indicated Asian Americans scored higher on self-stigma compared to African Americans and Latino Americans. In addition, this study also found a relationship between self-stigma and other stigma constructs. Specifically, social network stigma was predictive of self-stigma across all racial and ethnic minority groups. In other words, individuals who had higher levels of social network stigma were more likely to stigmatize themselves for seeking treatment. It is important to examine levels of self-stigma in comparison to other types of stigma because self-stigma is reflective of the way one may think negatively of oneself for seeking mental health treatment.

Personal Stigma

Personal stigma can be defined as an individual's own stigmatizing views toward mental health treatment or individuals who receive mental health treatment (Eisenberg et al., 2009). Personal stigma differs from self-stigma as it reflects an individual's personal views toward others who receive mental health treatment rather than the way one may think negatively of oneself for seeking treatment. Previous research has found differences in levels of personal stigma among racial and ethnic groups. For example, Eisenberg and colleagues (2009) found that individuals who were male, Asian, international, religious, and of lower socioeconomic status presented the highest levels of personal stigma. Other studies have examined the relationship between personal stigma and attitudes toward mental health treatment. For instance, Garriott,

Raque-Bogdan, Yalango, Ziemer, and Utley (2017) examined environmental supports, personal stigma, self-stigma, and attitudes toward mental health treatment among first and continuing-generation college students. Results indicated that environmental support was a significant negative predictor of personal stigma (Garriott et al., 2017). In other words, individuals who received more environmental support were less likely to stigmatize others for seeking mental health treatment. Environmental supports were described as resources from peers or social groups that could help support academics (Garriot et al., 2017). However, this finding was statistically significant only regarding institutional environmental supports, but not family environmental supports. Personal stigma needs to be examined in relation to social network stigma, too, because support from one's direct social group may influence one's attitudes toward mental health treatment.

Social Network Stigma

Social network stigma is defined as the way individuals perceive others in their direct social group (i.e., family and friends) would think of them for seeking help (Vogel et al., 2017). Social network stigma differs from public stigma because it depicts the way one perceives people they most frequently interact with would stigmatize them for seeking help as opposed to the way the general public may stigmatize them for seeking help. Although social network stigma appears to be a significant component of understanding differences in help-seeking and underutilization of treatment, few studies have explored this construct in relation to other types of stigma. Cheng and colleagues (2013) examined psychological correlates related to racial and ethnic minority college students' stigma associated with help-seeking, and specified the individuals one may interact with as family, friends, and professors or academic departments.

Results indicated that Asian Americans scored higher on both perceived stigma by family for seeking help, and perceived stigma by friends for seeking help compared to African Americans and Latino Americans (Cheng et al., 2013). Exploring social network stigma in relation to other types of stigma is important because one might perceive those in their direct social group as supportive if they were to seek treatment, however, they may also perceive the general public as more judgmental about individuals who seek treatment. For this reason, it is important to make the distinction between public stigma and social network stigma as well as compare the different types of stigma across racial and ethnic groups.

Stigma and Mental Health Service Utilization among Racial and Ethnic Minorities

Research has demonstrated that in the U.S. racial and ethnic minority college students are less likely to seek mental health treatment compared to European Americans (Kearney, Draper, & Baron, 2005; Loya, Reddy, & Hinshaw, 2010). Previous research has suggested that underutilization of mental health services among racial and ethnic minorities is related to stigma towards services and mental illness (Snowden & Yamada, 2005). In general, Asian Americans presented with higher levels of stigma compared to other racial/ethnic groups. For example, Eisenberg and colleagues (2009) found Asian American college students presented higher levels of personal stigma compared to Whites, Blacks, Hispanics, Multiracial and Other racial groups. Another study examining stigma toward mental health services, depression, and mental health service use among college students found Asian Americans to be less likely to seek services compared to European Americans (Wu et al., 2017).

Furthermore, other racial and ethnic minority groups may also hold more stigmatizing beliefs towards mental health services than European Americans. In a literature review, Taylor

and Kuo (2018) explained how stigmatizing beliefs about mental illness among the African American community often deter individuals from seeking treatment. These beliefs included "black people must be strong" and "mental illness does not affect black people" (Taylor & Kuo, 2018). In addition, Conner, Koekske, and Brown (2009) examined racial differences and the mediating effects of stigma on attitudes toward mental health treatment. Results indicated that older African Americans adults were more likely to hold negative views toward mental health treatment and reported higher levels of public and internalized stigma than European Americans (Conner et al., 2009).

Stigma toward mental health is also prevalent among the Hispanic community, and may be influenced by cultural values, such as collectivism (Abdullah & Brown, 2011). For example, many mental health services require individual treatment, which may interfere with Latino cultural traditions that value taking care of such issues within the family (Abdulluh & Brown). Additionally, another study found that Latino/a college students with more mental health stigma presented with less favorable attitudes towards help-seeking (Mendoza, Masuda, & Swartout, 2015). It is important to examine the ways in which racial and ethnic minorities differ in levels of mental health stigma in order to understand the impact stigma has on utilization of mental health services.

Acculturation

Acculturation has also been examined as an important factor relating to mental health stigma. Specifically, the way in which an individual may or may not identify with a culture can influence the way he/she thinks about mental health and mental health treatment. Acculturation can be defined as an array of psychological changes that occur when members of a minority

group adapt to the mainstream culture (Berry, 1994; Redfield, Linton, & Herskovitz, 1936). In contrast, enculturation is a process by which individuals are assimilated into their heritage culture (Berry, 1994). Enculturation can also be described as heritage acculturation, which describes the way an individual may identify with his or her heritage culture. Originally, acculturation was conceptualized as a unidimensional construct. However, the conceptualization of acculturation has moved to a bidimensional model within the last two decades (Berry, 1997; Ryder, Alden, & Paulhus, 2000). The unidimensional model suggests that acculturation and enculturation processes occur at the same time, while the bidimensional model recognizes acculturation and enculturation as two independent processes (Sun, Hoyt, Brockberg, Lam, & Tiwari, 2016). The bidimensional model suggests that individuals assimilate into the mainstream culture and identify with the heritage culture separately (Ryder et al., 2000). Previous studies have suggested a possible relationship between acculturation, enculturation, and mental health stigma. Sun and colleagues (2016) conducted a meta-analysis that examined acculturation and enculturation as predictors of psychological help-seeking attitudes among racial and ethnic minorities. Results indicated that perceived public stigma was positively predicted by enculturation. In other words, individuals who more strongly identified with their heritage culture were more likely to think that society stigmatizes treatment. Furthermore, Han and Pong (2015) examined mental health help-seeking behaviors in relation to stigma, cultural barriers, and acculturation among Asian American community college students. Results indicated that individuals who were more acculturated to the mainstream culture were more likely to seek professional psychological help compared to those who were less acculturated. Heritage and

mainstream acculturation may explain differences in stigma toward mental health treatment as well as explain underutilization of treatment among racial and ethnic minorities.

