

MODERATORS OF BICULTURAL SELF-EFFICACY AND MENTAL HEALTH
AMONG ASIAN AMERICANS

By

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Abstract

The relationship between acculturation and mental health among Asian Americans has been established. For example, the integration strategy, often associated with bicultural competence, has been shown to positively predict well-being and self-esteem, and negatively predict various indicators of distress (Nguyen, Messe, & Stollak, 1999; Oh, Koeske, & Sales, 2002; Yoon, Lee, & Goh, 2008). Further, biculturalism (Chen, Benet-Martínez, & Bond, 2008) and bicultural self-efficacy (David, Okazaki, & Saw, 2009) have been associated with positive mental health outcomes among Asian Americans. That is, perceiving oneself as capable of navigating various domains (e.g., values, behaviors) within two cultures is associated with better mental health. Little is known, however, regarding the factors that may influence the strength of this relationship. Thus, the present study aimed to identify some moderating factors of the relationship between bicultural self-efficacy and mental health among Asian Americans.

Considering previous research examining the factors associated with acculturation and mental health (Berry, 1980; Nguyen & Benet-Martínez, 2007; Padilla, 2006), it was hypothesized that bicultural identity integration, cognitive flexibility, psychological flexibility, and resilience would each moderate the relationship between bicultural self-efficacy and satisfaction with life, and between bicultural self-efficacy and psychological distress. Results indicated that bicultural identity integration approached significance, indicating that of all the hypotheses presented in this study, it may be the only moderator of the relationship between bicultural self-efficacy and life satisfaction. Thus, viewing two cultures as compatible may act as a protective factor, or buffer, against the negative effects of low bicultural self-efficacy on some aspects of mental health. Further, the null findings suggest that the relationships between the measured variables

may be more complex than simple moderation. It is recommended that future research continue to explore and test moderation and mediation models, while considering alternative measures and specific subscales. Recommended service implications for Asian Americans include interventions geared to increase one's level of bicultural identity integration or bicultural self-efficacy, as well as to encourage systems or communities to provide the appropriate resources needed to do so.

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Chapter 1: Introduction

Brief Overview of Study

The construct of acculturation was originally examined from a unidimensional lens, indicating that adopting new cultural values and norms meant losing aspects of one's culture of origin (Olmedo, 1979). It was not until Berry (1980) introduced a bilinear and bidirectional model of acculturation that four acculturation strategies were considered: assimilation (low adherence to heritage culture and high adherence to mainstream culture); separation (high adherence to heritage culture and low adherence to mainstream culture); marginalization (low adherence to both heritage and mainstream cultures); and integration (high adherence to both heritage and mainstream cultures). Integration allowed the possibility to successfully navigate and retain aspects of both the dominant culture and culture of origin. Thus, integration has also been associated with, and even used interchangeably with, bicultural competence (Benet-Martínez & Haritatos, 2005; Sadowsky & Wai Ming Lai, 1997). Integration, or bicultural competence, has been related to the most positive health outcomes (Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005). Berry's bidimensional model, however, was eventually criticized for failing to account for contextual factors (e.g., political climate) and variation across samples (Rudmin, 2003; Schwartz, Unger, Zamboanga, & Szapocznik, 2010).

Similarly, other acculturation measures were subject to criticism for failing to account for the multiple domains associated with biculturalism (Rudmin, 2003, 2009). For this reason, researchers are now moving toward developing multidimensional instruments to assess bicultural competence (Guo, Suarez-Morales, Schwartz, & Szapocznik, 2009; LaFromboise, Coleman, & Gerton, 1993), with one such measure

being the Bicultural Self Efficacy Scale (BSES; David et al., 2009), to allow for more nuanced empirical investigations of the various factors that may play a role in the relationship between bicultural competence and mental health.

David et al. (2009) developed the BSES (discussed in more detail in Chapters Two and Three) based on the multidimensional theoretical conceptualization of biculturalism proposed by LaFromboise, Coleman, and Gerton (1993). LaFromboise et al. (1993) suggested that bicultural competence may mean successfully navigating the following dimensions: knowledge of cultural beliefs and values, positive attitudes toward majority and minority groups, bicultural efficacy, communication ability, role repertoire, and a sense of being grounded. David and colleagues (2009) empirically tested and validated this conceptualization in the development of the BSES, and their exploratory and confirmatory factor analyses provided support for these six dimensions. Other researchers (Brewster, Moradi, DeBlaere, & Velez, 2013; Carrera & Wei, 2014; Wei et al., 2010) have also have found the BSES to be positively associated with indicators of well-being and to be negatively associated with indicators of distress. However, little is known about the variables that affect the strength of this relationship. Wang and Kim (2013) suggest that additional studies that explore moderating variables can provide further insight into the processes underlying acculturation. For example, some studies indicate mental flexibility to be buffering bicultural individuals from psychological problems or sociocultural maladjustment that are associated with the process of acculturation (Nguyen & Benet-Martínez, 2007; Padilla, 2006). Thus, the present study aimed to test the following variables as moderating the relationship between bicultural self-efficacy and mental health: bicultural identity integration, cognitive flexibility,

psychological flexibility, and resilience. These potential moderators are discussed in more detail in Chapter Two.

One rapidly growing population who may especially benefit from research examining the connections between acculturation, bicultural self-efficacy, and mental health are Asian Americans. According to the U.S. Census (2010), Asian Americans are projected to be the largest immigrant group in the country by 2065. Studies also suggest that Asian Americans may experience more psychological distress than non-Asian populations (Hwang & Ting, 2008). Thus, using a quantitative survey design, the proposed study focused on Asian Americans because a rapidly growing number of Asian Americans will be undergoing the process of acculturation and will be exposed to various forms of acculturative stress that may influence their mental health and well-being.

Significance of Study

This project adds to the growing body of literature on multidimensional conceptualizations of biculturalism and its relationship with mental health (David et al., 2009; Gim Chung, Kim, & Abreu, 2004; Guo, Suarez-Morales, Schwartz, & Szapocznik, 2009; LaFromboise et al., 1993). The possibility that variables associated with mental flexibility may moderate the relationship between bicultural self-efficacy and mental health can inform clinical and community interventions for Asian Americans. Specifically, programs intending to buffer the psychological distress associated with the acculturation process may be developed. These programs may focus on encouraging flexibility and adaptability in responding to distinct cultural cues, as incorporated in Culturally Adapted Cognitive Behavior Therapy (CA-CBT; Hinton, Rivera, Hofmann, Barlow, & Otto, 2012) and Acceptance and Commitment Therapy (ACT; Harris, 2009;

Hayes, Strosahl, & Wilson, 2012). Current interventions may also be adapted to include culturally appropriate skill building exercises for this growing population. Such programs and interventions may also encourage culturally competent and sensitive mental health service delivery for Asian Americans.

Community interventions are also important, as levels of several variables (e.g., self-efficacy, compatibility, conflict) are not completely dependent on the individual. For many, these may also be a function of context. That is, the amount of support and resources available to an individual within a community. Thus, while it's important to understand within-person or individual-level variables, communities and systems are also important avenues for intervention. This is further discussed in the discussion section.

Organization of Dissertation

Following Chapter One, Chapter Two will provide an overview of the history of acculturation research, with a focus primarily on biculturalism and perceived bicultural self-efficacy. The relationship between perceived bicultural self-efficacy with mental health indicators (e.g., satisfaction with life and distress) will then be discussed. An overview of each proposed moderating variable will follow in separate sections. Within each section, each variable's established relationship with the independent variable (biculturalism/bicultural self-efficacy) and dependent variables (satisfaction with life and distress) will be outlined. The literature pertaining to the relationship between all three variables (e.g., bicultural self-efficacy, mental health, and the respective moderator) will follow. Finally, hypotheses relevant to each potential moderating variable will conclude each section. Studies supporting the applicability of these relationships with regard to the Asian American population are provided throughout each section. The methodological

details for the project, along with figures for each proposed model, are provided in Chapter Three.

Chapter 2: Literature Review

By 2050, over half of the U.S. population will be comprised of peoples of color (U.S. Department of Commerce, 1999), with Asian Americans being the fastest growing ethnic group (U.S. Census Bureau, 2010). Hwang and Ting (2008) suggest that some Asian Americans may experience more psychological distress than non-Asian populations. For example, Asian Americans tend to exhibit greater internalizing of disorders (Sue & Morishima, 1982; Tseng, 1975), as well as lower treatment-seeking behavior in comparison to non-Asian populations (Kearney, Draper, & Barón, 2005; Masuda et al., 2009; Sue & McKinney, 1975). Also, and perhaps consequently, Asian Americans may be less likely to endorse items of psychological distress, and more likely to endorse items of psychological well-being.

Thus, scholars are examining several culture-specific factors contributing to the mental health of this population including immigration, racism and discrimination, English language proficiency, acculturation, and biculturalism (Alvarez, Juang, & Liang, 2006; Barry & Grilo, 2003; Constantine, Okazaki, & Utsey, 2004; Hwang & Ting, 2008; Lee, Choe, Kim, & Ngo, 2000; Takeuchi et al., 2007; Ying & Han, 2007). The current project focused on acculturation, specifically the concept of biculturalism, and some potential moderators of its relationship with Asian Americans' mental health. In this chapter, I will discuss the history of acculturation research; the literature surrounding biculturalism and bicultural self-efficacy; and the potential moderating variables between bicultural self-efficacy and mental health. This will lead to a presentation of the hypothesized models that I empirically tested.

History of Acculturation Research

Anthropologists were the first to study acculturation in the context of third world countries adapting to the norms of developed western societies (Olmedo, 1979). Siegel (1955), for example, examined 94 empirical studies on sociocultural changes occurring between cultures in North America until the mid-twentieth century. Over 75% of these studies involved American Indian or Alaska Native people. Other ethnic groups, in the 1950s, were typically studied by sociologists in the context of race and minority group issues and received little attention with regard to culturally relevant matters (Olmedo, 1979). The study of acculturation was examined primarily via cross-cultural psychology, which was not yet embedded within mainstream American psychological literature.

However, there were several trends in behavior science research from the mid to late twentieth century (Olmedo, 1979). These included developing a greater understanding of ethnic groups within their own context rather than by comparison to other groups; considering group acculturation as well as individual acculturation; and developing accurate definitions and measurements of acculturation and ethnic identity. This led to exploring acculturation from not only a quantitative, but also a qualitative lens (Olmedo, 1980). There was growing interest in including other ethnic groups in this field of research, as well, such as Europeans, Hispanics, and Asian Americans (Chance, 1965; Clark, Kaufman, & Pierce, 1976; Padilla, 1980). By the late twentieth century, researchers began to focus on differences in acculturation strategies at the individual level and on the cognitive and mental health consequences of such strategies (Fabrega, 1969; Ramirez, Castaneda, & Herold, 1974).

Acculturation strategies. Acculturation has historically been defined in many ways. Redfield, Linton, and Herskovits (1936) indicated acculturation to involve changes in cultural patterns of one or two groups when in contact. Gillin and Raimy (1940) described it as the modification of culture within a society in response to contact with at least one other society. Gordon (1964) identified it as a type of cultural or behavioral assimilation involving the adaptation of cultural patterns of a host society. These early conceptualizations of acculturation were based on a unilinear model which regarded acculturation as a process during which one's heritage culture is abandoned when adopting standards of a governing society (Olmedo, 1979). John Berry (1980), a leader in the field of acculturation research, however, proposed that acculturation depends on the dimensions of a) cultural maintenance, or maintenance of one's native culture; and b) experience with the host culture. This marked the beginning of bilinear models of acculturation.

Berry (1980) introduced acculturation as a variety of adaptation strategies. Through his previous research with Australian aboriginals, he developed an understanding of relational patterns among culturally plural societies (Berry, 1970). Based on his research, he proposed two key factors that influence cultural exchange: enculturation and acculturation. The term enculturation refers to the maintenance of one's heritage culture, whereas acculturation refers to one's connection with the dominant society. According to Berry (1980), it is the interplay of one's attitudes and behaviors in these two factors that determine one of four adaptation strategies: assimilation, separation, integration, or marginalization.

During assimilation, individuals prefer to interact solely with other cultures, losing ties to their original cultural identity (Berry, 2005). Separation involves avoiding interaction with other cultures, rather maintaining one's original identity (Berry, 2005). This may occur if an individual views a new system as corrupt, causing him or her to maintain distance (Dees, 2006). Marginalization involves placing minimal value in maintaining original and novel cultural identities (Berry, 2005), perhaps due to a desire to generate an entirely different cultural identity (Dees, 2006). During integration, interacting with other groups enables an individual to maintain dual cultural systems: the original, and the novel. Thus, the integration stage of Berry's bilinear acculturation model has often been paralleled with biculturalism (Benet-Martínez & Haritatos, 2005; Sodowsky & Wai Ming Lai, 1997).

Biculturalism

As acculturation models began to incorporate both acculturation and enculturation, researchers began to examine biculturalism as an independent process (David et al., 2009; LaFromboise et al., 1993; Lau, 2012). Although bicultural competency commonly refers to "comfort and proficiency" with one's heritage and host culture (Schwartz & Unger, 2010), researchers have operationalized this construct in many ways (Benet-Martínez & Haritatos, 2005; Berry, 1997; LaFromboise et al., 1993; Schwartz & Zamboanga, 2008). For instance, researchers originally examined bicultural competency as a function of cultural behaviors including bilingual communication, having social circles in both cultures, and knowing about current events and media from both cultures (Cabassa, 2003). Other researchers have measured bicultural competency as a function of adopting behaviors and values of both heritage and mainstream cultures, or

via Berry's integration strategy. This has been measured by concurrently high scores on enculturation and acculturation self-report instruments (Kim, 2007; Kim & Omizo, 2006). Researchers began to question, though, whether this conceptualization of bicultural competency, and corresponding measures, truly captured the complexity of the construct (Rudmin, 2003; Schwartz & Unger, 2010).

Berry's bidimensional model of acculturation strategies, represented by a two by two matrix (see Figure 1) has since received criticism because of the necessity to use a priori values (e.g., sample median) as cut points to categorize individuals as high and low on each cultural maintenance and acquisition (Rudmin, 2003; Schwartz, Unger, Zamboanga, & Szapocznik, 2010).

