Asian American Mental Health Help-Seeking: An Asian Value-Informed Health Belief Model

by

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ABSTRACT

Depression is a serious mental health concern that has increasing prevalence rates in the United States (Mojtabai et al., 2016). Asian Americans with depression tend to experience severe and persistent symptoms, but are significantly less likely to seek treatment than other racial/ethnic groups (Alegria et al., 2008; Lee et al., 2011). The current study utilized the *Health Belief Model* (HBM) to examine Asian American emerging adults' depression-specific mental health beliefs and resulting intentions to seek mental health care. Furthermore, the current study tested the traditional HBM against an Asian value-informed HBM via structural equation modeling among a sample of 385 Asian American emerging adults (M_{age} = 21.81, SD_{age} = 2.88). Primary study results indicated good model fit for both the traditional and Asian-value informed HBMs. Specifically, in the Asian-value informed HBM, perceived benefits of professional mental health care mediated the association between Asian value adherence and likelihood of mental health help-seeking. *Post hoc* analyses provided support for the Asian value-informed HBM over the traditional HBM. These results suggest that Asian cultural values influence mental health beliefs and, in turn, the likelihood of mental health help-seeking behaviors among Asian Americans. The results of the current study have important implications for practice as well as future research in highlighting the impact of cultural variables on mental health beliefs and behaviors among Asian American emerging adults.

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Introduction

Depression is a serious mental health disorder that impacts many adults in the United States. In 2013, a nationwide survey found that the lifelong prevalence of clinical depression among adults was 20.86% (Hasin et al., 2018). Additionally, a 2014 national survey found that 9.6% of adults aged 18 – 25 had experienced a major depressive episode within the past 12 months, a significant increase from the 8.8% that was estimated in 2005 (Mojtabai et al., 2016). Symptoms of depression include, but are not limited to, low mood, feelings of hopelessness, decreased energy, appetite changes, difficulty sleeping and concentrating, and thoughts of suicide (National Institute of Mental Health, 2018). Despite effective treatments such as psychotherapy and antidepressant medications (Khan et al., 2012), over 30% of American adults suffering from depression do not seek treatment (Hasin et al., 2018). Moreover, this trend has been found among American college students (American College Health Association, 2018), and more specifically, Asian American college students (Lipson et al., 2018).

Although Asian Americans represent the fastest growing racial/ethnic group in the United States (López et al., 2017), there is limited research on this population's mental health (National Alliance on Mental Illness, 2003). The National Epidemiological Survey on Alcohol and Related Conditions found that across Asian American ethnic groups (i.e., East Asian, Southeast Asian, and South Asian), the lifetime prevalence of major depression exceeded generalized anxiety disorder (Lee et al., 2015). According to the National Latino and Asian American Study, approximately 9% of men and 17% of women among U.S. born Asian American adults had a lifetime prevalence of major depressive disorder (Hong et al., 2014). From 2012 to 2015, data from the Healthy Minds

Study found that 20% of Asian American college-attending students endorsed moderate to severe depression (Lipson et al., 2018). Despite limited research on this population, studies have shown that Asian Americans with depression tend to experience persistent symptoms and are significantly less likely to seek adequate treatment for depression than Whites (Alegria et al., 2008; Lee et al., 2011) and other racial/ethnic groups (Substance Abuse and Mental Health Services Administration, 2015). An estimated 19% of Asian American adults diagnosed with depression received treatment compared to 33.4% of non-Latino Whites (Alegria et al., 2008). Similarly, only 20% of Asian American college students with any mental health problem, including depression, utilized mental health services, a significantly lower rate than other racial/ethnic groups including Arab, Black, Latinx, multiracial, and White Americans (Lipson et al., 2018). Without proper mental health care, Asian Americans are at-risk for more negative outcomes. Indeed, Asian American college students have been found more likely to contemplate and attempt suicide than Whites (Kisch et al., 2005). Given the severity of depression, improving treatment accessibility is critical, especially among Asian American emerging adults (18-29 years old; Arnett, 2014).

Although depression is composed of both somatic and affective symptoms (NIMH, 2018), depression has been believed to present predominantly through somatic symptoms among Asians (e.g., Lu et al., 2010). However, researchers have found that Chinese participants were more likely to report somatic symptoms related to depression compared to European Canadians on spontaneous problem report and structured clinical interviews, but not symptom questionnaire methods, which may suggest that it is not the expression of depression that differs among these groups, but the symptoms that are

emphasized based on the assessment method (Ryder et al., 2008). Additionally, studies have found that both somatic and affective symptoms are present among Asian Americans with depression (Yang & WonPat-Borja, 2007; Young et al., 2010) which opposes previous viewpoints that Asian Americans disproportionally experience somatic symptoms.

The *Health Belief Model* (HBM; Hochbaum, 1958) may be a particularly helpful framework in understanding the likelihood of Asian Americans engaging in mental health help-seeking behaviors in relation to depression. The HBM conceptualizes individuals' likelihood of participating in health-promoting behaviors with specific attention to beliefs regarding health-problem severity and susceptibility, as well as perceived benefits and barriers of the pro-health behavior (Graham & Pace, 2008). Health beliefs have been found to be pivotal in the promotion of a pro-health behavior. For example, a recent systematic review found that risk perceptions, or individuals' beliefs regarding their susceptibility to a health threat, critically determined their health behavior (Ferrer & Klein, 2015). Similarly, beliefs regarding the barriers to completing a health-promoting behavior was significantly more likely to result in failure to complete the health behavior for both Black and White American women (Vadaparampil et al., 2004). Research on the HBM has extensively examined and found evidence for the influence of health beliefs on different physical health behaviors, such as breast self-examination (Moodi et al., 2011), human papillomavirus vaccination (Donadiki et al., 2014), and oral hygiene (Buglar et al., 2010), but has largely ignored mental health help-seeking behaviors.

Applying the HBM to mental health help-seeking behaviors may significantly improve current understanding of the disproportionately low use of mental health

services among Asian Americans with depression concerns. Because sociodemographic variables, such as race/ethnicity, are consistently associated with health-promoting behaviors (e.g., Johnson et al., 2008), researchers recommend that the HBM be studied within a cultural framework (Skinner et al., 2008; Henshaw & Freedman-Doan, 2009). Specifically, researchers theorize that sociodemographic variables impact different racial/ethnic groups' health beliefs and the resulting likelihood of the health-promoting behavior (e.g., Shaw et al., 2018). Indeed, shared cultural values have been found to impact mental health beliefs and intentions of professional help-seeking for psychological distress among different racial/ethnic groups, including Asian American samples (e.g., Chen & Mak, 2008; Sheikh & Furnham, 2000).

Despite recommendations to integrate cultural variables, the majority of HBM research has not examined the cultural contexts of health beliefs, a crucial component to understanding the likelihood of health-promoting behaviors among racial/ethnic groups (e.g., Spector, 2002). Ultimately, omitting a cultural lens in the examination of the HBM may result in a limited understanding of likelihood of health behaviors because it does not account for the cultural variables that yield respective health beliefs. Of the limited research that has applied the HBM to Asian Americans (e.g., Kim & Zane, 2016; Yep, 1993), only two studies incorporated the examination of cultural variables (Lim et al., 2012; Lim et al., 2009). Specifically, these studies examined the cultural health beliefs that influence health behaviors among Asian American breast cancer survivors. Researchers found that cultural health beliefs (e.g., role of health professionals and family) significantly influenced participants' health behaviors (i.e., eating, stress management, exercise). Furthermore, researchers examined both Asian and Latina

American breast cancer survivors and found distinct differences in their cultural health beliefs and resulting health behaviors and outcomes. These findings importantly reveal that culture not only impacts the health beliefs of specific racial/ethnic groups, but also their health behaviors and outcomes. While this is an important takeaway, the specific mechanism in which culture influences mental health beliefs and behaviors are still unknown. Consequently, the current study adds to the literature by examining how culture impacts depression-specific mental health beliefs and likelihood of mental health help-seeking behaviors among Asian Americans within a culturally informed HBM framework.

The proposed study aims to assess an Asian value-informed HBM for mental health help-seeking behaviors. Values are a subjective evaluation of what is desirable that influences individuals' or groups' appraisals and decisions (Kluckhohn, 1951). Cultural values denote shared perceptions of what is desirable, or ideal, within a respective culture (Schwartz, 2004). In order to understand how behaviors are guided by the values held by a group of individuals, cultural-level values are the most appropriate (Schwartz, 1999). In respect to Asian cultural values, there are six dimensions - collectivism, conformity to norms, emotional self-control, family recognition through achievement, humility, and filial piety (Kim et al., 2005). Empirical evidence supports that enculturation, or adherence to Asian values, is associated with mental health beliefs among Asian Americans (e.g., Kim & Atkinson, 2002; Kim et al., 2002; Miville & Constantine, 2007; Shea & Yeh, 2008). Furthermore, Asian value adherence has been found to be particularly helpful when examining Asian American within-group variability in relation

to different beliefs, including mental health help-seeking (Ahn et al., 2008; Chung, 2001; Omizo et al., 2008).

The mechanism in which values predict behaviors may most likely be explained through beliefs. Because values represent individuals' core conceptualizations of what is desirable or ideal, they construct belief systems, which lead to respective actions, or behaviors that reinforce their values. For example, environmentally promotive behavior has been found to be predicted by individuals' pro-environment values and the resulting beliefs that their values are being threatened and that their pro-environment action can help restore those values (Stern et al., 1999; Oreg & Katz-Gerro, 2006). In other words, beliefs arguably mediate the association between values and behavior. Furthermore, intentions, or reported likelihood of conducting a behavior, have been found to be a powerful predictor of executing an action (Fishbein & Ajzen, 1977). Due to the limited percentage of Asian American adults who seek mental health care, this study examined participants' likelihood of seeking mental health services as a proxy for completion of mental health seeking behaviors.

The current study examined non-nested models via structural equation modeling to test the traditional HBM (Figure 1a) and an Asian value-informed HBM (Figure 1b) for mental health help-seeking behaviors. The current study predicts that both models would provide good model fit, but that the Asian value-informed HBM would account for additional variance. By examining both models, the results of the current study provided better understanding of the likelihood of mental health help-seeking behaviors among Asian Americans. This study is timely, as a recent study found that Asian American college students continue to be significantly less likely to have previous experiences with

professional psychological services than Black, Latinx, and White American college students (Kam et al., 2018). The results of this study may support the future development of more specific and effective interventions to foster adequate mental health care access among this underserved population. Furthermore, the results from the current study may be of particular interest to mental health professionals, such as psychologists, who hold an ethical code that promotes providing all people with equal access and benefit from services (American Psychological Association, 2017).

Figure 1a

Traditional Health Belief Model

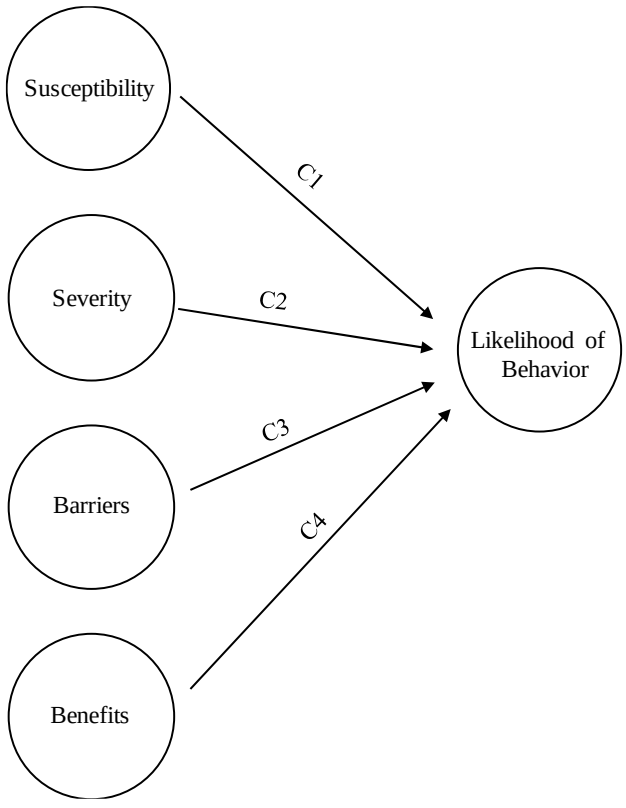
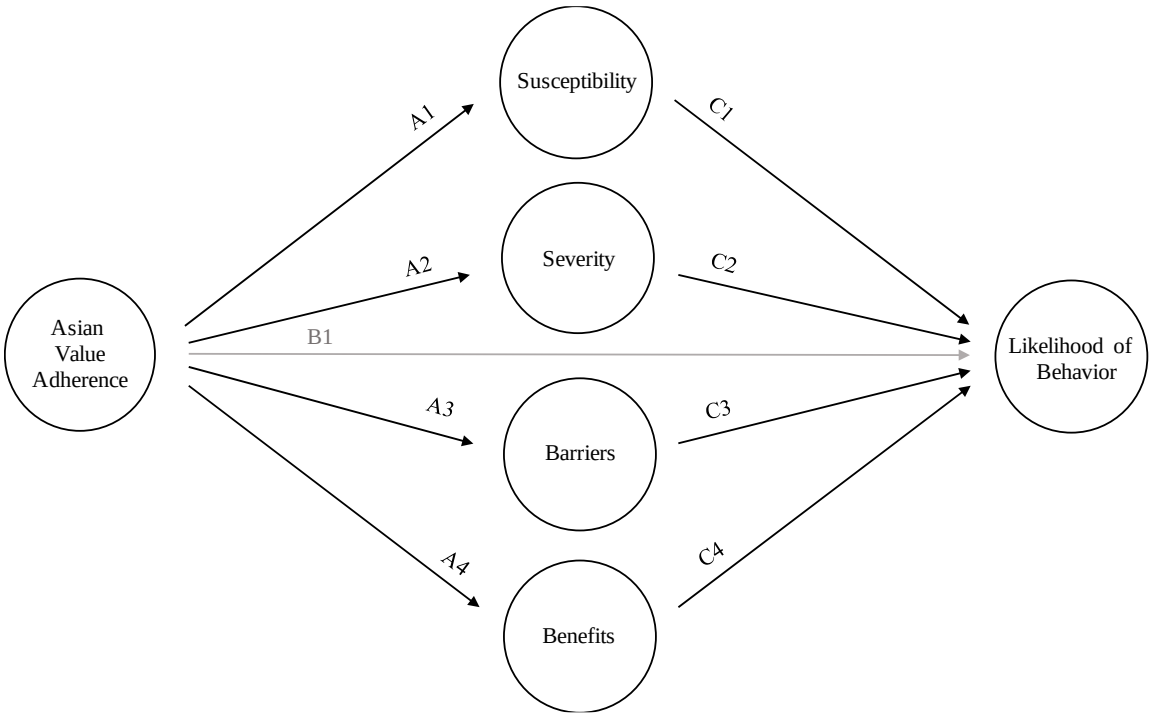


Figure 1b

Asian Value-Informed Health Belief Model



The Health Belief Model and Mental Health

The HBM was originally created in the 1950s by the U.S. Public Health Service to explain why people failed to participate in disease prevention and detection programs (Rosenstock, 1960). Specifically, during the time of the HBM's inception, researchers were concerned because relatively few people were completing tuberculosis screenings, despite steps to make x-rays readily accessible, at no charge, in residential neighborhoods via mobile vans (Stretcher & Rosenstock, 1997). Hochbaum (1958) was the first to utilize the HBM to examine probability of tuberculosis screening in adults (racial/ethnic identity was not reported) residing in Boston, Cleveland, and Detroit and found support for the HBM in predicting the likelihood of tuberculosis screening. In the decades since this original study, the HBM has been one of the most widespread psychological frameworks

utilized to conceptualize health-promoting behaviors (Skinner et al., 2015), such as healthy eating habits (Deshpande, Basil, & Basil, 2009); smoking prevention (Rahnavard et al., 2011); breast self-examination (Abolfotouh et al., 2015); mammography examination (Sohl & Moyer, 2007); oral hygiene (Solhi et al., 2010); human papillomavirus vaccination (Donadiki et al., 2014); tuberculosis treatment adherence (Tola et al., 2016); pap smear tests (Pirzadeh & Mazaheri, 2012); fecal occult blood testing (FOBT) and colonoscopy (Rawl et al., 2012).