Present Study

The goal of the present study was to examine the ways in which acculturation may explain differences in types of stigma and the underutilization of mental health services among racial and ethnic minority groups. Although the four different types of stigma have been examined among racial and ethnic minority groups in previous studies, no other study has examined them all together in relation to acculturation and service use. It is important to examine the ways in which heritage and mainstream acculturation may explain racial and ethnic differences in stigma. The results of this study have important implications about understanding and reducing existing mental health disparities among racial/ethnic groups. The hypotheses for this study were.

Hypothesis 1: Asian Americans, African Americans, and Hispanic Americans will present higher levels of all types of stigma (perceived public stigma, self-stigma, personal stigma, and social network stigma) compared to European Americans.

Hypothesis 2: Mainstream acculturation and heritage acculturation (enculturation) will explain racial and ethnic differences in the four types of stigma.

Hypothesis 3: Mainstream acculturation, heritage acculturation, and the four types of stigma (perceived public stigma, self-stigma, personal stigma, and social network stigma) will explain racial and ethnic differences in mental health service utilization.

In summary, the current study aimed to 1) examine differences in perceived public stigma, self-stigma, personal stigma, and social network stigma among racial/ethnic minority

college students in comparison to whites, 2) examine the ways in which heritage acculturation and mainstream acculturation may explain racial/ethnic differences in each type of stigma, and 3) examine how race/ethnicity, acculturation, and stigma predict the use of mental health services (Figure 1).

Methods

Participants

There were a total of 352 participants in this study, of which 18.2% (*n* = 64) were male, and 81.3% (*n* = 286) were female. In this sample, 10.2% of individuals identified as African American (*n* = 36), 62.2% identified as European American (*n* = 219), 12.2% identified as Hispanic American (*n* = 43), and 7.7% identified as Asian American (*n* = 27). Class standing in this sample consisted of 21.3% first year students (*n* = 75), 27.3% sophomores (*n* = 96), 26.7% juniors (*n* = 94), 23% seniors (*n* = 81), .3% graduate students (*n* = 1), and 1.1% other (*n* = 4). The average age of participants in the sample was (*M* = 20.95, *SD* = 3.99), and the average GPA of participants was (*M* = 3.42, *SD* = .47). In regards to socioeconomic status, 20.7% of participants identified as working class (*n* = 73), 18.2% lower middle class (*n* = 54), 44.9% middle class (*n* = 158), 14.8% upper middle class (*n* = 52), .3% upper class (*n* = 1), and 1.1% other (*n* = 4). Immigration status consisted of .9% international students (*n* = 3), 2% 1st generation immigrants (*n* = 7), 5.7% 1.5 generation immigrants (individuals who immigrate to the U.S. as a child or during early teens; *n* = 20), 15.9% 2nd generation immigrants (*n* = 56), 19% 3rd generation immigrants (*n* = 67), and 42.9% 4th or later generation immigrants (*n* = 67).

Procedure

Participants were recruited through the Stockton University SONA system, and students were granted class credit as an incentive to participate. Participants signed a consent form and completed the survey on Qualtrics. This study was approved by the University's Institutional Review Board.

An additional targeted recruitment method focused on recruiting individuals who identify as racial and ethnic minorities. Members of over 20 culturally diverse clubs and organizations (e.g., Asian Student Alliance, Los Latinos Unidos, and Muslim Student Association) at the University were invited via email to participate in the study. Participants through targeted recruitment were invited to participate in a raffle for 30 $10.00 Amazon gift cards. The participants were able to enter the raffle on a page separate from their completed responses, and their identity was not in connection to their responses.

Measures

Demographic information. Demographic information included information about participants' sex, gender, age, race/ethnicity, class standing, immigration status, and socioeconomic status.

Perceived public stigma. The Devaluation-Discrimination (DD) scale is used to assess the general perception of being devalued or discriminated against by society if one were a psychiatric patient (Link, Mirotznik, & Cullen, 1991). The scale was adapted from original "mental patient" or "former mental patient" to "a person who has received mental health treatment" in order to measure perceived stigma towards mental health treatment (Eisenberg et al., 2009). The scale includes 12 items and is scored on a 6-point Likert scale. Participants are asked to rate the degree to which they agree or disagree with each item. Higher values indicate

higher levels of perceived stigma. Sample items include "Most people would willingly accept someone who has received mental health treatment as a close friend" and "Most people feel that receiving mental health treatment is a sign of personal failure." This adapted version of the DD scale has demonstrated good internal consistency in the original study (Cronbach's α = .89; Eisenberg et al., 2009) and in this study (Cronbach's α = .87).

Self- stigma. The Self-Stigma of Seeking Help (SSOSH) scale assesses threats to one's self-evaluation for seeking psychological help and predicts attitudes and willingness to seek counseling (Vogel et al., 2006). This scale includes 10 items and is scored on a 5-point Likert scale. Participants are asked to rate the degree to which each item describes how they might react in the situation that they need to seek help. Sample items include "I would feel inadequate if I went to a therapist for psychological help" and "It would make me feel inferior to ask a therapist for help." The SSOSH demonstrated good internal consistency in the original study (Cronbach's α = .91; Vogel et al., 2006) and in this study (Cronbach's α = .84).

Personal stigma. This adapted version of the Devaluation-Discrimination (DD) scale is used to measure personal stigma toward mental health treatment (Eisenberg et al., 2009). Three items were adapted from the perceived stigma scale (Devaluation-Discrimination Scale) to measure personal stigma by replacing "most people" with "I". The three items referred respectively to a negative attitude, an accepting behavior, and an accepting attitude (Eisenberg et al., 2009). The scale includes three items and is scored on a 6-point Likert scale. Higher numbers indicate higher levels of personal stigma. A sample item includes "I would willingly accept someone who has received mental health treatment as a close friend." This personal stigma

adapted version of the DD scale has demonstrated good internal consistency in the original study (Cronbach's α = .78; Eisenberg et al., 2009) and in this study (Cronbach's α = .74).

