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Examining Attitudes toward Mental Health in Chinese Americans

A thesis presented by

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To the Department of Psychology

in partial fulfillment of the requirements

for the degree of

Bachelor of Arts

Connecticut College

New London, CT

May 3, 2022

Abstract

Asian Americans are one of the fastest-growing ethnic groups in the United States with Chinese Americans being the largest group within the Asian American community (U.S. Census Bureau, 2016; Pew Research Center, 2017). Previous research has found evidence that there is a reluctance in the Chinese-American community to seek mental health services due to a fear of stigma and a tendency to define psychiatric conditions in physical rather than psychological terms. Whether these tendencies differ across generations is another question to explore. This thesis looked at both Chinese-American ethnicity and participants' age as potential influences on attitudes toward mental health treatment. One hundred and seventy participants (40 Chinese American students–CA; 50 Non-Chinese American students–NCA; 40 Chinese American 50+–CA–50+; and 40 Non-Chinese American 50+–NCA-50+) read four vignettes (two depression and two social anxiety) before they completed a ten-item scale that examined their attitudes toward mental health treatment. Participants also filled out an Asian Values Scale that yielded two factors, Conformity to Family and Societal Norms and Humility. As predicted, CA participants displayed greater reluctance to engage with mental health treatment in both the depression and social anxiety vignettes. CA participants, regardless of age, were less treatment-oriented and more in favor of viewing the psychological disorders as physical issues and under individual control, compared to their NCA counterparts. Conformity to Asian values played a mediating role in mental health attitudes, particularly for the CA college-aged students. Future research might explore different attitudes within the Chinese-American community toward additional psychological disorders such as bipolar, schizophrenia, and substance abuse.

Keywords: Mental health perception, cross-cultural study, vignette study, Chinese-American, depression, social anxiety

To everyone who participated in my research. I would not have done any of this without the data that you all provided. Thank you for taking your time to contribute and to be part of the research, especially during this difficult time when the pandemic is still ongoing. Also to my mother, thank you for being so supportive, allowing me to choose my own path and pursue what I love.

Acknowledgements

I would like to extend my deep gratitude and thanks to my advisor, Jefferson A. Singer, Ph.D., for inspiring me and supporting me in exploring this important topic. Without your guidance, none of this would have been possible. I would also like to thank my endlessly helpful advisors, Professor Hamlett and Professor Zakriski for their careful edits, suggestions, and support. Moreover, I would like to express my thanks to the Psychology Department for allowing me to engage with topics I care so deeply about. Finally, I would like to express my gratitude to my family and friends; I could not have done this without your love and support.

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Stigma is used as an "umbrella term" to capture a process including stereotyping, social distance and discrimination related to a derogated social status, such as a diagnosis of severe mental illness (Link and Phelan, 2001). According to recent reports, about 11% of individuals globally report that they are currently experiencing a mental illness, with data also suggesting that these rates have been increasing over time (Richter et al., 2019; Ritchie & Roser, 2018). More than half of people with mental illness do not receive help for their disorders, in part due to mental illness stigma (*Stigma, Prejudice and Discrimination Against People with Mental Illness*). In 2020, there were an estimated 14.2 million adults aged 18 or older in the United States with Severe Mental Illness (SMI). This number represented 5.6% of all U.S. adults. The prevalence of SMI was higher among females (7.0%) than males (4.2%). Young adults aged 18-25 years had the highest prevalence of SMI (9.7%) compared to adults aged 26-49 years (6.9%) and aged 50 and older (3.4%). The prevalence of SMI was highest among the adults reporting two or more races (9.9%), followed by American Indian / Alaskan Native (AI/AN) adults (6.6%). The prevalence of SMI was lowest among Native Hawaiian / Other Pacific Islander (NH/OPI) adults (1.2%) (*Mental illness* 2022). Attitudes about mental illness, including mental illness stigma of different types, influence self-reporting of mental illness symptoms, mental health experiences, and treatment seeking in across different demographic groups.

Public stigma and internalized stigma are two forms of stigmas that can be detrimental to the well-being of individuals living with mental illness (Corrigan & Watson, 2002). Public stigma refers to the negative beliefs, attitudes, and conceptions about mental illness held by the general population, which lead to stereotyping, prejudice and discrimination against individuals with mental health disorders. Internalized stigma refers to the beliefs that members of a

stigmatized group have about themselves, beliefs that represent public stigma turned inward (Brown et al., 2010).

Research on the stigmatization of mental illness has examined both public and internalized stigma (Brown et al., 2010; Schauman et al., 2019). In addition to the discriminatory effects that public stigmatization may have, internalized stigma may be associated with lower mental health service utilization. Sirey and colleagues (2001) found that individuals who expressed a sense of shame based on their personal experiences with mental illness were significantly less likely to be involved in treatment. Vogel and colleagues (2007) found that the relationship between mental health treatment utilization and perceived public stigma was mediated by internalized stigma and attitudes toward treatment.

In a systematic review conducted by Clement and colleagues (2015), stigma ranked 4th out of 10 significant barriers to treatment utilization, and internalized stigma and treatment stigma were most commonly associated with reduced help-seeking behavior. Often, people avoid or delay seeking treatment due to concerns about being treated differently or fears of losing their jobs and livelihood. Many people with mental illness experience shame, ostracism, and marginalization due to their diagnosis, and often describe the consequences of mental health stigma as worse than those of the condition itself (The Lancet, 2016). Research indicates that most people diagnosed with severe mental illness are aware of and concerned about others' tendency to stigmatize them and expect to be discriminated against (Krajewski et al., 2013; Thornicroft et al., 2009). In a study of 3,000 community residents, Leaf and colleagues (1987) found that endorsing negative attitudes and beliefs about mental illness was associated with decreased mental health service utilization of those at risk for psychiatric disorder. Epidemiologic studies conducted in the US suggest that 50% to 60% of persons with mental

distress do not seek treatment; stigma surrounding mental illness is one of the 3 top obstacles preventing those with mental illness from obtaining high-quality mental health care; it is also a reason for not seeking help or for waiting until it is too late to seek help for mental illness (Fogel & Ford, 2005). With the increase of social media use and social media influence, how media portrays mental health illness also contributes to the proliferation of mental health stigma.

Media analyses of film and print have identified three mental illness stereotypes that are frequently promoted: people with mental illness are "homicidal maniacs" who need to be feared; they have childlike perceptions of the world that lean towards grandiosity and magical thinking; or they are responsible for their illness because they have weak character (Corrigan & Watson, 2002). Experiencing these negative stigmas as presented in media might result in reluctance to seek help or treatment and a lessened likelihood to remain in treatment.

Different stigmas between young and old generations

Stigma complicates the experience of mental health problems, and interferes with students' likelihood of pursuing needed services (Conley et al., 2020). Globally, more than 70% of young people and adults with psychiatric illnesses do not receive any psychiatric treatment (Thornicroft, 2007). Many students perceive stigma about mental illness, or endorse self-stigma, particularly as it relates to treatment-seeking (Lipson et al., 2018). Approximately 40% of college students screen positive for clinically significant symptoms of major depression, generalized anxiety, or eating disorders (Lipson & Eisenberg, 2018). Prior research demonstrated that mental health conditions are prevalent among undergraduate students, rates of treatment-seeking are low (Eisenberg et al., 2007), and lack of treatment can lead to lower academic performance and dropout (Hysenbegasi et al., 2005).

According to the ACHA (American College Health Association) (2014), 12% of college students report being diagnosed or treated for depression, and 12.8% report that depression has hindered their academic success, with more females than males reporting being diagnosed with and experiencing impairment from depression. In a study of college students by Masuda et al. (2012), mental health stigma was associated with less willingness to receive help, and, in another study, although many students reported feelings of sadness and depression, only 6.8% sought help for these feelings, citing stigma as one reason for not seeking help (Calloway et al., 2012).

According to data from two national surveys of hundreds of counseling centers, depression and anxiety are the most common presenting concerns among college students, and have been particularly increasing in recent years (Center for Collegiate Mental Health [CCMH], 2019; Reetz et al., 2013; Reetz et al., 2016). Of surveyed mental health clinicians, 54.2% believe that anxiety, depression, and stress are the top concerns of U.S. college student patients (Person, 2021). Just over a fifth of students with apparent mental health needs are currently receiving mental health treatment, and just over a third have done so within the past year (Eisenberg et al., 2011; Lipson et al., 2016). The rate of American students with suicidal thoughts or other suicide-related outcomes increased 47% from 2008 to 2017 (from 7.0% to 10.3%) (Person, 2021).

Population projections predict that the number of older adults with mental illness will climb in the next 20 years. It is estimated that by 2030, 1 in 5 older adults – over 15 million persons – will have a mood, anxiety, or psychiatric disorder (Bartels, 2003). Mental health problems are under-identified in the aging population, and the stigma surrounding mental illness makes older adults reluctant to seek professional help (World Health Organization [WHO], 2016).

Stigma associated with depression and other mental illness continues to be one of the most pervasive barriers to treatment among adults (Clement et al., 2015; Conner et al., 2010). Individuals who can benefit from mental health treatment choose not to pursue services, or begin treatment but drop out prematurely, to avoid the label of "depressed" as well as the stereotypes, prejudice, and discrimination associated with having a mental illness (Corrigan et al., 2014). Self-stigma is also prevalent among older adults.

Mental illness self-stigma can be defined as the internalization process of negative public stereotypes to oneself and may be characterized by shame, secrecy, discrimination, and social withdrawal (Tzouvara et al., 2017). Self-stigma is linked with a variety of consequences for the stigmatized individual such as unemployment, income loss, lower self-esteem, less self-efficacy, reduced empowerment, and poorer treatment-seeking behavior (Tzouvara et al., 2017).

Werner et al (2009) identified moderate levels of self-stigma among 54 Israeli older adults experiencing depression. Conner et al (2015) investigated 19 U.S.-based older adults (aged 60 years or above) suffering from depression on how peer education interventions improved attitudes and minimized self-stigma among their peer group. Pre-intervention data showed that both perceived public stigma and self-stigma were reported at moderate-high proportions among this age group. Older adults argued that their chronological cohort was happy to openly discuss physical problems, yet they were reluctant to discuss problems related to their mental health and to talk to mental health professionals. Older adults believed that seeking treatment would further increase stigma experiences (Conner et al., 2015).

Late-life depression has become an increasingly prevalent health problem (Ho, 2007) accounting for a significant amount of disability-adjusted life years (WHO, 2016). Depression has been largely undetected, undertreated, and poorly treated within this population (Barry et al.,

2012; Bottino et al., 2012; Rodda et al., 2011). Conner and colleagues (2010) found that older adults with depression believed that mental health services were better suited for younger patients because they were "too old" to receive help. Older adults are also at least 40 percent less likely than younger individuals to seek or receive treatment for mental health conditions. Those who seek services are unlikely to be seen by a provider who is trained in how to address the needs of a geriatric population (Wang et al., 2000). It is estimated that over 50% of older adults symptomatic for a clinical diagnosis do not use mental health services (Karlin et al., 2008).

Older adults living in long-term care facilities are more likely to experience mental health problems (Seitz et al., 2010). Seitz et al. (2010) highlighted that the median prevalence of major depressive disorder was 10% in the general public, while the median prevalence of depressive symptoms was 29% in older adults living in long-term care facilities. A cross-sectional study of older adults residing in six U.K.-based nursing homes revealed that 59.6% of them had documented histories of mental illness and almost half suffered from depressive, anxious or sad mood (Tzouvara, 2016). *Age UK information guides and factsheets* (2017) also supported the argument that 40% of older people in care homes suffer from depression.

