REDUCING STIGMA ASSOCIATED WITH MENTAL ILLNESS AND MENTAL HEALTH TREATMENT SERVICES IN RACIAL AND ETHNIC MINORITY COLLEGE STUDENTS

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REducing stigma associated with mental illness and mental health treatment services in racial and ethnic minority college students

Capstone Project Paper

A paper submitted in partial fulfillment of the requirements for the degree of
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Depression and Suicide

Mental health is a determining factor in how individuals function throughout their daily lives, encompassing an individual’s physical, emotional, and social well-being (U.S. Department of Health and Human Services, 2013). Mental illnesses such as depression, hinder daily functioning and lead to a range of negative outcomes. These include increased risk of mortality from suicide, chronic diseases such as heart disease, other conditions/behaviors such as anxiety and substance use disorders, and high economic burden (Centers for Disease Control and Prevention, 2016b). Depression is a major contributor to disability and burden of disease in the U.S., contributing to 3.7% of all U.S. disability-adjusted life years (DALYs) and 8.3% of all U.S. years lived with disability (YLDs) (Murray et al., 2013). Approximately 16.1 million U.S. adults experienced a major depressive episode in 2015 (SAMHSA, 2016).

The prevalence of depression varies among sociodemographic groups in the U.S. (SAMHSA, 2016). For example, women are more likely to experience depression than men, with nearly double the prevalence in 2015 (8.5% vs. 4.7%) (SAMHSA, 2016). Among racial and ethnic groups, the prevalence of depression is highest among those who self-identify as multiracial (12.2%), followed by American Indians/Alaska Natives (8.9%), Whites (7.5%), Native Hawaiians/Other Pacific Islanders (5.2%), Blacks (4.9%), Hispanics (4.8%), and Asians (4.1%) (SAMHSA, 2016). Lastly, the prevalence of depression is highest among adults ages 18-25 (10.3%), followed by those ages 26-49 (7.5%) and those ages 50+ (4.8%) (SAMHSA, 2016).

The risk of mortality from suicide is significantly increased among individuals with depression. According to the CDC, between 1999-2016, suicide rates have increased among all U.S. sociodemographic groups of adults (Centers for Disease Control and Prevention, 2017). In 2016, suicide was the 10th leading cause of death for all ages but the 2nd leading cause of death
among individuals aged 10 to 34 (CDC, 2016b). Additionally, suicide related deaths have resulted in large amounts of economic burden for the U.S., due to medical and work loss costs (Florence, Simon, Haegerich, Luo, & Zhou, 2015).

Despite increasing prevalence of depression and incidence of suicide, the utilization of mental health treatment services by U.S. adults with any mental illness has increased only slightly over the past decade, from 57.9% in 2008 to 59.2% in 2015 (SAMHSA, 2016). Utilization of mental health treatment services varies among U.S. sociodemographic groups (SAMHSA, 2016). For example, 2015 data revealed that among adults with mental illness, more women (47.4%) than men (36.3%) used mental health services (SAMHSA, 2016). The utilization rate was highest among White adults with mental illness (48%), followed by those self-describing as multiracial (46.1%), Hispanic (31.5%), Black (31.4%), and Asian (22.1%) (SAMHSA, 2016). Lastly, adult ages 50+ ages have the highest utilization rate (48.3%), followed by those ages 26-49 (43.3%) and those ages 18-25 (32%) (SAMHSA, 2016).

**Stigma**

Stigma represents negative views and attitudes towards individuals with mental illnesses, leading to perceptions of being singled out, having something wrong with them that no one else possess, and feeling abnormal and socially unacceptable (D.L. Vogel, Wade, & Haake, 2006). Additionally, this conceptualization of stigma associated with mental illness has now expanded to mental health services (Cheng, Kwan, & Sevig, 2013). Stigma has been identified as a key factor associated with underutilization of mental health treatment services (P. Corrigan, 2004). In fact, the U.S. Surgeon General’s report described stigma as the “most formidable obstacle” to improving the public’s mental health (U.S. Department of Health and Human Services, 1999). The stigma associated with mental illness has been conceptualized as a multi-dimensional and
multi-level construct, including public stigma, perceived public stigma, personal stigma, and self-stigma (D.L. Vogel et al., 2006; P. Corrigan, 2004).

Public stigma comprises the general population’s (or society’s) negative perceptions about mental illness, which gives rise to prejudice and discrimination towards individuals with a mental illness (D.L. Vogel et al., 2006). In contrast, perceived public stigma is an individual’s perception or awareness of the public’s negative attitudes, prejudice, and discrimination towards mental illnesses (P. W. Corrigan, Watson, & Barr, 2006). Personal stigma is defined as an individual’s own attitudes towards mental illness, which may or may not align with his or her perceived public stigma (P. W. Corrigan et al., 2006). Self-stigma is an individual’s application of negative attitudes about mental illness toward himself or herself, leading to the belief that he or she is socially unacceptable due to the mental illness (D.L. Vogel et al., 2006). The model of self-stigmatization illustrates this theoretical definition of the multiple dimensions of stigma and the relationships among them (Figure 1) (P. W. Corrigan & Rao, 2012).