Social network stigma. The Perceptions of Stigmatization by Others for Seeking Help (PSOSH) is used to assess perceived stigma by others in one's social group (Vogel et al., 2009). In other words, this scale assesses the way in which individuals perceive those in their social network would think of them for seeking mental health treatment. The scale includes 5 items and is scored on a 5-point Likert scale. Participants are asked to imagine the ways in which the individuals within their social network would react in the event that they had to seek counseling services. Sample items include "react negatively to you" and "see you as seriously disturbed" (Vogel, 2009). The PSOSH has demonstrated good internal consistency in the original study ranging from Cronbach's α = .78 to Cronbach's α = .91 (Vogel, 2009) and in this study (Cronbach's α = .93).

Acculturation. The Vancouver Index of Acculturation (VIA) scale is used to measure the heritage and mainstream dimensions of acculturation (Ryder et al., 2000). The VIA consists of two subscales of ten items and, each scale is scored on a 9-point Likert scale. The scale first asks participants to list a heritage culture other than American that has influenced them the most. The heritage subscale measures how much the participant identifies with the heritage culture. Sample items include "I often participate in my *heritage* culture traditions" and "I enjoy social activities with people from the same *heritage culture* as myself." The mainstream subscale measures how much the participant identifies with the mainstream culture. Sample items include "I am comfortable interacting with typical American people" and "I enjoy American entertainment." The heritage subscale has demonstrated good internal consistency in the original

study (Cronbach's α = .79; Ryder et al., 2000), and in this study (Cronbach's α = .88). The mainstream subscale has demonstrated good internal consistency in the original study (Cronbach's α = .75; Ryder et al., 2000), and in this study (Cronbach's α = .86).

Mental health service utilization. Mental health service utilization was measured using a dichotomous question (yes/no) asking if an individual had ever sought personal counseling/therapy from a psychologist or mental health professional.

Data Analysis Plan

Descriptive statistics and correlations

Descriptive statistics were examined for all variables and correlations among all main variables (the four types of stigma and heritage and mainstream acculturation) were examined.

Hypothesis 1

The first hypothesis was tested using a multivariate analysis of variance (MANOVA). Race was entered as the independent variable and consisted of four different levels (African American, Asian American, Hispanic American, European American). Perceived public stigma (perceived public stigma adapted DD scale), self-stigma (SSOSH), personal stigma (personal stigma adapted DD scale), and social network stigma (PSOSH) were entered as the four dependent variables.

Hypothesis 2

The second hypothesis was tested using four hierarchical regressions with race, heritage and mainstream acculturation (VIA) entered as the independent variables, and each type of stigma entered as the dependent variable (perceived public stigma, self-stigma, personal stigma, and social network stigma). At Step 1, race (dummy coded) was entered as an independent

variable. European American was used as the reference group to compare differences in the presentation of stigma to minority groups (African American, Hispanic American, and Asian American). At Step 2, heritage acculturation was entered as an independent variable, and at Step 3 mainstream acculturation was entered as an independent variable in efforts to explain additional variance in each of the types of stigma.

Hypothesis 3

Hypothesis 3 was tested using a logistic regression analysis. Race (dummy coded), mainstream acculturation, heritage acculturation, and the four types of stigma (public stigma, self-stigma, personal stigma, and social network stigma) were entered as independent variables to predict mental health service use for all racial groups. Mental health service utilization (yes/no) was entered as a dependent variable.

Results

Descriptive statistics and correlations

Means, standard deviations, and correlations were analyzed for each of the stigma variables, and the two acculturation variables (see Table 1). There were significant positive correlations between perceived public stigma and personal stigma ($r = .20$, $p < .05$) as well as self-stigma ($r = .17$, $p < .05$) and social network stigma ($r = .34$, $p < .05$). In addition, there were significant positive correlations between personal stigma and self-stigma ($r = .39$, $p < .05$) as well as social network stigma ($r = .24$, $p < .04$). Furthermore, there was a significant negative correlation between personal stigma and heritage acculturation ($r = -.15$, $p < .05$) as well as mainstream acculturation ($r = -.30$, $p < .05$). Results also indicated a significant positive correlation between self-stigma and social network stigma ($r = .31$, $p <.05$), and a significant

negative correlation between self-stigma and mainstream acculturation (r = -.12, p < .05). There was a significant negative correlation between social network stigma and mainstream acculturation (r = -.12, p < .05), and a significant positive correlation between heritage acculturation and mainstream acculturation (r = .38, p < .05).

Hypothesis 1

Hypothesis 1 was analyzed using a Multivariate Analysis of Variance in efforts to observe differences between racial groups in the presentation of the four types of stigma. Race was entered as an independent variable with four levels that included African American, European American, Hispanic American, and Asian American. Perceived public stigma, self-stigma, personal stigma, and social network stigma were entered as dependent variables.

Results were analyzed using the Pillai's Trace Test Statistic (*Box's M Statistic* = 49.83, F = 1.55, p = .028). The overall model was statistically significant (*Pillai's Trace Test Statistic* =.091, F = 2.41, p = .004). Results only indicated a significant difference between racial groups in the presentation of perceived public stigma F(3, 309)= 5.51, p = .001, but not for self-stigma F (3, 309) = 2.21, p >.05, personal stigma F(3, 309) = .96, p > .05, and social network stigma F(3 , 309) =.21, p >.05. Follow-up Tukey tests indicated that Hispanic Americans presented with significantly higher perceived public stigma compared to European Americans (*Mean Difference* = 5.93, p = .004, [95% *CI* -10.39, -1.48]). There were no significant differences between European Americans and African Americans (*Mean Difference* = -4.49, p > .05, and Asian Americans (*Mean Difference* = -5.94, p>.05) in perceived public stigma. Furthermore, there were no significant differences between African Americans and Hispanic Americans (*Mean Difference* = -1.43 p > .05), and African Americans and Asian Americans (*Mean Difference* =

4.9, $p > .05$) in perceived public stigma. Last, there were no significant differences between Hispanic Americans and Asian Americans (*Mean Difference* = 6.3, $p > .05$) in the presentation of perceived public stigma. Refer to Table 2 for group comparisons.