The HBM posits that in order for individuals to act on a health-promoting behavior, they must believe that: 1) they are *susceptible* to the disease, 2) the consequences of the disease are *severe*, 3) they would *benefit* from the health promoting behavior, and 4) acting on the health promoting behavior would outweigh the *barriers* (Rosenstock, 1974). Studies that have examined mental health help-seeking behaviors within a HBM framework have found support for how perceptions of susceptibility, severity, barriers, and benefits relate to attitudes towards mental health help-seeking among student athletes, college students, and adults with depression (e.g., Bird et al., 2018; Castonguay et al., 2016; Nobiling & Maykrantz, 2017).

Under a HBM framework, individuals who perceive themselves as more *susceptible* to mental health symptoms would be more likely to carry out mental health help-seeking behaviors. Perceived *susceptibility* refers to beliefs about the likelihood of contracting a disease, or condition (Champion & Skinner, 2008). That is, if an individual believed they had depression or a chance of being depressed, they would be more apt to seek professional mental health care in order to prevent or reduce depression symptoms. Indeed, a study examining college student athletes found that those who did not perceive

themselves as susceptible to mental health symptoms were also less likely to perceive need for professional support (Bird et al., 2018). Similarly, adolescents who rated a fictional vignette character with depressed symptoms were more likely to suggest that this person seek help from a counselor (Burns & Rapee, 2006). Furthermore, a study found that when adults improved their ability to recognize mental health symptoms in a vignette, they also had increased positive beliefs regarding mental health treatment (Kitchener & Jorm, 2002). These findings suggest that when individuals have an increased ability to recognize mental health symptoms, in themselves or others, they are more likely to have increased intentions of seeking mental health care.

Similarly, within the HBM framework, if individuals perceive *severe* consequences related to depression, they would be more likely to seek mental health care. Perceived *severity* are beliefs regarding the seriousness of contracting a health condition, or leaving the condition untreated (Champion & Skinner, 2008). Specifically, if individuals perceive depression symptoms as having serious consequences, they would be more likely to seek mental health treatment. A study found that young adults perceived that untreated mental illness with suicidal or homicidal ideation symptoms are best treated through professional care (Nobiling & Maykrantz, 2017). When individuals perceive mental health as a serious condition that requires attention, they are more likely to have intentions of seeking help. For example, in a multi-country study, low perceived need was the found to be the most common reason for why adults with mental health disorders (e.g., bipolar disorder, substance dependence) did not initiate treatment (Andrade et al., 2014). Even among adults with severe mental health symptomology, if they did not perceive their symptoms to warrant attention, they did not initiate treatment.

The HBM theory also posits that intention to seek mental health care would increase if individuals perceive that there would be a *benefit* to the action. Perceived *benefits* refers to beliefs regarding the positive outcomes related to executing actions that will reduce the threat of a health condition (Champion & Skinner, 2008). Perceived benefits are not limited to personal benefit, but could also extend to peripheral reasons, such as mollifying concerned family members. Studies have provided evidence of a significant, positive association between perceived benefits of mental health care and intention to seek help among adult populations (Bird et al., 2018; Nobiling & Maykrantz, 2017; O' Connor et al., 2014).

Lastly, the HBM theorizes that in order for individuals to be likely of seeking mental health care, they must also perceive that the benefits would outweigh the risks, or *barriers*. Perceived *barriers* refers to beliefs regarding the negative aspects of executing a specific health promoting behavior (Champion & Skinner, 2008). Perceived barriers could include a host of obstacles, including those that are structural (e.g., time-consuming, costly) or psychological (e.g., fear, inconvenience, stigma; O' Connor et al., 2014). Both psychological and structural barriers were both found to be negative predictors of both initiating and continuing treatment for adults in a multi-country study (Andrade et al., 2014). Additionally, among a study of individuals with depression, individuals would seek mental health care only if their perceived benefit of the action outweighed the perceived barriers of doing so (Castonguay et al., 2016).

From the literature, there is evidence that supports that the HBM can also be extended to Asian Americans. For example, studies have found when Asian Americans believed that depression was caused by physical or situational reasons, they were more

likely to endorse mental health help-seeking (Chen & Mak, 2008; Wong et al., 2010). From these findings, it appears that if Asian Americans believe that they are more *susceptible* to depression, either based on physical and/or situational factors, they would also be more likely to seek mental health services (Path C1 [Figure 1a, Figure 1b]). Additionally, Asian Americans who believed that depression symptoms would last for a short duration were also less likely to endorse mental health help-seeking (Wong et al., 2010). Plausibly, when Asian Americans believe that the consequences of depression are less *severe*, they will also be less likely to endorse mental health help-seeking (Path C2 [Figure 1a, Figure 1b]). Moreover, Asian Americans tend to report *barriers*, such as mental health stigma, that are associated to decreased likelihood of mental health help-seeking (Path C3 [Figure 1a, Figure 1b]; Lee et al., 2009). Lastly, when compared to European Americans, Asian Americans were less likely to perceive the *benefit* of seeking mental health services, and significantly less likely to endorse intentions to seek mental health help when in psychological distress (Path C4 [Figure 1a, Figure 1b,]; Kim & Zane, 2008).

As evidenced through the literature, constructs of susceptibility, severity, benefits, and barriers are linked to intentions of seeking mental health care among Asian Americans. However, a traditional HBM model assumes that cultural factors do not prompt depression-specific mental health beliefs, and the resulting probability of mental health care seeking behaviors. There have been many studies that examine health behaviors under a HBM framework that do not include cultural considerations (e.g., Carpenter, 2010). However, it is important to note that individuals' cultural norms tend to influence perceptions of mental health (e.g., Okazaki & Kallivayalil, 2002). Thus, a HBM

framework without cultural consideration may not be as apropos as utilizing a cultural lens when examining how the HBM relates to mental health help-seeking behaviors among Asian Americans.

An Asian Value-Informed Health Belief Model

Asian values are cultural values that represent those commonly observed among Asian and Asian American populations (Kim et al., 2005). There are six dimensions of Asian values - *collectivism, conformity to norms, emotional self-control, family recognition through achievement,* and *humility* (Kim et al., 1999). *Collectivism* refers to values related to prioritizing in-group (e.g., family, close loved ones) goals. *Conformity to norms* include values of adhering to social expectations of what is considered normal. *Emotional self-control* describes values of restricting expression of emotion as a sign of strength, while *family recognition through achievement* refers to values of promoting success of one's family through hard work, as well as academic and occupational achievement. *Humility* describes values that discourage boastful behavior of one's achievements, and lastly, *filial piety* refers to values of honoring and supporting family members.

Together, these six dimensions of Asian values are argued to represent *enculturation,* which is the process of socialization to an individuals' indigenous, or heritage culture (Herskovits, 1948). Scholars posit that cultural value adherence is an important facet of the enculturation process (Kim et al., 2001). Cultural values not only guide evaluations of what is ideal or desirable (Schwartz, 2004), but also influence belief systems specific to mental health and mental health help seeking behaviors (Figure 1b, Paths A1-A4; Atkinson et al., 1998; Kim, et al., 2001). Because cultural beliefs are

largely believed to influence health beliefs (Kreuter et al., 2003), the current study also posits that Asian cultural values would drive mental health beliefs and the related likelihood of mental health seeking behaviors. Due to the current study's focus of providing a cultural context for how mental health beliefs arise, Asian cultural value adherence was examined as an exogenous variable to the traditional HBM.

Although limited, there is evidence that suggests that *Asian value adherence*, or *enculturation*, is related to the HBM concepts of *susceptibility, severity, benefits, and barriers*. For example, Asian value adherence has been found to be inversely associated with intent to seek mental health services, and the association was moderated by biological etiology beliefs (Kim & Kendall, 2015). In other words, when Asian Americans with low enculturation viewed that mental health disorders had a biological basis, they were more likely to seek mental health care. From these findings, it is plausible that when Asian Americans endorse low Asian values and believe that they are *susceptible* to mental health disorders (Figure 1b, Path A1), they are more likely to seek mental health services (Figure 1b, Path C1). Furthermore, because a large facet of Asian values is emotional self-control, admitting that mental health symptoms are *severe* and requires external support may cause a discrepancy in their value system (Mauss et al., 2010). Therefore, Asian Americans with more enculturation levels may also report less perceived depression severity (Figure 1b, Path A2) and be less likely to endorse intentions to seek mental health services (Figure 1b, Path C2). A strong, positive association has been found between adherence to Asian values and stigma related to seeking mental health help among Asian American undergraduate and graduate students (Shea & Yeh, 2008). Moreover, when participants endorsed both high adherence to Asian

values and mental health stigma, they were also less likely to report intentions to seek mental health services (Shea & Yeh, 2008). In other words, high adherence to Asian values appears to be positively associated with *barriers* (Figure 1b, Path A3), such as mental health stigma, and in turn, be related to less likelihood of mental health seeking (Figure 1b, Path C3). Lastly, Asian Americans with higher Asian value adherence may be less likely to perceive *benefits* of seeking mental health care for depression symptoms (Figure 1b, Path A4) and less likely to seek mental health care (Figure 1b, Path C4). Because Asian values hold the importance of emotional self-control, Asian Americans with high Asian value endorsement may not see the benefit of seeking external sources of support in mental health. Indeed, research has found that Asian Americans with high Asian value adherence are significantly more likely to utilize close sources, such as family support, rather than seek support from a mental health professional (Chu & Sue, 2011; Kearney et al., 2005).

There is a sizeable body of literature that supports the inverse association between adherence to Asian values and intentions to seek mental health care (Figure 1b, Path B1). Many studies have examined Asian values in relation to mental health beliefs by utilizing a mental health attitudes measure, which serves as a proxy for the beliefs regarding the inclination or intention to seek mental health services. Asian Americans who identify less with Asian values have been found to have more positive attitudes towards mental health help-seeking (Kim, 2007; Shea & Yeh, 2008; Wang & Kim, 2010). Additionally, Asian American college students with high adherence to Asian values were more likely to have negative attitudes towards seeking professional mental help (Kim, 2007; Kim & Omizo, 2003; Miller et al., 2011; Miville & Constantine, 2007; Wong et al., 2010). Furthermore,

a meta-analysis found that enculturation showed strong, negative associations with help-seeking attitudes among Asian American participants (Sun et al., 2016).

There are many possible reasons why Asian value adherence has been found to be associated to both mental health beliefs and intentions to seek help. For one, emotional self-control is an important Asian value in Asian culture that is considered honorable and an acceptable method of coping (Mauss et al., 2010). Seeking mental health support may represent a conflict with the value of emotional self-control due to the expectation of emotional expression with a mental health professional. Furthermore, due to the traditionally collectivistic nature of Asian cultures, there is a propensity to characterize negative attributes to internal factors and positive attributes to external factors (Smith et al., 1990; Yan & Gaier, 1994). Endorsing mental health symptoms may be perceived as a reflection of shame upon the family unit (Lauber & Rössler, 2007) as many Asian cultures view mental illness as dangerous (e.g., Lauber & Rössler, 2007; Sanchez & Gaw, 2007). Rather than bring indignity to loved ones, Asian Americans with high cultural value adherence may choose to conceal their mental health symptoms. Indeed, Asian American adults who adhere more to Asian values tend to attribute depression symptoms to internal causes and utilize disengagement coping strategies (i.e., problem avoidance, wishful thinking, social withdrawal, and self-criticism; Wong et al., 2010), which have been found to be ineffective and negatively related to psychological well-being (Dijkstra & Homan, 2016). In contrast, Asian Americans who adhere less to Asian values may be more likely to utilize active coping strategies, such as seeking professional mental health treatment, for depression symptoms. Thus, Asian Americans with stronger adherence to

Asian values may disengage and not seek help when experiencing mental health symptoms.

The Current Study

The primary objective of the current study was to test an Asian value-informed Health Belief Model for depression-specific mental health help-seeking behaviors among Asian Americans (see Figure 1b) against a traditional Health Belief Model (see Figure 1a). The current study focused on Asian American emerging adults, as this appears to be a particularly important developmental period to understand mental health beliefs and behaviors. For instance, a review of epidemiological studies in the United States found that rates of depression among emerging adults were higher than any other age group (Kessler et al., 2005). Furthermore, emerging adulthood is a pivotal developmental period in which the decision-making and problem-solving centers of the brain reach maturity (Tanner & Arnett, 2011). Because of the cognitive development that occurs during emerging adulthood, it is a crucial time in understanding the formation of mental health beliefs and the resulting likelihood of mental help-seeking behaviors. The HBM posits that individuals are more likely to execute health-promoting behaviors if they believe that 1) they are *susceptible* to the condition, 2) they will face *severe* consequences if they have the condition, 3) there are *benefits* to taking a health promoting action, and 4) the *barriers* to taking a health promoting action are outweighed by the benefits (Skinner et al., 2015). Research on Asian Americans' mental health help-seeking suggests that individuals who adhere less to Asian values tend to have more positive mental health care beliefs (Kim & Atkinson, 2002; Kim et al., 2002; Miville & Constantine, 2007; Shea & Yeh, 2008), which may lead to greater likelihood of seeking treatment. Based on these

theoretical and empirical foundations, the current study hypothesized that the associations between cultural values and likelihood of mental health seeking behaviors would be mediated by depression-specific perceptions of susceptibility, severity, barriers, and benefits. The hypotheses of this study are listed below:

H1: In the traditional HBM, susceptibility, severity, and benefits would be positively associated with likelihood of mental health help-seeking behaviors.