Older adults are also less likely than younger adults to seek professional mental health services (Eden el al., 2012), and, having grown up in an age when mental health service use was not commonplace, stigma concerning treatment is often cited as a key reason for why older adults do not seek help (Mackenzie et al., 2019). Aside from generational differences, racial and ethnic differences for stigmas are also prevalent.

Stigmas in different ethnic groups

There are indeed differences in the extent of the impact of mental illness stigma depending on the racial and/or ethnic background of those who are affected (Fox et al., 2018).

The consequences of stigma are worse for underrepresented racial and/or ethnic groups, since these groups often experience other social adversities such as poverty and discrimination within policies and institutions (Eylem et al., 2020).

The variation in mental illness stigma can be even more specific when considering ethnic groups within broad racial categories (Subramaniam et al., 2016). Early research on the influence of ethnicity on the mental illness stigma indicated that compared to the White group, people of color perceived someone with mental illness as more dangerous (Corrigan & Watson, 2007) and expressed greater need for segregation from those with mental illness than the White group (Corrigan & Watson, 2007). Racial/ethnic minorities often suffer from poor mental health outcomes due to multiple factors including inaccessibility of high quality mental health care services – including culturally affirming mental health care, cultural stigma surrounding mental health care, discrimination, and overall lack of awareness about mental health (*Mental health disparities: Diverse populations*). The consequences of stigma are worse for some racial and/or ethnic groups who have, for instance, a history of attributing personal incompetence to mental illness (Makowski & von dem Knesebeck, 2017) and who also face other forms of "minority stress" and adversities such as interpersonal and structural discrimination within policies and institutions, as well as low socio-economic background (Clement et al., 2015; Makowski & von dem Knesebeck, 2017).

Mental health care disparities, defined as unfair differences in access to or quality of care according to race and ethnicity, are quite common in mental health (McGuire and Miranda, 2008). This results in people of color being significantly more likely than whites to delay or forgo needed mental health care, and, if they do seek treatment, they are more likely than Whites to drop out (McGuire and Miranda, 2008). Wong et al. (2016) found that Latinos interviewed in

English also experienced higher levels of self-stigma (with respect to feeling embarrassed, ashamed, and not being understood because of a mental health problem) and were more likely to say that they would conceal a potential mental health problem from coworkers or classmates than whites. In addition, Latinos interviewed in Spanish reported higher levels of stigma in a number of respects compared with whites; they were the least likely to have used mental health services compared to other racial groups. Older minority adults are also more stigmatized compared to younger groups (Wong et al., 2016).

Older adults from racial/ethnic minorities with mental health conditions have reported experiencing a "triple stigma" consisting of being old, mentally ill, and from an ethnic minority. Some studies suggest that African-Americans, Latinos and Asian-Americans tend to hold more stigmatizing perceptions of mentally ill individuals than non-Latino Whites (Jimenez et al., 2013). Conner et al. (2010) sought to compare stigmatizing attitudes held by older African-Americans with depression with those of depressed non-Latino White older adults. They found that older African-Americans were more likely to experience stigma about mental illness than their White counterparts. The purpose of the Conner et al. (2010) study was to compare stigmatizing beliefs about mental illness among non-Latino Whites, African-Americans, Asian-Americans, and Latinos who were seeking treatment for a mental illness (Conner et al., 2010). No similar studies have been conducted that include older mentally ill Asians or older mentally ill Latinos.

In general, African American older adults suffer more psychological distress than their White counterparts due to their life long exposure to and experiences with racism, discrimination, prejudice, poverty, and violence; and they tend to have fewer psychological, social, and financial resources for coping with stress than their White counterparts (Office of the

Surgeon General (US), 2001). African Americans and African American older adults (Neighbors et al., 2008) are significantly less likely to seek mental health services than their White counterparts. African Americans attend fewer sessions when they do seek specialty mental health treatment, and are more likely than their White counterparts to terminate treatment prematurely (Miranda & Cooper, 2004). Mental health stigma helps explain these differences, and so does limited multicultural competence in the mental health work force and limited access to identity-affirming therapies. Since older adults, and in particular older African Americans, are more likely to seek mental health treatment in primary care than in specialty mental health settings (Pingitore et al., 2001), they remain less likely than their younger counterparts to have their depression detected and treated in these settings (Young et al., 2001).

Mental Health stigma among Asian Americans

Asian Americans are one of the fastest growing ethnic groups in the United States, with an estimated 21 million individuals who identify as being of either Asian or Asian–mixed descent (U.S. Census Bureau, 2016). Chinese Americans, the largest Asian American group, increased from about 2.8 million in 2000 to roughly 4.9 million in 2015, about 175% increase over the 15 years (Pew Research Center, 2017).

The 2005 Centers for Disease Control and Prevention's '10 Leading Causes of Death' (CDC, 2008) highlights significant mental health disparities among racial/ethnic groups. Among females 15–24 years old, Asian Americans and Pacific Islanders (AAPIs) have the highest rate of suicide deaths (14.1%) compared to other racial/ethnic groups (White 9.3%, Black 3.3%, and Hispanic 7.4%) (CDC, 2008). AAPI males in the same age range have the second highest rate of suicide deaths (12.7%) compared to other racial/ethnic group males in the same age range (White 17.5%, Black 6.7%, and Hispanic 10%) (CDC, 2008). In particular, Asia, as a continent, ranked

second in terms of the prevalence of common psychiatric disorders (e.g., depression) and these patients may not receive adequate psychiatric treatment (Lim et al., 2018).

Recent research on mental health disparities among White and Asian American patients have found that White patients are more likely than Asian American patients to carry a diagnosis of a mental disorder and receive medication treatment, suggesting that mental disorders may be under-recognized and under-treated in the Asian American community (Wu et al., 2018). Asian American youth are also less likely than their White majority peers to seek help from adults when experiencing mental health symptoms (Sen, 2004). A 2007 study revealed that only 17% of Asian Americans who met the criteria for such a probable diagnosis according to the DSM-IV, were actually seeking help (Abe-Kim et al., 2007).

Asian American school-aged youth are at high risk for mental health concerns than their white peers (Qin et al., 2008). Asian American high-school aged youth have been found to have lower levels of self-esteem than their peers (Greene el al., 2006). Moreover, compared with their White peers, Asian American adolescents have been found to have more negative attitudes toward teachers and perceptions of the school environment, which have been linked to greater feelings of inadequacy and increased symptoms of anxiety and depression (Zhou et al., 2003). Asian American youth are less likely to use school-based mental health services compared with their non-Asian peers (Bear et al., 2014; Wang et al., 2019), possibly due to low mental health literacy (MHL), attitudinal barriers (e.g., stigma), structural/practical barriers (e.g., lack of culturally competent mental health providers, confidentiality concerns), and lack of parental support and communication about help seeking (Arora & Algios, 2019; Wang et al., 2019). Indeed, Asian American youth have been found to perceive school-based mental health services as only for youth who engage in particularly high-risk behaviors, such as using drugs and

skipping school (Anyon et al., 2013). Further, research has suggested that Asian American youth are less likely to be referred for school-based mental health services compared with other ethnic minority youth, including Latino students (Bear et al., 2014).

A study of Chinese-USA primary care patients with depression reported that 55% did not know the label for their condition, 17% attributed it to medical illness and 17% did not believe it constituted an illness; significantly, less than 4% of these patients sought mental health care (Yeung et al., 2004).

For Asian American immigrant youth, the process of immigration can be associated with significant stress (Xia et al., 2013). Children of Asian immigrants are also at greater risk for mental health concerns than both U.S. White youth and youth of U.S. born Asian American parents (Huang et al., 2012). Thus, for both Asian American youth born in another country and having moved to the United States (first-generation immigrants) and Asian American youth born in the United States with at least one parent born in another country (second-generation immigrants), mental health concerns represent a significant area for which youth may need support. In addition, second-generation Asian Americans have higher rates of mental health disorders (depression and anxiety) compared with non-immigrant non-Hispanic youth (Georgiades et al., 2018).

Asian Americans' low mental health literacy, or limited awareness of mental health concerns and familiarity with mental health treatment options, has been put forth as a potential reason for the underutilization of mental health services (Collier et al., 2012). Further, family climate, including limited parent– child communication (Fuligni et al., 1999) and difficulties among Asian American youth in discussing mental health concerns with parents, has been posited as another reason (Rheeet al., 2003). Asian American youth's concern about worrying

parents (Lee et al., 2009), personal stigma related to mental health treatment (Eisenberg et al., 2009), and language barriers associated with obtaining care (Lee et al., 2009) have all been proposed as additional factors associated with limited use of mental health services among Asian American youth.

Among Asian Americans, there is great stigma and shame about mental health problems and about receiving treatment for them (Root, 1985). Studies have demonstrated underutilization of mental health services (Leong et al., 1995) with one stating that Asian Americans are "three times less likely" than European Americans to use mental health services (Matsuoka et al., 1997, p. 141). Asian-Americans reported higher levels of self-stigma (with respect to feeling inferior to others who have not had a mental health problem) and were less hopeful than whites (Wong et al., 2016). Asian Americans are also much less likely than are whites and other minority groups to seek treatment for mental health problems (Leong & Lau, 2001) and when treatment is sought, they terminate treatment at greater rates than do whites (Leong & Lau, 2001) for a variety of reasons. The family may discourage the individual from identifying or seeking help for a mental illness because of the belief that it is a punishment from God or the spirits owing to the family's bad behavior; further, individuals may believe that seeking treatment will reveal hereditary problems that will shame the family (Moritsugu & Uba, 1995).

Lauber & Rössler (2007) reviewed stigma towards people with mental illness in developing countries in Asia. The findings revealed a number of concerns associated with how individuals perceive and interact around mental illness -

- Asians with mental illness were considered to be dangerous and aggressive
- Many felt they did not have the personal and financial resources to handle stigma
- Mental health professionals mainly worked in urban areas in Asia

- Somatic symptoms were more socially acceptable than psychiatric symptoms
- Stigma experienced by family members was pervasive
- The role of supernatural and religious approaches to psychiatric illness often prevailed.

Zhang et al. (2019) reviewed one hundred and twenty-three articles on mental health in Asian countires and concluded six major findings. First, Asians with mental illnesses were considered as dangerous and aggressive, especially patients suffering from schizophrenia and bipolar disorder; second, psychiatric illnesses in Asian societies were less socially-acceptable and were viewed as originating from personal weaknesses; third, stigma experienced by family members was pervasive and this is known as family stigma; fourth, this systematic review reported more initiatives to handle stigma in Asian societies than a decade ago; fifth, there have been more recent initiatives to treat psychiatric patients in the community; and sixth, the role of supernatural and religious approaches to psychiatric illness was no longer prevailing (Zhang et al., 2019). In addition to cultural barriers, the model minority myth also played an important role in mental health stigma among Asian American populations.