Hypothesis 2

Hypothesis 2 was analyzed using four hierarchical regression analyses for each type of stigma (perceived public stigma, self, stigma, personal stigma, and social network stigma). At Step 1, race was dummy coded and entered as an independent variable using European American as the reference group. The racial/ethnic minority groups consisted of African American, Hispanic American, and Asian American. Similar methods of dummy coding have been seen in other studies; for example, Dreher and Fox (1996) used White as a reference group and created separate variables for the Black (1 = Black, 0 = all others), Hispanic (1 = Hispanic, 0 = all others), and Asian (1 = Asian, 0 = all others) groups. At Step 2, heritage acculturation was entered into the model, and at Step 3 mainstream acculturation was added to the model.

Perceived public stigma. Hierarchical regression results indicated that at Step 1 race significantly contributed to the regression model, F (3, 317) = 5.21, p =.002, and predicted 4.7% of the variance in perceived public stigma. African Americans presented with significantly higher perceived public stigma compared to European Americans (B = 4.08, t = 2.26, p = .02). Hispanic Americans also presented with significantly higher perceived public stigma compared to European Americans (B = 5.89, t = 3.46, p = .002). At Step 2, heritage acculturation contributed significantly to the model F(4, 317) = 5.45, p = .01, and predicted an additional 1.8% of the variance of perceived public stigma above what race predicts. At Step 3, mainstream acculturation did not significantly increase the percentage of the variance of stigma explained by

the model $F(5, 317) = 4.46$, $p = .47$, and only predicted an additional 0.2% of the variance of perceived public stigma above and beyond the combined contributions of race and heritage acculturation. Table 3 shows all regression coefficients.

Self-stigma. At Step 1, race did not significantly contribute to the regression model, $F(3, 311) = 1.76$, $p = .15$, and predicted 1.7% of the variance in self-stigma. At Step 2, heritage acculturation did not significantly contribute to the regression model, $F(4, 311) = 1.84$, $p = .15$, and only predicted 0.6% of the variance in self-stigma. At Step 3, mainstream acculturation did not significantly contribute to the regression model, $F(5, 311) = 1.84$, $p = .17$, and predicted 0.6% of the variance in self-stigma. Table 4 shows regression coefficients for all steps.

Personal stigma. At Step 1, race did not significantly contribute to the regression model, $F(3, 320) = .77$, $p = .51$, and predicted 0.7% of the variance in personal stigma. At Step 2, heritage acculturation significantly contributed to the regression model $F(4, 320) = 3.75$, $p < .001$, and predicted an additional 3.8% of the variance of personal stigma above and beyond the predictive contributions of race. At Step 3, mainstream acculturation significantly contributed to the regression model, $F(5,320) = 8.12$, $p < .001$), and predicted an additional 6.9% of the variance of personal stigma beyond the contributions of race and heritage acculturation. Table 5 presents regression coefficients for all steps.

Social network stigma. At Step 1, race did not significantly contribute to the regression model, $F(3, 319) = .23$, $p = .87$, and predicted .2% of the variance in social network stigma. At Step 2, heritage acculturation did not significantly contribute to the regression model, $F(4, 319) = .88$, $p = .9$, and predicted .9% of the variance in social network stigma. At Step 3, mainstream

acculturation did not significantly contribute to the regression model, $F(5, 319) = 1.18$, $p = .7$, and predicted .7% of the variance in social network stigma. Refer to Table 6 for coefficients.

Hypothesis 3

Hypothesis 3 was analyzed using a logistic regression in order to predict mental health service utilization. Mental health service utilization was compared among the four racial groups, and analyzed in comparison to each type of stigma (perceived public stigma, self-stigma, personal stigma, and social network stigma). Mental health service utilization was entered as a dichotomous dependent variable (0 = no, 1 = yes). Race (dummy coded with European American as the reference group) and the four types of stigma were entered as independent variables. The Chi Square test indicated that the generated model was significantly different from the null model [$\chi^2(9) = 32.74$, $p < .001$]. Results of the Hosmer and Lemeshow Test also indicated that the generated model was significantly different from the null model [$\chi^2(8) = 3.79$, $p = .87$].

The observed amount of individuals who did not utilize services was $n = 92$, and the predicted amount of individuals who did not utilize services was $n = 63$. The percentage of correctly predicted individuals who did not utilize services was 59.4%. The observed amount of individuals who utilized services was $n = 54$, and the predicted amount who did utilize services was $n = 99$. The percentage of individuals who were correctly predicted to utilize services was 64.7%. The overall error rate of service utilization was 38%.

Self-stigma ($B = -0.05$, $df = 1$, $p = .01$, Exp (B) = .95, 95% *CI* [.91 and .99]), personal stigma ($B = -.16$, $df = 1$, $p = .01$, Exp (B) = .85, 95% *CI* [.75 and .96]), social network stigma ($B = .06$, $df = 1$, Exp (B) = 1.06, $p = .03$, 95% *CI* [.75 and .96]), and mainstream acculturation ($B = -.02$, $df = 1$, $p = .048$, Exp (B) = .97, 95% *CI* [.95 and 1.00]) significantly predicted service

utilization. Identifying as Asian American (*B* = -1.42, *df* = 1, *p* = .006, Exp (B) = 4.15, 95% *CI* [.08 and .66]) significantly predicted service utilization. Table 7 shows the logistic regression results.

Discussion

The purpose of this study was to identify the role of race/ethnicity and acculturation in different types of stigma and self-reported mental health service utilization. Specifically, this study aimed to 1) identify how racial groups differ in the presentation of each type of stigma (perceived public stigma, self-stigma, personal stigma, and social network stigma), 2) examine how acculturation (mainstream acculturation and heritage acculturation) may explain potential differences in the presentation of stigma, and 3) examine the ways in which race/ethnicity, acculturation and stigma may predict mental health service utilization.

Hypothesis 1

First, the study found a statistically significant difference in the presentation of stigma among the four racial groups. Specifically, the groups differed significantly in the presentation of perceived public stigma, but not in self-stigma, personal stigma, or social network stigma. This finding partially supports the initial hypothesis which stated that African Americans, Hispanic Americans and Asian Americans would present with higher levels of all types of stigma compared to European Americans.