H2: In the traditional HBM, barriers would be inversely associated with likelihood of mental health help-seeking behaviors.

H3: In the Asian value-informed HBM, individuals who endorse less adherence to Asian cultural values would report higher a) susceptibility, b) severity, and c) benefits, which would be positively associated with likelihood of mental health help-seeking behaviors.

H4: In the Asian value-informed HBM, individuals who endorse less adherence to Asian cultural values would report less barriers, which would be associated with an increased likelihood of mental health help-seeking behaviors.

H5: In the Asian value-informed HBM, less adherence to Asian cultural values would be associated with an increased likelihood of mental health help-seeking behaviors.

H6: The Asian value-informed HBM would provide better model fit and explain more variance than the traditional HBM.

Method

Participants and Procedure

Asian American emerging adults, who are 18 years of age and older, were recruited to complete an online Qualtrics survey via different avenues such as social media (e.g., Facebook), flyers, and Asian American student organizations. The survey was approved by the Arizona State University Institutional Review Board. Participants completed an electronic consent form at the beginning of the survey and informed that upon completion of the survey, they could enter a raffle for one of 80 $25 Amazon gift cards. Three validation questions (e.g., "Select 'disagree' for this item.") were integrated throughout the survey to identify participants who carelessly respond. To be included in the analysis of the current study, participants had to correctly answer all three validation questions.

An initial sample of n = 542 self-categorized Asian Americans completed the survey. Of this sample, only participants who were in the emerging adult age group (i.e., 18-29; Arnett, 2014) were included (n = 491). A total of 106 participants were excluded from the analyses of this study for failing to answer all three validation items correctly. The final sample utilized for the present analyses consisted of 385 Asian American emerging adults (M_{age} = 21.81, SD_{age} = 2.88). In terms of ethnicity, the participants were composed of 23.38% Chinese (n = 90), 14.29% Vietnamese (n = 55), 13.77% Filipinx (n = 53), 11.95% Indian (n = 46), 9.09% Korean (n = 35), 8.84% mixed Asian ethnicities (e.g. Chinese and Vietnamese; n = 34) and 18.7% other Asian ethnicities (e.g., Bangladeshi, Cambodian, Japanese, Taiwanese; n = 72). According to the American Psychological Association, researchers should respect the personal designations of

participants' racial/ethnic identity (American Psychological Association, 2020). Because of this, only participants who self-categorized as Asian American were included in the analyses of the current study. In the current study, 67.8% (*n* = 261) of the Asian American sample reported being female, 73.5% (*n* = 283) reported being U.S. born, and 97.7% reported English as their primary language (*n* = 376). Approximately a quarter of the participants were first generation (i.e., born outside of the U.S. to parents who were not U.S. citizens; *n* = 100; 26%), 57.1% were second generation (i.e., born in the U.S. with at least one first-generation parent) *n* = 220), and 16.9% were third generation or higher (i.e., born in the U.S. to U.S. born parents, *n* = 65). In terms of the participants' highest level of education completed, 19.7% attained their high school diploma (*n* = 76), 36.4% had some 4-year college (*n* = 140), 36.6% attained a 4-year college degree (*n* = 141), 6% attained a graduate or professional degree (e.g., M.D., J.D.; *n* = 23), and 1.3% denoted "not listed" (*n* = 5).

Measures

Asian values. The Asian Values Scale – Revised (AVS-R; Kim & Hong, 2004) is a 25-item scale that measures participants' enculturation, or adherence to Asian values (e.g., collectivism, emotional self-control, humility). The AVS-R is a condensed version of the original 36-item Asian Values Scale (Kim et al., 1999). Sample items from the AVS-R include, "One should not deviate from familial and social norms" and "Modesty is an important quality for an individual." Each item is rated on a 4-point Likert-type scale (e.g., 1 = *strongly disagree* to 4 = *strongly agree*). The AVS-R was calculated by reverse scoring twelve items and taking the mean score of the entire scale. The original AVS (Kim et al., 1999) found good internal consistency scores for the entire AVS in two

studies. The first study finalized the items of the original AVS by testing significant differences in the item ratings among a list of 112 Asian cultural values between first-generation Asian Americans and European American participants. From this study, thirty-six items were identified as statistically significant and had good reliability among a sample of ethnically diverse Asian American adults (α = .81). The second study was conducted among a sample of ethnically diverse Asian American college students to confirm the internal consistency that was found in the first study (α = .82). However, acceptable internal consistency scores for the six latent factors (i.e., conformity to norms, family recognition through achievement, emotional self-control, collectivism, humility, and filial piety) underlying the AVS (α = .38-.69) was not found. Because of this, Kim and colleagues (1999) argued against utilizing the six latent factors as subscales of the AVS and stated that "only the AVS total or scale score should be used to assess adherence to Asian cultural values" (p. 348). Similarly, to acquire a score on the AVS-R, all item scores are averaged. Higher scores indicate more adherence to Asian values, while lower scores indicate less adherence to Asian values. The AVS-R was found to have good reliability (α = .80) among a sample of Asian American college students (Kim & Hong, 2004). The AVS-R was significantly positively correlated with emotional self-control, a type of Asian value, (Iwamoto et al., 2010) and with the original AVS scale (Kim & Hong, 2004). In the current study, reliability was acceptable (α = .77).

Susceptibility. The Patient Health Questionnaire – 9 (PHQ-9; Kroenke et al., 2001) is a 9-item scale that assesses depression symptoms (e.g., "little interest or pleasure in doing things," "poor appetite or overeating"). The items are rated on a 4-point Likert-type scale (e.g., 0 = *not at all* to 3 = *nearly every day*). The PHQ-9 was calculated by

through the mean score of the scale items with a higher score indicating more severe depression symptoms. Susceptibility in the HBM describes individuals' belief of the likelihood of developing a disorder. Susceptibility can be further conceptualized as the ability to recognize one's symptoms (e.g., Ethier et al., 2003). The current study examined susceptibility through participants' endorsed depressive symptoms because a higher total PHQ-9 score has been found to be significantly associated with self-recognition of depression (Caplan & Buyske, 2015). The PHQ-9 has been used in a wide variety of populations including Asian Americans (Aczon-Armstrong et al., 2013; Chen et al., 2006) and has been found to have good reliability ($\alpha = .89$) in the original scale development paper (Kroenke et al., 2001). The PHQ-9 has been found to be significantly positively associated with other measures of depression such as the Beck Depression Inventory and the General Health Questionnaire (Martin et al., 2006). Additionally, the PHQ-9 has been found to be significantly inversely associated with quality of life (Wu, 2014), satisfaction with life, and mental health (Kocalevent et al., 2013). In the current study, reliability was good ($\alpha = .89$).

Severity. Severity in the HBM is defined as perceived consequences of a condition and how it will interfere with daily functioning. In the current study, the Illness Perception Questionnaire Revised, Consequences Subscale (IPQ-R; Moss-Morris et al., 2002), a 6-item subscale of the larger 38-item IPQ-R scale, was utilized to examine participants' assessment of potential consequences related to an illness. In the current study, the IPQ-R, Consequences Subscale was administered to assess depression. The IPQ-R Consequences subscale was calculated by reverse scoring one item and taking the mean score of all six items with higher scores indicating more perceived consequences of

depression. A sample item is “Depression would have major consequences on my life”. All items are scored on a 5-point Likert-type scale (e.g., 1 = *strongly disagree* to 5 = *strongly agree*). This subscale has been found to have good reliability (α = .84) in the original scale development paper and acceptable reliability (α = .71) among a sample of White and South Asian patients with coronary heart disease (Grewal et al., 2010). The IPQ-R, Consequences Subscale has been found to be positively related to negative affect and inversely associated with positive affect (Moss-Morris et al., 2002). Additionally, in a sample of women with pseudotumor cerebri, the IPQ-R, Consequences Subscale was significantly positively associated with stress and anxiety while inversely correlated with quality of life (Kesler et al., 2009). Furthermore, among a sample of Asian patients with depression, the IPQ-R, Consequences Subscale was found to be positively associated with perceived depression chronicity (Lu et al., 2014). In the current study, α = .68 which corresponded with reliability estimates from previous studies (e.g., α = .69-.71; Grewal et al., 2010; Whitehead & Reuber, 2012).

Barriers. The Barriers to Access to Care Evaluation scale (BACE; Clement et al., 2012) is a 30-item scale that assesses if specific scenarios ever stopped, delayed, or discouraged participants from receiving or continuing with professional care for a mental health problem on a 4-point Likert-type scale (e.g., 1 = *this has stopped, delayed or discouraged me not at all* to 4 = *a lot*). Six items had the response item of “not applicable” in respect to barriers that participants may not experience (e.g., childcare, work-related). The BACE was calculated through the mean score of the 24-items that did not include the “not applicable” response option with a higher score indicating more perceived barriers to accessing mental health care. The BACE comprises of a 12-item

stigma-related subscale (e.g., “Concern that I might be seen as weak for having a mental health problem”) and an 18-item non-stigma related subscale (e.g., “Not being able to afford the financial cost involved”). The overall BACE scale was found to have excellent reliability (α = .93; Salaheddin & Mason, 2016) while the BACE-stigma subscale was found to have good reliability (α = .89) and convergent validity with other stigma variables (i.e., Stigma Scale for Receiving Psychological Help; Internalized Stigma of Mental Illness Scale) in the original scale development paper (Clement et al., 2012). Moreover, both the BACE-stigma-related and non-stigma related subscales were found to be significantly associated with everyday discrimination among unemployed adults, while the BACE-stigma subscale alone was found to be significantly correlated with the participants’ attribution of everyday discrimination to their mental health status (Staiger et al., 2018). Although the BACE has not been studied among Asian Americans, it has been used among other diverse samples including Indian (Maulik et al., 2019) and Swiss (Zehnder et al., 2019) individuals with adequate to excellent internal reliability in each subscale. In the current study, reliability was good (α = .90).

Benefits. The Mental Help Seeking Attitudes Scale (MHSAS; Hammer et al., 2018) is a 9-item scale that observes participants’ overall evaluation towards seeking mental health assistance if they had a mental health concern utilizing a 7-point semantic differential scale with bipolar adjectives at either end (e.g., useless vs. useful). The MHSAS was calculated by recoding the bipolar scale to a range of 1 to 7, reverse coding five items, and then averaging all nine items with a higher score indicating more positive attitudes towards seeking mental health help. In the current study, wording was modified to assess for perceptions specific to depression. The MHSAS was found to have excellent

reliability (α = .92) in the original scale development paper which included a sample of 285 adults (aged 18-76, with approximately 80% identified as White, 7% multiracial, 4% Black, 4% Latino/a, 2% Asian American/Pacific Islander, 2% other, 1% Native American, and 1% preferred not to answer; Hammer et al., 2018). Additionally, the MHSAS demonstrated convergent validity with other measures that assess for mental health help-seeking attitudes (i.e., Attitudes Towards Seeking Professional Psychological Help Scale-Short Form; Psychological Openness subscale of the Inventory of Attitudes Towards Seeking Mental Health Services; Hammer et al., 2018). Moreover, the MHSAS has been found to be significantly positively correlated with subjective norms (i.e., encouraging perception of mental health), perceived behavioral control (i.e., greater ability to seek mental health help), symptom recognition, and perceived effectiveness of mental health treatment while inversely related to self-stigma of seeking mental health help (e.g., feeling inadequate; Hammer et al., 2019; Hammer et al., 2019). In the current study, reliability was good (α = .86).

Likelihood of behavior. The Mental Help Seeking Intentions Scale (MHSIS; Hammer & Spiker, 2018) is a 3-item scale that measures participants' intention to seek mental health care if they had a mental health concern. The MHSIS was calculated by creating a mean score of all three items with a higher score indicating greater intention to seek mental health help. In the current study, wording was modified to assess for perceptions specific to depression. A sample item is "If I had depression, I would intend to seek help from a mental health professional." The MHSIS is rated on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The MHSIS was found to have excellent reliability (α = .94) in the original scale development paper among a

sample of 405 adults aged 19-78 who identified as 86% White, 5% African American/Black, 3% multiracial, 2% Latino/a, 2% Asian American/Pacific Islander, and 1% other (Hammer & Spiker, 2018). The MHSIS also demonstrated predictive validity with approximately 70% accuracy of assessing future mental health help-seeking behaviors among adults with a mental health concern (Hammer & Spiker, 2018). Similar to the MHSAS, the MHSIS has been found to be significantly positively correlated with accepting attitudes towards mental health seeking, subjective norms (i.e., encouraging perception of mental health), perceived behavioral control (i.e., greater ability to seek mental health help), symptom recognition, and perceived effectiveness of mental health treatment while inversely related to self-stigma of seeking mental health help (e.g., feeling inadequate; Hammer et al., 2019; Hammer et al., 2019). In the current study, reliability was good ($\alpha = .88$).

Analytic Plan

Structural equation modeling (SEM) was used to examine the associations between adherence to Asian values, perceived susceptibility, severity, benefits, barriers, and likelihood of mental health help-seeking behaviors. Before conducting SEM latent modeling, the data were screened for missing data and normality (Kline, 2011). Because the data did not follow a normal distribution, SEM was conducted with MLR estimation, which is an estimation method that is robust to non-normality (Byrne, 2013).

Preliminary analyses examined Pearson product-moment correlation coefficients to show the relation between all primary and demographic (e.g., age) variables. Structural equation modeling (SEM) latent modeling utilizing Mplus version 8 (Muthén & Muthén, 2017) was conducted. Four indices were used to evaluate the model fit of the data: model

chi-square statistic, root mean square error of approximation (RMSEA; .08 or less; Browne & Cudeck, 1993), comparative fit index (CFI; .95 or above; Hu & Bentler, 1999), and the standardized root-mean-square residual (SRMR; .08 or less; Hu & Bentler, 1999).