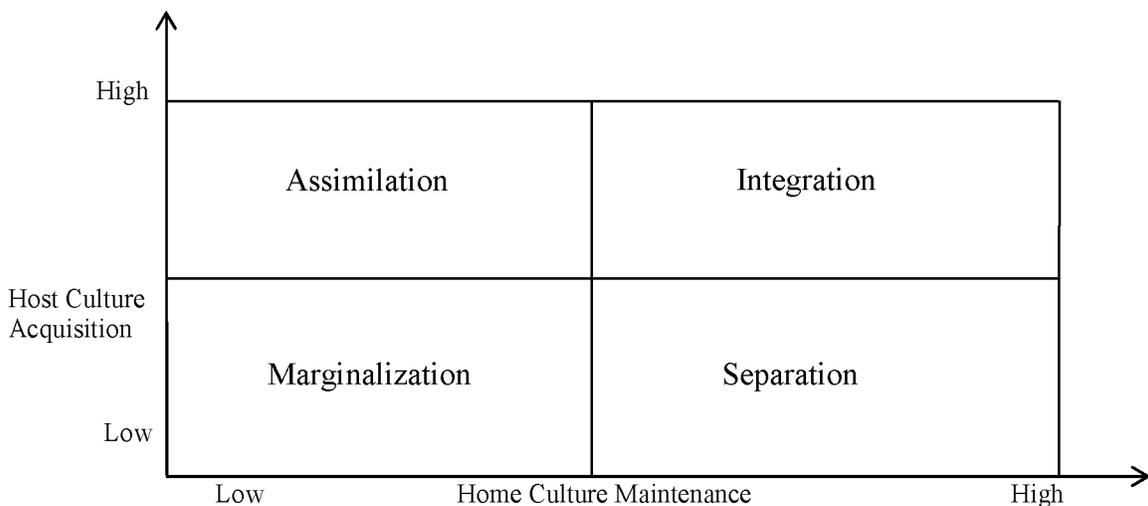


Figure 1. Berry's (1980) bidimensional model of acculturation

This typically produces an equal number of participants in both high and low categories for each dimension, assuming equal representation of, and importance of, all four adaptation strategies within each sample (Rudmin, 2003; Schwartz et al., 2010). An alternative, more rigorous approach to classification may indicate that all acculturation

strategies are not represented within a particular sample, and/or it may uncover variations to such strategies (Schwartz & Zamboanga, 2008). Thus, Berry's (1980) bidimensional model of acculturation appeared to lack the flexibility needed to account for variation across samples, as well as variation due to cultural and contextual influences.

Indeed, Schwartz and Unger (2010) indicate that acculturation is also influenced by intrapersonal, interpersonal, and contextual factors. Contextual factors include, but are not limited to, family, generational status, history, geography, and sociopolitical and economic conditions (Berry, 2006; Mistry & Wu, 2010; Umaña-Taylor, 2011). Mistry and Wu (2010) suggest cultural and contextual factors to be ever changing, varying according to immigrant group, dominant culture, and local and national circumstances. Thus, while potentially advantageous in one context, integration or biculturalism may not be an adaptive acculturation strategy for an immigrant group subject to a political climate where racism and discrimination are commonplace. This is seen in the present sociopolitical climate, which has encouraged racism, discrimination, and hate crimes toward ethnic minorities and various immigrant groups (e.g., African American, Asian American, and Mexican-American), with the recent decision to end the Deferred Action for Childhood Arrivals program and continued resistance to pass the Development, Relief, and Education for Alien Minors Act as prime examples. Within such a context, perhaps a separation strategy may allow for better safety, support, and mental health outcomes for groups subject to such hostility.

Acculturation measures were, thus, subject to criticism for failing to account for such contextual factors and multiple domains associated with biculturalism (Rudmin, 2003, 2009). To address this gap, researchers are moving toward developing and utilizing

multidimensional measures of biculturalism. LaFromboise and colleagues (1993), for example, suggested the theoretical conceptualization of biculturalism is comprised of the following dimensions: knowledge of cultural beliefs and values, positive attitudes toward majority and minority groups, bicultural efficacy, communication ability, role repertoire, and a sense of being grounded.

Bicultural Self-Efficacy

David et al. (2009) factored these dimensions into the conceptualization of bicultural self-efficacy. Bandura (1997) identifies perceived self-efficacy as a belief in one's ability to obtain a desired outcome. It is also considered an influential factor for emotion regulation. Indeed, some studies have demonstrated such a perception regarding one's own competence is related to mental health outcomes such as anxiety (Bandalos, Yates, & Thorndike-Christ, 1995) and depression (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Jenkins, Goodness, & Buhrmester, 2002). Further, the perceived ability to perform various personally meaningful tasks (e.g., socializing) is associated with mental health. In the context of acculturation, tasks that facilitate bicultural competence are of special significance to Asian Americans. Thus, the perceived self-efficacy on being bicultural, or bicultural self-efficacy, is an important factor to measure and consider.

The Bicultural Self Efficacy Scale (BSES; David et al., 2009) measures bicultural self-efficacy along the six dimensions proposed by LaFromboise et al. (1993). The scale does not assume bicultural competence as a function of high adherence to mainstream and heritage behaviors and values. Rather, it assesses one's level of perceived self-efficacy on being biculturally competent within the following domains: social groundedness, communication ability, positive attitudes toward both groups, knowledge

of cultural beliefs and values, role repertoire, and bicultural beliefs. David et al. (2009) developed and validated this scale among samples of ethnic minority students, majority of whom identified as Asian American.

It should be noted that bicultural competence and perceived bicultural self-efficacy are not mutually exclusive constructs. In fact, the ability to understand and function in two different cultural norms may indicate higher levels of self-efficacy (Kim & Omizo, 2005). Specifically, Asian Americans who are able to effectively resolve European American and Asian cultural value conflicts may strongly believe themselves capable to resolve other differences (Kim & Omizo, 2005), such as conflicts among other domains of BSES. Thus, considering the interconnection between bicultural competence with self-efficacy, and that the literature base for bicultural self-efficacy is still developing, I will draw from research on both bicultural competency and self-efficacy to inform my discussion of the mental health implications of perceived bicultural self-efficacy.

Mental Health Implications of Bicultural Competency/Self-Efficacy

Research has demonstrated that both bicultural competency and bicultural self-efficacy are associated with mental health. Biculturalism has been associated with low levels of depression, high self-esteem, and prosocial behaviors (Chen et al., 2008; Schwartz, Zamboanga, & Jarvis, 2007; Szapocznik, Kurtines, & Fernandez, 1980). Especially among young immigrants, biculturalism has been most often related to positive social and psychological outcomes (Coatsworth et al., 2005; David et al., 2009).

Negative psychological outcomes resulting from difficulties with acculturation and enculturation include acculturative stress, bicultural stress, and psychological distress

(Lau, 2012; Oh et al., 2002; Williams & Berry, 1991; Yoon et al., 2013). Ruzek, Nguyen, and Herzog (2011) found, in 601 Asian American college students, that a student's level of adhering to European values significantly predicted his or her level of psychological distress, as measured by the Depression, Anxiety, and Stress Scale-42 (DASS-42; Lovibond & Lovibond, 1995). Sodowsky and Wai Ming Lai (1997) also found a link between experiencing conflicting Asian and American value systems with loss of identity, depression, anxiety, and stress.

The relationship between bicultural self-efficacy and mental health is evidenced by several studies. David et al. (2009) found that bicultural self-efficacy was positively correlated to life satisfaction and negatively correlated to depressive symptoms in a sample of ethnic minority college students. Similarly, Hill (2013) found that several BSES subscales were correlated with mental health outcomes such as hopelessness and anxiety in a sample of Northern Plains American Indians. Five of six BSES subscales were positively correlated with resilience. Broustovetskaia (2015) found that bicultural self-efficacy and cognitive-affective variables (e.g., emotional intelligence, ambiguity tolerance) were positively correlated to psychological well-being in a sample of 176 immigrant and international university students. Brewster et al. (2013) found that bicultural self-efficacy, as defined by navigating between heterosexual and sexual minority cultures, to be positively correlated with well-being and negatively correlated with distress in a sample of over 400 self-identified bisexual adults.

Wei et al. (2010) also demonstrated perceived bicultural competence, as measured by the BSES, to be negatively correlated with depressive symptoms among a sample of 167 Asian American, African American, and Latino/a American students. This study also

suggested that high levels of perceived bicultural competence may buffer the relationship between minority stress and symptoms of depression. Carrera and Wei (2014), thus, examined how bicultural competence, as measured by the BSES, was related to acculturative family distancing (AFD) and depression in over 200 Latino/a college students. Results indicated that high levels of AFD contribute to low levels of bicultural competence, and in-turn, higher levels of depression. In other words, enhancing bicultural self-efficacy was suggested to reduce depressive symptoms.

Some research even indicates bicultural efficacy can impact overall health as well. Chun, Kwan, Strycker, and Chesla (2016) administered a newer bicultural efficacy in health management (BEFF-HM) scale to 162 Chinese American immigrants. Results showed high bicultural efficacy to significantly positively predict greater self-assessed health and satisfaction while living with diabetes. BEFF-HM also significantly negatively predicted diabetes impact on daily life, distress regarding diabetes management, and depressive symptoms.

Moderators of Bicultural Competence/Self-Efficacy and Mental Health

Although these findings indicate bicultural competency, or bicultural self-efficacy, is related to mental health, little is known about the variables that may transform this relationship. Understanding the moderating variables between bicultural self-efficacy and well-being (e.g., satisfaction with life and psychological distress) may provide insight into factors that, at high levels, buffer the negative psychological problems associated with low levels of bicultural self-efficacy or competence. Knowledge of such factors can inform distinct clinical interventions specific to Asian Americans, considering the high levels of bicultural stress and psychological distress experienced by this population in

comparison to non-Asian groups (Hwang & Ting, 2008). For example, Asian Americans may benefit from programs aimed at enhancing and/or building skills relevant to these potential moderating factors.

One such factor mentioned in the literature is cognitive flexibility (Brewster et al., 2013; Suinn, 2009). In fact, both bicultural self-efficacy and cognitive flexibility are considered “mental health promoters” as they are suggested to facilitate navigation between cultures (Brown, 1989; Kim & Omizo, 2006). It is suggested that both bicultural self-efficacy and cognitive flexibility are negatively associated with psychological distress and positively associated with psychological well-being, such that they may buffer the relationship between minority stress and health (Brewster et al., 2013).

Further, because acculturation entails adapting to new cultural norms (Berry, 2003), cognitive and social flexibility may play a key role in bicultural individuals’ ability to learn to adapt to different people and situations within two cultures (Benet-Martínez, Lee, & Leu, 2006; Gonzales, Knight, Birman, & Sirolli, 2004; Leung, Maddux, Galinsky, & Chiu, 2008; Szapocznik, Santisteban, Kurtines, Perez-Vidal, & Hervis, 1984). Even further, this flexibility may buffer the bicultural individual from psychological problems or sociocultural maladjustment associated with the process of acculturation (Nguyen & Benet-Martínez, 2007; Padilla, 2006).

Variables associated with flexibility and adaptability, at high levels, may buffer psychological distress associated with poor bicultural-self efficacy among Asian Americans. Such variables may include bicultural identity integration, cognitive flexibility, psychological flexibility, and resilience considering each have been associated with effective adaptation to difficult life situations (Benet-Martínez, Leu, Lee, & Morris,

2002; Cheng, Lee, & Benet-Martínez, 2006; Dennis & Vander Wal, 2010; Hayes, Strosahl, & Wilson, 1999; Waugh, Fredrickson, & Taylor, 2008). Thus, I hypothesized each construct would moderate the relationship between bicultural self-efficacy and satisfaction with life, and between bicultural self-efficacy and psychological distress.

Bicultural Identity Integration

Bicultural Identity Integration (BII; Benet-Martínez & Haritatos, 2005) has been defined as the extent to which “biculturals perceive their mainstream and ethnic cultural identities as compatible and integrated vs. oppositional and difficult to integrate” (Benet-Martínez et al., 2002, p.9). The following two subscales are used to measure this construct: cultural conflict vs. harmony and cultural distance vs. overlap (Benet-Martínez & Haritatos, 2005). Cultural distance refers to compartmentalization between one’s two cultural identities, or maintaining and perceiving both cultures separately. One’s cultural conflict refers to the extent that one views two cultures as either conflicting or oppositional.

The relationship between bicultural identity integration and bicultural competence has been established, such that bicultural individuals tend to have high levels of bicultural identity integration and are considered to be well-adjusted (Downie, Koestner, ElGeledi, & Cree, 2004; Downie, Mageau, Koestner, & Liodden, 2006). Chen et al. (2008) found individual differences in BII to positively predict the psychological adjustment for each of three samples: Filipinos in Hong Kong, Chinese immigrants in Hong Kong, as well as Chinese and Hong Kong college students. Compared to those with low levels of BII, individuals with high BII also have more friends and social networks within the dominant society (Mok, Morris, Benet-Martínez, & Karakitapoğlu-Aygün, 2007), Schwartz et al.

(2015), however, found that adolescents who reported lower levels of BII reported poorer prosocial behavior, relationships, self-esteem, and optimism in comparison to those with higher levels of BII.

Little is known, however, about how bicultural identity integration may influence the relationship between bicultural self-efficacy and mental health. Johansen (2011) demonstrated BII to moderate on the relationship between acculturative stress and psychological well-being in a sample of over 3,000 first and second-generation immigrant students throughout the United States. This finding suggests having a “resolved identity” is associated with low conflict and better psychological outcomes when dealing with acculturation stress. In other studies, BII moderated the relationship between cultural frame switching and relevant behaviors (Benet-Martínez et al., 2002; Cheng et al., 2006). High BII participants acted appropriately and adaptively in response to cultural cues, however low BII participants did not. This suggests perceiving two cultures as compatible impacts how one responds to, or how one may perceive themselves as responding to, differing cues between cultures.