Interestingly, Hispanic Americans presented with significantly higher perceived public stigma compared to European Americans. Based on this finding, Hispanic Americans are more likely than European Americans to believe that the general public thinks negatively of mental health treatment. Although these results only partially support the initial hypothesis, they also

support previous findings, which suggest that racial/ethnic minorities present with higher levels of perceived public stigma compared to whites. For example, a study by Eisenberg and colleagues (2009) found that Black, Asian, and Hispanic students presented with significantly higher perceived public stigma compared to whites. Relative to Hispanic students, the study also demonstrated that Hispanic male students presented with significantly higher perceived public stigma than Hispanic female students (Eisenberg et al., 2009). The findings from the current study demonstrate consistency in the presentation of perceived public stigma among Hispanic Americans, and future analyses should also focus on gender differences between groups. Previous studies have suggested gender differences relating to race and mental health stigma. For example, Wu et al. (2017) found that identifying as male or Asian with high self-stigma and high public stigma suggested a decreased likelihood of utilizing mental health services. These findings may suggest that, to some degree, individuals who identify as Hispanic find the opinion of others, specifically, the general public, important in regards to seeking treatment. In other words, the high levels of perceived public among Hispanic Americans may indicate the tendency to highly value the opinions of others or fear being stigmatized by others.

Although other group differences were not statistically significant, they may deserve further exploration due to the small number of African Americans (n = 36) and Asian Americans in the study (n = 27). For example, follow-up Tukey tests indicated marginal significance in perceived public stigma with African Americans presenting with higher perceived public stigma compared to European Americans (p = .068, η^2 = .049). Furthermore, follow-up Tukey tests also indicated marginal significance in perceived public stigma with Asian Americans presenting with significantly lower perceived public stigma compared to Hispanic Americans (p = .06, η^2 =

.049). Thus, Asian Americans in this sample may be less likely to perceive that the general public stigmatizes treatment compared to Hispanic Americans. Future analyses should explore the role of other cultural values such as individualism and collectivism in relation to mental health stigma. Specifically, Asian Americans in this sample identified less with their heritage culture compared to Hispanic Americans. Thus, it is possible that because Asian Americans in this sample identified less with their heritage culture, and were therefore, less likely to believe that the public stigmatizes mental health treatment. Exploratory analyses did not indicate any significance in heritage acculturation among Asian Americans however, sample sizes of Asian Americans in this study may have been too small to detect any significant differences.

Furthermore, results indicated marginal significance in the overall model for self-stigma (p = .08, $ŋ^2$ = .02). These findings may be consistent with previous research, which revealed racial differences in self-stigma. For example, Cheng and colleagues (2013) found that Asian Americans presented with significantly higher self-stigma compared to African Americans and Latino Americans. In other words, Asian Americans were more likely to associate a reduction in self-esteem with mental health treatment. Self-stigma can be further explained as a reduction in self-esteem or self-worth for seeking mental health services (Vogel et al., 2006).

Although these results did not reach statistical significance, there may suggest a trend that racial and ethnic minority groups endorse higher self-stigma stigma toward mental health treatment compared to European Americans. A larger sample of individuals identifying with each racial/ethnic minority group will allow for more power to detect differences.

Hypothesis 2

Next, Hypothesis 2 examined mainstream and heritage acculturation in relation to stigma in order to explain potential differences between racial/ethnic groups using a 3-step hierarchical regression model. In this model, race was used as an independent variable with European American as the reference group. Helms and colleagues (2005) discussed criticisms about using race as an independent variable. In particular, the authors explained how many studies do not take into consideration the unique interpretations required for using race as an independent variable, and that using race has the tendency to imply a between group comparison (Helms et al., 2005). Furthermore, using race as an independent variable risks making overgeneralizations about groups and reinforcing stereotypes (Helms et al.). However, this study was able to address such criticisms by using acculturation to provide explanations for potential groups differences. Therefore, this study was able to minimize the risk of misinterpretation, generalizations, and stereotypes of using race as the sole independent variable by assessing acculturation.

The second hypothesis was also partially supported as acculturation significantly predicted perceived public and personal stigma, but not self-stigma or social network stigma. Specifically, race and heritage acculturation significantly predicted perceived public stigma, but mainstream acculturation did not. Interestingly, African Americans and Hispanic Americans had higher levels of perceived public stigma compared to European Americans in Step 1 and Step 2. Since both race and heritage acculturation were statistically significant in Step 2, heritage acculturation did not fully explain racial/ethnic differences in perceived public stigma. Low heritage acculturation predicted high perceived public stigma. Thus, African Americans and Hispanic Americans identified less with their heritage culture. Furthermore, Hispanic Americans and African Americans still presented with higher perceived public stigma compared to

European Americans. Asian Americans did not significantly differ from European Americans in perceived public stigma in any of the steps.

These results build upon other findings that suggest the importance of cultural factors on mental health within the Hispanic community. For example, Abdullah and Brown (2011) discussed collectivism as an important cultural factor in relation to stigma among the Hispanic community. Specifically, the authors discussed that many traditional Western practices focus on treating an individual without the integration of family and community which can interfere with Hispanic cultural beliefs (Abdullah & Brown, 2011). Connecting those findings with the current study suggests some level of importance of a community or public relationship for Hispanics Americans. To some degree, Hispanics may hold the opinions of others at very high importance when considering mental health treatment. The concept of the questionnaire behind perceived public stigma leaves the interpretation of “most people” up to the participant (Eisenberg et al., 2009). It is possible that Hispanic individuals would perceive most people as individuals within their community or individuals from their cultural background given the importance of collectivism within their culture.

In summary, Hispanic Americans and African Americans perceived that the general public thinks more negatively of mental health services compared to European Americans. Additionally, individuals who identified less with their heritage culture were more likely to think that the general public stigmatizes mental health services. These findings contradict with previous research, which has demonstrated a relationship between enculturation and perceived public stigma (Sun et al., 2016). Specifically, racial and ethnic minorities who identified more with their heritage culture presented with higher perceived public stigma (Sun et al.). In contrast,

results from this study indicated that Hispanic Americans and African Americans identified less with their heritage culture compared to European Americans. Furthermore, Hispanic Americans and African Americans still presented with significantly higher perceived public stigma compared to European Americans. For example, Schwartz and Zamboanga (2008) discussed Berry's model of acculturation, and the ways in which marginalized individuals may be at risk for acculturative stress. Marginalized individuals are rejected by both the mainstream and heritage culture, and are more likely to experience acculturative stress which may result in poorer mental health outcomes.