Furthermore, the current study evaluated the fit of both a traditional HBM and an Asian value-informed HBM. Utilizing the Akaike Information criterion (AIC; Aikakie, 1974) and Bayesian information criterion (BIC; Schwarz, 1978), the traditional HBM was compared to the current study's proposed Asian value-informed HBM, with lower values indicating better fit. In the case that the Asian value-informed HBM had better model fit than the traditional HBM, it would suggest that the Asian values are an important consideration of mental health beliefs, and resulting likelihood of mental health seeking behaviors among Asian Americans.

Results

Preliminary Analyses

Data screening. In the final sample (N = 385), there was no missing data. The study variables appeared to approximate a symmetrical, or normal distribution (skewness indices from -.34 to .44) with the exception of the Illness Perception Questionnaire Revised, Consequences Subscale (skewness indicator of -.53), which suggested moderate skew (Bulmer, 1979). In terms of kurtosis, the majority of the study variables were platykurtic (kurtosis indices from -.87 to -.12) except for the Asian Values Scale – Revised, which was leptokurtic (kurtosis indicator of .10; DeCarlo, 1997). Leptokurtic non-normal distributions are associated with biased underestimated standard errors and in turn, inflated Type I error (Yuan et al., 2005). To account for possible biased standard

errors, maximum likelihood with robust standard errors (MLR) was used in the current study as it is robust to non-normality and non-independence of observations (Byrne, 2013).

Item parceling. Prior to conducting SEM analyses, item parceling procedures were followed to create parcels for each of the latent factors except for likelihood of mental health help-seeking behaviors and severity, as these measures only contained three and six items, respectively. Parceling procedures were executed in the current study because it has been found to yield higher reliability, lower likelihood of distributional violations, and reduced sources of sampling error (Little et al., 2013). Utilizing a balancing approach, items with low and high item-scale correlations were combine to form parcels (Little, 2013), resulting in three parcels each for Asian values, susceptibility, barriers, and benefits. In other words, correlations were analyzed between the items and the scale score of each measure. The item with the highest item-scale correlation was paired with the item that had the lowest item-scale correlation to form the first parcel; the item with the second highest item-scale correlation was paired with the item with the second lowest item-scale correlation to form the second parcel. With this balancing approach, the third parcel was formed and all remaining items were paired and distributed in this order into one of three parcels of each measure (i.e., Asian values, susceptibility, barriers, benefits).

Table 1

Parcels and Factor Loadings for Primary Study Variables

Parcel #	Factor Loading
AVS1	.64
AVS2	.77
AVS3	.80
PHQ1	.90
PHQ2	.88
PHQ3	.80
BACE1	.89
BACE2	.88
BACE3	.87
BEN1	.81
BEN2	.75
BEN3	.82

Note. AVS = Asian values; PHQ = Susceptibility; BACE = Barriers; BEN = Benefits.

Descriptive statistics. Table 2 provides correlations, means, and standard deviations for key study variables. Pearson product-moment correlation analyses found that age was significantly correlated with the likelihood of mental health help-seeking behaviors (r = .11, p = .035) but no other primary study variables. Generational status was also significantly correlated with the likelihood of mental health help-seeking behaviors (r = -.13, p = .009) as well as the other primary study variables (see Table 2). Adherence to Asian values was significantly negatively correlated with severity of depression, as well as benefits, and likelihood of mental health help-seeking behaviors. Susceptibility was significantly positively associated with barriers and negatively associated with benefits. Although there was a moderate correlation (r = .55, p < .001) between susceptibility and barriers, the tolerance values of these measures exceeded .10 and the variance inflation factor values did not exceed 10, indicating that multicollinearity was not present as a major statistical issue (Cohen et al., 2003). Severity

was significantly correlated with benefits and likelihood of mental health help-seeking behaviors. Barriers was significantly negatively associated with benefits and likelihood of mental health help-seeking behaviors. Benefits was significantly associated with the likelihood of mental health help-seeking behaviors.

Independent *t*-tests revealed that there were significant mean differences between women and men in respect to adherence to Asian values ($t(380) = -2.40$, $p = .017$; Cohen's $d = .25$), susceptibility ($t(380) = 3.94$, $p < .001$; Cohen's $d = .45$) and severity ($t(380) = 2.52$, $p = .012$; Cohen's $d = .27$), as well as benefits ($t(380) = 1.99$, $p = .048$; Cohen's $d = .22$). Specifically, men, on average, significantly were higher in adherence to Asian values than women, while women rated susceptibility, severity, and benefits higher than men. No significant mean differences were found between participants who spoke English as their primary language or another language for all study variables. In terms of U.S. born status, there was a significant mean difference in regards to severity and benefits. Specifically, non-U.S. born participants rated severity ($t(383) = -3.70$, $p < .001$; Cohen's $d = .44$) and benefit ($t(383) = -3.02$, $p = .003$; Cohen's $d = .35$) higher than U.S. born participants.

Table 2

Correlations and Descriptive Statistics of Primary Study and Covariate Variables

Variable	1	2	3	4	5	6	7	8	*M*	*SD*
1. Asian Values	-	-.05	-.20**	.02	-.25**	-.11*	.12*	.04	2.27	.33
2. Susceptibility		-	.06	.55**	-.14**	-.09	.15**	-.00	2.12	.78
3. Severity			-	.09	.39**	.21**	-.42**	-.07	3.95	.65
4. Barriers				-	-.24**	-.16**	.15**	.01	2.13	.59
5. Benefits					-	.59**	-.33**	-.01	5.37	1.11
6. LB						-	-.13**	.11*	4.58	1.64
7. Generational Status							-	.04	1.91	.65
8. Age								-	21.81	2.88

Note. LB = Likelihood of mental health help-seeking behaviors. *$p < .05$. **$p < .01$.

Table 3

Descriptive Statistics of Primary Study and Demographic Variables

	U.S. Born Status				Primary Language Spoken				Gender			
	U.S. Born		Not U.S. Born		English		Other		Woman		Man	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Asian Values	2.27	.33	2.27	.36	2.27	.33	2.33	.24	2.25[a]	.34	2.33[a]	.30
Susceptibility	2.14	.77	2.06	.80	2.12	.78	1.81	.67	2.23[a]	.80	1.90[a]	.67
Severity	3.88[a]	.68	4.15[a]	.54	3.95	.65	4.22	.83	4.01[a]	.63	3.83[a]	.68
Barriers	2.15	.60	2.09	.57	2.13	.59	1.75	.55	2.17	.57	2.06	.63
Benefits	5.27[a]	1.13	5.65[a]	1.02	5.37	1.11	5.52	1.11	5.45[a]	1.13	5.21[a]	1.07
LB	4.50	1.64	4.81	1.63	4.58	1.65	4.67	1.23	4.61	1.64	4.55	1.66

Note. LB = Likelihood of mental health help-seeking behaviors. [a] = significant mean difference.

Primary Analyses

Measurement and structural models. The measurement model was a good fit for the Asian value-informed HBM (CFI = .96, RMSEA = .06, SRMR = .04, $\chi^2(91) = 2514.48$, $p < .001$) and the traditional HBM (CFI = .98, RMSEA = .06, SRMR = .03, $\chi^2(55) = 2044.03$, $p < .001$). All standardized factors loadings were significant ($ps < .001$) for both models and ranged from .64 to .90. Table 4 provides the intercorrelations of the latent variables. After establishing the measurement models for both the Asian value-informed HBM and the traditional HBM, the structural models were examined by specifying the paths among the latent variables. Results indicated a good fit for the structural models to the data for both the Asian value-informed HBM and the traditional HBM (see Table 9). The AIC and BIC values for the Asian value-informed HBM and the traditional HBM indicated that the traditional HBM provided a better model fit to the data (see Table 9). The Asian value-informed HBM accounted for 40.9% while the traditional HBM accounted for 40.1% of the variance in likelihood of mental health help-seeking behaviors.

Table 4

Intercorrelations Among Latent Study Variables

Variable	1	2	3	4	5	6
1. Asian Values	-	-.05	-.27**	.03	-.36**	-.14*
2. Susceptibility		-	.04	.60**	-.18**	-.11*
3. Severity			-	.10	.47**	.21**
4. Barriers				-	-.25**	-.17**
5. Benefits					-	.63**
6. LB						-

Note. LB = Likelihood of mental health help-seeking behaviors. *$p < .05$. ** $p < .01$.

Direct relations of Asian values, HBM factors, and likelihood of mental health help-seeking behaviors. Although Table 4 indicated that all study variables were significantly correlated with likelihood of mental health help-seeking behaviors, Figure 2a and Figure 2b indicated that not all direct paths from study variables to likelihood of mental health help-seeking behaviors were significant. For the Asian value-informed HBM, the direct path between adherence to Asian values and likelihood of mental health help-seeking behaviors was not significant (Path B1[Figure 2a], $\beta = .10$, $p = .09$). For the traditional HBM, the direct paths between severity (Path C2[Figure 2b], $\beta = -.11$, $p = .04$) and benefits (Path C4[Figure 2b], $\beta = .68$, $p < .001$), respectively, with likelihood of mental health help-seeking behaviors were significant. The paths between susceptibility (Path C1[Figure 2b], $\beta = .02$, $p = .74$) and barriers (Path C3[Figure 2b], $\beta = .00$, $p = .99$), respectively, with likelihood of mental health help-seeking behaviors were not significant.

Figure 2a

Traditional Health Belief Model Results

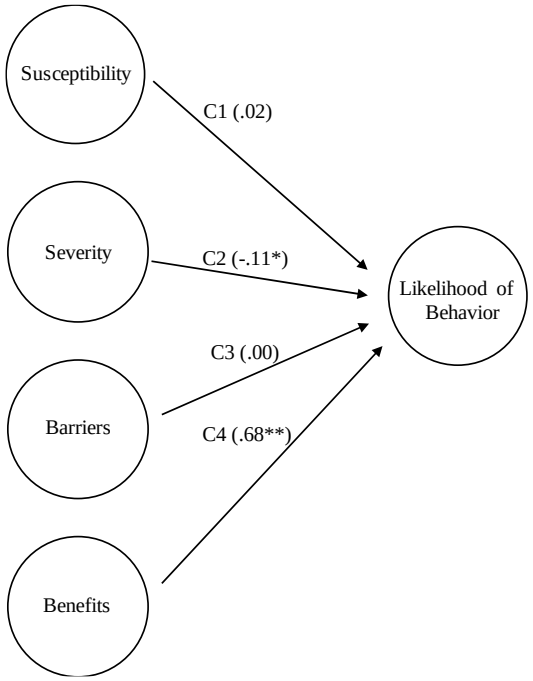
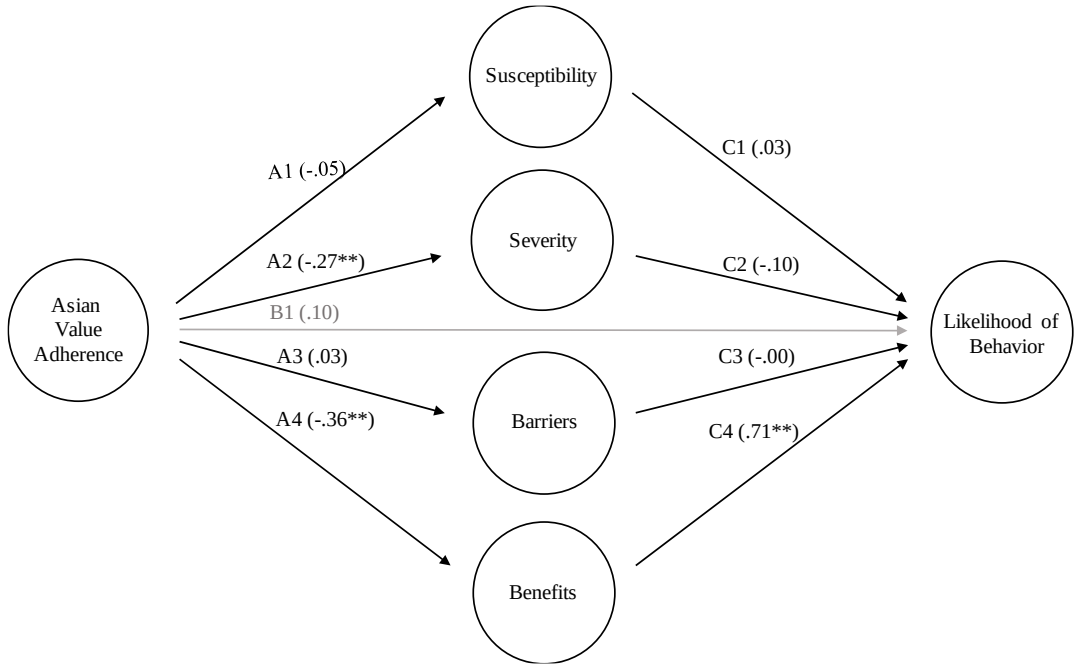


Figure 2b

Asian Value-Informed Health Belief Model Results



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

Indirect relations of Asian values with likelihood of mental health help-seeking behaviors through HBM factors. One out of the four indirect effects had a 95% CI that excluded zero, signifying statistical significance at $p < .05$ (see table 5). Specifically, the association between adherence to Asian values and likelihood of mental health help-seeking behaviors was mediated by benefits. The results of mediation analyses partially supported the current study's hypothesis that depression-specific mental health beliefs would mediate the relation between adherence to Asian values and likelihood of seeking mental health care for depression.

Table 5

Results of Mediated Effects in Relation to Likelihood of Mental Health Help-Seeking Behaviors

Predictor	Mediator Variable(s)	Criterion	β (Standardized Path Coefficient)	Mean Indirect Effect (β)[a]	SE of β[a]	95% CI of Indirect Relation
AVS →	Susceptibility →	LB	-.00	-.00	.02	[-.01, .01]
AVS →	Severity→	LB	.03	.03	.00	[-.01, .06]
AVS →	Barriers→	LB	-.00	.00	.00	[-.00, .00]
AVS →	**Benefits →**	**LB**	**-.26**	**-.26**	**.06**	**[-.37, -.15]**

Note. AVS = Asian value adherence, LB = likelihood of mental health help-seeking behaviors.
[a]These values are based on standardized path coefficients. The mean indirect effects whose 95% confidence intervals (CIs) do not contain zero are in boldface to denote a significance level at $p < .05$.