This model theorizes multiple steps leading through the dimensions of stigma: first, the individual becomes aware of the negative beliefs held by the public (Awareness/Perceived Public Stigma). Next, he or she, begins to believe in those negative beliefs (Agreement/Personal Stigma). The subsequent application of those beliefs to him- or herself (Application/Self-Stigma) ultimately, results in various types of harm (Harm). This model of self-stigmatization also highlights the “Why-Try Effect,” in which self-stigmatization interferes with the achievable...
of life goals, due to self-doubt and low self-worth (P. W. Corrigan & Rao, 2012). For instance, an individual who perceives the public stigma regarding mental health services may avoid those services to preserve social acceptability.

Reframing stigma in the form of the socioecological model provides a better understanding of how stigma is a multi-dimensional and multi-level construct. The different types of stigma that exist in the outer levels of the model (societal, community, and interpersonal) can have an impact on the intrapersonal level, which may or may not negatively influence the individual's own perceptions. Therefore, the program that we aim to implement must be capable of impacting each level in this model in order to reduce the stigma that is attached to mental illness and mental health treatment services, effectively.

**Target Population: Racial and Ethnic Minority College Students**

The incidences of both depression and suicidal behavior among college students have increased over the past 9 years (ACHA-NCHA, 2008; ACHA-NCHA, 2017). The American College Health Association’s 2008 National College Health Assessment survey (N = 26,685) revealed that 30.6% of college students reported feeling so depressed that it was difficult to function; 10.2% were diagnosed or treated for depression; 6.4% seriously considered suicide; and 1.3% had attempted suicide (ACHA-NCHA, 2008). Only 9 years later, results from the 2017
National College Health Assessment survey (N = 63,497) revealed dramatic increases in each of these statistics, with the exception of suicide attempts which increased only slightly: 39.1% of college students reported feeling so depressed that it was difficult to function; 16.7% were diagnosed or treated for depression; 10.3% seriously considered suicide; and 1.5% had attempted suicide (ACHA-NCHA, 2017).

Despite the availability of mental health treatment services for depression, these services are often underused by college students (Blanco et al., 2008; Zivin, Eisenberg, Gollust, & Golberstein, 2009). Data from the 2010 National Survey of Counseling Center Directors revealed that over 80% of students who died by suicide in the past year had never received on-campus mental health services (Gallagher, Taylor, & Webmaster, 2010). As in the general adult U.S. population, utilization of mental health treatment services by college students varies across sociodemographic groups, including sex (Pedrelli, Borsari, Lipson, Heinze, & Eisenberg, 2016) and race/ethnicity (Downs & Eisenberg, 2012; Eisenberg, Hunt, Speer, & Zivin, 2011; A. Masuda et al., 2009), as well as by institutional characteristics (Lipson, Gaddis, Heinze, Beck, & Eisenberg, 2015). Multiple studies have noted barriers to mental health treatment among college students, including stigma; the perception that treatment is not needed; lack of time; preference for self-management; perception that stress is normal in college/graduate school; financial reasons; and perception of the effectiveness of the treatment (Arria et al., 2011; Beck, Dalal, Despot, & Fogel, 2013; Czyz, Horwitz, Eisenberg, Kramer, & King, 2013; Downs & Eisenberg, 2012).

Compared to White college students, racial and ethnic minority students have lower rates of mental health treatment utilization and more negative attitudes regarding help-seeking for mental health problems (Downs & Eisenberg, 2012; Eisenberg et al., 2011; A. Masuda et al.,
2009; Loya, Reddy, & Hinshaw, 2010), even as they experience comparable rates of depression and suicide (SAMHSA, 2016). Asian college students in particular have been reported to have high levels of stigma towards mental illnesses and mental health treatment services; unsurprisingly, this group also, has the lowest rate of mental health treatment service utilization, compared to other racial and ethnic student groups (Cheng et al., 2013; Eisenberg, Downs, Golberstein, & Zivin, 2009; Eisenberg et al., 2011; Han & Pong, 2015; Akihiko Masuda & Boone, 2011). For instance, the results from one study on mental health service utilization among college students in the U.S. (N=14,175) revealed that for current students with a mental health problem the utilization of therapy or counseling was lowest for Asian college students (2.3%), followed by Hispanic (5.6%) and Black students (6.0%) (Eisenberg et al., 2011).

Furthermore, among students with a diagnosed mental illness, the use of any medication or therapy was lowest among Asian college students (7.1%), followed by Black (11.5%) and Hispanic students (16.7%) (Eisenberg et al., 2011).

Among racial and ethnic minority college students, stigma has been identified as a key factor influencing attitudes towards help-seeking and underutilization of mental health treatment services (Cheng et al., 2013). For instance, racial and ethnic minority college students may be more susceptible to self-stigmatizing themselves when they perceive the public’s stigmatization for seeking out mental health services (Cheng et al., 2013). Particularly relevant to racial and ethnic minority students, perceived discrimination has been shown to be positively associated with perceived public stigma regarding mental illness (Cheng et al., 2013).
Program Approach

Our program will be implemented at three higher education settings: The University of California, San Francisco (UCSF), San Francisco State University (SFSU), and City College of San Francisco (CCSF) (Figure 2). In the academic year of 2016-2017 at UCSF, White college students were the modal sociodemographic group (34.6%), followed by Asian (31.3%), Hispanic (12.1%), Black (4.8%), and multiracial (4.7%) students; fewer than 1% of students were of other racial and ethnic backgrounds (UCSF, 2017). In 2016 at SFSU, Hispanic college students were the modal sociodemographic group (32.9%), followed by Asian (30%), White (24.2%), multiracial (6.8%), and Black students (5.4%); fewer than 1% of students were of other racial and ethnic backgrounds (SFSU, 2016). In the academic year of 2016-2017 at CCSF, Asian college students were the modal sociodemographic group (30.1%), followed by Hispanic (24.9%), White (23.5%), Black (7.7%), Filipino (5.8%), and multiracial students (5.4%); fewer than 3% of students were of other racial and ethnic backgrounds (CCSF, 2017).