There were no significant racial/ethnic differences in self-stigma across groups. In other words, the threat to self esteem and attitudes or willingness to seek mental health treatment was not significantly different between racial/ethnic minorities and European Americans (Vogel et al., 2006). Heritage acculturation and mainstream acculturation also did not play an important role in self-stigma. In other words, the tendency to think negatively of one's self or willingness to seek treatment is not explained by level of identification with a mainstream or heritage culture (Vogel et al., 2006). These findings do not support the initial hypothesis and contradict with previous findings about racial/ethnic differences in self-stigma. For example, Cheng and colleagues (2013) discovered that Asian Americans presented with higher self-stigma compared to African Americans and Latino Americans. However, this study did not find any differences in self-stigma.

In personal stigma, there were no significant differences across racial groups. However, heritage acculturation and mainstream acculturation significantly predicted personal stigma. Individuals with lower heritage acculturation and lower mainstream acculturation presented with

significantly higher personal stigma. These findings indicate that despite no racial differences, there may be cultural differences in personal stigma. In other words, personal views toward mental health treatment may be associated with the way one identifies with their heritage group and the mainstream culture. These results do not support the initial hypothesis, however, they do build upon other studies that emphasize the importance of acculturation in relation to stigma. For example, Zhang and Dixon (2003) discovered that Asian Americans who were more acculturated with the mainstream culture displayed more positive attitudes toward mental health treatment. This study's findings are similar considering personal stigma is an assessment of personal attitudes toward treatment. Personal stigma assesses attitudes toward mental health treatment among individuals therefore, higher personal stigma would indicate more negative attitudes toward treatment. In this study, individuals who identified less with the mainstream culture presented with significantly higher personal stigma, which can indicate more negative attitudes toward treatment. In contrast, higher mainstream acculturation was associated with less personal stigma, and more positive attitudes toward treatment. The inability to identify with both the mainstream and heritage culture has been previously conceptualized as marginalization. Previous research has identified marginalization as a risk factor for acculturative stress which may also contribute to poorer mental health outcomes (Schwartz and Zamboanga, 2008). In summary, while there were no significant racial differences in personal stigma, acculturation was an important cultural factor predicting personal stigma.

Finally, racial ethnic minority groups did not significantly differ in social network stigma. Social network stigma assesses the way an individual may think others in their direct social network would react if they sought psychological treatment (Vogel et al., 2009). African

Americans, Hispanic Americans, and Asian Americans did not significantly differ from European Americans in social network stigma. Furthermore, heritage acculturation and mainstream acculturation did not predict network stigma. Although these findings do not support the initial hypothesis, other analyses in this study build upon previous research on the relationship between social network stigma and self-stigma. For example, correlational results from this study indicated a significant negative correlation between social network stigma and self-stigma. Previous research by Cheng and colleagues (2013) found that among Asian Americans, self-stigma was predictive of social network stigma. In other words, individuals who were more likely to stigmatize themselves for seeking treatment were more likely to think others in their direct social group would stigmatize them for seeking treatment. In summary, while analyses did not demonstrate racial/ethnic differences in social network stigma and acculturation, other findings suggest a relationship between social network stigma and self-stigma that should be further examined in future studies.

Hypothesis 3

Hypothesis 3 was analyzed using a logistic regression in order to predict self-reported mental health service utilization based on race, acculturation, and types of stigma. Each type of stigma, heritage acculturation, and mainstream acculturation were kept constant in order to assess service utilization among racial/ethnic minority groups compared to whites. Self-stigma, personal stigma, social network stigma, mainstream acculturation, and identifying as Asian American were all predictive of service utilization. Specifically, results demonstrated that low personal stigma, low self-stigma, high social network stigma, low mainstream acculturation, and identifying as Asian as predictive of service utilization. In other words, individuals who were

less likely to think negatively of oneself for seeking treatment, and less likely to think negatively of others for seeking treatment were more likely to utilize services. Furthermore, odds ratio values indicated a significant negative relationship between mental health service utilization and self-stigma as well as personal stigma. Indivduals who were less likely to stigmatize themselves and stigmatize others for seeking treatment were more likely to utilize mental health services. In contrast, presenting with high social network stigma also significantly predicted service utilization. More specifically, individuals who had a tendency to think that others in their direct social group would think negatively of them for seeking treatment were more likely to utilize services. Though these findings may seem counterintuitive, they do allude to important points to consider. Individuals without strong and supportive social networks may present with poorer mental health outcomes, and therefore may be more likely to seek treatment. Perceived public stigma did not significantly predict service utilization.

Furthermore, mainstream acculturation significantly predicted service utilization, but heritage acculturation did not. There was a negative relationship between mainstream acculturation and service utilization indicating that individuals who identified less with the mainstream culture were less likely to utilize services. Burnett-Zeigler, Lee, and Bohnert (2018) demonstrated similar findings, and indicated that Hispanic individuals with stronger mainstream acculturation were more likely to utilize services. Similarly, less acculturated Asian Americans were more likely to underutilize mental health services (Zhang & Dixon, 2003). Interestingly, odds ratio values indicated a negative relationship between service utilization and mainstream acculturation. Those who identified less with their mainstream mainstream culture, were less likely to utilize mental health services. Results from this study and comparisons to previous

research indicate an important relationship between mainstream acculturation and utilization of mental health services.

Identifying as Asian American significantly predicted service utilization, but identifying as African American and Hispanic American did not. Consistent with previous research, Asian Americans were less likely to utilize services compared to European Americans. For example, previous research by Wu and colleagues (2017) demonstrated that Asian Americans were less likely to seek mental health services compared to European Americans. Odds ratio values also indicated a negative relationship between race and service utilization. This provides even stronger evidence that identifying as Asian American decreased the likelihood to utilize mental health services. However, these findings still contradict with previous research that demonstrated that racial and ethnic minorities are less likely to utilize mental health services compared to Whites since only Asian Americans significantly differed from European Americans in this sample. (U.S. Department of Health and Human Services, 2001). The results from this study, however, build upon previous research by assessing service utilization beyond race, and analyze results using heritage and mainstream acculturation and different types of stigma.