Model Minority Myth

In the 1960s, William Peterson coined the term, "model minority" to refer to Asian Americans as successful minorities who were quiet, hardworking, and high achieving (Yoo et al., 2010; Chao et al., 2013). Studies have suggested that Asian Americans have also internalized this stereotype. Asian American college students viewed themselves as more prepared for college, more motivated, and expected greater career success than White Americans; other ethnic groups shared this view about Asian Americans (Wong et al., 1998). Despite being a myth, the model minority stereotype is widely shared and internalized, and may have some adaptive, but

also negative, consequences for Asian Americans' psychological well-being. In particular, individuals who are unable to live up to the expectations, or feel pressured to do so, likely experience psychological distress. Some of these stressors include pressure to meet parental expectations of high academic achievement and live up to the "model minority" stereotype; difficulty of balancing two different cultures and communicating with parents; family obligations based on strong family values; and discrimination or isolation due to racial or cultural background (Lee et al., 2008). Living up to the model minority stereotype while balancing two cultures is part of acculturation for many first and second generation Asian-American immigrants. Maintaining family values and community standing is important to the Asian culture and may at times conflict with the model minority stereotype, causing additional strain.

Confusion Ideal

In general, stigma in Chinese societies must be understood within the context of the centrality of family structure and the individual's place in an ancestral legacy. One's family responsibilities and societal roles are highly valued and thus seriously threatened by mental illness in Chinese culture. Shared beliefs about the origin of the illness attribute blame not just to the individual, but also to the individual's family, causing severe shame and isolation for everyone involved (WonPat-Borja et al., 2010).

Culturally-influenced explanatory models of mental illness (Karasz et al., 2003; Kleinman, 2004; McCabe and Priebe, 2004) suggest that culture shapes how patients make sense of their illness; how it impacts their expected process for recovery; and the approaches they take for help-seeking (Kasahara-Kirtani et al., 2018; Lam et al., 2010; Li et al., 2013; Yang and Singla, 2011).

The concepts of loyalty, dedication, and the de-emphasis on the individual are celebrated virtues in Asian cultures (Sodowsky et al., 1995). These values deemphasis often manifests through the need to self-sacrifice; one sacrifices in order to be viewed as part of the group. Also, the dynamic of *shame* resonates deeply with Asian Americans, as one often feels a diminishing of value and esteem when failing to meet the group's expectations (Eng & TenElshof, 2020). Within the collectivistic culture, Asian Americans tend to have a limited "sphere of privacy," which reaches as far as extended family. All their personal experiences tend to stay within the sphere of privacy.

The tendency towards *avoidance of shame* acts as a barrier for Asian Americans utilizing mental health services (Leong & Lau, 2001). Studies show that Asian Americans are especially stigmatized by mental illness. Not only are Asian Americans reluctant to seek help for themselves, studies show that they are also likely to keep their family members from getting help as well (Leong & Lau, 2001). Furthermore, even when Asian Americans end up in counseling, they are often reluctant to speak openly about their struggles (Eng & TenElshof, 2020).

The factors associated with low rates of mental health service utilization among Chinese immigrants include high cost of service use, limited English proficiency, and parental perceptions regarding child mental health problems (Chen et al., 2009). The role of stigma may be a barrier in formal help-seeking even as knowledge of mental health increases, suggesting that illness beliefs are also important to address along with recognition (Chen et al., 2005). Low mental health literacy among the Chinese has been found to be associated with the use of informal networks (lay help and alternative treatments), which can result in greater delays in formal psychiatric treatment (Wong and Li, 2012).

Mental Health Stigmas among Chinese Americans (Cultural Values)

Research demonstrates that mental illness stigma is an important issue in Chinese communities not only in mainland China, but also in Hong Kong, Singapore, Malaysia, and the UK (WonPat-Borja et al., 2010). Chinese Americans comprise approximately 24% of Asian Americans, representing the largest single Asian origin group in the U.S. (Pew Research Center, 2017b). Chinese Americans also make up the largest subgroup of Asian American college students, with college enrollment of 78% as compared with that of 67% among Asian Americans overall (De Brey et al., 2019). In Chinese American families, parent– child interactions are often guided by Confucian ideals that emphasize a "relational self," where personal needs of individuals tend to be secondary to that of the family and social collective (Qin et al., 2012, p. 37). The concept of filial piety in Confucian philosophy, involving the respect toward one's elders, serves as a foundation for family connections. A hierarchical nature of relationships between parents and children is traditionally thought to foster interdependence, and moderate intergenerational conflict among family members, as younger family members are expected to obey the wishes of older family members (Tummala-Narra et al., 2021).Wu and Tseng (1985) have identified five important elements integral to Chinese communities worldwide: family and collective responsibility, emphasis on the parent-child bond, social interactions, emphasis on emotional control and morality, and valuation of education and achievement.

Stigma appears to exert similar negative influences in Chinese communities as it does in the Western world, causing public fear and perceptions of dangerousness towards those with mental illness, as well as shame and fear of rejection for patients and their families (WonPat-Borja et al., 2010). In Chinese societies, it is fairly common for persons with mental illness to experience public stigma. Young and Ng (2015) found that 38.3% of the Hong Kong participants

and 49.5% of the Guangzhou participants reported self-stigma, thus indicating that self-stigma is easily detected among participants in Chinese societies. In addition, self-stigma of individuals with mental health illness is found to be significantly higher in Guangzhou. Self-stigma is found to be negatively related to the overall quality of life and self-esteem (Young & Ng, 2015). The role of stigma is also a barrier in formal help-seeking even as knowledge of mental health increases, suggesting that illness beliefs are also important to address along with recognition (Chen et al., 2005).

"Chinese people say, 'If she is crazy and not yet married, and if you tell others she is sick, no one will marry her.' This person is someone who has no future. It's as if she has died." This is a statement by the sister of a Chinese immigrant who is suffering from schizophrenia (Yang et al., 2013, P56). In the Chinese society, there is a belief that mental illness can affect a family's good name for generations (Tabora & Flaskerud, 1994) and that an individual with mental illness causes the entire family to "lose face" and be shamed (Tabora & Flaskerud, 1997). There is stigma associated with mental illness because revealing problems by seeking professional help is a sign of personal immaturity, weakness, and lack of self-discipline (Moritsugu & Uba, 1995).

Research to date suggests that the defining feature of mental illness stigma in Chinese groups is the endorsement of social, moral, and religious explanations for mental illness. Because many of these social explanations imply severe moral contamination, such individuals are threatened with loss of moral standing (or 'face') and encounter both subtle and outright forms of exclusion from local social life (WonPat-Borja et al., 2010). Yet, mental health stigmas in Chinese communities are perceived differently among different age groups, especially older adults and young adolescents.

Within Chinese culture, mental illness is highly stigmatizing for the entire family (Lin & Lin, 1981), resulting in efforts to control the illness within the family for as long as possible (Kirmayer, 1989). This pattern might then be expected to influence family burden and treatment delay among Chinese individuals with psychotic mental illness living in North America (Ryder et al., 2000). Ryder et al. (2000) found that Chinese caregivers were particularly more likely to endorse the practice of keeping mental illness a secret from others, as well as withdrawal from individuals with mental illness. These findings suggest that Chinese caregivers were more affected by the stigma of mental illness than were Euro-Canadian caregivers.

Mental Health Stigma among Chinese Youth

Prevalence rates for depression documented among Chinese youth ranges between 23%–64 % in mainland China and Hong Kong (Yang et al., 2010). Rates of depression are of particular concern in the U.S. among Asian American youth, who have low rates of mental health diagnoses but higher rates of suicidal ideation than their White peers (Liu et al., 2019). The rates of depression are of concern in relation to low rates of treatment seeking in U.S. Asians (Abe-Kim et al., 2007). The experience of social anxiety may also be particularly salient to youth with a Chinese background, given cultural differences in social and expressive norms. Asian-American college students, with a large proportion being East Asian, have been shown to have significantly higher levels of social anxiety than White Americans (Lau et al., 2009). Academic stress and the Chinese educational system have also had a great influence on students and young adult's mental health.

Lastly, academic achievement is a unique contributor to mental health challenges for Chinese youth. In China and in Chinese families, academic achievement is viewed as an indicator of success starting from an early age, when children enter into the educational system.

Culture plays an important role in how academic achievement is viewed (Damian et al., 2015). The Chinese educational system is highly competitive from the start of primary school with great emphasis on academic performance and intolerance of failure. Students believe their choices and future are highly dependent on their grades. Hesketh et al. (2010) explored the pressures on primary schoolchildren in order to determine the relationship between these pressures and psychosomatic symptoms, including abdominal pain and headache. The 2191 participants were from ages nine to twelve years old in primary schools in urban and rural areas of Zhejiang Province, eastern China. The study found that 81% of the children worried "a lot" about exams, 63% of them were afraid of punishment by teachers, and 73% of them were physically punished by their parents for lax academic effort.

A cross-sectional study collected data from a convenience sample of 1533 adolescents in an eastern province in China. Surveys were used to collect data on academic stress, anxiety, depression, sleep, physical activity, and demographics. The result showed that academic stress was positively correlated with anxiety and depression, which were negatively correlated with physical activity and sleep (Zhu et al., 2021). A meta-analysis of 51 studies involving 144,060 secondary school students in mainland China indicated an estimated incidence of depression of 24.3% (Zhu et al., 2021). In a survey study of 1576 secondary students in China, Hesketh and Ding (2005) found that a considerable portion of the student body displayed symptoms of anxiety severe enough to interfere with basic life functions (i.e., sleep) as well as quality of life.

Studying of Ethnic Differences in Mental Health Stigma (Vignettes)

One way to examine ethnic differences in stigma and mental health attitudes is to use a vignette study. Vignette studies use short descriptions of situations or persons (vignettes) that are usually shown to respondents within surveys in order to elicit their judgments about these

scenarios (Atzmüller & Steiner, 2010). A cross-cultural study on mental health perception (Klimidis et al., 2007) was conducted among 418 Chinese-Australians and they were asked to indicate the labels they would apply to vignettes of depression and schizophrenia, as well as whether they were exposed to these disorders personally or socially. The study explored variations in attitude that emerged from labeling vignettes depicting depression and schizophrenia, providing insight into their cultural interpretation. The result found that 51% and 47% of Chinese-Australians 'correctly' labelled the vignettes (Depression and Schizophrenia). Depression and schizophrenia labels were consistently discriminated against and clustered in a general category of "mental illness." In a sample of Chinese women in the USA, Ying (1990) reported that 58% interpreted a vignette depicting major depression as reflecting psychological disorder and only 13% did not know the label of the condition. Also in Hong Kong (Lam et al., 1996), 50% of a community sample asserted that a vignette depicting schizophrenia represented a normal reaction to stress and only 32% ascribed it to mental illness. On one hand, 56% thought that rest alone could alleviate it, on the other, 52% felt that psychiatric support would be required. This shows that Chinese individuals in various national contexts do have some prior knowledge about mental health, however, due to a lack of mental health education and possibly cultural stigma, they avoid or deny the topic and may be less likely to recommend or engage in treatment seeking. This reluctance may be due to cultural values such as protection of family name and the belief that people with mental health illness are dangerous.

To learn more about how Asian values might interact with mental health stigma and attitudes toward mental health treatment, we employed the Asian Value Scale (AVS) in the present study to assess relevant cultural values. The AVS has been used in a number of research studies, mostly in the field of counseling process and outcomes. In particular, two studies have

examined the effects of client adherence to Asian cultural values on single-session outcome with Asian American college student clients. Kim and Atkinson (2002) found that when counselors were Asian American, the clients who had high scores on the AVS rated the counselors as more empathic and credible than did the clients with low AVS scores. In contrast, when the counselors were European American, the clients with low AVS scores rated the counselors as more empathic than did the clients with high AVS scores. However, in another study of single-session counseling, Kim et al. (2002), using all European American counselors, found that Asian American clients with high scores on the AVS perceived greater counselor empathy and working alliances than did clients with low AVS scores.