***Post hoc* Analyses**

Covariate analyses. In addition to the primary study analyses, a covariate model was also examined in which age and generational status were entered as covariates because they were significantly correlated with the criterion variable, likelihood of mental health help-seeking behaviors. Both the traditional HBM and Asian value-

informed HBM were examined with likelihood of mental health help-seeking behaviors regressed onto age and generational status. Results indicated that the covariate models for both the traditional HBM and Asian value-informed HBM had good fit to the data (see Table 9). Covariate analyses for the traditional HBM (44.80%) and the Asian value-informed HBM (45.20%) accounted for more variance in likelihood of mental health help-seeking behaviors than the primary analyses for both the traditional HBM (40.10%) and Asian value-informed HBM (40.90%). When comparing the AIC and BIC values, the covariate models for both the traditional HBM and Asian value-informed HBM, respectively, had lower values (see Table 9), and thus, provided better model fit than the primary study models.

In the covariate analysis of the Asian value-informed HBM, the paths between benefits and age with likelihood of mental health help-seeking behaviors were significant while the paths between Asian values, severity, susceptibility, barriers, and generational status with likelihood of mental health help-seeking behaviors were not significant (see Figure 3b). In the covariate analysis of the traditional HBM, the paths between benefits and age with likelihood of mental health help-seeking behaviors were significant while the paths between severity, susceptibility, barriers, and generational status with likelihood of mental health help-seeking behaviors were not significant (see Figure 3a). Overall, the covariate models of the traditional HBM and the Asian value-informed HBM found that the path between benefits and likelihood of likelihood of mental health help-seeking behaviors remained significant while the path between severity and the criterion variable was not significant when age and generational status were examined as covariates.

Similar to the primary analyses, only one statistically significant indirect effect was found for benefits (see Table 6).

Table 6

Results of Mediated Effects in Relation to Likelihood of Mental Health Help-Seeking Behaviors for the Covariate Model

Predictor	Mediator Variable(s)	Criterion	β (Standardized Path Coefficient)	Mean Indirect Effect (β)[a]	SE of β[a]	95% CI of Indirect Relation
AVS →	Susceptibility →	LB	-.00	-.00	.00	[-.23, .30]
AVS →	Severity→	LB	.01	.00	.02	[-.36, .20]
AVS →	Barriers→	LB	.00	.00	.00	[-.36, .38]
AVS →	**Benefits →**	**LB**	**-.25**	**-.24**	**.06**	**[.94, 1.32]**

Note. AVS = Asian value adherence, LB = likelihood of mental health help-seeking behaviors.
[a]These values are based on standardized path coefficients. The mean indirect effects whose 95% confidence intervals (CIs) do not contain zero are in boldface to denote a significance level at $p < .05$.

Figure 3a

Covariate Traditional Health Belief Model

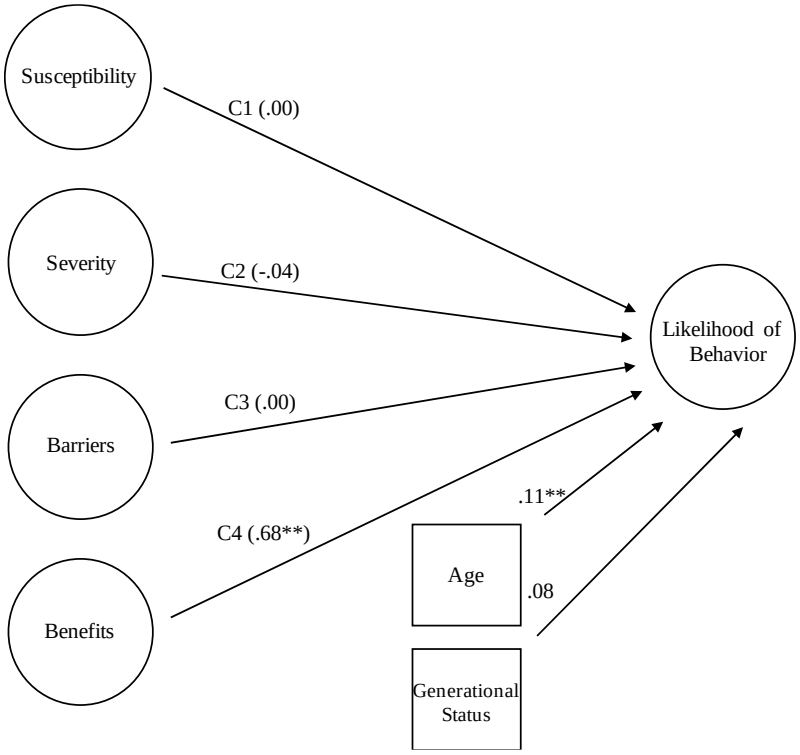
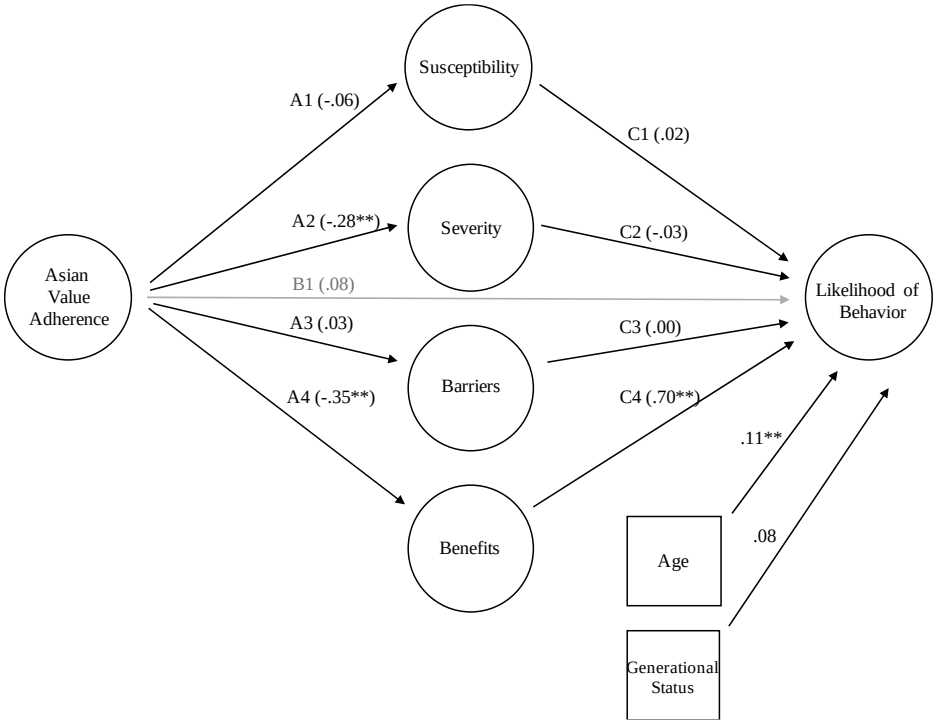


Figure 3b

Covariate Asian Value-Informed Health Belief Model



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

Suppression analyses. In the primary study analyses, a positive correlation was found between severity and likelihood of mental health help-seeking behaviors; however, the path between severity and likelihood of mental health help-seeking behaviors was negative which indicated the presence of a negative suppressor effect (Tzelgov & Henik, 1991). Therefore, *post hoc* analyses were conducted to understand which variable of the HBM was causing this suppression effect. Specifically, the traditional HBM analyses were conducted with the exclusion of one health belief measure at a time to understand which measure was causing the negative suppressor effect (Garbin, n.d.). From these analyses, it was found that benefits was the measure causing the suppressor effect. When benefits was not included in the traditional HBM, results indicated that the paths between

both severity and barriers were significant with likelihood of mental health help-seeking behaviors in the hypothesized directions (see Figure 4a). Specifically, the path between severity and likelihood of mental health help-seeking behaviors was positive while the path between barriers and likelihood of mental health help-seeking behaviors was negative. The path between susceptibility and likelihood of mental health help-seeking behaviors remained nonsignificant. When examined separately from the other mental health belief measures, benefits maintained a significant, positive path with likelihood of mental health help-seeking behaviors (see Figure 4b).

Figure 4a

Suppression Traditional HBM without Benefits

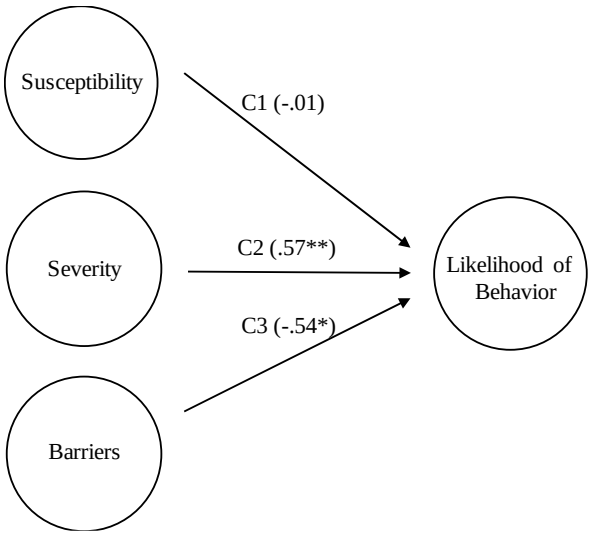
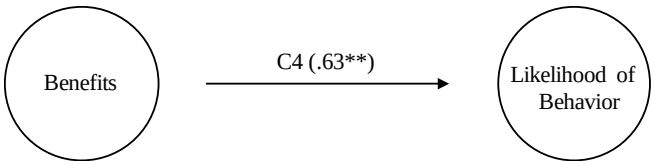


Figure 4b

Suppression Traditional HBM with only Benefits



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

Based on these suppression analyses with the traditional HBM, the Asian value-informed HBM was similarly examined. Results found the path between Asian values and severity was significant in the negative direction. No other paths between Asian values and health belief measures were significant (see Figure 5a). Additionally, there were significant paths between barriers and severity with likelihood of mental health help-seeking behaviors. Specifically, the path between barriers and likelihood of mental health help-seeking behaviors was negative while the path between severity and likelihood of mental health help-seeking behaviors was positive. When examined separately from the other mental health belief measures, benefits had a significant negative path with Asian values and a significant positive path with likelihood of mental health help-seeking behaviors (see Figure 5b). Asian values did not have a significant path with likelihood of mental health help-seeking behaviors. Three indirect effects were found for severity, barriers, and benefits in which the 95% CI excluded zero, signifying statistical significance at $p < .05$ (see Table 7).

Table 7

Results of Mediated Effects in Relation to Likelihood of Mental Health Help-Seeking Behaviors for the Suppression Models

Predictor	Mediator Variable(s)	Criterion	β (Standardized Path Coefficient)	Mean Indirect Effect (β)[a]	SE of β[a]	95% CI of Indirect Relation
AVS →	Susceptibility →	LB	.00	.00	.00	[-.35, .29]
AVS →	**Severity→**	**LB**	**-.05**	**-.05**	**.02**	**[.26, .79]**
AVS →	**Barriers→**	**LB**	**-.00**	**-.00**	**.01**	**[-.99, -.04]**
AVS →	**Benefits →**	**LB**	**-.22**	**-.23**	**.05**	**[.87, 1.18]**

Note. AVS = Asian value adherence, LB = likelihood of mental health help-seeking behaviors.
[a]These values are based on standardized path coefficients. The mean indirect effects whose 95% confidence intervals (CIs) do not contain zero are in boldface to denote a significance level at $p < .05$.

Figure 5a

Suppression Asian Value-Informed HBM without Benefits

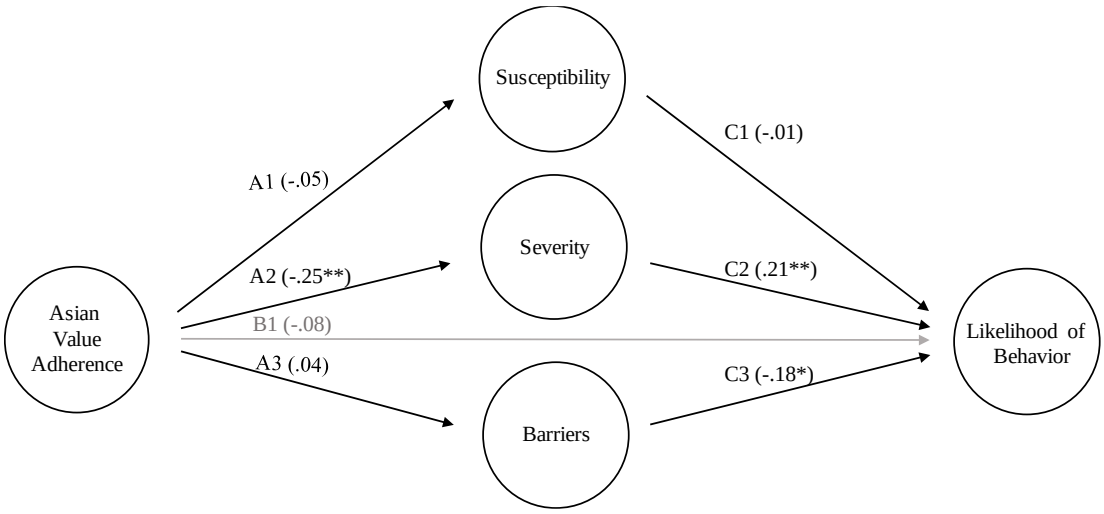
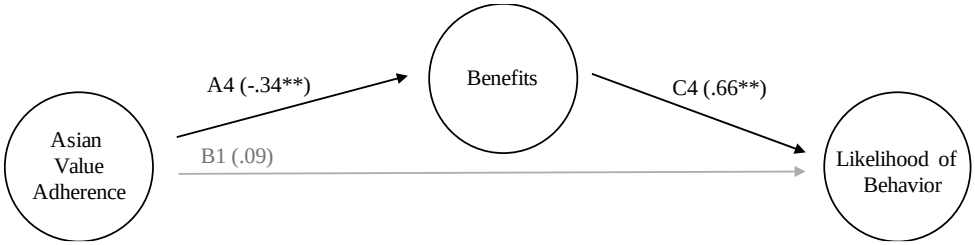


Figure 5b

Suppression Asian Value-Informed HBM with only Benefits



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

Results indicated that the suppression models for both the traditional HBMs and Asian value-informed HBMs had good fit to the data (see Table 9). Suppression analyses for the traditional HBMs and the Asian value-informed HBMs accounted for less variance in likelihood of mental health help-seeking behaviors than the primary analyses for both the traditional HBM and Asian value-informed HBM (see Table 9). When comparing the AIC and BIC values, the suppression models for both the traditional HBM and Asian value-informed HBM when only benefits was examined had the lowest values

(see Table 9), and thus, provided better model fit than the primary study and covariate models.