UCSF, SFSU, and CCSF were chosen for this program for several reasons. First, Asian American individuals in California have the highest rates of stigma related to mental illness (Collins, Wong, Cerully, & Roth, 2014). Hispanic and Black individuals also report high rates of stigma related to mental illness, compared to White individuals (Collins et al., 2014). Second, racial and ethnic minority college students in California are less likely to utilize mental health treatment services, compared to White students (Sontag-Padilla et al., 2016). Third, the State of
California has designated resources for mental health stigma and discrimination reduction, suicide prevention, and improvement of student mental health (Eberhart et al., 2015), demonstrating commitment to the remediation of this public health problem. Fourth, the National Alliance on Mental Illness (NAMI) in California has 67 affiliates throughout the state (Wong, Collins, Cerulley, Seelam, & Roth, 2017), making partnership with this organization feasible. Finally, results of a recent California Mental Health Services Authority survey (N = 39,262 college students) revealed that 23% of students at CSU, 22% at UC, and 21% at CCC campuses identified a form of stigma as a reason for not seeking out mental health services (Sontag-Padilla et al., 2013).

Our program’s target population include 4500 college students from UCSF, SFSU, and CCSF over a 3-year period. We aim to recruit 250 college students at each institution for each of six semesters, for a total of 1500 students per institution during the 3-year implementation period. Our research team will utilize different methods for recruiting college student participants including sending out school-wide emails to the entire college student population and distributing flyers throughout each institution that include information about who we are and the time/dates of each program session. Our program’s primary objective is to reduce the stigma associated with mental illness. We plan to implement the National Alliance on Mental Illness (NAMI) evidenced-based, stigma reduction program: In Our Own Voice (IOOV) (Patrick Corrigan & Gelb, 2006). The In Our Own Voice program is supported by multiple studies demonstrating its effectiveness to reduce stigma related to mental illness and mental health treatment (Wong et al., 2016; Brennan & McGrew, 2013; P. W. Corrigan et al., 2010; Pittman, Coleman, & Noh, 2010; Rusch, Kanter, Angelone, & Ridley, 2008; Wood & Wahl, 2006).
Initially, our research team aimed to only recruit racial and ethnic minority college students to participate in our program. However, based on the ethical principle of distributive justices, doing so could have resulted in different types of harms (Kass, 2001). In this scenario, our intervention could have resulted in social harms towards the racial and ethnic minority college students because it would have only targeted them. Social harms result if social stereotypes are created or perpetuated (Kass, 2001). For example, the stereotype that only racial and ethnic minority college students are vulnerable to stigma/mental illness. Additionally, by not including white college students in the program it could have caused them to not believe they are at risk for stigma/mental illness because they were never targeted by the IOOV program. Therefore, our research team will be including white college students to receive the IOOV intervention.

The In Our Own Voice program has primarily been implemented throughout university/college settings with undergraduate and graduate students (P. W. Corrigan et al., 2010; Pittman et al., 2010; Rusch et al., 2008; Wood & Wahl, 2006). The program has also been implemented in 18 counties throughout California, targeting the community at large (Wong et al., 2016). Prior studies of the IOOV program have used a randomized controlled trial design (Pittman, Coleman, & Noh, 2010; Rusch, Kanter, Angelone, & Ridley, 2008; Wood & Wahl, 2006). Across studies, the IOOV program has resulted in significantly improved outcomes including: attitudes, knowledge, social distance, stigma, and perception and recollection of individuals with a mental illness (Wong et al., 2016; Brennan & McGrew, 2013; P. W. Corrigan et al., 2010; Pittman, Coleman, & Noh, 2010; Rusch, Kanter, Angelone, & Ridley, 2008; Wood & Wahl, 2006). Lastly, the IOOV program has been documented to be effective in racial and
ethnic minority participants, particularly adult, Asian Americans and Latinos (Wong et al., 2016).

**I-O-O-V** is a 60 to 90-minute intervention developed by NAMI that incorporates in-person psychoeducation and interactive discussion to reduce stigma associated with mental illness and mental health treatment services (Wong et al., 2016). The program includes two trained presenters who describe their personal experiences with mental illness and how they reached recovery (Wong et al., 2016). However, for our program we will be utilizing three presenters, who racial and ethnic backgrounds are similar to those of our racial and ethnic minority college student participants. These personal testimonies are organized in six segments, including an **Introduction** followed by five stages of recovery: Dark Days; Acceptance; Treatment; Coping Skills; and Successes, Hopes, and Dreams (Wong et al., 2016). In the **Introduction**, the presenters introduce themselves to the participants without mentioning their mental illness (Wong et al., 2016). The presenters then describe NAMI and provide an overview of the structure of the rest of the session (Wong et al., 2016). At the beginning of each of the five recovery stage segments, a video is displayed to the participants, including individuals from diverse backgrounds telling their stories related to that recovery stage (Wong et al., 2016). Following the segments addressing the stages of recovery, the presenters describe their own experiences (Wong et al., 2016). At the end of each segment the presenters and participants engage in an open discussion (Wong et al., 2016).