Based on the psychological literature, mental health attitudes can be influenced by culture, age, gender, education level, and stigma. Within different racial groups, Chinese Americans have demonstrated persisting levels of cultural stigma and reluctance to seek mental health treatments. In this study, we were interested in the question of whether ethnicity and cultural values, as well as generational differences, might influence mental health attitudes. This kind of research has great cultural importance as it may lead to more research in the field, raise cultural awareness on mental health, and enhance efforts to provide quality care for each individual.

Present Study

The present study examined mental health attitudes among two generations (college students and older adults who are 50 years and older) of European-American and Asian-American individuals. Participants read four vignettes (2 depicting depression in a college-aged individual and 2 depicting social anxiety in a 50+ individual). They then answered questions about the vignettes relevant to mental health attitudes. All the questions that were asked in the

vignettes were designed to detect potential stigma and varying attitudes about treatment. The vignettes did not include gender and racial identity to avoid adding additional factors. We asked both groups of participants to fill out the Asian Value Scale (AVS) to learn about their cultural values. We hypothesized that the Chinese-American participants would experience more stigma and greater reluctance to engage with mental health treatment, while also scoring higher on the Asian Value Scale (Kim et al., 1999) compared to non-Chinese participants. We also expected that there would be a direct relationship between scoring higher on the AVS and more inclination to stigmatize and show reluctance toward treatment.

We hypothesized that the effect of stigma would be greatest for the older generation of Chinese-American participants, followed by the younger Chinese-American participants, and the older European-American participants. The younger European-American group would be the least stigmatized and the most open to mental health treatment. We also predicted that they would score the lowest on the AVS.

Method

Participants

There were 50 Connecticut College students from New London, Connecticut (M = 19.42 years, SD = 1.14, 32 women), 40 Chinese American college students from universities in the Northeast region (M = 20.58 years, SD = 2.22, 25 women), 40 non-Chinese American older adults who were 50 years and older (M = 59.02 years, SD = 5.75, 23 women), and 40 Chinese American older adults who were 50 years and older (M = 55.87 years, SD = 4.38, 19 women).

Students in the Connecticut College in Psychology 101 course earned research participation credit for this study, all other participants are volunteers. The study was conducted by an online survey that participants filled out individually. All measures were distributed online

in a survey format, using Qualtrics. Non-Connecticut College students were reached by social media (email and Wechat) and older adults were reached through personal contact and snowball effect by asking participants to share the link to the survey to their friends and families through email and Wechat. All participants were recruited in the United States. Non-Chinese-Americans older adults reported ethnicity as African American (7.5%); European American or White (80.0%); Hispanic, Latino, or Latina (10.0%); and other (2.5%). Non-Chinese-American college students reported ethnicity as African American (4.0%); European American or White (70.0%); Hispanic, Latino, or Latina (20.0%); Asian Non-Chinese Americans (2.0%); and other (4.0%). The Chinese American college student participants reported 37.5% were born in the United States and 62.5% were born in China. The Chinese American older adults reported 2.5% were born in the United States and 97.5% were born in China. All non-Chinese American participants were born in the United States. To make sure that among the 50+ participants the data were somewhat matching, education level was used as a factor for the comparison. The Chinese-American 50+ participants reported 15% with a high school degree, 60% college degree, 23% master degree, and 3% with a PhD. The non-Chinese American 50+ participants reported 10% with a high school degree, 55% college degree, 33% master degree, and 3% with a PhD. The following recruitment statement was used to elicit participants.

"I'm a Connecticut College senior who is doing my honors thesis on a study of mental health perceptions. The purpose of this study is to investigate mental health perception for two different generations. Specifically, this study will seek to understand different factors that might influence individuals' perceptions regarding mental health. Overall, this research is important to understand cultural differences and cultural stigmas. My research is mainly targeting Chinese Americans. I would like to invite you to participate in my research. It would be a huge help if

you have any connections to others who might be interested in participating. Thank you so much for your time and consideration."

Measures

Vignettes

There were two mental health category vignettes (depression, and social anxiety). Vignettes included two age categories (a college student vignette and 50 years and older vignette for each). This yielded a total of 4 vignettes to be read by each participant (See Appendix c). To rate a participant's mental health perception, participants received 10 questions for each vignette and rated them on how much they agree or disagree (See Appendix c). They rated how much they agreed or disagreed with the statements on help seeking and support. Participants responded using Likert scales (1 = strongly disagree, 5 = strongly agree) measuring their perceptions of the statements (e.g., X should consult with the family physician as soon as possible). For the Chinese-American participants, the researcher translated the scale into Chinese with the same order and scale. A native Chinese speaker with fluency in English back-translated the Chinese version into English. In addition to the mental health perception questions after each vignette, participants were asked to indicate the sex of the individual in the vignette (male, female, or cannot determine). The young depression vignette scenario had an internal consistency reliability (Cronbach's alpha) of 0.69; the old depression vignette scenario had an internal consistency reliability of 0.67, the young social anxiety vignette scenario had an internal consistency reliability of 0.63; and the old social anxiety vignette scenario had an internal consistency reliability of 0.74.

Asian Value Scale

The Asian Value Scale (AVS; Appendix D; Kim et al., 1999) was used to measure Asian cultural values and its relationships to other psychological concepts. This scale consists of 36 items with 6 main factors: 1. conformity to norms (8); 2. family recognition through achievement (3); 3. emotional self-control (3); 4. collectivism (3); 5. humility (3); and 6. filial piety (4). There are 12 items that do not fit into the 6 factors. Participants respond using Likert scales (1 = strongly disagree, 7 = strongly agree). Sample items are (factor 1) "One should not deviate from familial and social norms," (factor 2) "Occupational failure does not bring shame to the family (reverse item)," (factor 3) "The ability to control one's emotions is a sign of strength," (factor 4) "One should think about one's group before oneself," (factor 5) "Modesty is an important quality for a person," and (factor 6) "One's family need not be the main source of trust and dependence (reverse item)." For the Chinese participants, the researcher translated the scale into Chinese with the same order and scale. The internal consistency reliability (Cronbach's alpha) was 0.84 for all the 36 items of the AVS. Factor 1, conformity to norms had an internal consistency of 0.81; factor 2, family recognition through achievement had an internal consistency of 0.51; factor 3, emotional self-control had an internal consistency of 0.50; factor 4, collectivism had an internal consistency of 0.51; factor 5 humility had an internal consistency of 0.60; and factor 6, filial piety had an internal consistency of 0.36.

Demographic Questionnaire

Participants reported their age, class year, gender, race/ethnicity, education level, family income, country of birth, years lived in the US, language proficiency, and their past experience with therapy. (Chinese-American participants were not asked for race). Everyone who participated in the survey answered the demographic questions.

Procedure

This study was conducted online for all four samples. For Connecticut College students notice of this study took place through the Psychology 100 participant pool. For other college students, social media contacts were being used (email and Wechat). For older age groups, personal contact and snowballing effect was used. After providing informed consent, participants in all four groups first read one vignette portraying depression or social anxiety depending on the randomization and answered a battery of questionnaires responding to the vignette that they read. Participants read four vignettes in total and responded to four sets of questions in response to the vignettes in an online survey format using *Qualtrics* questionnaires in the following order: *Vignette questionnaire* (four vignettes with different order for each participant)*, Asian Value Scale*, and *Demographics*. All the required data were set in Qualtrics as a required question. For these, participants are required to answer before they can move on to the next part.

Ethical Issues

No identifiable information from participants was recorded. In this study, only anonymous data were collected. Psychological counseling centers' numbers were provided in the debriefing form to all participants in case they experienced any distress. For this study, participants were asked about their past or current treatment status. Risks related to confidentiality were described in the informed consent and participants were debriefed at the end of the session. This study was approved by the Connecticut College Institutional Review Board and granted exempt status because it was an anonymous survey.

Results

Preliminary Analyses

We first confirmed that participants did not make any strong assumptions about the gender of the individuals in the vignette. In examining this item, 70.15 % indicated that they could not determine the gender of the vignette individuals (Male = 12.94%, Female = 16.91%). After reviewing the means for the college student and 50+ vignettes we noted that there were very few differences for the depression and social anxiety vignettes as a function of the age of the individual in the vignette. Accordingly, we ran repeated measures ANOVAs for the ten items separately for depression and social anxiety with age and ethnicity as between factors and item as a repeated measure. Out of the 20 ANOVAs, there were only four that yielded a significant difference. In the depression vignettes, for both item 1, "consulting with family physician" and item 3, "begin a trial of psychiatric medication," the 50+ depression vignette yielded a higher mean across both the CA and NCA samples. For the social anxiety vignettes, the 50+ vignette had a higher mean for item 3, while item 5, "having their family guide them," was higher for the college student vignette, again across the CA and NCA samples. Since these differences did not reflect any powerful patterns, we chose to simplify further analyses by combining the college student and 50+ vignettes for each type of disorder. This resulted in 10 new variables for the depression vignettes (Total Depression Vignette – TDEP 1, TDEP 2, ...) and ten new variables for the social anxiety vignettes (Total Social Anxiety Vignette – TSOCANX 1, TSOCANX 2, ...).

Main Analyses

Using these new variables, we then examined whether the four groups (Chinese American students – CA; Non-Chinese American students – NCA; Chinese American 50+ –

CA – 50+; and Non-Chinese American 50+ – NCA-50+) would differ in their attributions about mental health status and treatment options for depression, following by social anxiety (see Tables 1 for the total depression vignette means, but for the means for each vignette, see Appendix F and Appendix G).

We conducted 2x2 MANOVAS with Age and Ethnicity as the Fixed Factors and the 10 total vignette items as the dependent variables. For the depression vignettes, the overall MANOVA was significant for Age, F (1,169) = 4.05, $p < .001$; Ethnicity, F (1,169) = 14.84, $p < .001$; and for the interaction, Age x Ethnicity, F (1,169) = 22.96, $p = .053$.

Looking at the main effects for ethnicity when we collapse across age group, we can see significant effects in the hypothesized direction. For the depression scenario, the main effect of ethnicity was significant for item 2 "make appointment with counseling center" (CA, M= 3.73, NCA, M= 4.29), F (1,169) = 4.05, $p <$. 001; item 6 "stop sulking" (CA, M= 3.78, NCA, M= 2.48), F (1,169) = 84.83, $p < .001$; item 7 "a physical problem" (CA, M= 3.01, NCA, M=2.37), F (1,169) = 40.22, $p < .001$; and item 8 "handle this problem on their own" (CA, M= 3.05, NCA, M= 1.88), F (1,169) = 76.32, $p < .001$. For the significant items, Chinese American participants were less treatment oriented in regard to mental health, and they were more likely to endorse the idea of a physical issue rather than a psychological concern than non-Chinese American participants.

Looking at the main effects for age group, regardless of ethnicity, the main effect was significant for item 1 "consult with family physician" (College student, M= 4.32, 50+, M= 4.05), F (1,169) = 5.16, p =.024; item 3 "begin a trial of psychiatric medication" (College student, M= 3.16, 50+, M= 2.77), F (1,169) = 9.11, p =.003; item 8 "handle problem on their own" (College student, M= 2.25, 50+, M= 2.64), F (1,169) = 4.40, p =.012; and item 9 "join a support group"

(College student, M= 3.71, 50+, M= 3.37), F (1,169) = 9.01, p =.003. The college students were more open to treatment options, compared to 50+ participants who were more in favor of handling the problem on their own.