Clinical Implications

Findings from this study can be useful in outreach, assessment, and treatment of culturally diverse populations. First, the findings from this study can help promote outreach to culturally diverse populations who may be at risk for underutilizing services. For example, findings from this study confirmed that low mainstream acculturation was associated with low mental health service utilization. Furthermore, findings also identified low mainstream acculturation and low heritage acculturation as risk factors contributing to high personal stigma.

Last, the study also identified self-stigma, personal stigma, social network stigma, mainstream acculturation and heritage acculturation as predictive of service utilization. This information can be useful for outreach to culturally diverse populations, especially students on college campuses. Specifically, mental health services such as counseling centers can use these findings to promote outreach and education to students in order to reduce stigma as well as encourage service utilization.

Second, the findings from this study can help mental health professionals use a more culturally sensitive approach when working with racially and culturally diverse clients. Specifically, these findings can provide insight for mental health professionals on the ways in which stigma and acculturation may serve as risk and protective factors to seeking treatment (Burnett-Zeigler, Lee, & Bohnert, 2018; Zhang & Dixon, 2003). For example, low personal stigma and low self-stigma were protective factors of service utilization, so mental health professionals may benefit from assessing levels of stigma during early encounters, especially when working with culturally diverse clients. Furthermore, understanding the effects of mainstream and heritage acculturation can also help professionals better understand factors that may deter individuals from seeking professional help. For example, low heritage acculturation was positively associated with perceived public stigma, and demonstrated racial differences among Hispanic Americans and African Americans compared to European Americans. When working with patients from these racial/ethnic backgrounds, mental health professionals can use prior knowledge to ask appropriate questions assessing levels of stigma and acculturation. Overall, mental health professionals can use these findings to ask questions relative to a clients' levels of acculturation during early assessment, and assess whether identification with a

mainstream or heritage culture may contribute to stigma towards treatment. For example, a counselor could ask a client about their own beliefs about mental health, and if these beliefs are similar or different to traditional beliefs about mental health in their heritage culture. Starting conversations about these types of topics may reveal other areas of concern such as marginalization or acculturative stress that may not have been addressed otherwise.

Limitations and Future Directions

One limitation of this study was the inability to assess between group differences in stigma and acculturation. Specifically, since European American was used as the reference group, this study only examined differences between racial/ethnic groups in comparison to European Americans. Future research needs to focus on testing and understanding similarities and differences for stigma and acculturation for all groups.

A second limitation of this study was the small number of racial/ethnic minority participants, and Asian Americans and African Americans, in particular. The university where the students were recruited is a predominantly White institution. Specifically, the low number of racial/ethnic minorities groups may not have provided enough statistical power to detect differences. In addition, the study also did not recruit enough Native American and multiracial individuals and was unable to report specific findings for these two groups. Future studies that include multiple racial groups would advance our understanding of racial similarities and differences in stigma and acculturation. For example, Eisenberg and colleagues (2009) examined perceived public stigma and personal stigma among college students and included multiple categories and others in their sample. Results demonstrated significantly different levels of perceived public stigma for Multiple categories group and significantly different personal stigma

for the Other group. Based on the current data that detected racial differences between African Americans and Hispanic Americans in perceived public stigma it is possible that similar differences could also be found among multiracial and other groups. Follow up analyses should include groups of other racial categories to gain a better understanding of the role of stigma as well as acculturation among these groups.

Conclusion

Overall, the main findings from this study suggest that racial groups differ in the presentation of perceived public stigma. Specifically, Hispanic Americans were most likely to think that the general public thinks negatively of mental health services. Furthermore, results from this study identified heritage acculturation as a significant predictor for perceived public stigma. Both mainstream acculturation and heritage acculturation were also identified as important cultural factors predicting personal stigma. Finally, this study identified personal stigma, self-stigma, mainstream acculturation and identifying as Asian American as risk factors for the underutilization of mental health services, and social network stigma as a protective factor for the underutilization of services.

The current study uniquely contributes to the existing literature as it examined four types of stigma, acculturation, and service utilization among racially/ethnically diverse college students. Previous research has used similar approaches, examining one or more of the types of stigma but never all four in one study. Furthermore, other studies have focused mainly on one or two racial groups when assessing stigma and acculturation while the aim of this study was to compare African Americans, Hispanic Americans, and Asian Americans to European

Americans. Finally, this study examined acculturation as an important cultural factor in efforts to explain differences beyond race and ethnicity.

In conclusion, the findings from this study suggest that heritage acculturation and mainstream acculturation are important factors risk factors to consider when analyzing stigma and the underutilization of mental health service utilization. Future studies should build upon these findings, and examine other cultural factors that may be relevant to the service use and stigma, such as individualism and collectivism, family conflict and support, and beliefs related to specific disorders.

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Table 1

Descriptive Statistics and Correlations

	M (SD)	**1**	**2**	**3**	**4**	**5**	**6**
1. Perceived Public Stigma	27.34 (10.10)	1	.207*	.170*	.342*	-.074	-.146
2. Personal Stigma	1.94 (2.39)		1	.392*	.240*	-.154*	-.300*
3. Self-Stigma	24.27 (6.97)			1	.316*	-.048	-.127*
4. Social Network Stigma	9.74 (4.97)				1	-.085	-.124*
5. Heritage Acculturation	70.48 (15.27)					1	.381*
6.Mainstream Acculturation	74.16 (13.35)						1

Note: *$p < .05$

Table 2

Stigma Means and Standard Deviations across Racial Groups

	Perceived Public Stigma, *M (SD)*	Personal Stigma, *M(SD)*	Self-Stigma, *M (SD)*	Social Network Stigma, *M(SD)*
African American	30.5 (9.34)	1.94 (2.07)	28.3 (6.24)	9.94 (5.23)
European American	25.99 (10.44)	1.68 (1.95)	23.9 (7.03)	9.73 (5.07)
Hispanic American	31.92 (8.4)	1.72 (1.89)	23.2 (5.54)	9.25 (4.09)
Asian American	25.53 (9.4)	2.34 (2.36)	26.03 (6.66)	9.23 (3.72)