The **Dark Days** segment entails the presenters describing their experience when they were diagnosed with a mental illness (Wong et al., 2016). In the **Acceptance** segment, the presenters describe how they began to accept their mental illness and discuss about topics such as family, friends, support, and stigma (Wong et al., 2016). The **Treatment** segment involves the
presenters discussing the various types of treatments that are offered to treat and maintain their mental health (Wong et al., 2016). In the *Coping Skills* segment, the presenters discuss the various types of strategies they used to help their recovery (Wong et al., 2016). The *Successes, Hopes, and Dreams* segment entails the presenters describing their experiences following recovery and their plans and hopes for the future, emphasizing that recovery is achievable (Wong et al., 2016). Fidelity to the *In Our Own Voice* program is usually assessed by administering an evaluation to the participants after the presentation is completed to ensure that all segments are delivered as intended by the program developers (P. W. Corrigan et al., 2010; NAMI, 2017).

**Sustainability and Dissemination of Program Results**

The sustainability goal for our program is that the institutions and student organizations that are a part of our program will adopt, utilize, and promote NAMI’s stigma reduction program *In Our Own Voice*, after our study has been completed. There are various strategies that our research team will implement to positively influence the sustainability process including: establishing clear communication and forming positive working relationships with each institution and student organizations by recruiting them as CAB members in the design and implementation process of our program at the beginning of the study, showing each institution and student organization the benefits from the program if it is implemented successfully and positively impacts the college student participants, incentivizing the IOOV program to each institution and student organizations, due to it being free to utilize, and recruiting university professors to become champions for our program (Saunders, 2015).

The results from our program will be disseminated through four avenues including: In-person dissemination, online distribution, press releases, and peer-reviewed journal article. Our research team determined that these types of avenues for dissemination were the most optimal
for our program, due to the various types of benefits they offer. First, our research team will utilize in-person dissemination with our CAB and the student organizations. Utilizing in-person dissemination will be beneficial because it promotes two-way communication between the presenters and audience, which provides the opportunity to receive feedback (Services Bureau, 2014). Secondly, we will disseminate the result through online distribution, which will be accomplished through the social media accounts of the student organizations that are a part of our community advisory board, each institution that is a part of our program, the San Francisco Department of Public health and Mental Health Association of San Francisco, and through the social media accounts of NAMI’s 62 affiliates across the State of California. Additionally, we will reach out to other institutions that were not associated with the program to disseminate the results throughout their own social media accounts/emails. Utilizing social media as a form of dissemination will be beneficial because it is free, offers immediate publication, has a broad reach, can be shared easily, and it appeals to the youth audience (Services Bureau, 2014).

Thirdly, our research team will disseminate the results through press releases with each institution, in order to reveal how beneficial the IOOV program is for the college student population. Utilizing press releases as a form of dissemination will be beneficial because the evidence can be widely distributed, which will allow us to reach a broad audience and we will be able to retain control of the message (Services Bureau, 2014). Additionally, our research team will send our press releases to faculty from other institutions, who are not part of our program, to disseminate information regarding the benefits of the IOOV program, so they can share that information within their own institution. Fourthly, and last, we will disseminate the results through a peer-reviewed journal article. Utilizing a peer-reviewed journal article as a form of
dissemination will be beneficial because it will provide further evidence that NAMI’s program In Our Own Voice is scientifically credible (Services Bureau, 2014).

**Capacity and Experience of the Applicant Organization**

The National Alliance on Mental Illness (NAMI) in California was founded in 1977 by 9 parents from Northern California who aimed to form an organization that would inform the country about mental illness and improve the lives of those negatively impacted by mental illness (NAMICA, 2018a). Since the organization’s founding, it has managed to spread and impact the state of California through 62 affiliates established across the state (NAMICA, 2018a). The mission of NAMI California is to provide leadership in the processes of advocacy, policy, legislation, education and support throughout the state of California (NAMICA, 2018a). The vision of NAMI California is to provide help, hope, and health for individuals who have been negatively impacted by mental illnesses (NAMICA, 2018a). The purpose of NAMI California is to support local organizations, which is accomplished by providing support and updated information on mental illnesses (NAMICA, 2018a). Furthermore, the organization educates the community about mental illnesses in order to reduce stigma and advocates for research on the causes of mental illnesses and new treatments for mental illnesses (NAMICA, 2018a).

NAMI California has demonstrated its capability of acquiring and maintaining financial resources. For instance, in 2016, the revenue and support that NAMI California received was $1,591,932. The organization has successfully engaged with local, regional and statewide leaders through its Multicultural Symposium, which aims to discuss the issues that communities in California are faced with in order to determine the most effective way for the organization to combat the mental health problems in California (NAMICA, 2018b). Additionally, NAMI California has experience in developing strategic plans to help guide the organization in
implementing the various programs and services it offers to the diverse communities throughout the state of California (NAMICA, 2016).