Combined suppression and covariate analyses. Because suppression and covariate effects were found in the suppression and covariate *post hoc* analyses, additional *post hoc* analyses were completed to examine their combined effects. In other words, the suppression *post hoc* analyses were conducted for both the traditional and Asian value-informed HBM with the addition of the covariate variables, age and generational status. For the traditional HBM suppression analyses without benefits, the associations between severity and barriers with likelihood of mental health help-seeking behaviors was significant in the hypothesized directions. Specifically, higher severity and less barriers were associated with an increased likelihood of mental health help-seeking behaviors. In terms of covariates, age had a significant positive association with likelihood of mental health help-seeking behaviors, while generational status did not. For the traditional HBM suppression analyses with only benefits, the association between benefits and likelihood of mental health help-seeking behaviors was significant in the positive direction. Similarly, for the covariates, age had a significant association with likelihood of mental health help-seeking behaviors, while generational status was nonsignificant.

Figure 6a

Combined Suppression and Covariate Traditional HBM without Benefits

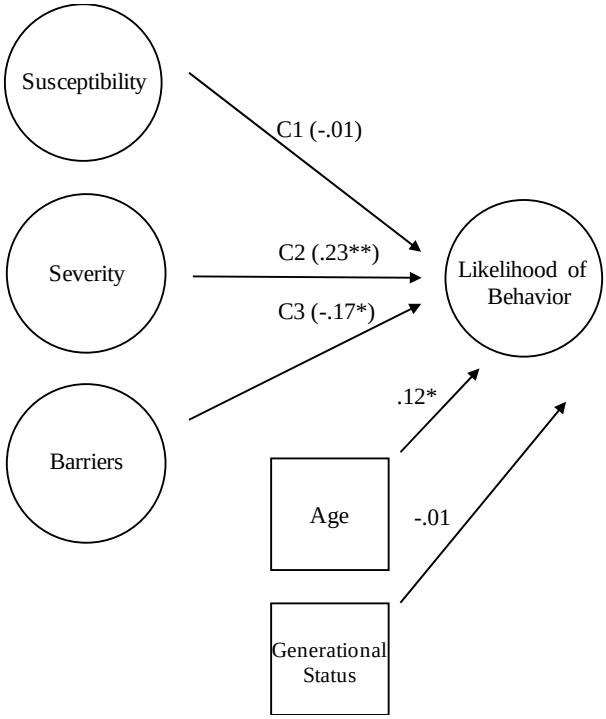
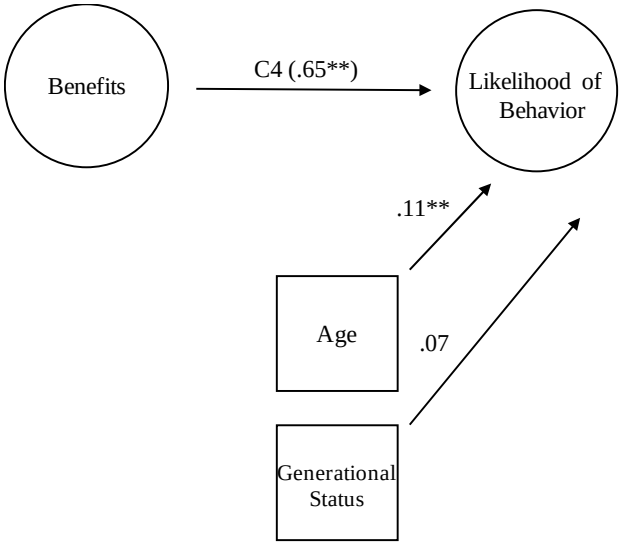


Figure 6b

Combined Suppression and Covariate Traditional HBM with only Benefits



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

For the combined suppression and covariate Asian Value-Informed HBM without benefits analyses, the path between Asian value adherence and severity were significant in the negative direction, while the paths between Asian value adherence and susceptibility and barriers were nonsignificant. The path between severity and likelihood of mental health help-seeking behaviors was significant in the positive direction, while the paths between susceptibility and barriers and likelihood of mental health help-seeking behaviors were nonsignificant. In terms of covariates, the path between age and likelihood of mental health help-seeking behaviors was significant in the positive direction, while the path between generational status and likelihood of mental health help-seeking behaviors was not. The direct path between Asian value adherence and likelihood of mental health help-seeking behaviors was also not significant. For the combined suppression and covariate Asian value-informed HBM with only benefits analyses, the path between Asian value adherence and benefits was significant in the negative direction, while the path between benefits and likelihood of mental health help-seeking behaviors was significant in the positive direction. The direct path between Asian value adherence and likelihood of mental health help-seeking behaviors was not significant. In terms of covariates, age had a significant positive path coefficient in relation to likelihood of mental health help-seeking behaviors, while generational status did not. Out of the four mental health beliefs, only severity and benefits had significant indirect effects in the combined suppression and covariate Asian value-informed HBM analyses. In other words, only severity and benefits mediated the association between Asian value adherence and likelihood of mental health help-seeking behaviors, while susceptibility and barriers did not. In terms of model fit, the traditional HBM combined

suppression and covariate *post hoc* analyses had lower AIC and BIC values than the Asian-value informed HBM combined suppression and covariate analyses. Interestingly, the traditional HBM *post hoc* analyses with only suppression effects examined had better model fit than the traditional HBM *post hoc* analyses with combined suppression and covariate effects when only benefits was examined. However, when benefits was excluded from the analyses, the combined suppression and covariate analyses of the traditional HBM *post hoc* analyses had better model fit than the traditional HBM post hoc analyses with only suppression effects examined.

Figure 7a

Combined Suppression and Covariate Asian Value-Informed HBM without Benefits

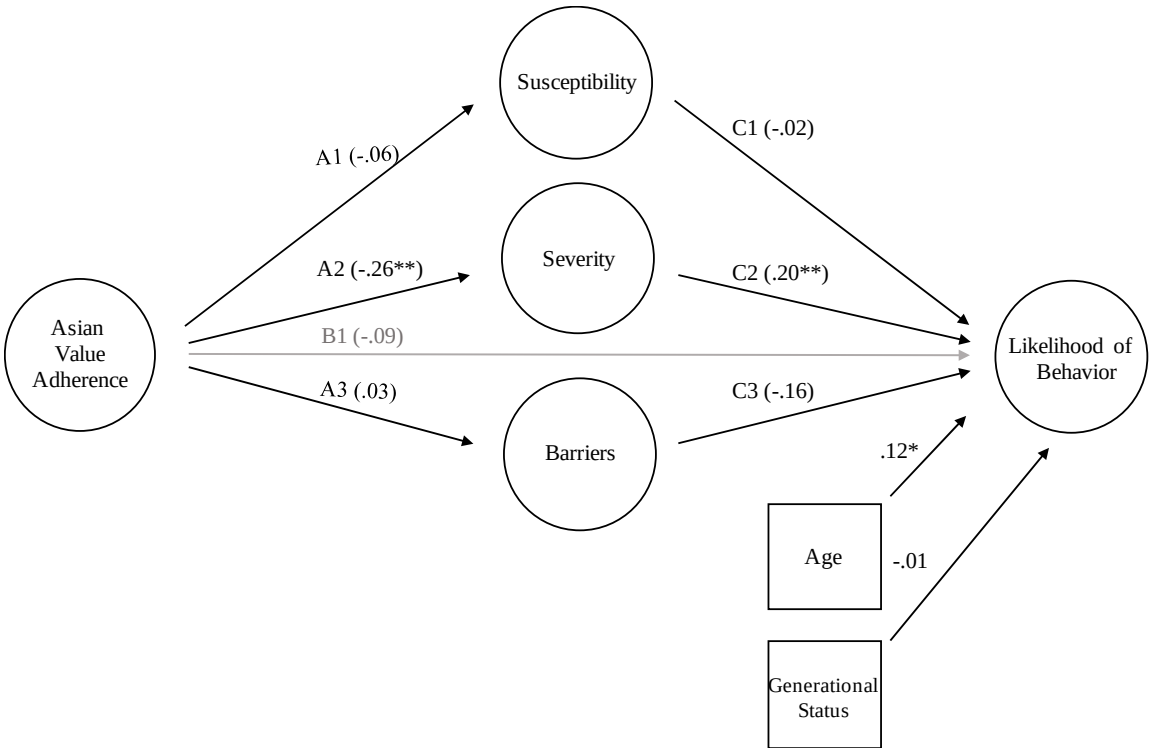
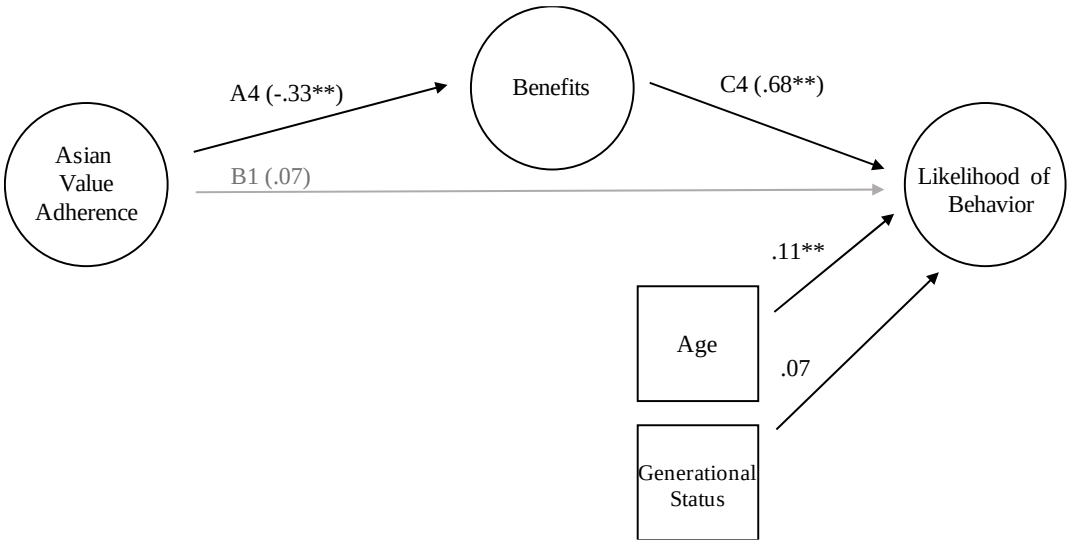


Figure 7b

Combined Suppression and Covariate Asian Value-Informed HBM with only Benefits



Note. Coefficients shown are standardized values. * $p < .05$. ** $p < .01$.

Table 8

Results of Mediated Effects in Relation to Likelihood of Mental Health Help-Seeking Behaviors for the Combined Suppression and Covariate Models

Predictor	Mediator Variable(s)	Criterion	β (Standardized Path Coefficient)	Mean Indirect Effect (β)[a]	SE of β[a]	95% CI of Indirect Relation
AVS →	Susceptibility →	LB	.00	.00	.00	[-.01, .01]
AVS →	**Severity→**	**LB**	**-.05**	**-.05**	**.02**	**[-.10, -.01]**
AVS →	Barriers→	LB	-.00	-.01	.01	[-.03, .01]
AVS →	**Benefits →**	**LB**	**-.23**	**-.22**	**.05**	**[-.32, -.13]**

Note. AVS = Asian value adherence, LB = likelihood of mental health help-seeking behaviors.
[a]These values are based on standardized path coefficients. The mean indirect effects whose 95% confidence intervals (CIs) do not contain zero are in boldface to denote a significance level at $p < .05$.

Table 9

Fit Indices of Examined Structural Models

Model	Variance accounted for in LB	RMSEA	CFI	SRMR	Chi-Squared	AIC	BIC
Traditional HBM	40.1%	.06	.98	.03	$p < .01$	8825.73	8987.81
Asian value-informed HBM	40.9%	.06	.96	.04	$p < .01$	9623.87	9841.30
Covariate Traditional HBM[a]	44.8%	.08	.94	.08	$p < .01$	8812.30	8981.72
Covariate Asian value-informed HBM[a]	45.2%	.07	.93	.08	$p < .01$	9593.19	9817.78
Suppression Traditional HBM without Benefits	8.0%	.07	.98	.03	$p < .01$	5806.66	5917.36
Suppression Traditional HBM with only Benefits	39.6%	.06	.99	.02	$p < .01$	4570.89	4618.33
Suppression Asian value-informed HBM without Benefits	8.5%	.08	.96	.04	$p < .01$	6620.38	6782.46
Suppression Asian value-informed HBM with only Benefits	40.3%	.07	.97	.05	$p < .01$	5372.24	5463.16
Combined Suppression and Covariate Traditional HBM without Benefits[a]	8.9%	.10	.92	.07	$p < .01$	5732.31	5850.51
Combined Suppression and Covariate Traditional HBM with only Benefits[a]	44.4%	.11	.93	.11	$p < .01$	4593.68	4648.84
Combined Suppression and Covariate Asian value-informed HBM without Benefits[a]	9.7%	.09	.91	.07	$p < .01$	6526.44	6695.87
Combined Suppression and Covariate Asian value-informed HBM with only Benefits[a]	44.7%	.09	.92	.09	$p < .01$	5380.70	5479.21

Note. LB = likelihood of mental health help-seeking behaviors.
[a]Age and generational status were added as covariates.

Discussion

The current study makes important contributions to the literature on Asian American mental health. The current study not only addressed Asian American emerging adults' mental health beliefs and behaviors, but also considered how cultural factors may influence these constructs within an HBM framework. Although the HBM has been applied to study a plethora of health behaviors, it has not been widely extended to investigate mental health behaviors (Smith, 2009). The current study addressed this gap by utilizing the HBM to analyze the associations between Asian value adherence, depression-specific mental health beliefs, and the likelihood of mental health help-seeking behaviors among Asian American emerging adults. Furthermore, the current study tested this Asian-value-informed HBM against the traditional HBM to examine which model best fit the data and explained the variance of the likelihood of mental health help-seeking behaviors. Results provide valuable clinical implications by revealing the direct and indirect associations that Asian values and depression-specific mental health beliefs may have on Asian Americans' intent to seek mental health care.