Table 3

Race and Acculturation as Predictors of Perceived Public Stigma

Variable	B	SE	Beta	*t*	*p*
Step 1					
(Constant)	26.03	.68		38.24	<.001
African American	4.08	1.82	.12	2.26	.02*
Hispanic American	5.89	1.70	.19	3.46	.001*
Asian American	-.22	2.04	-.00	-.107	.92
R^2=.04, F=5.21, df=3, p=.002*					
Step 2					
(Constant)	32.19	2.61		12.30	<.001
African American	4.76	1.83	.15	2.61	.01*
Hispanic American	6.84	1.73	.22	3.95	<.001*
Asian American	-.18	2.02	-.00	-.09	.93
Heritage Acculturation	-.09	.04	-.14	-2.43	.01*
ΔR2 = .018 F=5.45, df=4, p=.01*					
Step 3					
(Constant)	33.98	3.6		9.43	<.001
African American	4.35	1.91	.13	2.27	.02*
Hispanic American	6.47	1.81	.21	3.57	<.001
Asian American	-.45	2.06	-.01	-.22	.82
Heritage Acculturation	-.07	.04	-.11	-`1.74	.08
Mainstream Acculturation	-.04	.05	-.05	-.72	.47
R^2=.002, F=4.46, df=5, p=.47					

Note: *$p < .05$

Table 4

Race and Acculturation as Predictors of Self-Stigma

Variable	B	SE	Beta	*t*	*p*
Step 1					
(Constant)	23.97	.46		51.69	<.001
African American	2.17	1.24	.10	1.75	.08
Hispanic American	-.57	1.16	-03	-.49	.62
Asian American	-2.3	1.63	-.11	-1.41	.16
R^2=.017, F=1.76, df=3, p=.15					
Step 2					
(Constant)	26.45	1.79		14.75	<.001
African American	2.47	1.26	.11	1.96	.05
Hispanic American	-.20	1.18	-.01	-.17	.86
Asian American	1.92	1.37	.08	1.40	.16
Heritage Acculturation	-.03	.02	-.08	-1.43	.15
ΔR2=.006,,F=1.84, df=4, p=.15					
Step 3					
(Constant)	28.79	2.48		11.60	<.001
African American	1.95	1.31	.09	1.48	.14
Hispanic American	-.72	1.24	-.03	-.58	.56
Asian American	1.57	1.39	.06	1.12	.26
Heritage Acculturation	-.02	.03	-.04	-.58	.56
Mainstream Acculturation	-.05	.03	-.09	-1.36	.17
ΔR2=.006, F=1.84, df=5, p=.17					

Note: *$p < .05$

Table 5

Race and Acculturation as Predictors of Personal Stigma

Variable	B	SE	Beta	*t*	*p*
<u>Step 1</u>					
(Constant)	1.82	.15		11.75	<.001
African American	.29	.41	.04	.70	.48
Hispanic American	-.08	.38	-.01	-.21	.83
Hispanic American	.23	.38	.03	.58	.56
Asian American	.63	.46	.08	1.39	.16
R^2=.007, F=.77, df=3, p=.51					
<u>Step 2</u>					
(Constant)	3.84	.59		6.51	<.001
African	.52	.41	.07	1.6	.21
Hispanic American	.23	.39	.03	.58	.56
Asian American	.63	.46	.08	1.39	.16
Heritage Acculturation	-.03	.01	-.20	-3.55	<.001*
ΔR2= .038, F=3.75, df=4, p=<.001*					
<u>Step 3</u>					
(Constant)	1.82	.15		11.75	<.001
African American	-.09	.41	-.01	-.22	-.91
Hispanic American	-.35	.39	-.05	-.89	.37
Asian American	-23	.45	.03	.51	.61
Heritage Acculturation	-.01	.01	-.04	-.72	.47
Mainstream Acculturation	-.5	.01	-.31	-4.95	<.001*
ΔR2= .179, F=8.12, df=5, p=<.001*					

Note: *$p < .05$

Table 6

Race and Acculturation as Predictors of Social Network Stigma

Variable	B	SE	Beta	*t*	*p*
Step 1					
(Constant)	9.77	.33		29.29	<.001
African American	.28	.89	.02	.32	.75
Hispanic American	-.44	.83	-.03	-.53	.59
Asian American	-.54	1.02	-.03	-.53	.59
R^2=.002, F=.23, df=3, p=.87					
Step 2					
(Constant)	11.87	1.29		9.18	<.001
African American	.51	.90	.03	.57	.56
Hispanic American	-.12	.85	-.01	-.14	.88
Asian American	-.55	1.02	-.03	-.54	.59
Heritage Acculturation	-.03	.02	-.09	-1.69	.09
ΔR2=.009, F=.88, df=4, p=.09					
Step 3					
(Constant)	13.73	1.77		7.74	<.001
African American	.09	.94	.00	.09	.92
Hispanic American	-.52	.88	-.03	-.59	.55
Asian American	-.84	1.03	-.05	-.81	.42
Heritage Acculturation	-.01	.02	-.05	-.69	.48
Mainstream Acculturation	-.04	.02	-.10	-1.53	.12
ΔR2=.007, F=.018, df=5, p=.12					

Note: *$p < .05$

Table 7

Stigma, Acculturation, and Race as Predictors of Mental Health Service Utilization

Variable	B	SE	Wald	df	p	Exp(B) (OR)	95% CI for EXP(B) Lower	Upper
Perceived Public Stigma	.02	.01	2.00	1	.16	1.02	.99	1.04
Self-Stigma	-.05	.02	6.56	1	.01*	.95	.91	.99
Personal Stigma	-.16	.06	6.22	1	.01*	.85	.75	.96
Social Network Stigma	.06	.03	4.50	1	.03*	.85	.75	.96
Heritage Acculturation	.01	.01	.53	1	.46	1.01	.99	1.02
Mainstream Acculturation	-.02	.01	3.90	1	.048*	.97	.95	1.00
African American	.47	.41	1.32	1	.25	1.61	.71	3.63
Hispanic American	.68	.40	2.82	1	.09	1.97	.89	4.37
Asian American	-1.42	.52	7.52	1	.006*	4.15	.08	.66
(Constant)	-.63	1.26	.25	1	.62	.53		

Note: *$p < .05$

Figure 1.