Currently, the organization has a total of 11 programs and services that its 62 affiliates offer to communities throughout the state of California (NAMICA, 2017). For instance, the California Mental Health Services Authority (CalMHSA) acquired funding through the state of California to develop a prevention and early interventions initiative in order to improve suicide prevention, address student mental health, and reduce stigma and discrimination associated with mental illness (Clark et al., 2013). CalMHSA’s utilized three NAMI programs for its initiative including IOOV and implemented them throughout communities in California as part of their Stigma and Discrimination Reduction Program (Clark et al., 2013). Evaluation was included in this initiative, and the IOOV program demonstrated short-term, positive results (Brennan & McGrew, 2013). The experience and prior success of NAMI California in partnering to implement and evaluate IOOV illustrates the capacity of our organization to complete the proposed project.

**Partnerships and Collaborations**

As the settings and partnering institutions for the proposed project, UCSF, SFSU, and CCSF have existing resources such as counselors, student organizations, gyms, and the arts that benefit students’ mental, emotional, physical, and social health. The members of the community advisory board (CAB) for our project will include leaders from student organizations within each institution. The organizations from UCSF will include: the Asian Pacific American Medical Student Association (UCSF Chapter), Chicano Latino Campus Association at UCSF (CLCA), Black Student Health Alliance at UCSF (BSHA), and Students for a Healthy UCSF (Students4HealthyUCSF) (UCSF, 2014). The organizations from SFSU will include: Black
Student Union, Hermanas Unidas, Japanese Student Association, and Counseling Student Association (SFSU, 2018b). The organizations from CCSF will include: African American Scholastic Programs (AASP), Asian Pacific American Student Success Program (APASS), Latino Services Network (LSN), and the Inter Club Council (ICC) (CCSF, 2016). Other members of the CAB will include: Mental Health Provider #1, a mental health provider at UCSF’s Student Health & Counseling; Mental Health Provider #2, a counselor at SFSU’s Counseling and Psychological Services; and Mental Health Provider #3, a psychotherapist at CCSF’s Student Health Services. Additionally, our research team will recruit university professors at each institution to become members of the CAB.

The student organizations from each institution were identified as sources for CAB members because they have a presence within the college communities at UCSF, SFSU, and CCSF and are dedicated to improving the lifestyle and health of their community members. For instance, the Asian Pacific American Medical Student Association at UCSF has a mental health initiative to improve the Asian community’s mental health, through addressing mental illnesses and combating the barriers associated with mental illness such as stigma (Asian Pacific American Medical Student Association, 2017). The president of each student organization will serve on the CAB, and they will provide our team with valuable information on how to effectively connect with and recruit individuals from our target population of college students at each institution. Our research team will coordinate with each student organization leader regarding when we can attend their organizational meetings, present our program, and hand out flyers to recruit participants.

The three mental health providers were chosen to be members of the CAB because they work as mental health providers at each institution and their professional areas of interests will
prove beneficial for our program. For instance, Mental Health Provider #1 specializes in Asian American mental health; Mental Health Provider #2 has a special interest in the Hispanic population; and Mental Health Provider #3 specializes in depression and multicultural issues (CCSF, 2018; Psychology Today, 2018; SFSU, 2018a; UCSF, 2015). As mental health professionals, they will play a role in coordinating with our research team to help plan and implement IOOV at each institution. Furthermore, university professors at each institution were chosen to be members of the CAB because they will be champions for our program to help sustain the IOOV program, after our project has ended. Champions are enthusiastic individuals who can persistently promote the innovation and recruit other individual to support the innovation as well (Howell, Shea, & Higgins, 2005). University professors will be adequate champions, due to them having consistent communication with students during the school year, which provides them the opportunity to persistently promote the program to the students. Additionally, they can involve other professors in promoting the program to their own students.

Our first project activity will be to convene the CAB and review the program plan. At the first meeting we will introduce the public health issue we are combating, the detrimental effects that the public health issue has on the target population, why we chose the stakeholders and how their influence will benefit the cause, and the program plan we hope to implement. Afterwards, we will engage the stakeholders in a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis with the goal of identifying unforeseen challenges and possible solutions to improve the program, prior to implementation. The research team and CAB members will meet quarterly throughout the project period. The day prior to each meeting we will email written reports to the key stakeholders, addressing the program’s progress. Written reports and notes from previous meetings will be available at all meetings.
In the event that there are stakeholders whom are unable to meet on a designated meeting day, our research team will provide two options to overcome this challenge: First, key stakeholders will have the option to be present at all the meetings through their computers via the internet-based group chat, Zoom. Second, with approval from all the key stakeholders, our research team will record all the meetings and make recordings available to the key stakeholders who are unable to attend.

**Performance Measures and Evaluation**

**Study Design**

Our primary outcome is the reduction of stigma associated with mental illness and mental health treatment services in the racial and ethnic minority student population at UCSF, SFSU, and CCSF. The short-term effect of *IOOV* on several domains of stigma will be evaluated using a wait-list control randomized controlled trial design with pre- and post-intervention measures (Figure 3). The intermediate outcome we aim to achieve is an increase in mental health services utilization at UCSF, SFSU, and CCSF campuses (Figure 5). The long-term outcome we aim to achieve is a decrease in depression at UCSF, SFSU, and CCSF campuses (Figure 5).