In the traditional HBM, the current study's hypotheses were partially supported. Specifically, the paths between the predictor variables, severity and benefits, and the criterion variable—likelihood of mental health help-seeking behaviors—were significant, while the paths from the predictor variables, susceptibility and barriers, were not. Interestingly, the path between severity and likelihood of mental health help-seeking behaviors was negative. In other words, the more severely one perceived the consequences associated with depression, the less likely one was to intend to seek mental health care. Asian American emerging adults tend to utilize personal support networks

(e.g., close friends, significant others) when experiencing mental health symptoms rather than professional mental health services due to cultural norms that devalue mental health problems and increase the stigma of seeking mental health care services (Lee et al., 2009). Consequently, even with greater reported depression-specific consequences, Asian Americans may not be willing to seek professional mental health care. While these results may be plausible, *post hoc* analyses were completed to further examine the association between severity and likelihood of mental health help-seeking behaviors. It is important to note that perceived benefit was a stronger predictor than perceived severity. This finding aligns with research that suggests that when individuals have more mental health literacy (e.g., knowledge of mental health and methods of maintaining positive mental health through treatment), they feel more empowered to take action to improve their mental health (Jorm, 2012).

In the Asian value-informed HBM, as expected, there was a significant, negative bivariate association between Asian value adherence and likelihood of mental health help-seeking behaviors. Although this correlation had a small effect size, this finding was consistent with theoretical and empirical literature that suggests that higher adherence to Asian values among Asian Americans is associated with more negative attitudes towards seeking professional mental help (Kim, 2007; Kim & Omizo, 2003; Miller et al., 2011; Miville & Constantine, 2007; Shea & Yeh, 2008; Sun et al., 2016; Wang & Kim, 2010; Wong et al., 2010). Surprisingly, when examined in the current study's proposed structural model (see Figure 2b), the direct path between adherence to Asian values and likelihood of mental health help-seeking behaviors was not significant, which contradicts previous theory and research. These results suggest that the mediators in the Asian value-

informed HBM are accounting for the association between adherence to Asian values and likelihood of mental health help-seeking behaviors (Kline, 2011).

In terms of indirect effects, the current study's proposed model indicated that the association between Asian value adherence and likelihood of mental health help-seeking behaviors was mediated by perceived benefits of mental health care. Specifically, when Asian Americans reported more Asian value adherence, they were less likely to perceive the benefit of mental health care, and in turn, were less likely to report intentions to seek mental health care. This finding corresponds with previous literature which found that Asian Americans perceive less benefit to mental help-seeking behaviors than White Americans and are, in turn, less likely to intend to seek professional mental health care (Kim & Zane, 2016). Moreover, Asian Americans tend to report less confidence in psychological professionals than their White counterparts (Kam et al., 2018), which may be due to previous experiences with providers who lacked cultural competence (Lee, 2018). For Asian Americans who are high in Asian value adherence, their cultural identities and belief systems are important to them. Therefore, if they perceive that professional mental health care providers are not culturally-informed, they may be less likely to see the benefit of seeking their services. Indeed, Asian Americans are more likely to rate their counselors credible when their mental health service providers are culturally competent (Gim et al., 1991). Similarly, in a study among Asian American patients, more perceived cultural sensitivity from health providers was significantly associated with trust in their provider and adherence to treatment (Kang et al., 2016), which highlights the importance of cultural competence in mental health services with Asian American clients who have high Asian value adherence.

In addition to the significant indirect effect that was found, the current study's proposed structural model also indicated nonsignificant indirect paths. There may not have been indirect effects found when examining susceptibility and barriers as mediators because they did not have significant direct paths with the predictor variable, Asian value adherence. Despite there being a significant direct path between Asian value adherence and severity, there was not significant mediation effects when examining perceived severity as a mediator. This nonsignificant indirect path may be explained because there was not a significant direct path between perceived severity and likelihood of mental health help-seeking behaviors. Although the traditional HBM found a significant direct path between severity and likelihood of mental health help-seeking behaviors, this path may have been nonsignificant in the Asian value-informed HBM due to the introduction of the additional variable, Asian value adherence, which may have accounted for the association between the two variables in the traditional HBM (Kline, 2011).

Although the Asian-values-informed HBM and the traditional HBM both provided good model fit, the traditional HBM provided better model fit than the Asian value-informed HBM. It is worthwhile to note that the traditional (40.1%) and Asian value-informed HBM (40.9%) explained comparable variance in relation to likelihood of mental health help-seeking behaviors. Although the traditional HBM provided better model fit than the Asian values informed HBM, cultural variables are still important to consider when examining the likelihood of mental health help-seeking behaviors among Asian Americans (e.g., Augsberger et al., 2015). The primary study results suggest that benefits mediate the association between adherence to Asian values and likelihood of mental health help-seeking behaviors while severity, susceptibility, and barriers, do not.

This may indicate that additional cultural variables should be examined in the HBM framework to understand how the depression-specific mental health beliefs of susceptibility, severity, and barriers may be related to the likelihood of mental health help-seeking behaviors.

Post hoc analyses were also performed by examining both the traditional and Asian value-informed HBM with the covariate variables, age and generational status. Interestingly, the path between severity and likelihood of mental health help-seeking in the covariate traditional HBM was no longer significant while the path between benefits and likelihood of mental health help-seeking continued to be significant in the positive direction. These results suggest that the association between severity and likelihood of mental health help-seeking are tenuous and may be influenced by other factors, such as age. Despite significant correlations found between age and generational status with likelihood of mental health help-seeking, when examined in the traditional and Asian value-informed HBM, the path between generational status and likelihood of mental health help-seeking was not significant while the path between age and likelihood of mental health help-seeking was significant in the positive direction. These results support previous longitudinal research which found that as emerging adults age, they are more likely to change their worldviews through their identity development and acquisition of diverse life events (Gutierrez & Park, 2015). The covariate models of both the traditional and Asian value-informed HBM provided better model fit to the data and accounted for more variance in the likelihood of mental health help-seeking than the primary analyses, which emphasizes the important role that age has in the likelihood of mental health help-seeking behaviors among Asian Americans. Future research may examine the specific

role of age in Asian Americans' mental health beliefs and help-seeking behaviors.

Additional *post hoc* analyses were completed to explore the tenuous nature of the association between severity and likelihood of mental health help-seeking, as well as the possibility of suppression effects. These analyses found that benefits was suppressing the effects of the severity and barriers. Specifically, when benefits was excluded from the analyses of both the traditional and Asian value-informed HBM, the paths between severity and barriers became significant with the likelihood of mental health help-seeking in the hypothesized directions. In other words, participants who endorsed more severe consequences due to depression and less barriers to seeking mental health care were more likely to endorse the likelihood of mental health help-seeking. When examined separately in the traditional and Asian value-informed HBM, the path between benefits and likelihood of mental health help-seeking continued to be significant in the positive direction. While the exclusion of benefits revealed the direction of the paths between severity and barriers with likelihood of mental health help-seeking, these analyses also elucidated that benefits explained a much larger proportion of the variance in likelihood of mental health help-seeking in both the traditional (39.6%) and Asian value informed HBM (40.3%) compared to the other three health belief variables combined (i.e., susceptibility, severity, barriers; 8.0%; 8.5%), which may have caused the suppression effect to occur. Furthermore, the traditional and Asian value-informed HBMs in which only benefits were examined had the best fit to the data when compared to the all other HBM analyses. In the examination of all primary study and *post hoc* model analyses, benefits appeared to be a particularly salient predictor in likelihood of mental health help-seeking for Asian American emerging adults.

Further *post hoc* analyses were conducted to understand the combined suppression and covariate effects on both the traditional and Asian value-informed HBM. These analyses revealed that for the traditional HBM, the paths between severity, barriers, and benefits were significant with likelihood of mental health help-seeking behaviors while the path between susceptibility and likelihood of mental health help-seeking behaviors was not significant. Furthermore, the covariate, age, had a significant positive association with likelihood of mental health help-seeking while generational status was not significantly associated with likelihood of mental health help-seeking behaviors. In the Asian value-informed HBM combined suppression and covariate analyses, Asian value adherence had a significant association with severity and benefits, but not susceptibility and barriers. Furthermore, only severity and benefits had significant associations with likelihood of mental health help-seeking. Similar to the traditional HBM, age had a significant positive association with likelihood of mental health help-seeking in the Asian value-informed HBM, while generational status did not.

These results suggest that the HBM is a reasonably effective framework for understanding how depression-specific beliefs are associated with the likelihood of mental health help-seeking behaviors. Consistently, the analyses of the current study found significant indirect effects for benefits in the association between Asian value adherence and likelihood of mental health help-seeking behaviors. While the *post hoc* suppression analyses had the best model fit of all the examined models, the *post hoc* covariate analysis of the Asian value-informed HBM explained the most variance in likelihood of mental health help-seeking. This finding suggests that Asian value adherence is an important contributor to the likelihood of mental health help-seeking

behaviors among Asian American emerging adults. However, the strongest and most consistent indicator of whether Asian Americans seek mental health services is the belief that these services would be beneficial to them rather than the perception of minimal barriers to receiving mental health services or the severe consequences of depression. These results correspond with previous research which found that among a sample of diverse college students, including Asian Americans, mental health literacy predicted help-seeking attitudes above and beyond self-stigma (i.e., perception that professional mental health services would threaten one's self-worth; Cheng et al., 2018) In other words, the belief that mental health services would be a beneficial and appropriate intervention for a mental health disorder superseded the barrier of perceived stigma in the likelihood of mental health help-seeking behaviors. The *post hoc* covariate analysis of the Asian value-informed HBM also indicated that Asian American emerging adults' age may impact mental health help-seeking behaviors, which prompts the need for further examination of the role of age in these complex processes. While the current study found that Asian Americans who strongly adhere to Asian values are less likely to perceive benefits to seeking mental health services, and in turn, less likely to seek these services, these two constructs (i.e., Asian value adherence and the perception of benefits of mental health services) can co-exist if mental health professionals take an active role in delivering culturally competent mental health services to this underserved population.

Limitations

Several limitations should be considered when interpreting and applying the findings of the current study. First, the results are based on a diverse participant pool of Asian American ethnic identities. Although this is a strength in that it allowed for the

examination of these processes among Asian Americans broadly, it does not account for the specific ethnic differences in the associations between Asian value adherence, depression-specific mental health beliefs, and likelihood of mental health help-seeking behaviors. Future studies can examine the nuances that exist in these mechanisms among distinct Asian American ethnic groups. Secondly, although the current study examined depression since it is the mental health disorder with the highest prevalence rate among Asian Americans (Lee et al., 2015), depression is not the only mental health disorder that Asian Americans experience (Choi & Kim, 2010). Future research can utilize a culturally-informed HBM to help elucidate Asian Americans' likelihood of seeking mental health care for other specific mental health disorders. Third, although the current study utilized psychometrically validated measures, these measures were adapted to examine participants' depression-specific beliefs. Future research can focus on creating HBM measures for specific mental health beliefs (e.g., susceptibility to generalized anxiety disorder) to allow for more meticulous examinations of the HBM in relation to other mental health disorders. Additionally, the PHQ-9, which was utilized in the current study to examine susceptibility of depression, does not differentiate between somatic, affective, and cognitive symptoms, but rather examines them together. Future research can examine whether susceptibility beliefs specific to depression symptom clusters (e.g., somatic) may impact the likelihood of mental health help-seeking behaviors among Asian Americans. Lastly, due to the limited percentage of Asian Americans who seek mental health care (Alegria et al., 2008), the current study examined intention to seek mental health care rather than those who executed the behavior. Although intentions are a predictor to the execution of a behavior (Fishbein & Ajzen, 1977), future studies may

examine Asian American participants who have sought professional mental health care services to better understand how the HBM framework may have applied to their execution of the behavior.

Implications

Despite these limitations, the present study offers important implications for the mental health field. Although the current study highlights concerns related to perceived susceptibility, severity, and barriers related to depression and mental health seeking among Asian Americans clients, therapists should prioritize that their clients have "buy in" or see the benefit of continuing to seek services. In order to address this, therapists must be multiculturally competent, so that the perceived benefit of receiving mental health services are improved (Wang & Kim, 2010). Previous research has found that for Asian Americans who received ethnic-specific services, their utilization of mental health services increased as well as improved treatment outcomes (Lau & Zane, 2000). Therefore, in order to ensure that Asian Americans who are in need of mental health services find benefit to receiving services and continue to receive their suggested length of treatment (Kang et al., 2016), services should implement multicultural competency trainings to ensure that their therapists are providing culturally-informed care. Asian Americans are not only less likely to seek mental health care, but they are also less likely to be in close contact with someone who has either sought professional psychological services or been diagnosed with a mental disorder (Kam et al., 2018). Having increased awareness of mental health care may improve attitudes towards mental health care among racial/ethnic minority groups (Ault-Brutus & Alegria, 2018). Because of the absence of personal social contacts that can prompt awareness of mental health services,

psychoeducational programs can be utilized as a tool to not only spread awareness, but also mental health literacy, which may improve Asian Americans' perception of the benefit of mental health care.

Additionally, traditional Asian values (e.g., collectivism) have been found to align with pragmatism (i.e., practical view of reaching personal goals) such that personal happiness is viewed as secondary to the importance of economic security, which ensures the safety and prosperity of one's family (Kolstad & Gjesvik, 2014). Researchers found that Chinese interviewees were more likely to attribute mental health problems to personal unhappiness, and therefore, less important to prioritize than economic well-being (Kolstad & Gjesvik, 2014). Moreover, these interviewees were less likely to view mental health problems as psychiatric disorders, but viewed them as regular challenges to daily life (Kolstad & Gjesvik, 2014). It is possible that pragmatism impacts views of mental health among Asian Americans as they may prioritize taking care of their family, or in-group, above taking care of themselves. When designing psychoeducational programs for Asian Americans, it is important that mental health services are framed as a pragmatic, or practical, decision. Indeed, research indicates that in order for health behaviors to be sustained, the central route of processing (i.e. effortful cognitive considerations of information that create lasting attitudinal changes) must be activated (Petty et al., 2009). In other words, these psychoeducational programs should highlight the pragmatism of mental health services (e.g., it is impossible to pour from an empty cup) to incite cognitive engagement so that Asian American audiences can deduce that by caring for their mental health first, they maximize their ability to care for their family, or in-group members.

The results of this study also found that Asian Americans who perceive that there are severe consequences related to depression and fewer barriers to accessing care are more inclined to report likelihood of mental health help-seeking behaviors. Given these findings, therapists should prioritize lowering barriers to mental health care access among Asian American emerging adults while also providing psychoeducation regarding depression treatment, care, and prognosis. Barriers to mental health care for Asian American populations include, but are not limited to, lack of health insurance coverage, mental health literacy, and culturally responsive providers, as well as having certain cultural health beliefs (e.g., mental disorders are due to personal wrongdoings) and mental health stigma (Africa & Carrasco, 2011). Previous research suggests that Asian Americans are more likely to place blame on themselves for mental health difficulties (Wong et al., 2010). Therefore, it is important that mental health professionals provide psychoeducation to their Asian American clients concerning the etiology of depression. Specifically, it would be important to emphasize that depression is caused by the interactions of genetic and environmental factors (Lesch, 2004) and is not the result of personal deficits. Increasing access to affordable, culturally responsive mental health services will also help address financial barriers for this population. Furthermore, psychoeducation regarding the efficacy of professional mental health treatment would be helpful for Asian American clients who are endorsing many depression symptoms and may also believe that the consequences related to depression are severe. For example, Asian American patients who received both medication and cognitive behavioral therapy services had significant improvement in their depression symptomology (Tang et al., 2016). Providing psychoeducation about depression can help normalize, demystify, and

destigmatize the perceived severity of depression.