Table 1
Means and Standard Deviations for Depression Vignette (Collapsed across College-Aged and 50+ Vignettes)

	Chinese-American College Students *N*=40		Non-Chinese-American College Students *N*=50		Chinese-American 50+ Adults *N*=40		Non-Chinese-American 50+ Adults *N*=40	
	M	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
1. X should consult with the family physician as soon as possible.	4.25	0.75	4.38	0.59	3.91	0.82	4.19	0.87
2. X should make an appointment with the counseling center at the College.	3.78	0.86	4.29	0.75	3.69	0.78	4.30	0.65
3. X should begin a trial of psychiatric medications to help get well.	3.33	0.85	3.02	0.90	2.86	0.99	2.68	0.68
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.65	0.64	3.61	0.89	3.61	0.74	3.24	0.85
5. X should have their family guide them as to what to do next.	3.08	0.89	3.30	0.71	3.46	0.84	2.99	0.65

6. X should stop sulking in their room and take action to improve themself.	3.76	0.72	2.61	1.12	3.79	0.82	2.33	0.93
7. This is most likely a physical problem and needs to be treated that way.	3.31	1.08	2.37	0.96	3.30	0.79	2.38	0.95
8. X can handle this problem on their own if X just changes their attitude.	2.76	0.99	1.84	0.72	3.34	0.89	1.94	0.86
9. X should join a support group of individuals with similar concerns.	3.60	0.82	3.79	0.59	3.48	0.73	3.26	0.69
10. X should seek help through internet resources.	2.96	1.06	3.02	0.89	3.45	0.83	2.90	0.69

Note. $N = 170$; The rating scale is from 1 strongly disagree to 5 strongly agree; the combined mean is the sum of both depression scenarios and divided by 2. "X" refers to the name of the person in the vignette.

Focusing on the interaction between age and ethnicity, the Univariate ANOVAs revealed the following significant differences; Item 5, "Have their family guide them", F (1,169) = 8.63, p = .004, and Item 10, "Internet resources", F (1,169) = 4.78, p = .030. We conducted follow up simple effects tests, holding ethnicity and then age constant. The simple effects tests for Item 5 found three significant differences. Looking only within the NCA group at the college aged vs. the 50+ participants, college students were more in favor of family guidance compared to the 50+ participants, F (1,169) = 4.69, p = .033; within only the CA group, 50+ participants agreed more with family guidance than the college students, F (1,169) = 4.01, p= .049; and within only the 50+ participants, CA group liked the idea of family guidance more than NCA group, F (1,169) = 8.01, p = .006. For Item 10, looking only within the CA group, 50+ participants were

more in favor with seeking internet resources compared to college students, F (1,169) = 4.97, p = .029; within only 50+ participants, CA group favored seeking internet resources more than the NCA group, F (1,169) = 9.86, p = .002. In general, CA 50+ adults and NCA colleges students were more in favor of family guidance and the CA 50+ participants were more inclined to seek out internet resources compared to other groups.

For the social anxiety vignettes (see Table 2), the overall MANOVA was also significant for Age, F (1,169) = 3.00, p = .002; Ethnicity, F (1,169) = 14.81, $p < .001$, and for the interaction, Age x Ethnicity, F (1,169) = 4.51, $p < .001$.

Looking at the main effects for ethnicity for social anxiety scenarios, the main effect of ethnicity was significant for item 1 "consult with family physician" (CA, M= 3.66, NCA, M= 3.96), F (1,169) = 5.75, p = 0.18; item 2 "make appointment with counseling center" (CA, M= 3.63, NCA, M= 4.22), F (1,169) = 27.16, $p < .001$; item 6 "stop sulking" (CA, M= 3.73, NCA, M= 2.48), F (1,169) = 95.48, $p < .001$; item 7 "a physical problem" (CA, M= 2.96, NCA, M= 1.96), F (1,169) = 53.77, $p < .001$; and item 8 "handle this problem on their own" (CA, M= 3.14, NCA, M=1.93), F (1,169) = 83.89, $p < .001$. The Chinese American participants were more prone to treating the problem as a physical problem compared to Non-Chinese American participants, who were more open to treatment options.

Looking at the main effects for age group, regardless of ethnicity, the main effect was significant for item 2 "make appointment with counseling center" (College student, M= 4.08, 50+, M= 3.78), F (1,169) = 5.86, p =.017; item 6 "stop sulking" (College student, M= 3.19, 50+, M= 2.93), F (1,169) = 6.14, p = .014; and item 9 "join a support group" (College student, M= 3.76, 50+, M= 3.42), F (1,169) = 7.68, p = .006. The college students were more open to treatments options compared to 50+ participants.

Turning to the age by ethnicity interaction, the Univariate ANOVAs for social anxiety revealed the following significant differences; Item 4 “changing their diet”, F (1,169) = 4.79, p = .030; Item 5 “family guidance”, F (1,169) = 30.12, p=.001; Item 6 “stop sulking”, F (1,169) = 4.02, p = .047; Item 8 “handling this problem on their own”, F (1,169) = 4.72, p = .031; and Item 10 “internet resources”, F (1,169) = 5.02, p = .026.

Table 2
Means and Standard Deviations for Social Anxiety Vignette

	Chinese-American College Students N=40		Non-Chinese-American College Students N=50		Chinese-American 50+ Adults N=40		Non-Chinese-American 50+ Adults N=40	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
1. X should consult with the family physician as soon as possible.	3.75	0.79	3.95	0.74	3.56	0.90	3.96	0.82
2. X should make an appointment with the counseling center at the College.	3.78	0.85	4.33	0.64	3.48	0.83	4.09	0.55
3. X should begin a trial of psychiatric medications to help get well.	2.73	0.82	2.84	0.98	2.60	0.85	2.98	0.72
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.33	0.73	3.41	0.86	3.49	0.85	3.03	0.78
5. X should have their family guide them as to what to do next.	3.04	0.87	3.58	0.79	3.48	0.74	2.71	0.69

6. X should stop sulking in their room and take action to improve themself.	3.76	0.77	2.74	0.98	3.70	0.71	2.15	0.90
7. This is most likely a physical problem and needs to be treated that way.	2.86	0.97	2.92	0.73	3.06	0.90	2.01	0.94
8. X can handle this problem on their own if X just changes their attitude.	2.96	0.82	2.03	0.91	3.33	0.88	1.81	0.84
9. X should join a support group of individuals with similar concerns.	3.54	0.85	3.94	0.58	3.41	0.81	3.43	0.77
10. X should seek help through internet resources.	2.89	0.92	3.00	0.96	3.34	0.83	2.84	0.80

Note. $N = 170$; The rating scale is from 1 strongly disagree to 5 strongly agree; the combined mean is the sum of both depression scenarios and divided by 2.

To further understand this interaction, we conducted follow up simple effects tests, holding ethnicity and then age constant. The simple effects tests for item 4 “change their diet” found two significant interactions. Looking only within the NCA group at the college aged vs. the 50+ participants, college students were more in favor of a change in diet and exercise routine compared to the 50+ participants, $F(1,169) = 4.81$, $p = .031$; and within only the 50+ participants, the CA group liked the idea of changing diet and exercise more than NCA group, $F(1,169) = 6.39$, $p = .013$.

For Item 5 “family guidance”, looking only within the NCA group at the college aged vs. the 50+ participants, college students were more in favor of family guidance compared to the 50+ participants, $F(1,169) = 30.58$, $p < .001$; within only the CA group, 50+ participants

endorsed family guidance more than the college students, F (1,169) = 5.89, p = .018; within only the college student group, NCA group liked the idea of family guidance more than CA group, F (1,169) = 9.78, p = .002; and within only the 50+ participants, NCA group endorsed the idea of family guidance more than CA group, F (1,169) = 22.72, $p < .001$.

For Item 6 "stop sulking in your room," looking only within the NCA group at the college aged vs. the 50+ participants, college students were more in favor of stop sulking in the room compared to 50+ participants, F (1,169) = 8.65, p = .004; looking only within the college student groups, CA group endorsed the idea of stop sulking in the room more than NCA group, F (1,169) = 29.16, p=.001; and lastly looking with only within 50+ participants, CA group liked the idea of stop sulking in the room more than NCA group, F (1,169) = 73.49, $p < .001$.

For Item 8 "handle this problem on their own", looking only within college student group, CA group were more in favor of handling the problem on their own than the NCA group, F (1,169) = 25.61, $p < .001$; and looking within 50+ participant group, CA participants liked the idea of handling the problem on their own more than NCA participants, F (1,169) = 61.40, $p < .001$. This was the one finding that went in the opposite direction from the depression scenario.

Lastly, for Item 10 using internet resources, looking only within the college group, CA group were more in favor with seeking internet resources compared to NCA group, F (1,169) = 25.61, $p < .001$; and within only 50+ participants, CA group agreed more with the idea of seeking internet resources than the NCA group, F (1,169) = 61.40, $p < .001$.

Asian Values Scale

Descriptively, the CA 50+ participants (M=157.15, SD=17.75) scored the highest on the Asian values scale follow by CA college students (M=143.33, SD=20.77), NCA college students (M=126.63, SD=16.89), and the NCA 50+ participants (M=117.45, SD=19.61). This finding

partially supported our hypothesis of the order of the groups in response to the scale; however surprisingly, NCA college students scored higher than their 50+ counterparts.

In order to simplify the findings for the multiple subscales on the Asian Values Scale, we conducted a factor analysis of the 6 subscales. Using a principal components factor analysis with a Varimax rotation, we emerged with two main factors. We retained only those items that loaded .30 or more on one and only one factor (see Table 3). We labeled the first factor Conformity to Norms and Family and the second factor, Humility. We created new approximate factor scores by combining the loading items on the first factor, Conformity to Norms and Family (CNF) (Cronbach's alpha 0.81) and preserving the lone loading item on the second factor, Humility (Cronbach's alpha 0.60). We then conducted a 2x2 MANOVA with Age and Ethnicity as the between factors, and the two new Asian Values variables as the dependent variables. The overall MANOVA was significant for Age, F (1,169) = 4.13, p = .018; Ethnicity, F (1,169) = 39.08, p = .001, and for the interaction, Age x Ethnicity, F (1,169) = 8.46, p = .001. Focusing on the Interaction, the Univariate ANOVAs revealed significant differences on both Conformity to Norms and Family, F (1,169) = 10.81, $p < .001$, and Humility, F (1,169) = 7.95, p = .005.

We conducted follow-up simple effects tests, holding age and ethnicity constant. Looking only within CA group at the college aged vs. the 50+ participants, we found the following significant differences; 50+ CA participants scored higher on both the Conformity to Norms and Family, F (1,79) = 10.83, p = .002, and Humility, F (1,79) = 5.40, p = .022, compared to the CA college students. Looking at the CA vs. NCA, we found the following significant difference; CA college students scored higher on both Conformity to Norms and Family, F (1,79) = 14.83, $p < .001$, and Humility, F (1,79) = 11.88, $p < .001$, compared to NCA college students; CA 50+

participants scored higher on Conformity to Norms and Family than the NCA 50+ participants, F (1,79) = 77.72, $p < .001$. CA participants, regardless of age, were more prone to conformity to norms and family compared to their NCA counterparts.