Given these findings, I hypothesized that bicultural identity integration would moderate the relationship between bicultural self-efficacy and psychological well-being and distress. For individuals who view two cultures as highly compatible or similar (high BII), there may be greater overlap and harmony between the two cultures. Navigating similar and non-conflicting cultures may require fewer internal resources (e.g., self-efficacy) to manage bicultural conflict and corresponding stress and distress. Thus, I hypothesized that at higher levels of BII, the greater one’s well-being, and the less influence bicultural self-efficacy will have on well-being. Among those who view their

cultures as highly incompatible (low BII), levels of perceived bicultural self-efficacy may vary depending on internal resources and contextual factors. Thus, with lower levels of BII, bicultural self-efficacy may have a greater influence on indicators of well-being (satisfaction with life and distress).

Cognitive Flexibility

Huynh, Nguyen, Benet-Martínez (2011) have demonstrated that BII is associated with cultural frame switching, an important social-cognitive variable. This ability to respond adaptively to differing environmental stimuli, or cognitive flexibility, has also been studied in the context of biculturalism and mental health. Cognitive flexibility has been defined both objectively (Anderson, 2002) and subjectively (Dennis & Vander Wal, 2010; Martin & Rubin, 1995). Objective definitions tend to include the capability to shift mental sets (Davidson, Amso, Anderson, & Diamond, 2006), as measured by neuropsychological tests of executive control such as the Wisconsin Card Sorting Test (WCST; Berg, 1948) and Trail Making Test (TMT; Reitan & Wolfson, 1993). Subjective cognitive flexibility is typically assessed by self-report measures such as the Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995) and the Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010). Definitions of cognitive flexibility have included the capability to think adaptively rather than maladaptively (Dennis & Vander Wal, 2010); the perceived awareness of options and alternatives in situations; and the level of self-efficacy in being flexible (Martin & Rubin, 1995).

The relationship between cognitive flexibility and with each bicultural competence and self-efficacy among Asian Americans has been demonstrated. For example, Harrison, Wilson, Pine, Chan, and Buriel (1990) observed high levels of

cognitive flexibility in children raised within ethnic minority families within the United States. In another study, adhering to both Asian and European values was associated with high levels of perceived cognitive flexibility in a sample of Asian American high school students living in Hawaii (Omizo, Kim, & Abel, 2008). Further, high levels of cognitive flexibility have been linked to high levels of perceived general self-efficacy and self-esteem (Kim & Omizo, 2005, 2006).

The relationship between cognitive flexibility and mental health has also been established. Cognitive flexibility allows for flexible and contextual, rather than rigid, attributions to negative events (Palm & Follette, 2011). In a sample of Navajo adolescents, cognitive restructuring, an aspect of cognitive flexibility, was negatively correlated to depressive symptoms (Wadsworth, Rieckmann, Benson, & Compas, 2004). Cognitive flexibility was also negatively correlated with psychological distress (Palm & Follette, 2011). In a sample of Korean Americans, Ahn, Kim, and Park (2009) found that there was a lower likelihood of child-parent conflicts with higher levels of cognitive flexibility.

However, it is unclear how cognitive flexibility, bicultural self-efficacy, and mental health are related (Ruzek et al., 2011). Some suggest cognitive flexibility to buffer the relationship between minority stressors and mental health (Brewster et al., 2013). In a sample of Korean American college students, cognitive flexibility acted as a moderator between the students' perceived parent-child cultural values gap and family conflict (Ahn et al., 2009). Indicators of cognitive flexibility have moderated the relationship between different types of stressors and mental health as well (Brewster et al., 2013). For example, explanatory flexibility moderated the link between negative life events and symptoms of

depression (Fresco, Rytwinski, & Craighead, 2007). Cognitive restructuring buffered the relationship between racial discrimination and well-being among Asian American college students (Yoo & Lee, 2005).

These studies demonstrate that cognitive flexibility may buffer the distress associated with negative life events, or perceived cultural conflicts, among Asian Americans. For this reason, I hypothesized that the greater the levels of cognitive flexibility, the greater one's mental well-being and the less influence bicultural self-efficacy would have on each well-being and distress. Thus, with lower the levels of cognitive flexibility; bicultural self-efficacy would have more influence on mental well-being and psychological distress.

Psychological Flexibility

While cognitive flexibility has mainly been studied in the context of set shifting, and subjectively as one's ability to adapt to differing environmental stimuli, psychological flexibility, a related construct, has been studied more so in the context of emotionality. Psychological flexibility, like cognitive flexibility, requires a focus on the present and the ability to adapt to behave according to the present context (Hayes et al., 1999). Although it is suggested that cognitive and psychological flexibility overlap (Whiting, Deane, Ciarrochi, McLeod, & Simpson, 2014; Whiting, Deane, Ciarrochi, McLeod, & Simpson, 2015; Al-Jabari (2012) found no significant correlation between the two constructs. This may suggest the two constructs, although similar, tap into different dimensions of a more general type of flexibility (Al-Jabari, 2012). Associated with emotionality, psychological flexibility within the ACT framework refers to the ability to act congruently with one's values while maintaining focus on the present

moment (Hayes et al., 1999). Experiential avoidance is a term used in ACT to describe a lack of psychological flexibility (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance is typically defined as avoiding exposure to feared thoughts, feelings, and sensations. In doing so, one also avoids opportunities to challenge faulty beliefs pertaining to such situations (Barlow, 2000). Psychological flexibility has often been measured with experiential acceptance or avoidance measures (Kashdan, Barrios, Forsyth, & Steger, 2006) such as the Acceptance and Action Questionnaire - II (AAQ -II; Bond et al., 2011).

Like cognitive flexibility, psychological flexibility is also related to various mental health outcomes (Kashdan & Rottenberg, 2010). This is because it is a key aspect in emotion regulation (Hinton, Pich, Hofmann, & Otto, 2011; Kashdan & Rottenberg, 2010; Kok & Fredrickson, 2010). Thus, as one becomes more psychologically flexible, symptom reduction is possible (Hinton & Gaynor, 2010; Masuda, Price, Anderson, Schmertz, & Calamaras, 2009; Zettle, Rains, & Hayes, 2011). In a meta-analysis of 32 studies, psychological flexibility, measured via the AAQ, was correlated with mental health, life and career satisfaction, and engagement in activities when experiencing pain (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Psychological inflexibility, however, has been associated with psychopathology (Ehrenreich, Fairholme, Buzzella, Ellard, & Barlow, 2007; Hinton, Hofmann, Pollack, & Otto, 2009). Masuda, Mandavia, and Tully (2014) found psychological inflexibility to be related to greater somatic, depressive and anxiety symptoms in a sample of over 100 participants from various Asian nationality backgrounds. After controlling for gender, interpersonal stress, and marital status, Kato (2016) found a positive correlation between

psychological inflexibility and depressive symptoms in a sample of 900 adults in India, the Philippines, and Singapore. In a sample of over 600 Japanese students, psychological inflexibility was associated with sleep disturbance and depressive symptomology.

It is also suggested that psychological flexibility may be vital to developing bicultural competence (La Roche & LaRoche, 2012). It can facilitate the navigation and resolution of differences across several cultural domains such as language, beliefs about social interaction, and child rearing. ACT and CA-CBT are two therapeutic modalities that aim to encourage psychological flexibility. Although primarily developed for refugees, CA-CBT can be customized to address emotional concerns of different culture groups including those experiencing somatic sensations and anxiety (Hinton, Pich, Marques, Nickerson, & Pollack, 2010). Included in this therapy is a five-step flexibility protocol, which includes representations of flexibility via body moments (e.g., stretching and rotating movements), self-statements promoting flexibility, as well as music that encourages flexibility (Hinton et al., 2012). Randomized controlled trials demonstrate the efficacy of CA-CBT for refugees from Vietnam and Cambodia, as well as for Latino patients (Hinton et al., 2004; Hinton, et al., 2005; Hinton, Hofmann, Rivera, Otto, & Pollack, 2011).

Similarly, the six components of ACT (e.g., values, acceptance, mindfulness, cognitive defusion, committed action, and self as context) are used to guide evidence-based treatments to promote psychological flexibility (Hayes et al., 1999). Promoting psychological flexibility via mindfulness and acceptance is also an important component of interventions with refugees (Hinton, Ojserkis, Jalal, Peou, & Hofmann, 2013). Some studies have tested the moderating effects of various indicators of psychological

flexibility. For example, in a sample of elderly adults in New Zealand, experiential avoidance moderated the relationships between health and both depression and anxiety (Andrew & Dulin, 2007). Kratz, Davis, and Zautra (2007) reported pain acceptance moderated the link between negative affect and pain severity in a sample of adult women. These findings suggest that psychological flexibility, as measured by acceptance, avoidance, and/or mindfulness, may be associated with resiliency (Kashdan & Rottenberg, 2010) in the face of negative events (e.g., pain, distress).

Considering literature suggesting psychological flexibility may facilitate bicultural competence (La Roche & La Roche, 2012), and that having higher levels of flexibility is associated with having more attentional resources (Bond, Flaxman, & Bunce, 2008), I hypothesized that higher levels of psychological flexibility allows for more resources to navigate various conflicting cultural domains. Thus, the greater one's psychological flexibility, the better the mental health outcome, and the weaker the relationship between bicultural self-efficacy and mental health will be. Lower levels of psychological flexibility have been associated with rigidity, rumination, and experiential avoidance (Bond & Bunce, 2003). Thus, with lower levels of cognitive flexibility, the more influence one's self-efficacy may have on mental well-being.

Resilience

A construct related to mental flexibility, resilience, is typically defined as the ability to bounce back from negative emotional events and adapt to circumstances surrounding stressful experiences (Block & Block, 1980; Block & Kremen, 1996; Lazarus, 1993). Waugh et al. (2008), in fact, state that, "A facet of emotional resilience critical for adapting to adversity is flexible use of emotional resources" (p322.) However,

resilience has primarily been defined and studied from a Western lens with little consideration to culture and context.

Thus, Ungar and Liebenberg (2011) co-directors at the Resilience Research Center (RRC) at Dalhousie University in Halifax, Nova Scotia, led the International Resilience Project (IRP) to develop an understanding of resilience among children in 11 developing countries. Ungar and Liebenberg (2011) subsequently validated the Child and Youth Resilience Measure (CYRM) and the RRC-Adult Resilience Measure (RRC-ARM) for cross cultural use for youth and adults, respectively. The IRP also provided a contextually grounded definition of resilience:

In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity of an individual to navigate their way to health sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community, and culture to provide these health resources and experiences in culturally meaningful ways (Ungar, 2008, p.225).

Thus, resiliency, in addition to its association with flexibility, also depends on the availability of resources within a culturally and contextually appropriate environment (Ungar, 2008). Sustaining resources, in the context of acculturation, may be identified as resources which facilitate bicultural identity development.

Indeed, Maldonado (2005) indicated that biculturalism may contribute to resiliency. The link between resilience and biculturalism has, in fact, been demonstrated in both Asian American youth and adults. Sirikantrapom (2013), for example, found bicultural youth to be more resilient than highly Asian or westernized youth in the

context of witnessing domestic violence. Further, a review of 13 qualitative, and eight quantitative, studies suggested acculturation (Kodama, 2015; Lee, Brown, Mitchell, & Schiraldi, 2008; Lim & Ashing-Giwa, 2013; Wakeel, 2009), specifically bicultural identity (Cheng, 2013; Maruoka, 2008) is an important factor in the resilience of Asian American Pacific Islander Women (AAPIW; Reyes & Constantino, 2016). In one study, daughters of South Asian women attributed their resilience to both respecting their heritage culture and “blend(ing) in” (p.269) with American culture (Soans, 2012).

Consistent with these findings, the relationship between resilience and mental health has also been established. After examining 60 studies and 111 effect sizes, Hu, Zhang, and Wang (2015) found that trait resilience was negatively correlated with negative mental health variables (e.g., depression, anxiety, negative affect) and positively correlated to positive mental health variables (e.g., life satisfaction, positive affect). Further, in a sample of over 2, 000 Asian Americans living in Hawaii, Zhang (2013) further demonstrated a strong sense of resilience as advantageous for both mental and physical health.

The relationship between mental health, resilience, and biculturalism, however, is unclear. Some studies have found resilience to moderate the link between negative life events (e.g., stress) and indicators of mental health (Hill, 2013). In a sample of 200 postdoctoral students, for example, high levels of resilience protected postdocs from increased depressive symptoms as stress levels increased (Gloria & Steinhardt, 2016). In a sample of over 200 Chinese college students, Chen (2016) found resilience to moderate the relationship between task-oriented coping style (e.g., problem solving) and life satisfaction. These studies suggest resilience may be effective in buffering the negative

consequences (e.g., depressive symptoms, poor life satisfaction) associated with various stressors and coping difficulty.

Given these findings, I hypothesized resilience to moderate the relationship between bicultural stress, or difficulty coping with cultural conflict, and mental health. That is, the greater one's level of resilience, the better one's mental health outcome, and the weaker the relationship would be between perceived bicultural self-efficacy and each well-being and distress. However, with lower the levels of resilience, perceived bicultural self-efficacy may have a greater influence on each well-being and distress.

Study Rationale

The relationship between bicultural self-efficacy or bicultural competence and mental health among Asian Americans has been established (David et al., 2009). Mental flexibility was suggested to buffer psychological problems or sociocultural maladjustment associated with the process of acculturation (Nguyen & Benet-Martínez, 2007; Padilla, 2006). Thus, variables associated with mental flexibility were hypothesized to moderate the relationship between bicultural self-efficacy and life satisfaction, and between bicultural self-efficacy and psychological distress. The current study's hypotheses are as follows:

- 1) Bicultural identity integration will moderate the relationship between bicultural self-efficacy and life satisfaction.
- 2) Bicultural identity integration will moderate the relationship between bicultural self-efficacy and psychological distress.
- 3) Cognitive flexibility will moderate the relationship between bicultural self-efficacy and life satisfaction.

- 4) Cognitive flexibility will moderate the relationship between bicultural self-efficacy and psychological distress.
- 5) Psychological flexibility will moderate the relationship between bicultural self-efficacy and life satisfaction.
- 6) Psychological flexibility will moderate the relationship between bicultural self-efficacy and psychological distress.
- 7) Resilience will moderate the relationship between bicultural self-efficacy and life satisfaction.
- 8) Resilience will moderate the relationship between bicultural self-efficacy and psychological distress.