The most consistent and strongest finding across the primary study and *post hoc* analyses was the mediating role of benefits in the association between Asian value adherence and likelihood of mental health help-seeking behaviors, which provides an important indicator for intervention. Clinicians may help Asian American clients identify and examine how their cultural value system may lead to certain beliefs about the benefit of mental health services. Specifically, culturally-informed therapeutic processing work can be utilized to elucidate the reasons why Asian Americans with high Asian value adherence may be utilizing their value system to form beliefs that there are no benefits to mental health care services. It is important that the takeaway is *not* that there is something faulty about Asian values, but that therapists and clinicians should aim to support Asian Americans to both adhere to their cultural values as well as acknowledge the benefit of mental health care concurrently. While this is an important implication, it is also prudent to consider that mental health services were created within a Eurocentric perspective (Katz, 1985). Therefore, while cultural sensitivity and responsiveness is a critical facet that should always be integrated into mental health services, larger structural changes in the current understanding of mental health services may be necessary to tailor to the specific needs of different racial/ethnic groups.

An interesting finding of the *post hoc* covariate analyses was the role of age in the likelihood of mental health help-seeking behaviors among Asian American emerging adults. Statistical effects are reduced when examining a restricted number range (Wiberg & Sundström, 2009). Considering that the current study only examined emerging adults aged 18-29 (Arnett, 2014), a significant effect suggests that age plays an important role in

mental health help-seeking behaviors. Specifically, the findings indicate that as Asian American emerging adults age, they are more likely to report intentions to seek mental health care. Since emerging adulthood is a formative time in which worldviews are developed (Gutierrez & Park, 2015), mental health professionals should tailor psychoeducational outreach programs to Asian Americans of this particular age group. These outreach programs should showcase multicultural competencies and be offered regularly to reach those at different time points of emerging adulthood. Through mental health professionals' concentrated efforts to improve cultural responsiveness and accessibility to psychoeducation and services, Asian American emerging adults may be more likely seek mental health services as they age.

The present study offers a culturally-informed HBM that advances the understanding of how Asian value adherence and mental health beliefs are related to Asian American emerging adults' likelihood of mental health help-seeking behaviors for depression. The findings from the current study support the integration of cultural factors when examining the HBM to conceptualize the intention of seeking professional mental health care services among Asian Americans. This culturally-informed integration can help provide a multifaceted and deeper understanding of mental health beliefs and behaviors among this underserved population.

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APPENDIX A

DEMOGRAPHIC INFORMATION

1. What is your age?
    a. 18
    b. 19
    c. 20
    d. 21
    e. 22
    f. 23
    g. 24
    h. 25
    i. Not listed (please specify)

2. What gender do you identify as?
    a. Woman
    b. Man
    c. Transgender [skip logic to 2a]
    d. Gender-nonbinary
    e. Not listed (please specify) _____

2a. Please specify if..
    a. Male to female
    b. Female to male
    c. Not listed [open box]

3. What is your sexual orientation?
    a. Asexual
    b. Bisexual
    c. Straight/Heterosexual
    d. Gay/Lesbian
    e. Pansexual
    f. Other (please specify) _____

4. What is the highest level of education you have completed:
    a. Some 4- year college [skip logic to question 5]
    b. 4-year college degree
    c. graduate/professional degree (e.g., M.D., J.D.) Please specify [open box]
    d. Not listed [open box]

5. Some 4-year college: I am currently in my:
    a. 1st year
    b. 2nd year
    c. 3rd year
    d. 4th year
    e. Not listed [open box]

6. What is your major(s) and/or minor(s) or field or training specialty? [open box]

6a. Student enrollment status
   a. Full-time student
   b. Part-time student

6b. What is the full name of your university? [open box]

6c. What grades have you typically earned in college? [if this is your first semester, please indicate the grades you expect to get]
   a. Mostly A's
   b. Mostly A's and B's
   c. Mostly B's
   d. Mostly B's and C's
   e. Mostly C's
   f. Mostly C's and D's
   g. Mostly D's and F's
   h. Not listed [open box]

7. Were your parents born in the U.S.?
   a. mother/parent one [yes/no]
   b. father/parent two [yes/no]

8. What is your mother/parent one's race/ethnicity?
   a. African American/Black
   b. Asian/Asian American
   c. Hispanic/Latino/A
   d. European American/White/Non-hispanic
   e. Middle Eastern/ Arab American
   f. Native American/American Indian
   g. Multiracial [Open Box]
   h. Not Listed [Open Box]

9. What is your father/parent two's race/ethnicity?
   a. African American/Black
   b. Asian/Asian American
   c. Hispanic/Latino/A
   d. European American/White/Non-hispanic
   e. Middle Eastern/ Arab American
   f. Native American/American Indian
   g. Multiracial [Open Box]
   h. Not Listed [Open Box]

10. Were you born in the U.S.?
   a. Yes
   b. No [skip logic to question 11]

11. Please indicate your year of arrival to the U.S. [open box]

12. Are you an international student?
    a. Yes
    b. No

13. What is your race/ethnicity?
    a. African American/Black
    b. Asian/Asian American
    c. Hispanic/Latino/A
    d. European American/White/Non-hispanic
    e. Middle Eastern/ Arab American
    f. Native American/American Indian
    g. Multiracial [Open Box]
    h. Not Listed [Open Box]

14. What is your ethnicity? [open text box]

15. How would you describe your financial situation currently?
    a. It's a financial struggle
    b. It's tight but I'm doing fine
    c. Finances aren't really a problem

16. How would you describe your financial situation growing up?
    a. Poor, not enough to get by
    b. Enough, not many extras
    c. Comfortable
    d. Well-to-do

17. Current employment status
    a. Working full-time [skip logic to 17a]
    b. Working part-time [skip logic to 17a]
    c. unemployed/not working

17a. What is your occupation? [open box]

18. Primary language spoken [open box]

19. If English is not your first language, what is your first language? [open box]

20. Have you ever had professional help for any mental health concerns? [yes/no]
20a. In the past year? [yes/no]
20b. In the past month? [yes/no]
20c. In the past week? [yes/no]

APPENDIX B

ASIAN VALUES SCALE-REVISED

Instructions: Use the scale below indicate the extent to which you agree with the value expressed in each statement.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

Items:

1. One should not deviate from familial and social norms.
2. Children should not place their parents in retirement homes.
3. One does not need to focus all energies on one's studies.
4. One should be discouraged from talking about one's accomplishments.
5. Younger individuals should be able to confront their elders.
6. When one receives a gift, one should reciprocate with a gift of equal or greater value.
7. One does not need to perform well academically in order to make one's parents proud.
8. One does not need to minimize or depreciate one's own achievements.
9. One should consider the needs of others before considering one's own needs.
10. Educational and career achievements do not need to be one's top priorities.
11. One should think about one's group before oneself.
12. One should be able to question a person in a position of authority.
13. Modesty is an important quality for an individual.
14. One's achievements should be viewed as the family's achievements.
15. One should avoid bringing displeasure to one's ancestors.
16. One should have sufficient internal resources to resolve one's own emotional problems.
17. The worst thing one can do is to bring disgrace to one's family reputation.
18. One does not need to remain reserved and tranquil.
19. One should be humble and modest.
20. Family reputation is not the primary social concern.
21. One does not need to be able to resolve psychological problems on one's own.
22. Occupational failure does not bring shame to the family.
23. One does not need to follow the role expectations (gender, family hierarchy) of one's family.
24. One should not make waves or cause disturbances.
25. One does not need to control one's expression of emotions.

APPENDIX C

PATIENT HEALTH QUESTIONNAIRE - 9

Over the last 2 weeks, how often have you been bothered by any of the following problems?

0	1	2	3
Not at all	Several days	More than half the days	Nearly every day

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling/staying asleep, sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television.
8. Moving or speaking so slowly that other people could have noticed. Or the opposite; being so fidgety or restless that you have been moving around a lot more than usual.
9. Thoughts that you would be better off dead or of hurting yourself in some way.

If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

0	1	2	3
Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult

APPENDIX D

ILLNESS PERCEPTION QUESTIONNAIRE REVISED, CONSEQUENCES SUBSCALE

Please indicate how strongly you agree or disagree with each of the following statements.

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

1. Depression is a serious condition
2. Depression would have major consequences on my life
3. Depression would not have much effect on my life (r)
4. Depression would strongly affect the way others see me
5. Depression would have serious financial consequences
6. Depression would cause difficulties for those who are close to me (r)

APPENDIX E

BARRIERS TO ACCESS TO CARE EVALUATION SCALE

Have any of these issues ever stopped, delayed or discouraged you from getting, or continuing with, professional care for a mental health problem?

This has stopped, delayed or discouraged me…

1	2	3	4
Not at all	A little	Quite a lot	A lot

1. Being unsure where to go to get professional care
2. Wanting to solve the problem on my own
3. Concern that I might be seen as weak for having a mental health problem
4. Fear of being put in hospital against my will
5. Concern that it might harm my chances when applying for jobs [not applicable]
6. Problems with transport or travelling to appointments
7. Thinking the problem would get better by itself
8. Concern about what my family might think or say
9. Feeling embarrassed or ashamed
10. Preferring to get alternative forms of care (e.g. spiritual care, non-Western healing /medicine, complementary therapies)
11. Not being able to afford the financial costs involved
12. Concern that I might be seen as 'crazy'
13. Thinking that professional care probably would not help
14. Concern that I might be seen as a bad parent [not applicable]
15. Professionals from my own ethnic or cultural group not being available
16. Being too unwell to ask for help
17. Concern that people I know might find out
18. Dislike of talking about my feelings, emotions or thoughts
19. Concern that people might not take me seriously if they found out I was having professional care
20. Concerns about the treatments available (e.g. medication side effects)
21. Not wanting a mental health problem to be on my medical records
22. Having had previous bad experiences with professional care for mental health
23. Preferring to get help from family or friends
23. Thinking I did not have a problem
24. Concern that my children may be taken into care or that I may lose access or custody without my agreement. [not applicable]
25. Thinking I did not have a problem.
26.Concern about what my friends might think, say, or do
27. Difficulty taking time off work. [not applicable]
28. Concern about what people at work might think, say, or do [not applicable]
29. Having problems with childcare while I receive professional care [not applicable]
30. Having no one who could help me get professional care

APPENDIX F

MENTAL HELP SEEKING ATTITUDES SCALE

INSTRUCTIONS: For the purposes of this survey, “mental health professionals” include psychologists, psychiatrists, clinical social workers, and counselors.

Please mark the circle that best represents your opinion. For example, if you feel that your seeking help would be extremely useless, you would mark the circle closest to "useless." If you are undecided, you would mark the "0" circle. If you feel that your seeking help would be slightly useful, you would mark the "1" circle that is closer to "useful."

If I had depression, seeking help from a mental health professional would be...

	3	2	1	0	1	2	3	
Useless	○	○	○	○	○	○	○	Useful
Important	○	○	○	○	○	○	○	Unimportant
Unhealthy	○	○	○	○	○	○	○	Healthy
Ineffective	○	○	○	○	○	○	○	Effective
Good	○	○	○	○	○	○	○	Bad
Healing	○	○	○	○	○	○	○	Hurting
Disempowering	○	○	○	○	○	○	○	Empowering
Satisfying	○	○	○	○	○	○	○	Unsatisfying
Desirable	○	○	○	○	○	○	○	Undesirable

APPENDIX G

MENTAL HELP SEEKING INTENTIONS SCALE

INSTRUCTIONS: For the purposes of this survey, “mental health professionals” include psychologists, psychiatrists, clinical social workers, and counselors.

1. If I had depression, I would intend to seek help from a mental health professional.

1	2	3	4	5	6	7
Extremely unlikely						Extremely likely

2. If I had depression, I would try to seek help from a mental health professional.

1	2	3	4	5	6	7
Definitely false						Definitely true

3. If I had depression, I would plan to seek help from a mental health professional.

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

APPENDIX H

VALIDITY CHECK ITEMS

Please select ‘Neither Agree nor Disagree’ for this question.

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

Please select ‘Yes’ for this question.
_____ Yes
_____ No

Please select ‘Disagree’ for this question.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

APPENDIX I

CONSENT FORM

Hello,

I am a doctoral student from Arizona State University interested in examining cultural beliefs and behaviors. The survey is expected to take approximately 20-25 minutes to complete.

You must be at least 18-years-old to participate. Your participation is voluntary. By completing this survey, you are indicating your consent to participate in the study. At the end of the survey, you will also have the option to provide your name and email address through a separate website to be entered in a raffle for one of eighty $25 Amazon gift cards. This information will be collected in a separate form and will not be matched to your survey responses.

There is no foreseeable risk for participants completing this study.
If you have any questions concerning the research study, please contact the primary researchers at Christina.lam@asu.edu (Christina Lam) or Alisia@asu.edu (Alisia Tran). If you have any questions about your rights as a subject/participant in this research, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Sincerely,
Christina Lam, M.A., Doctoral Student
Counseling and Counseling Psychology
College of Integrative Sciences and Arts
Arizona State University
446 Payne Hall
Tempe, AZ 85287-0811
christina.lam@asu.edu
ASU IRB Study #STUDY00010455

APPENDIX J

UNIVERSITY APPROVAL FOR HUMAN SUBJECT TESTING

EXEMPTION GRANTED

Giac-Thao Tran
CISA: Counseling and Counseling Psychology
480/727-4067
alisia@asu.edu

Dear Giac-Thao Tran:

On 8/19/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Asian American Mental Health Help-Seeking: An Asian American Value Informed Health Belief Model
Investigator:	Giac-Thao Tran
IRB ID:	STUDY00010455
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Dissertation Codebook.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Disseration HRP-503a-TEMPLATE_PROTOCOL_SocialBehavioralV02-10-15.docx, Category: IRB Protocol; • Dissertation Recruitment .pdf, Category: Recruitment Materials; • Consent Form Dissertation.pdf, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 8/19/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).