*Figure 3*
Short-term outcome | Short-term outcome evaluation
---|---
Reduce stigma in the racial and ethnic minority student population at UCSF, SFSU, and CCSF | Survey will be administered in paper and pen format to participants before the session and two weeks after the session

Intermediate outcome | Intermediate outcome evaluation
---|---
Increase in UCSF, SFSU, and CCSF students utilizing mental health services | The Student Health & Counseling services at UCSF, SFSU, and CCSF will acquire the utilization rates of mental health services at the beginning of the 1st and end of the 3rd year.

Long-term outcome | Long-term outcome evaluation
---|---
Decrease depression in the racial and ethnic minority college student population at UCSF, SFSU, and CCSF | Depression rates will be evaluated through the online questionnaire that is administered to all UCSF, SFSU, and CCSF students
The wait-list control randomized controlled trial design was chosen for our program because we want to assess its effect on stigma among the racial and ethnic minority college student population. The treatment group will be provided the IOOV program and the control group will be placed on a waitlist. The benefit of using this type of study is that it will be randomized and includes a pre- and post-test design, which provides our research team the ability to compare stigma differences in both groups and reveals how effective the program is in reducing stigma. Additionally, utilizing a waitlist control group design provides an ethical advantage to our program because all the participants will be able to receive the program.

When participants arrive at the study location, they will first complete informed consent and the pretest survey. Our research team will administer the pretest survey through a paper and pen format. The first page of the survey will comprise an informed consent preamble, which informs the participants that the email address they provide will not be shared outside the study; that the answers they provide to the survey questions will be protected; and that at any time during the presentation they are free to leave, if they so choose. Once the participants have read and signed the informed consent information they will be able to complete the pretest survey. Our biostatistician will randomize two types of color paper (blue and green) into envelopes, and when the participants complete the pretest survey, they will be given an envelope. The color of the paper will determine whether they participate in the IOOV session or be placed on the waitlist control condition. Those who are assigned to IOOV will stay for the session, while those assigned to the waitlist control condition will return in one month to receive the intervention. Fidelity of the of the IOOV program will be assessed by having two trained raters sit in on each session and complete the existing evaluation form developed by the program developers (P. W. Corrigan et al., 2010; NAMI, 2017)
Two weeks after the IOOV program, the posttest survey will be emailed to each participating student and the participants in the wait-list control group. The measures on the survey will include: Demographic characteristics; Beck Depression Inventory-II (BDI-II); three items assessing prior mental health service utilization; and established measures of perceived public stigma, personal stigma, self-stigma, and perceived discrimination. The demographic characteristics that will be collected will include: Age, sex, gender, race, ethnicity, status as an international student, and year in school. The questions that will be administered to collect the demographic characteristics of the participants will be adopted from the current version of the American College Health Association National College Health Assessment paper survey (ACHA-NCHA, 2015). The Beck Depression Inventory-II (BDI-II) is a self-report rating inventory consisting of 21-items that measure the attitudes and symptoms of depression, with each item rated from 0-3 (Steer, Ball, Ranieri, & Beck, 1997). Higher scores indicate higher levels of depressive symptoms. The BDI-II has strong construct validity, as well as good internal consistency (Coefficient alpha= .92 for psychiatric populations) (Steer et al., 1997).

To assess mental health treatment utilization, we will administer questions adopted from the current version of the American College Health Association National College Health Assessment survey (ACHA-NCHA, 2015). The instrument that will be used to collect data on perceived public stigma among racial and ethnic minority college students will be an adapted version of The Perceptions of Stigmatization by Other for Seeking Help scale, which has been utilized in a past study that focused on the stigma of seeking psychological help in the racial and ethnic minority college student population (Cheng et al., 2013). In this version of the instrument, participants are instructed to imagine they had a personal difficulty that they could not solve on their own, then report the degree to which their family, friends, and professors/academic
departments would respond if they sought counseling services for this issue. The five items include: 1. React Negatively to you, 2. Think bad things of you, 3. See you as seriously disturbed, 4. Think of you in a less favorable way, and 5. Think you posed a risk to others, and each is rated on a 5-point scale (1=Not at all, 2=A little, 3=Some, 4= A lot, and 5=A great deal) (Cheng et al., 2013; David L Vogel, Wade, & Ascheman, 2009). The original scale provided a test-retest reliability of .82 and a Cronbach’s alpha of .78 (David L Vogel et al., 2009). The adaptive version of the scale produced Cronbach’s alphas of .88 for the items associated with family, .89 for the items associated with friends, and .92 for the items associated with professors or academic departments (Cheng et al., 2013).

The instrument that will be utilized to assess personal stigma among racial and ethnic minority college students will be the Community Attitudes towards Mental Illness (CAMI) scale. The CAMI scale measures authoritarianism, benevolence, social restrictiveness, and community mental health ideology through a 40 item questionnaire (10 items for each construct) and responses are rated on a 5-point Likert scale (1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=Strongly disagree) (Taylor & Dear, 1981; Yang & Link, 2015). Our survey will only include the social restrictiveness and community mental health ideology subscales, however, in order to reduce the amount of time it would take for participants to complete the survey. The scales provide a test-retest reliability score of .80 for social restrictiveness and .88 for community mental health ideology and displays high levels of internal and external validity (Taylor & Dear, 1981; Yang & Link, 2015).