The review of relevant literature suggests a potential moderating role of each variable on the relationship between negative life events (e.g., stress, cultural conflict) and mental health. Developing a better understanding of the moderating variables between bicultural self-efficacy and mental health may guide clinical interventions aimed at building internal resources needed to navigate perceived difficulty in resolving conflicting cultural values and norms among Asian Americans. Due to the fact that Asian Americans are the fastest growing racial group in the United States, and given that some research suggests that Asian Americans may experience higher levels of acculturative stress and psychological distress compared to other groups, developing healthy coping mechanisms and interventions centered around adapting to life events related to the acculturation process may be crucial for Asian Americans living in the United States today.

Chapter 3: Research Design and Methodology

Study Design

This was a cross-sectional study involving Asian Americans ages 18 and older living in the United States. The purpose of this study was to investigate some of the potential moderating variables between perceived bicultural self-efficacy and indicators of mental health (e.g., psychological distress and life satisfaction). This study required Asian Americans living in the United States to complete an online survey. In addition to a demographic questionnaire (see Appendix A), the survey was comprised of (a) the Bicultural Self-Efficacy Scale (David et al., 2009; see Appendix B); (b) the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; see Appendix C); the Acceptance and Action Questionnaire – II (Bond et al., 2011; see Appendix D); the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995; see Appendix E); the Cognitive Flexibility Inventory (Dennis & Vander Wal, 2010; see Appendix F); the Cognitive Flexibility Scale (Martin & Rubin, 1995; see Appendix G); the Bicultural Identity Integration Scale (Benet-Martínez & Haritatos, 2005; see Appendix H); the Vancouver Index of Acculturation (Ryder, Alden, & Paulhus, 2000; see Appendix I); and the Resilience Research Center – Adult Resilience Measure adapted from the Child and Youth Resilience Measure (RRC-ARM; Ungar & Liebenberg, 2011; see Appendix J).

Participants

Participants were Asian Americans residing in the United States who were at least 18 years old or older. Asian Americans included individuals with Asian heritage such as Chinese, Filipino, Vietnamese, Korean, Japanese, Asian Indian, Other Asian, and Mixed Asian (those who identified with two or more Asian ethnic groups). Using the

recruitment methods described below, and after conducting a missing data imputation procedure (described in the results section), the final sample size comprised of 148 participants.

Sample size and power analysis. A power analysis was conducted using G*Power. With a medium effect size of .15; an alpha of .05; and a total of three predictor variables, the results of the power analysis showed that a minimum of 89 participants were needed to conduct the main statistical analyses for this study.

Sample characteristics. Sample characteristics are shown in Table 1. All participants reported they lived in the U.S. and were at least 18 years old ($M = 38.50$, $SD = 14.23$). Ninety-seven (66%) respondents were female and 50 (34%) were male. Out of the 148 Asian American participants, 57.4% ($n = 85$) identified as Asian Indian; 10.8% ($n = 16$) identified as Filipino; 9.5% ($n = 14$) identified as Chinese; 8.1% ($n = 12$) identified as Japanese; 5.6% ($n = 8$) identified as Mixed Asian; 3.4% ($n = 5$) identified as Korean; 3.4% ($n = 5$) identified as Taiwanese; .7% ($n = 1$) identified as Sri Lankan; and .7% ($n = 1$) identified as Vietnamese. Ninety-three-percent reported to be heterosexual ($n = 137$); 2% identified as gay or lesbian ($n = 3$); 3% identified as bisexual ($n = 4$); 1% identified as “pansexual” ($n = 1$); and 1% identified as “queer” ($n = 1$). Fifty-percent identified as first generation (e.g., born outside the U.S. and immigrated to the U.S.) Forty-percent identified as second generation (e.g., born in the U.S. of at least one first generation immigrant parent). The remaining 10% identified as either third or fourth generation indicating that at least the participant and both parents were born in the U.S. Eighty individuals reported English to be their Native language. All participants included in the survey rated their competency with the English language as at least a four out of five.

Status in the U.S. was as follows: U.S Citizen 75% ($n = 111$); naturalized citizen 18% ($n = 27$); permanent resident/green card holder 2% ($n = 3$); and other 5% ($n = 7$). Fifty-percent indicated they were married; 17% were in a significant relationship; and 31% were single. Sixty-percent of participants achieved at least a graduate degree and 27% received their bachelor's degree. Thirteen-percent had either a high school diploma, attended some college, or went to vocational school. The median individual yearly income of 112 respondents was \$72,500. The median family yearly income of 124 respondents was \$140,000.

Recruitment methods. Participants were recruited via snowball sampling (e.g., e-mail, phone, list serves, social media, Asian American organizations). Participants were encouraged to forward the survey link to others who met the study's inclusion criteria and who may also be interested in participating.

Table 1

Frequencies and Percentages for Demographic Variables

Variables	n	%
Gender		
Male	12	34
Female	97	66
Sexual Orientation		
Heterosexual	137	93
Gay or lesbian	3	3
Other	2	2
Asian cultures		
Asian Indian	85	57.4
Filipino	16	10.8
Chinese	14	9.5
Japanese	12	8.1
Mixed Asian	8	5.6
Korean	5	3.4
Taiwanese	5	3.4

Variables	<i>n</i>	%
Sri Lankan	1	0.7
Vietnamese	1	0.7
Status		
U.S. citizen	111	75
Naturalized citizen	27	18
Permanent resident	3	2
Other	7	5

Measures

In addition to completing a demographic questionnaire that asked participants to report their gender, marital status, education, employment, income, citizenship, birthplace, generational status, and competency with the English language, participants were also asked to complete the following measures.

Bicultural Self-Efficacy Scale (BSES). The Perceived Bicultural Self-Efficacy Scale (BSES; David et al., 2009) is a 26-item self-report scale of perceived bicultural competence. Each item is rated on a partially anchored 9-point scale (1 = *strongly disagree*, 3 = *disagree*, 5 = *neutral*, 7 = *agree*, and 9 = *strongly agree*). Overall scores are obtained by averaging item ratings. Higher scores indicate greater bicultural self-efficacy, or the greater perceived ability to successfully navigate between two cultural identities. In samples of ethnic minorities, David et al. (2009) and Wei et al. (2010) reported Cronbach's alphas for the overall scale to be .94 and .92, respectively. The Cronbach's alpha obtained in the present study for the overall scale was .92. The scale's validity was evidenced by its negative correlation with bicultural conflict and separation (David et al., 2009). The overall BSES score was computed by summing scores from the following six domains (subscales found by David et al. [2009] are provided in parentheses).

1. Social Groundedness (e.g., “I can count on both mainstream Americans and people from the same heritage culture as myself”), contains seven items (alpha = .91);
2. Communication Ability (e.g., “I can communicate my ideas effectively to both mainstream Americans and people from the same heritage culture as myself”), contains four items (alpha = .79);
3. Positive Attitudes (e.g., “I have generally positive feelings about both my heritage culture and mainstream American culture”), contains four items (alpha = .89);
4. Knowledge (e.g., “I am knowledgeable about the history of both mainstream America and my cultural group”), contains four items (alpha = .80);
5. Role Repertoire (e.g., “An individual can alter his or her behavior to fit a particular social context”), contains three items (alpha = .69); and
6. Bicultural Beliefs (e.g., “It is acceptable for an individual from my heritage culture to participate in two different cultures”), contains four items (alpha = .77).

Satisfaction With Life Scale (SWLS). The SWLS (Diener et al., 1985) is a five-item measure of psychological well-being used to measure life satisfaction. Participants rate each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate higher levels of life satisfaction. Sample items include “In most ways my life is close to my ideal” and “The conditions of my life are excellent.” Diener et al. (1985) reported an alpha of .87 and a test-retest correlation of .82. David et al. (2009) reported an alpha of .87 in a sample of ethnic minorities, majority of whom identified as Asian American. The alpha in the present study was .90. Regarding validity,

SWLS was negatively correlated with indicators of psychopathology and positively correlated with measures of subjective well-being (Diener et al., 1985). The SWLS has been successfully administered to diverse populations throughout the world (Diener, Oishi, & Lucas, 2003).

Acceptance and Action Questionnaire II (AAQ-II). The AAQ-II (Bond et al., 2011) is a 10-item self-report measure of psychological flexibility. Items are rated on a 7-point scale (1 = *never true*, 7 = *always true*). Higher scores indicate greater levels of psychological inflexibility. Sample items include “My painful experiences and memories make it difficult for me to live a life that I would value” and “It seems that most people are handling their lives better than I am.” Six samples of participants were used to demonstrate the structure, reliability, and validity of this measure to be satisfactory. For example, the mean alpha coefficient was .84. The three-month test-retest reliability was .87, and 12 month test-retest reliability was .79. In the present study, the alpha was .90. Regarding validity, Bond et al. (2011) found that higher levels of psychological inflexibility were associated with increased depressive symptoms; more anxiety and stress; and poorer overall health.

Depression Anxiety and Stress Scale. The DASS-21 (Lovibond & Lovibond, 1995) is a 21-item self-report measure of depression, anxiety, and stress/tension. Items are rated on a 4-point scale (0 = *did not apply to me at all*, 3 = *applied to me very much or most of the time*). Scores are calculated by summing items within each depression, anxiety, and stress subscales. The DASS-21 was shortened from the original 45-item version of the scale. The DASS-21 has been validated among American, Hispanic, and British adults and has been demonstrated to be an acceptable measure of depression,

anxiety, and stress (Crawford et al., 2009; Norton, 2007). The Cronbach's alpha for the total scale score in the present study was .92. An overall distress score was computed by summing scores from the following three DASS domains:

1. Depression (e.g., "I felt life was meaningless"), contains seven items;
2. Anxiety (e.g., "I was worried about situations in which I might panic and make a fool of myself"), contains seven items; and
3. Stress (e.g., "I tend of overreact to situations"), contains seven items.

Cognitive Flexibility Inventory (CFI). The CFI (Dennis & Vander Wal, 2010) is a 20-item self-report measure of cognitive flexibility, or the ability to think adaptively. Items are rated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*), with higher scores indicative of higher cognitive flexibility. In a sample of students, the CFI showed high internal consistency with alphas ranging from .90-.91. Cronbach's alpha for the CFI subscales ranged from .84 to .91. In the present study, the Cronbach's alpha was .90. Convergent validity was demonstrated via significant correlations ($r = .73$ and $r = .75$) with the Cognitive Flexibly Scale (CFS; Martin & Rubin, 1995). Concurrent criterion validity was evidenced by significant negative correlations with the BDI-II ($r = -.35$ and $r = -.39$). The overall CFI scale is comprised of the following two domains:

1. Alternatives (e.g., "I try to think about things from another person's point of view"), contains 13 items; and
2. Control (e.g., "When I encounter difficult situations, I feel like I am losing control"), contains seven items.

Cognitive Flexibility Scale (CFS). The Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995) is a 12-item self-report scale measuring self-perceived cognitive

flexibility. The scale assesses one's awareness of alternative options in different situations; adaptability and flexibility; and self-efficacy in being flexible. Items are rated on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). A total score is obtained by summing the 12 items. Higher scores indicate higher self-perceived cognitive flexibility. Internal consistency was reported via alphas .76 and .77 and test-retest reliability was .83. Cronbach's alpha in the present study was .87. Martin and Rubin (1995) also demonstrated CFS construct validity via positive correlations with communication flexibility and negative correlation with attitude rigidity. The CFS has been appropriately used in studies with Asian American populations (Lau, 2012; Kim, Ahn, & Lam, 2009). The CFS contains items such as "In any given situation, I am able to act appropriately," "I seldom have choices when deciding how to behave," and "I can find workable solutions to seemingly unsolvable problems."

Bicultural Identity Integration Scale (BIIS). The BIIS (Benet-Martínez & Haritatos, 2005) is an eight-item measure of the extent to which bicultural persons perceive their two cultures as conflicting. Items are rated on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). High scores suggest high levels of distance and conflict between two cultures. Sample items include, "I feel caught between my [native] and American cultures" and "I keep my [native] and American cultures separately." The overall scale has been modified for use with various Asian groups (Chand & Tung, 2014; Chen et al., 2008). An alpha of .74 was reported for the conflict subscale (Benet-Martínez & Haritatos, 2005) and an alpha of .63 was reported for the distance subscale (Benet-Martínez & Haritatos, 2005). In the present study, the cultural distance subscale was not used in any analyses because the current sample produced an alpha of .31, which is less

than the minimum accepted level of .6 recommended by Hair and colleagues (2006). However, the cultural conflict subscale, or BIISa, had an alpha of .86. Thus, the cultural conflict subscale and the full scale BIIS were utilized in the analyses. A BIIS total scale score was derived by multiplying the average of both subscales, as recommended by Manzi, Ferrari, Rosnati, and Benet-Martínez (2014). In the present study, Cronbach's alpha for the overall BIIS was .65.

Vancouver Index of Acculturation (VIA). The VIA (Ryder et al., 2000) is a 20-item measure that assesses level of acculturation to one's mainstream and heritage culture, also the two domains of the scale. Items are rated on a 9-point scale (1 = *strongly disagree*, 9 = *strongly agree*) and are averaged to produce subscale scores. Internal consistency was reported as .79 for the Heritage (VIA-H) subscale and .75 for the Mainstream (VIA-M) subscale. Concurrent validity was demonstrated by significant correlations between the mainstream and heritage domains with time lived in an English-speaking country; time educated in an English-speaking country; an acculturation score produced by Suinn-Lew Asian Self Identity Acculturation Scale (SL-ASIA); and a single-item assessing for cultural identification. The VIA has been successfully used with samples of Asian Americans and ethnic minorities (David et al., 2009). In the present study, Cronbach's alpha for the VIA-H subscale was .88, and for the VIA-M subscale it was .86. The overall VIA scale is comprised of the following two domains:

1. Mainstream (e.g., "I often participate in mainstream Americans cultural traditions"), contains 10 items; and
2. Heritage (e.g., "I often participate in my heritage cultural traditions"), contains 10 items.