Table 3
Rotated Matrix for the Factor Analysis

	1 "Conformity to Norms and Family"	**2 "Humility"**
Factor 1: Conformity to Norms	.79	.28
Factor 2: Family Recognition Through Achievement	.63	-.28
Factor 3: Emotional Self-Regulation	.63	.31
Factor 4: Collectivism	.46	.57
Factor 5: Humility	-.07	.88
Factor 6: Filial Piety	.70	.02
Eigenvalues	2.33	1.14
% of Variance Accounted for	38.90	18.93

In order to examine the role of adherence to Asian values in our sample, we introduced the Conformity to Norms and Family (CNF) as a covariate in a MANCOVA analysis. To do this, we divided the CNF scale by its median into two groups, a high group above the median and a low group at the median and below. We first did a MANOVA with CNF as the fixed factor for both depression (see Table 4), F (1,169) = 6.97, $p < .001$, and social anxiety (see Table 5), F (1,169) = 5.76, $p < .001$, using the 10 items as our dependent variables. To do this, we divided the CNF scale by its median into two groups, a high group above the median and a low group at

the median and below. These results indicated that differences in CNF were linked to differing attitudes about mental health and treatment.

Table 4
Means and Standard Deviations for Depression with Conformity to Norms and Family

	Above N=80		At and Below N=90	
	M	**SD**	**M**	**SD**
1. X should consult with the family physician as soon as possible.	4.23	0.67	4.16	0.85
2. X should make an appointment with the counseling center at the College.	3.87	0.71	4.17	0.87
3. X should begin a trial of psychiatric medications to help get well.	2.99	0.97	2.96	0.82
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.68	0.72	3.40	0.86
5. X should have their family guide them as to what to do next.	3.43	0.74	3.02	0.79
6. X should stop sulking in their room and take action to improve themself.	3.54	1.03	2.69	1.05
7. This is most likely a physical problem and needs to be treated that way.	3.32	0.81	2.36	1.05
8. X can handle this problem on their own if X just changes their attitude.	2.90	1.01	2.02	0.92
9. X should join a support group of individuals with similar concerns.	3.51	0.69	3.58	0.76
10. X should seek help through internet resources.	3.20	0.93	2.97	0.86

Given this influence, we introduced our continuous measure of CNF as a covariate in our age and ethnicity analysis. The 2x2 MANCOVA for depression with CNF as a covariate revealed significance for ethnicity, F (1,169) = 9.42, $p < .001$; and age group, F (1,169) = 3.86, $p < .001$; but no significance for the interaction. Thus, the covariate of Conformity to Norms and Family weakened the interaction between ethnicity x age group, indicating that it helped explain the interaction effects reported earlier. The 2x2 MANCOVA for social anxiety with CNF as a covariate revealed significance for age group, F (1,169) = 2.80, p=.003; ethnicity, F (1,169) = 8.49, $p < .001$; and also for the interaction between ethnicity x age group, F (1,169) = 4.18, $p < .001$. The covariate weakened the significance for the age group compared to the effect reported earlier. Focusing on the Interaction, the Univariate ANOVAs with CNF as a covariate still revealed the following significant differences; Item 4 "changing diet", F (1,169) = 4.13, p=.044, and Item 5 "have their family guide them", F (1,169) = 26.95, $p < .001$. Controlling for the covariate reduced the strength of some of the significant findings for the ethnicity x age group when run without the covariate, indicating that Conformity to Norms and Family helps explain some of the interaction effects previously described.

Table 5
Means and Standard Deviations for Social Anxiety with Conformity to Norms and Family

	Above N=68		At and Below N=102	
	M	SD	M	SD
1. X should consult with the family physician as soon as possible.	3.73	0.81	3.89	0.83
2. X should make an appointment with the counseling center at the College.	3.76	0.76	4.11	0.79
3. X should begin a trial of psychiatric medications to help get well.	2.71	0.87	2.86	0.85
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.41	0.84	3.23	0.80

5. X should have their family guide them as to what to do next.	3.33	0.79	3.13	0.88
6. X should stop sulking in their room and take action to improve themself.	3.48	0.93	2.71	1.07
7. This is most likely a physical problem and needs to be treated that way.	2.85	0.96	2.06	0.91
8. X can handle this problem on their own if X just changes their attitude.	3.02	1.01	2.04	0.93
9. X should join a support group of individuals with similar concerns.	3.51	0.77	3.68	0.78
10. X should seek help through internet resources.	3.18	0.88	2.87	0.89

Discussion

The current study examined how ethnicity and age might influence individuals' mental health attitudes along with the impact of cultural values. To do so, it provided four groups of participants (Chinese American college students and older adults [50+]; Non-Chinese American college students and older adults) with vignettes depicting individuals of two different ages (college student and 50+) suffering from either depression or social anxiety.

Our first hypothesis, that Chinese Americans participants would experience more stigma and greater reluctance to engage with mental health treatment, was supported. The main effect of ethnicity for both depression and social anxiety was highly significant for Chinese American participants. Chinese American participants, regardless of age, displayed a greater emphasis on physical explanations and individual behavioral responses in reacting to the vignettes depicting mental health concerns. For both depression and social anxiety, Chinese American participants were more in favor of the option "stop sulking in the room", and also more likely to endorse treating the mental health symptoms as a physical problem, and handling the problem on their own compared to their counterpart non-Chinese American participants.

For the depression scenario, within the Chinese American group, 50+ participants were more in favor of family guidance and internet resources than college students; and within the 50+ group, Chinese American participants were also more in favor of family guidance and internet resources compared to non-Chinese American participants. The use of internet resources endorsed by Chinese Americans (in general, or in the 50+ sample) may be one way to avoid revealing the problem to other people. These findings supported the hypothesis that Chinese American participants may experience more stigma related to mental health treatment and may be more inclined to keep a problem like depression within the family and more private because they do not want to be viewed differently and shame the family (Tabora & Flaskerud, 1997).

In the social anxiety scenario, within the 50+ group, Chinese American were more inclined to see this disorder as a physical issue than a psychological one. Chinese American 50+ participants liked the idea of changing diet, family guidance, stopping sulking in the room, handling the problem on their own, and seeking internet resources significantly more than their NCA 50+ counterparts. This also supported the hypothesis that Chinese American participants, especially 50+ participants, might be more vulnerable to stigma in terms of not being willing to seek professional help and treatment. They were more prone to handle the issue without professional intervention and to treat it more as a physical problem. It is interesting to note that for the social anxiety scenario, the Chinese American 50+ group rated the use of psychiatric medication as their least favorite option, while stop sulking in their room was their highest endorsed choice. This indicated that the Chinese American 50+ group perceived the problem as something that can be controlled by their behavior change. We should also note that when comparing their views of depression vs. social anxiety through the mental health items, they

were more inclined to see social anxiety as a problem to be handled by one's self and through one's own behavior change, as opposed to seeking more medical and psychological resources.

Within the college student group regarding social anxiety, Chinese American college students were more inclined to endorse changing diet, stopping sulking, handling the problem on their own, and using internet resources than their non-Chinese American counterparts. This also supported the hypothesis that not only the 50+ participants were more prone to stigma concerns; the Chinese American college students also reflected attitudes about social anxiety that suggest they would be less accepting of this disorder and more likely to see it as a physical problem than their NCA participants.

Developmentally, within the non-Chinese American group for both depression and social anxiety scenarios, the college students were more inclined to reach out for family guidance than 50+ participants. Non-Chinese American college students were also more in favor of the idea of stopping sulking in the room than 50+ participants. In this case, it may be that the non-Chinese American college students saw looking to their middle-aged parents for guidance as more plausible than the older group who might not feel that their elderly parents might be the best source of guidance for addressing mental health concerns. This is the opposite for Chinese American college students where they are less likely to seek out family guidance in both depression and social anxiety scenario.

The social anxiety scenario item did reveal some unexpected findings that ran counter to the hypotheses. Within the college student group, the non-Chinese American college students were more in favor of family guidance compared to Chinese American college students. A possible explanation may be that Chinese American college students may have less trust that their families would guide them in the right direction. It may also be that Chinese American

college students viewed social anxiety as a condition that does not require family guidance or discussion with family members or they felt shamed about the condition. Research has shown that family climate may lead to a lack of communication and difficulties among Asian American youth in discussing mental health concerns with parents (Rheet et al., 2003). The family may discourage the individual from identifying or seeking help for a mental illness because of the belief that it is a punishment from God or the spirits owing to the family's bad behavior; further, seeking treatment might reveal hereditary problems that will shame the family (Moritsugu & Uba, 1995).

Surprisingly, within the 50+ group, Non-Chinese American participants were more likely to ask for family guidance than Chinese American participants. This was an opposite finding compared to the depression scenario where the Chinese American participants were more likely to see out family guidance. Participants might consider social anxiety as a less serious condition compared to depression, therefore, non-Chinese American participants are more inclined to ask for family guidance rather than asking family physicians or joining support groups compared to Chinese American participants.

Across both the depression and the social anxiety vignettes, the findings were mostly confirmatory to our hypothesis that there is a tendency in the Chinese-American individuals to encourage individuals to think about the problem on their own, seek out internet resources, and focus on exercise and diet.

Contrary to our hypothesis, there were no significant differences among the groups regarding consultation with counselors, seeing a family physician, joining support groups, and using psychiatric medication. However, the results did support the position that Chinese-Americans tend to see mental health in more physical than psychological problems and that these

concerns can be handled by more personal choices in lifestyle. These more private strategies correspond to a desire to hide their problem away from others due to their cultural belief that an individual with mental illness causes the entire family to "lose face" and be shamed (Tabora & Flaskerud, 1997).

The second hypothesis that the CA participants would score higher on the Asian Values Scale compared to NCA participants was supported. The CA 50+ participants did score the highest on the AVS, followed by the CA college students. However, the NCA college student did not score the lowest on AVS, but instead, the NCA 50+ participant did. This finding did not support the hypothesis. One possible explanation could be this generation of non-Chinese college students, born in the wake of 9/11 and now facing two years of pandemic restrictions, are more compliant to their parents and prone to follow school and societal rules. Whereas 50+ participants, raised in the 1970s, and the aftermath of the rebellious 60's, might be less inclined to endorse statements that highlight conformity and following of norms. In addition, Chinese-American participants were more in favor of conformity to norms and family and more inclined to humility compared to NCA participants. This supported the hypothesis that Chinese-Americans might be more attuned to family and social norms compared to Non-Chinese American participants due to cultural values.

Finally, it was important to note that participants' scores on the Asian Values Scale did play a role in mediating the effects of ethnicity and age on their responses to mental illness vignettes. When introduced as a covariate, the influence of ethnicity and age on the mental health and treatment variables weakened, particularly for the Chinese-American sample. This suggests that socialization practices in these communities are indeed linked to attitudes about both mental health and treatment.

Despite these suggestive findings regarding cultural values and mental health in the Chinese-American community, the current study did have several limitations. First, our sample is not sufficiently diverse. The NCA college students were mostly students from a liberal arts college and most of whom were involved in the Psychology department. This sample may have prevented us from finding significant results that could be generalizable to a larger group in multiple ways. For example, as most individuals in the sample identified as White in both NCA samples, it is unclear whether our results could be generalized to other racial/ethnic groups, such as Black and Hispanic Americans. In additional, the sample size is relatively small for this type of research. It is also noteworthy that conducting this study during a pandemic may have prevented the recruitment of a larger sample size and skewed the data due to increasing mental health exposure during the pandemic. Mental health became an important topic of discussion during the pandemic due to increasing numbers of individuals experiencing depression and social anxiety during the pandemic and post-pandemic. This may have inclined all members of our society to be more sensitized to mental health as a legitimate concern and to the accompanying modalities that treat it.