The instrument that will be utilized to assess self-stigma among racial and ethnic minority college students will be the Self-Stigma of Seeking Psychological Help scale. The Self-Stigma of Seeking Psychological Help scale consists of 10-self-reported items, 5 of which are
reverse scored, and are rated on a 5-point scale that is partly anchored (1=Strongly disagree, 3=Agree and disagree equally, and 5=Strongly agree) (Cheng et al., 2013; D. Vogel, Wade, & Haake, 2006). The scale provides a test-retest reliability score of .72 and a Cronbach’s alpha score ranging from .86 to .90 (D. Vogel et al., 2006). Furthermore, this scale has been utilized in a past study that focused on the stigma of seeking psychological help in the racial and ethnic minority college student population, in which its internal consistency reliability was strong with a Cronbach’s alpha score of .86 (Cheng et al., 2013).

The instrument that will be utilized to assess perceived discrimination among racial and ethnic minority college students will be the General Ethnic Discrimination scale (GED). The GED scale consists of 18-self-reported items. Each items is responded to three times, referencing three distinct questions: lifetime discrimination, past-years discriminations, and how stressful the experiences were for them (Cheng et al., 2013; Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). Responses are rated on a 6-point scale (1=Never, 2=Once in a while, 3=Sometimes, 4=A lot, 5=Most of the time, and 6=Almost all the time) (Cheng et al., 2013; Landrine et al., 2006). This measures has been utilized in a past study that focused on the stigma of seeking psychological help in the racial and ethnic minority college student population, and demonstrated very strong internal consistency reliability with a Cronbach’s alpha of .94 (Cheng et al., 2013).

Additionally, our research team will administer the same measures on an institutional level at the beginning and end of the project period. The measures will be collected before the beginning of the first school year and at the end of the third school year during the program’s implementation. Through an agreement with UCSF, SFSU, and CCSF, the measures will be added and distributed through their online student surveys, which are mandatory for students to complete before they can register for classes. The questionnaires that all three institutions
implement have a consent form process that students must read and accept before they are able to take the questionnaire. Utilizing these measures at the institutional level, our research team will be able to observe how these measures have changed at the community level over the 3 years that our program has been implemented. The implementation process of the IOOV program and the data acquired from the outcome evaluation of the program will be reviewed quarterly at the CAB meetings. We will seek feedback from and provide updates to our CAB members regarding accrual of participants, attendance at IOOV sessions, and survey results.

**Data Analyses**

Our program will be implementing school-wide surveys at the beginning of the first year and at the end of the third year (Figure 4). Therefore, we will first utilize descriptive analyses in order to determine sample characteristics, which include: mean age; frequency of students that are male or female; frequency of students that are freshman, sophomores, juniors, seniors, or graduates; frequencies of racial and ethnic groups; proportion of students who self-report that they have accessed mental health services; mean BDI-II scores; proportion of students whose scores exceed the cut-point for possible depression; mean scores on the stigma measures; and mean scores on the perceived discrimination measure. Afterwards, we will want to determine change in certain measures that had occurred from year 1 to year 3, which will include: proportion of students whose BDI-II scores exceed the cut-point for possible depression; proportion of students who have accessed mental health services; and the mean scores for each stigma measures. For the two proportion measures we will utilize a chi-square test and for the mean scores of each stigma measures we will utilize a linear regression.

For the participants in the intervention and control group, we will utilize descriptive analyses at each institution in order to determine the sample characteristics, which include: mean
age; frequency of students that are male or female; frequency of students that are freshman, sophomores, juniors, seniors, or graduates; frequencies of racial and ethnic groups; proportion of students who self-report that they have accessed mental health services; mean BDI-II scores; proportion of students whose scores exceed the cut-point for possible depression; mean scores on the stigma measures; and mean scores on the perceived discrimination measure. Afterwards, we will utilize inferential statistics to determine if the intervention had an effect on the stigma measure scores, which will be accomplished through a repeated measure ANOVAs on each stigma outcome.

**Budget Narrative**

**Overall Budget**

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>$446,604</td>
<td>$446,604</td>
<td>$446,604</td>
<td></td>
</tr>
<tr>
<td>Incentives</td>
<td>$135,000</td>
<td>$135,000</td>
<td>$135,000</td>
<td></td>
</tr>
<tr>
<td>General Office Supplies</td>
<td>$3,385</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>$2,700</td>
<td>$7,200</td>
<td>$7,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$587,689</td>
<td>$588,804</td>
<td>$588,804</td>
<td>$1,765,297</td>
</tr>
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</table>