Resilience Research Center – Adult Resilience Measure (RRC-ARM). The RRC-ARM (Ungar & Liebenberg, 2011) is a 28-item measure of resilience designed for adults ages 23 and older. It is also suitable for use with individuals 18 and older (personal communication, Ungar, 2017). Participants indicate their level of agreement with items which are rated on a five point scale (1 = *not at all*, 5 = *a lot*). Overall scores are obtained by summing all 28 items, with higher score indicating higher levels of resilience. Subscales scores are obtained by summing items within each subscale. Subscales include the following:

1. Individual Capacities/Resources (e.g., “I cooperate with people around me”), contains 11 items;
2. Relationships with Primary Caregivers (e.g., “My family has usually supported me throughout life”), contains seven items; and
2. Contextual Factors that Facilitate a Sense of Belonging (e.g., “Spiritual beliefs are a sense of strength for me”).

The RRC-ARM was adapted from the Child and Youth Resilience Measure (CYRM; Ungar & Liebenberg, 2011). The CYRM was developed as a screening tool for youth aged 12 to 23 to determine resources that may enhance resilience (Liebenberg & Ungar, 2009, p.2). The CYRM was developed through a collaborative effort by the International Resilience Project (IRP) with 14 research sites located in 11 countries. A multinational validation study demonstrated good reliability of CYRM items, with Cronbach’s alphas of respective scale domains reportedly ranging from .66 to .84. In the present study, the Cronbach’s alpha was .92.

Study Procedures

This study was approved by the University of Alaska Anchorage (UAA) Institutional Review Board (IRB). The researcher requested an expedited review of this project due to minimal risk to prospective participants.

The survey was administered online through the Qualtrics software provided by UAA. Upon selecting the study link, participants were directed to a consent form (see Appendix K) that stated the consent to participate in the study was voluntary and that participants could stop participating at any time. Participants below the age of 18, who did not identify as having Asian heritage, and who were not living in the United States were excluded from the study. The survey took approximately 30-45 minutes to complete. Participants were provided with the researcher's contact information, as well as the contact information for the UAA IRB in case they had any questions or concerns. Mental health resources were also provided in the debriefing form (see Appendix L) in case taking the survey caused any distress to participants. Participants were able to choose to enter in a drawing for one of four \$50.00 Amazon.com gift cards in exchange for participation. In doing so, participants had the option to click on a link at the end of the survey and enter their e-mail address to be included in the drawing.

Data Analyses

Separate multiple regression analyses via the Hayes (2013) Process Macro were used to test the hypotheses that cognitive flexibility, psychological flexibility, bicultural identity integration, and resilience moderate the relationship between bicultural self-efficacy and mental health variables. In each analysis, measures of psychological well-being (life satisfaction) and distress (psychological distress) were dependent variables

and bicultural self-efficacy was the predictor variable. Cognitive flexibility (CFI and CFS), psychological flexibility, bicultural identity integration (full scale and cultural conflict subscale), and resilience scores were each included as moderators of the association of bicultural self-efficacy with well-being or distress in separate analyses. In other words, each moderating variable was separately assessed for a significant interaction with bicultural self-efficacy. Thus, the significance of each moderation variable was assessed.

For each interaction effect, the Hayes (2013) macro computed a test of simple slopes at the mean value of the moderator as well as at one standard deviation above and below the mean of the moderator. The significance, direction, and strength of the association of the predictor with the dependent variable was assessed for each of these values of the moderator. For example, considering Hypothesis 1, the macro tested the association of bicultural self-efficacy with life satisfaction at low and high levels of bicultural identity integration. This allowed for an interpretation of how low and high levels of bicultural identity integration affected the relationship between bicultural self-efficacy and life satisfaction. The following eight separate moderator models, and their associated hypotheses, were tested (see Figures 2-9).

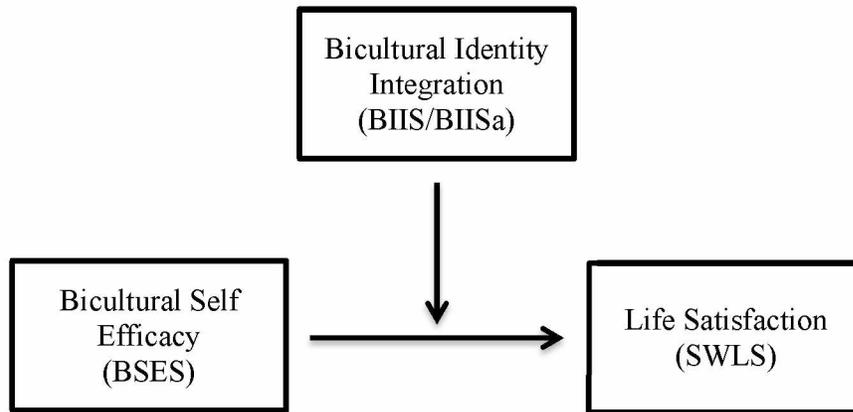


Figure 2. Hypothesis 1- Bicultural identity integration will moderate the relationship between bicultural self-efficacy and life satisfaction, such that the positive relationship between bicultural self-efficacy and life satisfaction is not as important for individuals who view their two cultures as compatible.

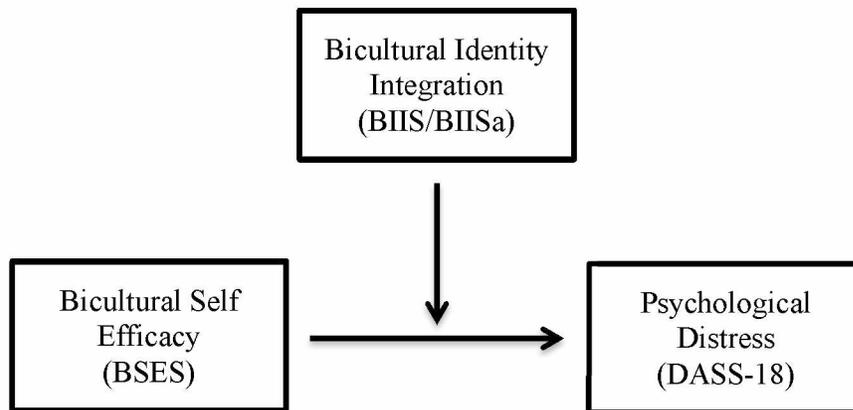


Figure 3. Hypothesis 2 - Bicultural identity integration will moderate the relationship between bicultural self-efficacy and psychological distress, such that the negative relationship between bicultural self-efficacy and psychological distress is not as important for individuals who view their two cultures as compatible.

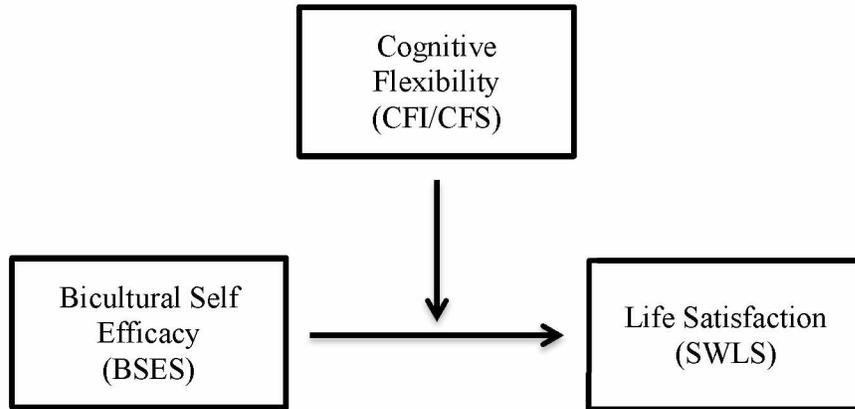


Figure 4. Hypothesis 3 – Cognitive flexibility will moderate the relationship between bicultural self-efficacy and life satisfaction, such that the positive relationship between bicultural self-efficacy and life satisfaction is not as important for individuals who are able to respond adaptively to environmental stimuli.

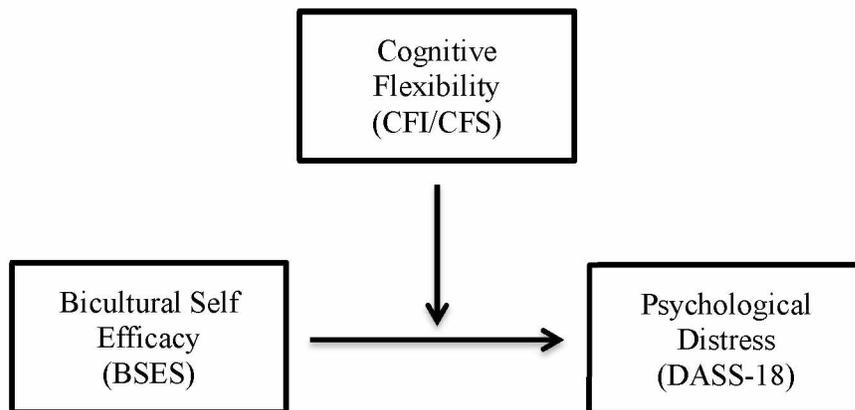


Figure 5. Hypothesis 4 – Cognitive flexibility will moderate the relationship between bicultural self-efficacy and psychological distress, such that the negative relationship between bicultural self-efficacy and psychological distress is not as important for individuals who are able to respond adaptively to environmental stimuli.

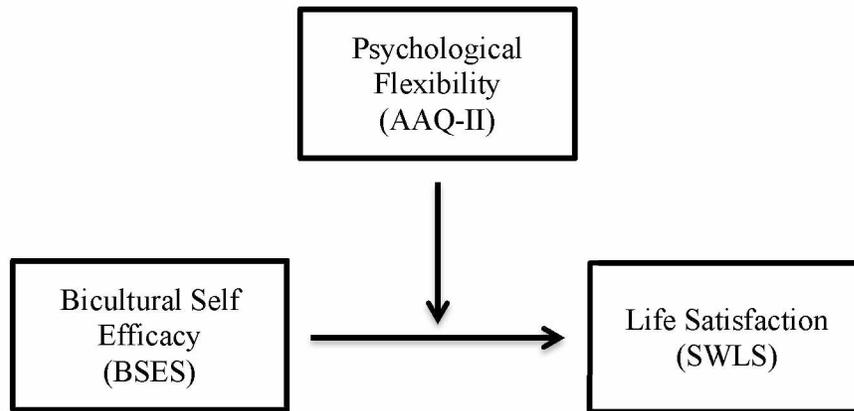


Figure 6. Hypothesis 5 – Psychological flexibility will moderate the relationship between bicultural self-efficacy and life satisfaction, such that the positive relationship between bicultural self-efficacy and life satisfaction is not as important for individuals who are able to adapt their behaviors according to the present context.

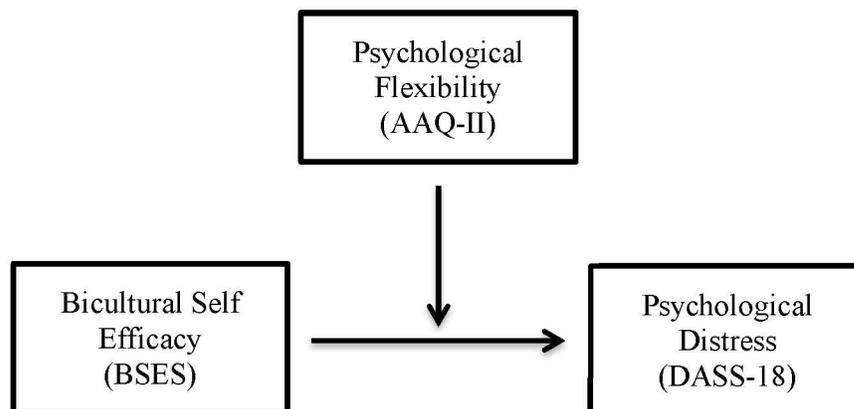


Figure 7. Hypothesis 6 – Psychological flexibility will moderate the relationship between bicultural self-efficacy and psychological distress, such that the negative relationship between bicultural self-efficacy and psychological distress is not as important for individuals who are able to adapt their behaviors according to the present context.

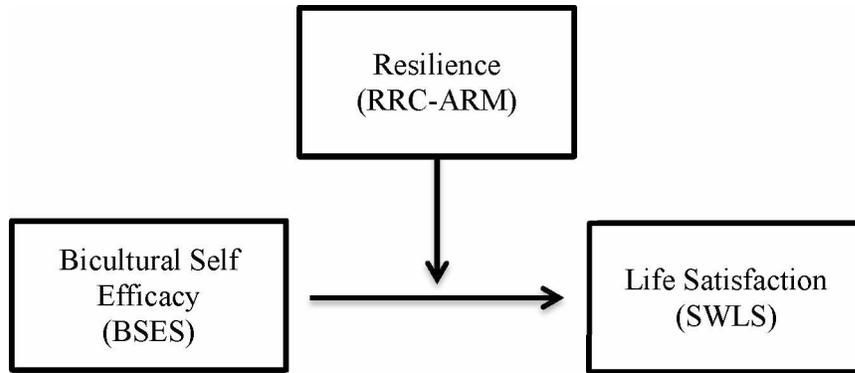


Figure 8. Hypothesis 7 – Resilience will moderate the relationship between bicultural self- efficacy and life satisfaction, such that the positive relationship between bicultural self-efficacy and life satisfaction is not as important for individuals who are able to bounce back from negative emotional events and adapt to circumstances surrounding stressful experiences.

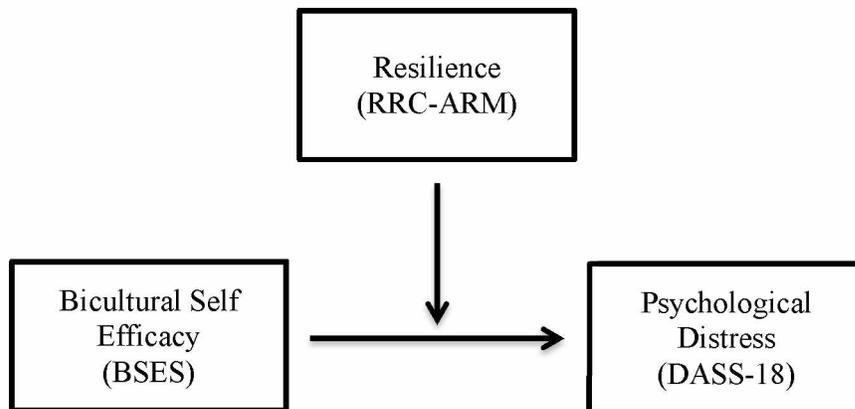


Figure 9. Hypothesis 8 – Resilience will moderate the relationship between bicultural self- efficacy and psychological distress, such that the negative relationship between bicultural self-efficacy and psychological distress is not as important for individuals who are able to bounce back from negative emotional events and adapt to circumstances surrounding stressful experiences.