It is also of interest to consider the limitations of an online study. Although the online nature was necessary to ensure anonymity and recruit more participants from different areas, it may have been the case that the self-report measures, instead of more structured interviews or assessments, were less reliable in terms of understanding the vignettes and understanding the importance of the study. The online assessments also may have led participants to rush through their answers, especially since the survey was relatively long. The AVS measure is also another limitation where the AVS is specifically created to reflect Asian Values, which are embedded in

a specific cultural perspective, we do not necessarily know whether the constructs fit or apply in the same way for people of different ethnic groups.

Future research might explore a more diverse non-Chinese-American sample, while also sampling Chinese-American college students from larger private and public universities. This research would benefit from further assessing different aspects of cultural values in terms of societal expectations and access to treatment. It would be helpful to gain more data that could document individuals' actual choices regarding entering treatment, taking medication, and engaging in behavioral change.

Across two different vignettes, we consistently demonstrated that Chinese-American participants were more inclined to see mental health conditions as related to personal choice, will power, and individual actions. This view of mental health concerns appeared to be linked to cultural values and beliefs that emphasize the precedence of conformity to family and social norms. The Chinese Americans were also inclined to seek internet resources, perhaps as an alternative to being more public about a mental health condition. At the same time, Chinese-American college students were less likely to ask for family guidance than their non-Chinese counterparts, possibly fearing a lack of understanding of mental health concerns in the older generation. Future research might extend this study of cultural values and mental health attitudes to additional psychological disorders such as bipolar illness, schizophrenia, and substance abuse. It would also be useful to examine personal mental health history and treatment experiences as variables that may influence mental illness stigma and treatment recommendations.

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Appendix A
Informed Consent

A Cross-cultural Study of Mental Health Perception
Principal Investigator (PI): Xiao Shan Jiang
Connecticut College
270 Mohegan Avenue
New London, CT 06320

You are being asked to volunteer in a research study titled "A Cross-cultural Study of Mental Health Perception", being conducted by Xiao Shan Jiang, '22, for an honors thesis project in the Department of Psychology under the supervision of Jefferson Singer, Ph.D., Faulk Foundation Professor of Psychology of the College. It is important that you read the following explanation of the proposed procedures. This form describes the purpose, procedures, benefits, risks, discomforts, and precautions of the study. It also describes the alternative procedures that are available to you and your right to withdraw from the study at any time. The text below provides key information that may help you make this decision.

Why is this research being conducted?
The purpose of this study is to investigate mental health perception for two different generations. Specifically, this study will seek to understand different factors that might influence individuals' perceptions regarding mental health. Overall, this research is important to understand cultural differences and cultural stigmas.

What is involved?
You will first be asked to read four vignettes and answer a series of questions related to the vignettes (10-15mins). Then you will be asked to answer additional questions regarding cultural values (5-10mins). This research also asks questions about past mental health treatment and current mental health treatment status.

It is estimated that the whole study will take around 30 minutes.

It is anticipated that about 200 people will be involved in this study.

Confidentiality
All study surveys will be completed anonymously.

Do I have to participate?
Participation is this research study is completely voluntary and you are free to withdraw from the study at any time. There is no penalty for withdrawing from the study and your decision will not affect your current or future relationship with Connecticut College.

Risks of the study
This research asks questions about your past mental health treatment experience and current mental health treatment status.

If severe distress occurs, steps will be taken to provide you with clinical assistance. You should call Student Health Services immediately at 860-439-4587. If after hours, press 2 and you will be directed to a counselor. You can and should also contact emergency services if you feel unsafe, such as by calling 911 and going to the local emergency room or urgent care center. Connecticut College also partners with the My SSP app for students who cannot reach or choose not to utilize the counseling services. It is free of charge, provides 24/7 support, and connects students with providers in their area. See below for how you can download this app. Other resources for students or adults who are not from Connecticut College are listed below.

This current project might add a slight degree of stress in that it asks participants to think about their mental health states. However, there will be a thorough debriefing form that provides resources and context as to why these questions are being asked.

Benefits of the study
Connecticut College students will receive lab credit towards a psychology class by participating in this study. Although there may be minimal immediate benefits of participation, we hope that this research will improve understanding on this topic in the psychological literature.

Whom can I talk to if I have any questions or concerns?
If you have any questions or concerns about this project at any time, you may contact the PI, Xiao Shan Jiang (xjiang@conncoll.edu) or the primary advisor to this study, Jefferson Singer (jasin@conncoll.edu). You may also contact Professor Ann Devlin (asdev@conncoll.edu), Department of Psychology, Chair of the Institutional Review Board (IRB).

If you already have a counselor available to you, you should contact them with any mental health concerns that may arise from study questions and/or topics. You can also contact the Student Counseling Center.

Student Health Services/Student Counseling Services
Phone: 860-439-4587/2286
chenin.graesch@conncoll.edu
M-TH: 8:30AM to 6PM
F: 8:30AM to 6PM
After hours: 860-439-4587 and press 2

In case of an emergency
If you are in severe distress or experience a mental health emergency, please contact emergency services at 911.

Go health urgent care offers virtual appointments.
https://www.gohealthuc.com/connecticut/virtual-visits

FOR CONNECTICUT COLLEGE STUDENTS AFTER HOURS SUPPORT:
Please download the My SSP app (available on the App Store or Google Play):

- Through the app, you can **call or chat with a Student Support Counselor** 24/7 in real-time or **schedule a telephone or video session that fits your schedule.**

- You can browse a digital library of helpful **articles and videos**.
- Or, you can call direct at 1 (866) 743-7732 (If calling from outside North America, dial 001-416-380-6578)
- You can also chat with the Crisis Helpline at 1 (844) 550-4376 by text

FOR OTHER PARTICIPANTS:

- You can also chat with the Crisis Helpline at 1 (844) 550-4376 by text
- Contact emergency service at 911 if you are experiencing a mental health emergency

Hotlines

Southeast CT Mental Health Authority Crisis Response: (860) 866-9302
National Suicide Crisis Line: (800) 273-TALK (800-273-8255) or text CONNECT to 741741
Trevor Project Crisis Hotline: (866) 488-7386 or text TREVOR to 741741
National Eating Disorders Helpline: (800) 931-2237 or text NEDA to 741741

If you have read the procedure for addressing potential distress, check here: ____

If you have read the above information, consent to take part in the study, and are at least 18 years of age, please click the submit button below to confirm your consent.

Appendix B
Debriefing Form

A Cross-cultural Study of Mental Health Perception
Principal Investigator (PI): Xiao Shan Jiang
Connecticut College
270 Mohegan Avenue
New London, CT 06320

We first want to thank you for participating in this research study that investigates mental health perceptions. It is known in the psychological literature on this topic that mental health perceptions can be influenced by culture, age, gender, education level, and stigma. This study is looking at cultural and age influence on perceptions of mental health diagnosis (depression and social anxiety). This kind of research has great cultural importance as it may lead to more research in the field, raise cultural awareness on mental health, and provide quality care for each individual.

If you are experiencing any lingering distress or discomfort, please see Student Counseling Services or text the crisis helpline for services. If you already have a counselor available to you, you are encouraged to contact them with any mental health concerns that may arise from the study questions and/or topics.

For Connecticut College students, please take a screenshot of the Debriefing and email it to your lab instructor if you want credit for participation.

Student Health Services/Student Counseling Services

Phone: 860-439-4587/2286

chenin.graesch@conncoll.edu

M-TH: 8:30AM to 6PM

F: 8:30AM to 6PM

After hours: 860-439-4587 and press 2

FOR CONNECTICUT COLLEGE STUDENTS AFTER HOURS SUPPORT:
Please download the My SSP app (available on the App Store or Google Play):

- Through the app, you can **call or chat with a Student Support Counselor** 24/7 in real-time or **schedule a telephone or video session that fits your schedule.**
- You can browse a digital library of helpful **articles and videos**.
- Or, you can call direct at 1 (866) 743-7732 (If calling from outside North America, dial 001-416-380-6578)
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FOR OTHER PARTICIPANTS:

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- Contact emergency service at 911 if you are experiencing a mental health emergency

Hotlines

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Trevor Project Crisis Hotline: (866) 488-7386 or text TREVOR to 741741

National Eating Disorders Helpline: (800) 931-2237 or text NEDA to 741741

If you have any questions or concerns about the manner in which this study was conducted, please contact the IRB Chairperson (Ann Sloan Devlin, asdev@conncoll.edu).

If you are interested in learning more about this topic and wish to read literature in this area, please see the following articles.

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Appendix C: Vignette Descriptions

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Depression
X is an 18-years-old first year college student who, in the last two months, has lost interest in many things X usually enjoys, such as talking to friends and watching television. X has lost appetite and has lost some weight. X also has trouble sleeping nearly every night, feels easily fatigued, and has less energy. X experiences a persistent heavy and pressured sensation in the chest. X has difficulty concentrating on schoolwork.

1. X should consult with the family physician as soon as possible.
2. X should make an appointment with the counseling center at the College.
3. X should begin a trial of psychiatric medications to help get well.
4. X should change their diet, increase their exercise routine, and join a meditation group.
5. X should have their family guide them as to what to do next.
6. X should stop sulking in their room and take action to improve themself.
7. This is most likely a physical problem and needs to be treated that way.
8. X can handle this problem on their own if X just changes their attitude.
9. X should join a support group of individuals with similar concerns.
10. X should seek help through internet resources.
11. Is X male, female, or can't determine.

    a. Male
    b. Female
    c. Can't determine

Depression
X is a 52-years-old who in the last two months has lost interest in many things X usually enjoys, such as talking to coworkers and having family dinner. X has lost appetite and has lost some weight. X also has trouble sleeping nearly every night, feels easily fatigued, and has less energy. X experiences a persistent heavy and pressured sensation in the chest. X has difficulty concentrating on work.

1. X should consult with the family physician as soon as possible.
2. X should make an appointment with the counseling center in the community.
3. X should begin a trial of psychiatric medications to help get well.
4. X should change their diet, increase their exercise routine, and join a meditation group.
5. X should have their family guide them as to what to do next.
6. X should stop sulking in their home and take action to improve themself.
7. This is most likely a physical problem and needs to be treated that way.
8. X can handle this problem on their own if X just changes their attitude.
9. X should join a support group of individuals with similar concerns.

10. X should seek help through internet resources.

11. Is X male, female, or can't determine.

    a. Male
    b. Female
    c. Can't determine

Social Anxiety

X is 52-years-old and over the past year has become even more shy than usual and has made only one friend at work. X would really like to make more friends but is scared that they will do or say something embarrassing when they are around others. Although X's work is good, they rarely say a word at work and become incredibly nervous, tremble, blush and seem like they might vomit if they have to speak in front of their coworkers. At home, X is quite talkative with family, but becomes quiet if anyone they don't know well comes over. X never answers the phone and refuses to attend social gatherings/events. X knows their fears are unreasonable but can't seem to control them and this really upsets X.

1. X should consult with the family physician as soon as possible.
2. X should make an appointment with the counseling center in the community.
3. X should begin a trial of psychiatric medications to help get well.
4. X should change their diet, increase their exercise routine, and join a meditation group.
5. X should have their family guide them as to what to do next.
6. X should stop sulking in their home and take action to improve themself.
7. This is most likely a physical problem and needs to be treated that way.
8. X can handle this problem on their own if X just changes their attitude.
9. X should join a support group of individuals with similar concerns.
10. X should seek help through internet resources.