**Personnel**

**Years 1-3**
<table>
<thead>
<tr>
<th>Position Title and Name</th>
<th>Effort</th>
<th>Annual Salary</th>
<th>Fringe Benefits (20%)</th>
<th>Amount Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biostatistician</td>
<td>20%</td>
<td>$125,000</td>
<td>$25,000 x 3 = $75,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Mental Health Providers (3x)</td>
<td>15%</td>
<td>$80,000</td>
<td>$12,000 x 3 = $36,000</td>
<td>$43,200 x 3 = $129,600</td>
</tr>
<tr>
<td>Research Assistants (4x)</td>
<td>100%</td>
<td>$60,000</td>
<td>$60,000 x 3 = $180,000</td>
<td>$216,000 x 4 = $864,000</td>
</tr>
<tr>
<td>Program Director</td>
<td>100%</td>
<td>$70,000</td>
<td>$70,000 x 3 = $210,000</td>
<td>$252,000</td>
</tr>
<tr>
<td>Presenters (3x)</td>
<td>36 Hours a year</td>
<td>$13.00 per hours</td>
<td>13 x 36 = $468</td>
<td>$1,404 x 3 = $4,212</td>
</tr>
</tbody>
</table>

**Biostatistician:** Is a Professor of Biostatistics at UCSF’s Department of Epidemiology and Biostatistics. He will provide our research program 20% of his time in years 1-3 conducting data management and analysis.

**Mental Health Provider #1:** Is a mental health provider at UCSF’s Student Health & Counseling, whom specializes in Asian American mental health. She will provide our research program 15% of her time in years 1-3 coordinating with our research team to help plan and implement IOOV at each institution.

**Mental Health Provider #2:** Is a counselor at SFSU’s Counseling and Psychological Services, whom has a special interest in the Latino population. She will provide our research program 15% of her time in years 1-3 coordinating with our research team to help plan and implement IOOV at each institution.

**Mental Health Provider #3:** Is a psychotherapist at CCSF’s Student Health Services, whom specializes in depression and multicultural issues. She will provide our research program 15% of her time in years 1-3 coordinating with our research team to help plan and implement IOOV at each institution.

**Research Assistants (4):** These four research assistants will be interns from NAMI. They will provide our research program 100% of their time in years 1-3 helping the program recruit
participants, being independent raters for during the presentations, and assisting the biostatistician by collecting, inputting, and managing the data.

**Program Director:** As program director I will be providing 100% of my time in years 1-3. I will be responsible for recruiting the CAB members, training the research assistants, coordinating with each institution, helping with recruiting participants for the program, attending all IOOV sessions, and managing the research team and ensuring that all assigned tasks are completed.

**Travel**

<table>
<thead>
<tr>
<th>Number of Trips each year</th>
<th>Number of People</th>
<th>Cost of Airfare</th>
<th>Number of Total Miles each year</th>
<th>Amount Requested each year</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 (54 total)</td>
<td>5</td>
<td>N/A</td>
<td>235.2 (705.6 total)</td>
<td>$1,200 ($3600 total)</td>
</tr>
<tr>
<td>Project Directors Meeting</td>
<td>1</td>
<td>$300</td>
<td>4872</td>
<td>$300 (Flight) $900 (3 Nights in hotel) $300 (Food) Total = $1,500</td>
</tr>
<tr>
<td>Regional Training years 2-3</td>
<td>3</td>
<td>$300</td>
<td>4872</td>
<td>$900 (Flight) $2700 (3 Nights in hotel) $900 (Food) Total = $4,500</td>
</tr>
</tbody>
</table>

**Supplies**

The paper will be utilized to make copies of the survey and the pens will be handed out to participants in order to complete the survey. Each research assistant will be provided a computer to use for data entry and management.

<table>
<thead>
<tr>
<th>Item Requested</th>
<th>Type</th>
<th>Number Needed</th>
<th>Unit Cost</th>
<th>Amount Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Office Supplies</td>
<td>Paper, Pens, and Computers</td>
<td>4500 &amp; 4</td>
<td>$15 &amp; $6 per unit &amp; $700 per computer</td>
<td>$3,385</td>
</tr>
</tbody>
</table>
Incentives

Participants will be awarded cash incentives pre- and post-test. Furthermore, the cash incentive will be doubled for the post-test in order maintain participation, due to the post-test being administered two weeks after each program session.

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Amount Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>$10</td>
<td>$20</td>
<td>$135,000</td>
</tr>
</tbody>
</table>

Gantt Chart (Years 1-3 Fall Semester)

Gantt Chart (Years 1-3 Spring Semester)

Logic Model
<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Participation</th>
<th>Short</th>
<th>Medium</th>
<th>Long</th>
</tr>
</thead>
</table>
| Research Team:  
-Project director  
-Research Assistants  
-Biostatistician | -Recruit Participants  
-Train IOOV presenters  
-Train research assistant (data collection and management, IOOV fidelity ratings) | -Project director and 3 presenters  
-Project director, 4 research assistants, and biostatistician | Reduce stigma in the racial and ethnic minority student population at UCSF, SFSU, and CCSF | Increase in UCSF, SFSU, and CCSF student utilization of mental health services | Decrease depression in the racial and ethnic minority college student population at UCSF, SFSU, and CCSF |
| Schools:  
UCSF  
SFSU  
CCSF | -Administer schoolwide survey | -Participation from college students  
-CAB Members | | | |
| -Funding  
-NAMI’s In Our Own Voice  
-CAB members  
-Mental Health Association of San Francisco  
-San Francisco Department of Public Health  
-Participants  
-Equipment/supplies | -1500 college students enrolled in project each year (750 receive IOOV, 750 on waitlist control)  
-Quarterly meetings between CAB members | | | | |
References


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