Chapter 4: Results

Missing Data Procedure

Data collected from the survey were entered into SPSS for analysis. Prior to the primary data analyses, 221 initial cases were screened for missing data. Any case that was missing more than 10% of the entire survey, as well as cases missing more than 10% of any particular scale, were discarded. This is consistent with Schlomer, Bauman, and Card's (2010) contention that 10% missing data is "typical." After this initial screening, a total of 156 people remained. Also, as recommended by Schlomer et al. (2010), the expectation-maximization (E-M) method – which replaces missing data with predicted values instead of simple means – was used for missing data imputation. For the E-M method to be most appropriate, the missing data need to be either missing completely at random (MCAR) or missing at random (MAR). Thus, a Little's MCAR test was conducted for each scale to determine if the missing values were MCAR. Scales measuring satisfactions with life, psychological flexibility, and bicultural identity integration were not missing any values, and the Little's MCAR tests on the rest of the scales revealed that only the scale measuring psychological distress yielded significant results, $\chi^2(116) = 163.31, p = .003$, suggesting that the missing values in the distress scale may not be MCAR. Thus, an independent samples t-test was performed to compare participants who partially completed the DASS instrument ($n = 8$) with those who completed all 21 items ($n = 128$) to determine if systematic bias accounted for cases with incomplete data. The DASS composite score was calculated as the average of all completed items. No statistically significant difference was found between participants who partially completed the DASS questionnaire ($M = 2.20, SD = 0.94, n = 8$) and those

who completed all 21 items ($M = 1.59$, $SD = 0.49$, $n = 128$), $t(6.18) = 1.72$, $p = .135$.

Thus, all eight cases with missing psychological distress values, including those who had less than 10% of missing responses, were removed. This resulted in a final sample size of 148 participants, and with whom it was determined that the use of the E-M method of imputing missing data was appropriate.

Measured Variables

The descriptive statistics for the study's main variables are summarized in Table 2. A review of the measures administered to participants revealed that all but one of the obtained alphas were within an acceptable level. The obtained alpha for the bicultural identity integration cultural distance subscale ($\alpha = .31$) suggested that this measure may not be appropriate for the current sample. Therefore, the cultural distance subscale was not included by itself in the final data analyses. The cultural conflict subscale, however, and the total bicultural identity integration scales were included. Aligned with Manzi et al.'s (2014) method, the total scale score was computed by multiplying the average of each the cultural conflict subscale and the cultural distance subscale. As recommended by Hair, Black, Babin, Anderson, and Tatham (2006), scales with alphas above .6 were appropriate to include in the analysis

Correlations Between Variables

Table 3 presents the bivariate correlations among the main study variables. The independent variable bicultural self-efficacy has significant positive moderate relationship with life satisfaction ($r = .33$, $p < .01$) and moderate negative association with psychological distress ($r = -.29$, $p < .01$). The following hypothesized moderator variables showed moderate-large correlations with the independent variable (bicultural self-efficacy): bicultural identity integration cultural conflict subscale ($r = -.49$, $p < .01$),

cognitive flexibility (CFI, $r = .43, p < .01$), cognitive flexibility (CFS, $r = .42, p < .01$), psychological flexibility ($r = -.39, p < .01$), and resilience ($r = .45, p < .01$). Moderate-strong correlations were also found between these hypothesized moderators and dependent variables (life satisfaction and distress): bicultural identity integration cultural conflict subscale ($r = -.22, p < .01$ for life satisfaction; $r = .33, p < .01$ for distress), cognitive flexibility (CFI, $r = .38, p < .01$ for life satisfaction; $r = -.51, p < .01$ for distress), cognitive flexibility (CFS, $r = .44, p < .01$ for life satisfaction; $r = -.52, p < .01$ for distress), psychological flexibility ($r = -.49, p < .01$ for life satisfaction; $r = .73, p < .01$ for distress), and resilience ($r = .56, p < .01$ for life satisfaction; $r = -.47, p < .01$ for distress). The full scale bicultural identity integration scale did not have significant correlation with life satisfaction ($r = -.15, p > .05$). The Vancouver Index of Acculturation (VIA) was also administered to provide contextual information regarding the participants. Two subscales of VIA showed moderate and large, statistically significant correlations with bicultural self-efficacy ($r = .35, p < .01$ VIA heritage subscale; $r = .45, p < .01$ VIA mainstream subscale).

Table 2

Descriptive Statistics for the Study Variables (N = 148)

Variables	α	Range	M	SD
1 Bicultural Self Efficacy (BSES)	.92	58 to 130	102.2	14
2 Satisfaction With Life (SWL)	.90	7 to 35	25.15	6.52
3 Depression, Anxiety, & Stress (DASS)	.92	21 to 64	32.14	9.44
4 Bicultural Identity Integration (BIIS)	.65	1.25 to 16.88	6.78	3.08
5 BII Cultural Conflict Subscale (BIISa)	.86	1 to 5	2.66	0.97
6 Cognitive Flexibility (CFI)	.90	73 to 140	108.20	14.41
7 Cognitive Flexibility (CFS)	.87	31 to 72	56.32	7.61
8 Psychological Flexibility (AAQ)	.90	7 to 49	21.02	8.15
9 Resilience (RRC)	.92	67.28 to 140.11	114.09	12.23
10 Vancouver Index of Acculturation Heritage (VIA-H)	.88	2.5 to 8.9	7.04	1.36
11 VIA Mainstream (VIA-M)	.86	2.5 to 9	6.84	1.35

Table 3

Pearson Correlations between the Study Variables (N = 148)

	1	2	3	4	5	6	7	8	9	10
1. BSES										
2. SWL	.33**									
3. DASS	-.29**	-.49**								
4. BIIS	-.49**	-.15	.39**							
5. BIISa	-.49**	-.22**	.33**	.84**						
6. CFI	.43**	.38**	-.51**	-.34**	-.37**					
7. CFS	.42**	.44**	-.52**	-.35**	-.38**	.83**				
8. AAQ	-.39**	-.49**	.73**	.44**	.51**	-.62**	-.19*			
9. RRC	.45**	.56**	-.47**	-.25**	-.27**	.45**	.18*	-.50**		
10. VIAH	.35**	.04	-.14	-.23**	-.20*	.10	.14	-.10	.33**	
11. VIAM	.45**	.18*	-.20*	-.26**	-.26**	.26**	.32**	-.26**	.32**	.26**

Note. BSES = Bicultural Self Efficacy, SWL = Satisfaction With Life, DASS = Depression, Anxiety, & Stress, BIIS = Bicultural Identity Integration, BIISa = BII Cultural Conflict Subscale, CFI = Cognitive Flexibility, CFS = Cognitive Flexibility, AAQ = Psychological Flexibility, RRC = Resilience, VIAH = Vancouver Index of Acculturation Heritage, VIAM = VIA Mainstream
* $p < .05$. ** $p < .01$.

Moderator Analysis

The hypothesized moderators were bicultural identity integration, bicultural identity integration cultural conflict subscale, cognitive flexibility, psychological flexibility, and resilience. These moderators were examined for their impact on the relationship between bicultural self-efficacy (independent variable) and the mental health indicators – life satisfaction and distress (dependent variables). Moderated linear regressions were conducted using model one of Hayes' (2013) PROCESS SPSS Macro.

Bicultural identity integration as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 13% of the variability in life satisfaction explained, $R^2 = .13$, $F(3, 144) = 7.08$, $p < .001$. In this model, only bicultural self-efficacy was found to have a statistically significant association with life satisfaction, $B = 0.28$, $SE = 0.08$, $p < .001$. Bicultural identity integration (full scale) was not found to account for a significant amount of variance in life satisfaction, $B = 1.67$, $SE = 0.92$, $p = .072$. The interaction of bicultural self-efficacy and bicultural identity integration accounted for a small proportion of the variance in life satisfaction scores and approached significance, $\Delta R^2 = .02$, $B = -0.02$, $SE = 0.01$, $p = .072$. At lower levels of bicultural identity integration (one *SD* below mean), the relationship between bicultural self-efficacy and life satisfaction appears to be stronger, $B = 0.22$, $SE = 0.05$, $p < .001$, than at higher levels of bicultural identity integration (one *SD* above mean), $B = 0.11$, $SE = 0.05$, $p = .018$ (Figure 10). However, as noted above, this difference in the association of bicultural self-efficacy and life satisfaction by level of bicultural identity integration full scale only approached statistical significance.

Bicultural identity integration cultural conflict subscale as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 13% of the variability in life satisfaction explained, $R^2 = .13$, $F(3, 144) = 7.38$, $p < .001$. In this model, only bicultural self-efficacy was found to have a statistically significant association with life satisfaction, $B = 0.32$, $SE = 0.11$, $p = .004$. Bicultural identity integration (cultural conflict subscale) was not found to account for a significant amount of variance in life satisfaction, $B = 5.77$, $SE = 3.51$, $p = .103$. The interaction of bicultural self-efficacy and bicultural identity integration accounted for a small proportion of the variance in life satisfaction scores and approached significance, $\Delta R^2 = .02$, $B = -0.06$, $SE = 0.03$, $p = .071$. At lower levels of bicultural identity integration cultural conflict subscale (one *SD* below mean), the relationship between bicultural self-efficacy and life satisfaction appears to be stronger, $B = 0.21$, $SE = 0.06$, $p < .001$, than at higher levels of bicultural identity integration (one *SD* above mean), $B = 0.09$, $SE = 0.05$, $p = .063$ (Figure 11). However, as noted above, this difference in the association of bicultural self-efficacy and life satisfaction by level of bicultural identity integration cultural conflict subscale only approached statistical significance. These results do not support Hypothesis 1.

Bicultural identity integration as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 9% of the variability in psychological distress explained, $R^2 = .09$, $F(3, 144) = 4.63$, $p = .004$. In this model, only bicultural self-efficacy was found to have a statistically significant association with psychological distress, $B = -0.19$, $SE = 0.05$, $p < .001$.

Moderating effect of Bicultural Identity Integration full scale

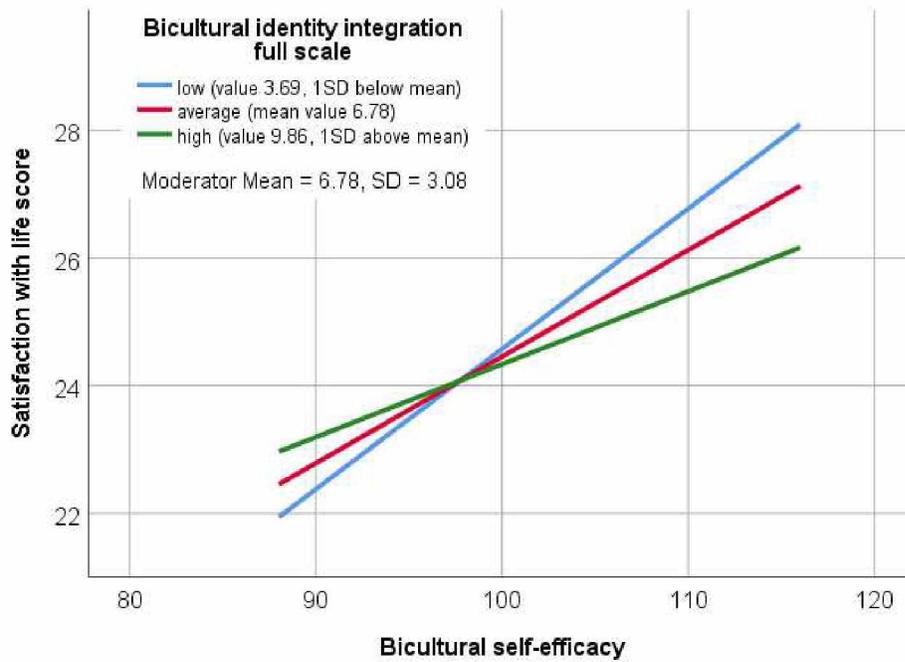


Figure 10. The moderating effect of bicultural identity integration (full scale) on the relationship between bicultural self-efficacy and life satisfaction.

Moderating effect of Bicultural Identity Integration cultural conflict subscale

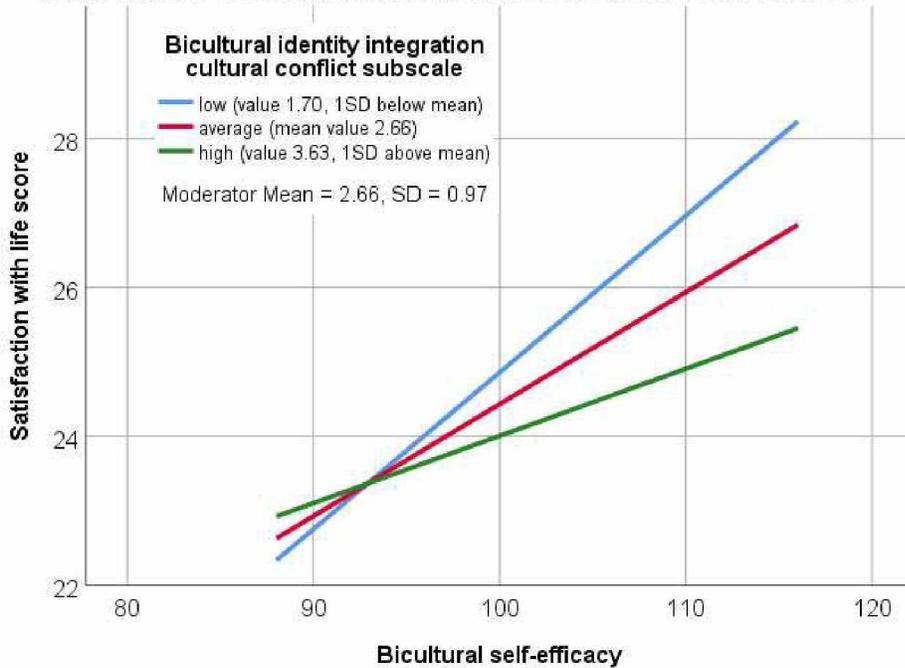


Figure 11. The moderating effect of bicultural identity integration (cultural conflict subscale) on the relationship between bicultural self-efficacy and life satisfaction.