11. Is X male, female, or can't determine.

    a. Male
    b. Female
    c. Can't determine

Social Anxiety

X is 18-year-old college student and over the past year has become even more shy than usual and has made only one friend at school. X would really like to make more friends but is scared that they will do or say something embarrassing when they are around others. Although X's school work is good, they rarely say a word in class and become incredibly nervous, tremble, blush and seem like they might vomit if they have to speak in front of the class. At home, X is quite talkative with family, but becomes quiet if anyone they don't know well comes over. X never answers the phone and refuses to attend school gatherings/events. X knows their fears are unreasonable but can't seem to control them and this really upsets X.

1. X should consult with the family physician as soon as possible.

2. X should make an appointment with the counseling center at the College.
3. X should begin a trial of psychiatric medications to help get well.
4. X should change their diet, increase their exercise routine, and join a meditation group.
5. X should have their family guide them as to what to do next.
6. X should stop sulking in their room and take action to improve themself.
7. This is most likely a physical problem and needs to be treated that way.
8. X can handle this problem on their own if X just changes their attitude.
9. X should join a support group of individuals with similar concerns.
10. X should seek help through internet resources.

11. Is X male, female, or can't determine.

    a. Male
    b. Female
    c. Can't determine

Appendix D: Asian Values Scale (AVS) (Kim et al., 1999)

Here are a number of statements that may or may not apply to you. Please indicate your level of agreement to each statement.

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

One should be discouraged from talking about one's accomplishments.	1,2,3,4,5,6,7
One need not achieve academically to make one's parents proud.	1,2,3,4,5,6,7
Younger persons should be able to confront their elders.	1,2,3,4,5,6,7
One should not inconvenience others.	1,2,3,4,5,6,7
One should not deviate from familial and social norms.	1,2,3,4,5,6,7
Children should not place their parents in retirement homes.	1,2,3,4,5,6,7
Educational failure does not bring shame to the family.	1,2,3,4,5,6,7
One should be able to question a person in an authority position.	1,2,3,4,5,6,7
The ability to control one's emotions is a sign of strength.	1,2,3,4,5,6,7
One should avoid bringing displeasure to one's ancestors.	1,2,3,4,5,6,7
One need not follow the role expectations (gender, family hierarchy) of one's family.	1,2,3,4,5,6,7
One need not control one's expression of emotions.	1,2,3,4,5,6,7
One need not conform to one's family's and society's expectations.	1,2,3,4,5,6,7
Children need not take care of their parents when the parents become unable to take care of themselves.	1,2,3,4,5,6,7
Elders may not have more wisdom than younger persons.	1,2,3,4,5,6,7
One should not make waves.	1,2,3,4,5,6,7

Family's reputation is not the primary social concern.	1,2,3,4,5,6,7
Occupational failure does not bring shame to the family.	1,2,3,4,5,6,7
One need not minimize or depreciate one's own achievements.	1,2,3,4,5,6,7
Following familial and social expectations is important.	1,2,3,4,5,6,7
One need not focus all energies on one's studies.	1,2,3,4,5,6,7
One should be humble and modest.	1,2,3,4,5,6,7
One need not follow one's family's and the society's norms.	1,2,3,4,5,6,7
Educational and career achievements need not be one's priority.	1,2,3,4,5,6,7
One need not remain reserved and tranquil.	1,2,3,4,5,6,7
One should think about one's group before oneself.	1,2,3,4,5,6,7
One need not be able to resolve psychological problems on one's own.	1,2,3,4,5,6,7
One should have sufficient inner resources to resolve emotional problems.	1,2,3,4,5,6,7
One should not be boastful.	1,2,3,4,5,6,7
Parental love should be implicitly understood and not openly expressed.	1,2,3,4,5,6,7
One should consider the needs of others before considering one's own needs.	1,2,3,4,5,6,7
Modesty is an important quality for a person.	1,2,3,4,5,6,7
One's family need not be the main source of trust and dependence.	1,2,3,4,5,6,7
The worst thing one can do is bring disgrace to one's family reputation.	1,2,3,4,5,6,7
One's achievements should be viewed as family's achievements.	1,2,3,4,5,6,7
When one receives a gift, one should reciprocate with a gift of equal or greater value.	1,2,3,4,5,6,7

Appendix E: Demographic Questionnaires

Please answer the following questions about yourself:

Age: ____

What is your class year? (if applicable)

First Year ___Sophomore___ Junior___ Senior___

With what gender do you identify?

_____

Race/Ethnicity: _____

Education Level: _____

Family Income:

- Less than $20,000
- $20,000 - $44,999
- $45,000 - $139,999
- $140,000 - $149,999
- More than 150,000
- Other _____

Country of Birth: _____

Years lived in US: _____

Language Proficiency: _____

Have you received mental health treatment in the past?

Yes_____ No_____

If you answered yes, please check all forms of treatment that apply

- Psychotherapy
- Medication
- Group Therapy
- Support Group
- Other _____

Are you currently receiving treatment?

Yes_____ No_____

If you answered yes, please check all forms of treatment that apply

- Psychotherapy
- Medication
- Group Therapy
- Support Group
- Other _____

Appendix F
Means and Standard Deviations for College Aged Depression Vignette

	Chinese-American College Students N=40		Non-Chinese-American College Students N=50		Chinese-American 50+ Adults N=40		Non-Chinese-American 50+ Adults N=40	
	M	SD	M	SD	M	SD	M	SD
1. X should consult with the family physician as soon as possible.	4.15	0.89	4.26	0.83	3.88	0.88	4.00	1.11
2. X should make an appointment with the counseling center at the College.	3.85	1.001	4.22	.975	3.68	0.86	4.35	0.89
3. X should begin a trial of psychiatric medications to help get well.	3.20	1.07	2.90	1.02	2.85	1.03	2.53	0.64
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.65	0.80	3.54	0.95	3.72	0.82	3.08	1.16
5. X should have their family guide them as to what to do next.	3.03	1.00	3.12	0.89	3.58	0.84	2.80	1.04
6. X should stop sulking in their room and take action to improve themself.	3.75	0.67	2.72	1.23	3.85	.834	2.30	0.94
7. This is most likely a physical problem and needs to be treated that way.	3.20	1.11	2.26	0.97	3.33	0.94	2.33	1.42
8. X can handle this problem on their own if X just changes their attitude.	2.80	.97	1.84	0.82	3.38	0.93	1.98	0.95
9. X should join a support group of individuals with similar concerns.	3.53	.85	3.74	0.69	3.48	0.85	3.28	0.78
10. X should seek help through internet resources.	2.93	1.07	3.06	0.96	3.40	0.90	3.00	0.88

Appendix G
Means and Standard Deviations for 50+ Aged Depression Vignette

	Chinese-American College Students N=40		Non-Chinese-American College Students N=50		Chinese-American 50+ Adults N=40		Non-Chinese-American 50+Adults N=40	
	M	SD	M	SD	M	SD	M	SD
1. X should consult with the family physician as soon as possible.	4.35	0.77	4.50	0.54	3.95	0.85	4.37	0.98
2. X should make an appointment with the counseling center at the College.	3.70	1.02	4.36	0.72	3.70	1.07	4.35	0.81
3. X should begin a trial of psychiatric medications to help get well.	3.45	0.90	3.14	1.01	2.88	1.09	2.83	1.11
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.65	0.77	3.68	0.99	3.50	0.91	3.40	0.90
5. X should have their family guide them as to what to do next.	3.12	0.97	3.48	0.84	3.35	1.05	3.17	0.87
6. X should stop sulking in their room and take action to improve themself.	3.78	0.83	2.50	1.13	3.72	0.91	2.35	1.17
7. This is most likely a physical problem and needs to be treated that way.	3.43	1.17	2.48	1.13	3.28	1.01	2.43	1.19
8. X can handle this problem on their own if X just changes their attitude.	2.73	1.19	1.84	0.87	3.30	1.04	1.90	1.15
9. X should join a support group of individuals with similar concerns.	3.68	0.94	3.84	0.77	3.48	.82	3.25	0.89
10. X should seek help through internet resources.	3.00	1.18	2.98	1.00	3.47	0.88	2.80	0.97

Appendix H
Means and Standard Deviations for College Aged Social Anxiety Vignette

	Chinese-American College Students N=40		Non-Chinese-American College Students N=50		Chinese-American 50+ Adults N=40		Non-Chinese-American 50+ Adults N=40	
	M	SD	M	SD	M	SD	M	SD
1. X should consult with the family physician as soon as possible.	3.73	0.96	3.98	0.79	3.55	1.06	3.83	1.11
2. X should make an appointment with the counseling center at the College.	3.88	1.07	4.40	0.70	3.43	1.01	4.18	0.64
3. X should begin a trial of psychiatric medications to help get well.	2.70	1.02	2.76	0.98	2.55	0.82	2.80	0.88
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.35	0.95	3.36	1.03	3.55	0.96	3.18	1.11
5. X should have their family guide them as to what to do next.	3.08	.92	3.60	0.90	3.45	0.99	3.12	0.88
6. X should stop sulking in their room and take action to improve themself.	3.83	0.81	2.76	1.12	3.77	0.73	2.10	0.98
7. This is most likely a physical problem and needs to be treated that way.	2.90	1.01	1.84	0.89	3.05	0.99	2.00	1.09
8. X can handle this problem on their own if X just changes their attitude.	3.00	0.96	1.94	0.91	3.33	1.05	1.85	1.05
9. X should join a support group of individuals with similar concerns.	3.63	0.98	4.08	0.63	3.25	0.95	3.38	1.13
10. X should seek help through internet resources.	2.87	0.97	3.00	1.03	3.40	.96	2.88	0.91

Appendix I
Means and Standard Deviations for 50+ Aged Social Anxiety Vignette

	Chinese-American College Students N=40		Non-Chinese-American College Students N=50		Chinese-American 50+ Adults N=40		Non-Chinese-American 50+ Adults N=40	
	M	SD	M	SD	M	SD	M	SD
1. X should consult with the family physician as soon as possible.	3.77	0.97	3.92	0.90	3.58	0.93	4.10	0.87
2. X should make an appointment with the counseling center at the College.	3.68	0.86	4.26	0.75	3.53	0.82	4.00	0.78
3. X should begin a trial of psychiatric medications to help get well.	2.75	0.98	2.92	1.12	2.65	0.98	3.15	0.95
4. X should change their diet, increase their exercise routine, and join a meditation group.	3.30	0.79	3.46	0.89	3.43	0.87	2.88	1.02
5. X should have their family guide them as to what to do next.	3.00	0.96	3.56	0.91	3.50	0.82	2.30	0.94
6. X should stop sulking in their room and take action to improve themself.	3.70	0.85	2.72	1.05	3.63	0.89	2.20	1.20
7. This is most likely a physical problem and needs to be treated that way.	2.83	1.10	2.00	0.81	3.08	1.07	2.03	1.09
8. X can handle this problem on their own if X just changes their attitude.	2.92	0.94	2.12	1.06	3.33	0.92	1.79	1.03
9. X should join a support group of individuals with similar concerns.	3.45	0.96	3.80	0.83	3.58	0.84	3.48	0.99
10. X should seek help through internet resources.	2.90	1.03	3.00	0.99	3.28	0.91	2.80	1.14