Bicultural identity integration (full scale) was not a statistically significant predictor of psychological distress, $B = 0.48$, $SE = 0.80$, $p = .551$. The interaction of bicultural self-efficacy and bicultural identity integration accounted for a very small proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .002$, $B = 0.03$, $SE = 0.05$, $p = .594$.

Bicultural identity integration cultural conflict subscale as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 18% of the variability in psychological distress explained, $R^2 = .18$, $F(3, 144) = 10.20$, $p < .001$. In this model, only bicultural identity integration (cultural conflict subscale) was found to have a statistically significant association with psychological distress, $B = 1.96$, $SE = 0.50$, $p < .001$. Bicultural self-efficacy was not a statistically significant predictor of psychological distress, $B = -0.08$, $SE = 0.06$, $p = .168$. The interaction of bicultural self-efficacy and bicultural identity integration accounted for no additional proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .00$, $B = -0.002$, $SE = 0.03$, $p = .937$.

These findings are inconsistent with Hypothesis 2. Such results suggest that although bicultural self-efficacy may be related to psychological distress, this relationship is not influenced by people's perception of how conflicting and incompatible their two cultures are.

Cognitive flexibility (CFI) as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 18% of the variability in life satisfaction explained, $R^2 = .18$, $F(3, 144) = 10.77$, $p < .001$. In this model, cognitive flexibility (CFI) was found to have a statistically significant association with life satisfaction, $B = 0.13$, $SE = 0.04$, $p < .001$. Bicultural self-efficacy was also found to have a

significant association with life satisfaction, $B = 0.10$, $SE = 0.04$, $p = .015$. The interaction of bicultural self-efficacy and cognitive flexibility accounted for a very small proportion of the variance in life satisfaction scores and was not statistically significant, $\Delta R^2 = .01$, $B = 0.002$, $SE = 0.002$, $p = .242$.

Cognitive flexibility (CFS) as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 22% of the variability in life satisfaction explained, $R^2 = .22$, $F(3, 144) = 13.74$, $p < .001$. In this model, cognitive flexibility (CFS) was found to have a statistically significant association with life satisfaction, $B = 0.32$, $SE = 0.07$, $p < .001$. Bicultural self-efficacy was also a statistically significant predictor of life satisfaction, $B = 0.08$, $SE = 0.04$, $p = .030$. The interaction of bicultural self-efficacy and cognitive flexibility accounted for a very small proportion of the variance in life satisfaction scores and was not statistically significant, $\Delta R^2 = .004$, $B = 0.003$, $SE = 0.004$, $p = .417$.

These findings are inconsistent with Hypothesis 3. Such results suggest that, although bicultural self-efficacy may be related to psychological well-being, this relationship is not influenced by people's cognitive flexibility.

Cognitive flexibility (CFI) as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 26% of the variability in psychological distress explained, $R^2 = .26$, $F(3, 144) = 17.02$, $p < .001$. In this model, only cognitive flexibility (CFI) was found to have a statistically significant association with psychological distress, $B = -0.30$, $SE = 0.05$, $p < .001$. Bicultural self-efficacy was not a statistically significant predictor of psychological distress, $B = -0.06$, $SE = 0.05$, $p = .265$. The interaction of bicultural self-efficacy and cognitive flexibility accounted

for no additional proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .00$, $B = 0.002$, $SE = 0.003$, $p = .583$.

Cognitive flexibility (CFS) as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 28% of the variability in psychological distress explained, $R^2 = .28$, $F(3, 144) = 18.26$, $p < .001$. In this model, only cognitive flexibility (CFS) was found to have a statistically significant association with psychological distress, $B = -0.59$, $SE = 0.10$, $p < .001$. Bicultural self-efficacy was not a statistically significant predictor of psychological distress, $B = -0.06$, $SE = 0.05$, $p = .234$. The interaction of bicultural self-efficacy and cognitive flexibility accounted for no additional proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .00$, $B = 0.003$, $SE = 0.006$, $p = .629$.

These findings are inconsistent with Hypothesis 4. Such results suggest that although bicultural self-efficacy may be related to psychological distress, this relationship is not influenced by people's cognitive flexibility.

Psychological flexibility as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 27% of the variability in life satisfaction explained, $R^2 = .27$, $F(3, 144) = 17.91$, $p < .001$. In this model, psychological flexibility was found to have a statistically significant association with life satisfaction, $B = -0.34$, $SE = 0.06$, $p < .001$. Bicultural self-efficacy also found to have significant association with life satisfaction, $B = 0.08$, $SE = 0.04$, $p = .029$. The interaction of bicultural self-efficacy and psychological flexibility accounted for a very small proportion of the variance in life satisfaction scores and was not statistically significant, $\Delta R^2 = .01$, $B = -0.004$, $SE = 0.004$, $p = .299$. These findings are inconsistent with Hypothesis 5. Such results suggest that although

bicultural self-efficacy may be related to psychological well-being, this relationship is not influenced by people's psychological flexibility.

Psychological flexibility as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 53% of the variability in psychological distress explained, $R^2 = .53$, $F(3, 144) = 54.61$, $p < .001$. In this model, only psychological flexibility was found to have a statistically significant association with psychological distress, $B = 0.84$, $SE = 0.07$, $p < .001$. Bicultural self-efficacy was not a statistically significant predictor of psychological distress, $B = -0.001$, $SE = 0.04$, $p = .979$. The interaction of bicultural self-efficacy and psychological flexibility accounted for a very small proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .01$, $B = -0.006$, $SE = 0.004$, $p = .200$. These findings are inconsistent with Hypothesis 6. Such results suggest that although bicultural self-efficacy may be related to psychological distress, this relationship is not influenced by people's psychological flexibility.

Resilience as moderator of relationship between bicultural self-efficacy and life satisfaction. The model predicting satisfaction with life was significant, with 33% of the variability in life satisfaction explained, $R^2 = .33$, $F(3, 144) = 23.21$, $p < .001$. In this model, only resilience was found to have a statistically significant association with life satisfaction, $B = 0.22$, $SE = 0.03$, $p < .001$. Bicultural self-efficacy was not a significant predictor of life satisfaction, $B = 0.05$, $SE = 0.04$, $p = .207$. The interaction of bicultural self-efficacy and resilience accounted for no additional proportion of the variance in life satisfaction scores and was not statistically significant, $\Delta R^2 = .00$, $B = -0.0002$, $SE = 0.002$, $p = .931$. These findings are inconsistent with Hypothesis 7. Such results suggest that although bicultural self-efficacy may be related to psychological well-being, this relationship is not influenced by people's resilience.

Resilience as moderator of relationship between bicultural self-efficacy and psychological distress. The model predicting psychological distress was significant, with 23% of the variability in psychological distress explained, $R^2 = .23$, $F(3, 144) = 14.30$, $p < .001$. In this model, only resilience was found to have a statistically significant association with psychological distress, $B = -0.26$, $SE = 0.05$, $p < .001$. Bicultural self-efficacy was not a significant predictor of psychological distress, $B = -0.07$, $SE = 0.06$, $p = .222$. The interaction of bicultural self-efficacy and resilience accounted for no additional proportion of the variance in psychological distress scores and was not statistically significant, $\Delta R^2 = .00$, $B = -0.002$, $SE = 0.003$, $p = .585$. These findings are inconsistent with Hypothesis 8. Such results suggest that although bicultural self-efficacy may be related to psychological distress, this relationship is not influenced by people's resilience.

Acculturation strategy as moderator of relationship between bicultural self-efficacy and life satisfaction. Finally, although no a-priori hypotheses were made regarding acculturation's potential moderating effect on the relationship between bicultural self-efficacy and well-being, the data showed consistent correlations between the Vancouver Index of Acculturation subscales, bicultural self-efficacy, and life satisfaction. Thus, the possibility that bicultural self-efficacy's relationship with life satisfaction may be influenced by one's acculturation type was also tested. To do this post-hoc moderator analysis, four different acculturation types that are consistent with Berry's (1980) model of acculturation were computed via the VIA subscale scores: low on both VIA-H and VIA-M (marginalization); high on VIA-M but low on VIA-H (assimilation); high on VIA-H but low on VIA-M (separation); and high on both VIA-H and VIA-M (integration). The median was used as the cutoff for high and low scores.

The model predicting satisfaction with life was significant, with 15% of the variability in life satisfaction explained, $R^2 = .15$, $F(3, 144) = 8.50$, $p < .001$. In this model, only bicultural self-efficacy was found to have a statistically significant association with life satisfaction, $B = 0.13$, $SE = 0.04$, $p < .001$. Acculturation strategy was not found to account for a significant amount of variance in life satisfaction, $B = -0.26$, $SE = 0.36$, $p = .474$. The interaction of bicultural self-efficacy and acculturation strategy accounted for a small proportion of the variance in life satisfaction scores and was found to be statistically significant, $\Delta R^2 = .04$, $B = -0.07$, $SE = 0.03$, $p = .012$.

As shown in Figure 12, the relationship between bicultural self-efficacy and life satisfaction was not statistically significant when heritage and mainstream scores were both low (marginalization, $B = 0.14$, $SE = 0.07$, $p = .050$), when heritage scores were low and mainstream scores were high (assimilation, $B = 0.15$, $SE = 0.09$, $p = .092$), and when heritage scores were high and mainstream scores were low (separation, $B = -0.03$, $SE = 0.10$, $p = .792$). But when both heritage and mainstream scores were both high (integration), the relationship between bicultural self-efficacy and satisfaction with life was statistically significant ($B = .29$, $SE = 0.07$, $p < .001$). Such results suggest that bicultural self-efficacy may be especially important for the psychological well-being of people who are highly connected to both the mainstream and heritage cultures.

In sum, the results failed to support most of the hypotheses. However, some hypotheses approached significance. Specifically, the results suggest that bicultural identity integration may moderate the relationship between bicultural self-efficacy and satisfaction with life. Cultural

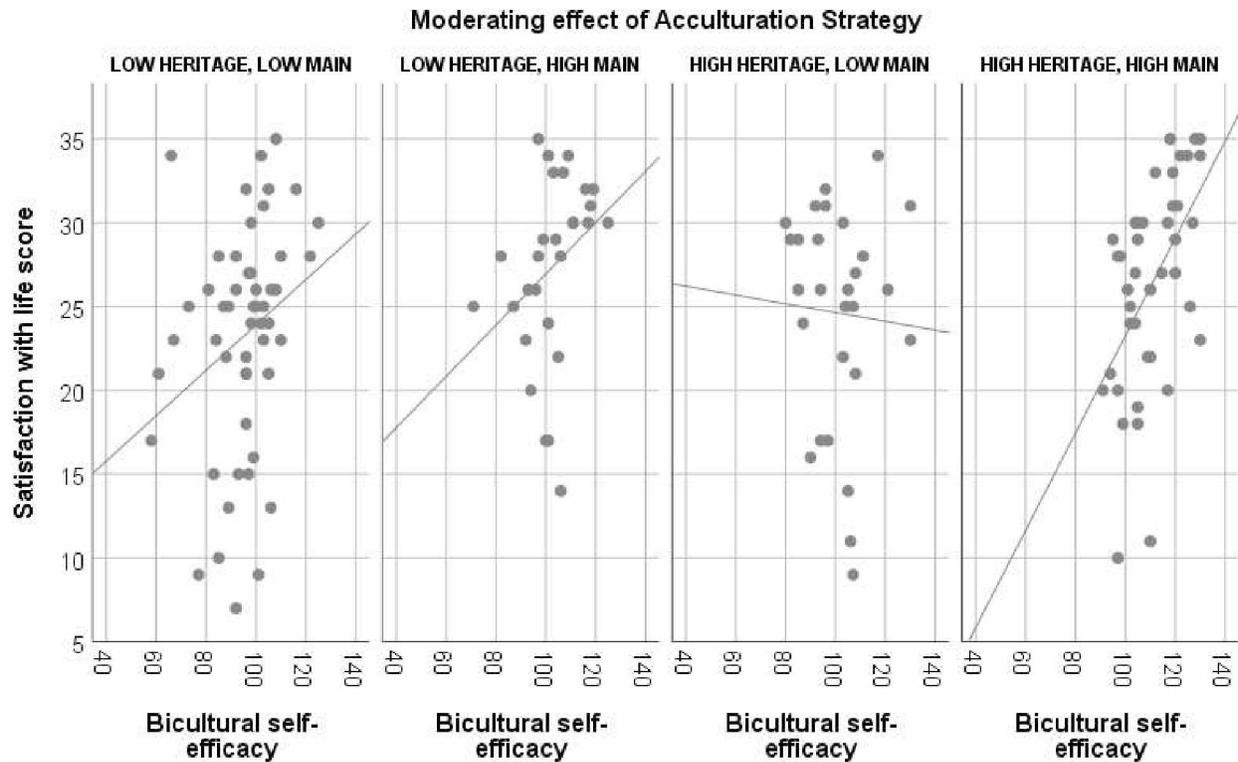


Figure 12. The moderating effect of acculturation strategy on the relationship between bicultural self-efficacy and life satisfaction.

conflict may also moderate the relationship between bicultural self-efficacy and satisfaction with life. This suggests that viewing cultures as highly compatible or similar, the role of bicultural self-efficacy on one's life satisfaction may be less important. Similarly, viewing cultures as incompatible, the more influence bicultural self-efficacy may have on life satisfaction. Further, post-hoc moderation analyses suggest acculturation moderates the relationship between bicultural self-efficacy and satisfaction with life, indicating that bicultural self-efficacy may be especially important for people who are highly connected to both their mainstream and heritage cultures.

Chapter 5: Discussion

This study attempted to further our understanding of the relationship between bicultural self-efficacy and mental health among Asian Americans. Bicultural self-efficacy is a relatively new construct developed by David et al., (2009) based on the multidimensional theoretical conceptualization of biculturalism proposed by LaFromboise and colleagues (1993). Mental health was measured by indicators of well-being (satisfaction with life and psychological distress). Several researchers have found bicultural self-efficacy to be positively related to well-being and negatively related to distress (Brewster et al., 2013; Carrera & Wei, 2014; David et al., 2009; Wei et al., 2010). That is, perceiving oneself as capable of navigating the following domains between and within two cultures is associated with positive mental health outcomes: knowledge of cultural beliefs and values, positive attitudes toward majority and minority groups, bicultural efficacy, communication ability, role repertoire, and a sense of being grounded. Little is known, however, regarding how other factors may potentially influence this relationship. Thus, this study aimed to test several hypotheses regarding how other factors may influence the relationship between bicultural self-efficacy and mental health.

A growing number of Asian Americans will be undergoing the process of acculturation, considering they are projected to be the largest immigrant group in the country by 2065 (U.S. Census, 2010). Therefore, this study was geared toward identifying factors that may enhance the well-being of Asian Americans while they navigate various acculturative stressors. Aligned with previous research, the following variables were hypothesized to moderate the relationship between bicultural self-efficacy and satisfaction with life, as well as to moderate the relationship between bicultural self-efficacy and psychological distress: bicultural identity integration, cognitive flexibility, psychological flexibility, and resilience.

Bicultural Identity Integration, Bicultural Self-Efficacy, and Well-Being

Consistent with previous research, the results of the current study found that bicultural identity integration was significantly correlated with bicultural self-efficacy (Downie et al., 2004; Downie et al., 2006), satisfaction with life (Mok et al., 2007), and psychological distress (Schwartz et al., 2015). That is, bicultural identity integration was significantly positively correlated to bicultural self-efficacy and life satisfaction, and significantly negatively correlated to psychological distress.

Although not statistically significant, the models that included bicultural identity integration as moderators of the relationship between bicultural self-efficacy and life satisfaction approached statistical significance. Specifically, at lower levels of bicultural identity integration, the relationship between bicultural self-efficacy and life satisfaction appears to be stronger, but at higher levels of bicultural identity integration, the relationship between bicultural self-efficacy and life satisfaction appears to be weaker. This suggests that the more Asian Americans view Asian and American cultures as highly compatible or similar, the role of bicultural self-efficacy on one's life satisfaction may be less important. Similarly, the more that Asian Americans view Asian and American cultures as incompatible, the more influence bicultural self-efficacy may have on life satisfaction. This finding suggests that navigating cultures perceived as similar and compatible may require fewer internal resources (e.g., self-efficacy) to manage bicultural conflict and the corresponding stress and distress associated with the acculturation process. This may suggest that navigating cultures perceived as similar and compatible may require fewer internal resources (e.g., self-efficacy) to manage bicultural conflict and the corresponding stress and distress associated with the acculturation process. This could indicate that interventions geared to help Asian Americans identify commonalities between Asian and American cultures may be

beneficial to their mental well-being. Future research should examine this with a larger sample size, as the six dimensions proposed by LaFromboise and colleagues (1993) can be used as a framework from which to identify common threads between cultures.

Bicultural identity integration was also significantly negatively correlated to psychological distress. However, contrary to Hypothesis 2, bicultural identity integration did not significantly moderate the relationship between bicultural self-efficacy and psychological distress. This suggests that the strength of the relationship between bicultural self-efficacy and psychological distress (e.g., depression, anxiety, and stress) may not be dependent on bicultural identity integration. This does not necessarily imply, however, that bicultural identity integration does not somehow influence the relationship between bicultural self-efficacy and psychological distress. One explanation for the null findings may be that bicultural self-efficacy acts as a mediator between bicultural identity integration and psychological distress. That is, viewing two cultures as compatible may lead to an increase in self-efficacy in navigating between these cultures, which may lead to a decrease in distress. Thus, one recommendation is to test this possible mediation model to determine if bicultural self-efficacy does, in fact, mediate the relationship between bicultural identity integration and psychological distress

It is also possible that bicultural identity integration moderates the relationship between some specific subscales of bicultural self-efficacy (e.g., social groundedness) and psychological distress. For example, perceiving oneself as being socially grounded has been shown to be significantly negatively related to anxiety and depression (David et al., 2009). Perhaps at higher levels of bicultural identity integration, the lower one's distress, and the less influence social groundedness will have on distress. Among those who view their cultures as highly incompatible (low bicultural identity integration), how socially grounded you may perceive yourself to be may

vary depending on internal and external resources, as well as contextual factors. Thus, with lower levels of bicultural identity integration, social groundedness may have a greater influence on psychological distress. Future research should also examine such possibilities.

Cognitive Flexibility, Bicultural Self-Efficacy, and Well-Being

Cognitive flexibility as measured by the CFI and CFS were each significantly positively correlated to bicultural self-efficacy and satisfaction with life, and significantly negatively correlated to psychological distress. However, contrary to Hypotheses 3 and 4, findings indicated that cognitive flexibility did not significantly moderate the relationship between bicultural self-efficacy and either indicator of well-being (life satisfaction or psychological distress). Thus, the strength of the relationship between bicultural self-efficacy and well-being may not be dependent upon cognitive flexibility. It is possible that bicultural self-efficacy may be operating as a mediator of the relationship between cognitive flexibility and well-being. That is, if individuals are prone to think flexibly and adaptively, this may influence set shifting and adaptive thinking between cultures, which in turn may lead to better well-being. Future research should test these possible mediation models to determine if bicultural self-efficacy does, indeed, mediate the relationship between cognitive flexibility and life satisfaction, and between cognitive flexibility and psychological distress.

It is also possible that cognitive flexibility may moderate the relationship between a specific bicultural self-efficacy subscale and well-being. For example, according to Prior and MacWhinney (2010) bilingual individuals have an advantage, as compared to monolinguals, with regard to mental set-shifting. Thus, it is possible that cognitive flexibility can influence the relationship between the bicultural self-efficacy subscale of communication ability and well-being. That is, when cognitive flexibility is high, one's perception of communication ability as

high or low may be irrelevant with respect to satisfaction with life or distress. When cognitive flexibility is low, one's belief in his/her ability to navigate communication difficulties may be more influential on the outcome. Future studies may test such possibilities. Additionally, future studies with alternative measures of well-being and distress are suggested, as well as studies with a more representative U.S. based Asian American sample. This may provide a more accurate depiction of cognitive flexibility's potential role in the relationships between bicultural self-efficacy, well-being, and distress.

Psychological Flexibility, Bicultural Self-Efficacy, and Well-Being

Psychological inflexibility, as measured by experiential avoidance via the AAQ, significantly negatively correlated with bicultural self-efficacy and satisfaction with life, and significantly positively correlated with psychological distress. However, contrary to Hypotheses 5 and 6, findings indicated that psychological inflexibility did not moderate the relationship between bicultural self-efficacy and either indicator of mental health (satisfaction with life or distress). This suggests that the strength of the relationship between bicultural self-efficacy and well-being may not be dependent upon experiential avoidance.

Experiential avoidance has been studied to be an important variable in emotion regulation, such that the less one avoids, rather accepts, their negative experiences, the better their mental health (Barlow, 2000). Thus, psychological flexibility may not have moderated the relationship between bicultural self-efficacy and well-being because bicultural self-efficacy may instead mediate the relationship between psychological flexibility and well-being. That is, if individuals are already prone to accept and face their stressors, this may lead to better adaptive thinking in-the-moment when encountering acculturative stressors. This, in-turn, may lead to better overall well-being (high satisfaction with life and low distress). Future research should test

these possible mediation models to determine if bicultural self-efficacy does, in fact, mediate the relationship between psychological flexibility and life satisfaction, and between psychological flexibility and psychological distress.

It is also possible that psychological flexibility does act as a moderator, and that it moderates the relationship between a specific bicultural self-efficacy subscale (e.g., positive attitudes) and well-being. For example, when experiential acceptance or psychological flexibility is high, one's feelings and attitudes toward both cultures as high or low may be irrelevant with respect to well-being and distress. When psychological flexibility is low, one's level of positive attitude may be more influential on the outcome. This would suggest that, even with a negative attitude, perhaps the ability to accept one's internal and external experience and adapt accordingly can significantly influence well-being. Additionally, future studies with alternative measures of experiential avoidance (e.g., Multidimensional Experiential Avoidance Questionnaire; Gámez, Chmielewski, Kotov, Ruggero, & Watson, 2011), well-being, and distress are suggested, as well as studies with a more generalizable sample. This may provide a more accurate depiction of psychological flexibility's potential role in the relationships between bicultural self-efficacy, well-being, and distress.

Resilience, Bicultural Self-Efficacy, and Well-Being

Resilience significantly positively correlated with bicultural self-efficacy and satisfaction with life, and significantly negatively correlated with psychological distress. However, contrary to Hypotheses 7 and 8, findings indicated that resilience did not significantly moderate the relationship between bicultural self-efficacy and either indicator of well-being (satisfaction with life or distress). This finding suggests that the strength of the relationship between bicultural self-efficacy and well-being may not be dependent on resilience. It is possible, however, that

resilience may instead mediate the relationship between bicultural self-efficacy and well-being. Indeed, Maldonado (2005) indicated that biculturalism may contribute to resiliency. Thus, future research should test these possible mediation models to determine if resilience does, in fact, mediate the relationship between bicultural self-efficacy and life satisfaction, and between bicultural self-efficacy and psychological distress.

It is also possible that resilience does act as a moderator, and that it moderates the relationship between a specific subscale of bicultural self-efficacy (e.g., bicultural beliefs) and well-being. For example, when resilience is high, one's level of bicultural beliefs as high or low may be irrelevant with respect to well-being and distress. When resilience is low, one's level of bicultural beliefs may be more influential on well-being. Additionally, resilience may still moderate the relationship between the full scale bicultural self-efficacy and indicators of well-being/distress. Future studies with alternative measures of resilience, well-being, and distress are suggested. This may provide a more accurate depiction of resilience's potential role in the relationships between bicultural self-efficacy, well-being, and distress.

Acculturation, Bicultural Self-Efficacy, and Well-Being

An acculturation variable was created based on Berry's (1980) bidirectional and bidimensional model of acculturation. This model posits that individuals can vary on their levels of acculturation to the mainstream culture and their heritage culture. The median was used as the cutoff for determining high and low scores for the heritage and mainstream subscales in order to develop the following acculturation types: low on both heritage and mainstream (marginalization); high on mainstream but low on heritage (assimilation); high on heritage but low on mainstream (separation); and high on both heritage and mainstream (integration). The post-hoc moderator analysis revealed that when individuals see themselves as integrated (high on

both heritage and mainstream), then the relationship between bicultural self-efficacy and satisfaction with life is significant. That is, when one views him/herself as biculturally competent, then level of self-efficacy is an important predictor of well-being. However, when individuals are marginalized, separated, or assimilated, bicultural self-efficacy does not significantly predict well-being. This suggests that bicultural self-efficacy is not very important for the well-being of people who are separated, assimilated, and marginalized; perhaps because they have no need for it. However, for people who are involved in, connected to, or are interacting with others from two cultures (i.e., people using the integration strategy of acculturation), bicultural self-efficacy is more needed and, thus, more important for their well-being.

Limitations

There are several limitations to this study, therefore, results should be interpreted with caution. First, the snowball sampling technique limits generalizability. Because of this, various Asian American subgroups were not represented or were underrepresented. For example, some Asian Americans (e.g., South Asian Muslims) may perceive more conflict and incompatibilities between their culture and the American culture than other Asian Americans (e.g., Korean and Filipino Christians). Further, because Internet use and English proficiency were required for participation, Asian Americans with fewer years of education, who have lower SES, and who are not proficient in English and may be less assimilated were not well-represented in this study. Thus, future studies that use random sampling and various ways of survey completion may produce a more representative sample. In addition to limitations regarding the sampling and internet data collection, another limitation is the current study's dependence on self-report. For example, social desirability and inaccurate self-reflections may have influenced responses.

Further, the measures used may have limited validity for an Asian American sample. The DASS-21, for instance, was used in this study, however, newer studies suggest that a more recent version of the DASS-21, the DASS-18, is a more appropriate measure of psychological distress among Asian Americans (Oei, Sawang, Goh, & Mukhtar, 2013). It may also be beneficial to utilize various subscales of the DASS-21 or DASS-18 separately, as bicultural identity integration, cognitive flexibility, resilience, and psychological flexibility may moderate the relationship between bicultural self-efficacy and either depression, anxiety, or stress individually. More research is needed to test these hypotheses. Even further, the present study utilized a cross-sectional study design. Thus, it is difficult to determine the causal directions of the relationships between the measured variables. Future studies with alternative designs (e.g., experiments, longitudinal) and different measures may provide better insight about the connections between these variables. Finally, the marginally significant results found for the potential moderating effect of bicultural identity integration in the relationship between bicultural self-efficacy and life satisfaction may be due to the current study's lack of power to detect small effects. Thus, future research should test these associations with a larger sample.

Summary

Although some of the current findings are promising, more research is needed to understand the factors that underlie how bicultural self-efficacy and well-being/distress are related. Future research may also want to consider examining the specific bicultural self-efficacy subscales more closely, and perhaps test specific subscales as predictive of well-being in the context of each bicultural identity integration, cognitive flexibility, psychological flexibility, and resilience. It is also possible the proposed moderators are related to bicultural self-efficacy and well-being in different ways (e.g., via mediations); thus, testing various mediation models may

also be considered. Such research can inform distinct interventions geared toward improving the overall well-being of the growing Asian American population in the U.S., soon to be faced with various acculturative stressors. Including Asian Americans with various levels of education and socioeconomic status will provide a more realistic representation of this population. Further, choosing measures that are culturally appropriate for this population is also important.

Despite several null findings, this study found that the relationship between bicultural self-efficacy and well-being may be dependent on one's levels of bicultural identity integration and also on acculturation strategy. Thus, bicultural self-efficacy may be important for well-being, especially when one perceives one's cultures as incompatible and conflicting. This may indicate that bicultural identity integration can act as a protective factor, or buffer, against the negative effects of low bicultural self-efficacy on some aspects of mental health. Further, the null findings in this study suggest that the relationships between the measured variables may be more complex than simple moderation. Even further, a post hoc moderator analysis indicated that bicultural self-efficacy may be especially important for the psychological well-being of people who are highly connected to both their mainstream and heritage cultures. This suggests that bicultural self-efficacy and bicultural identity integration are important variables to consider for the well-being of Asian Americans. Combined with the finding that bicultural self-efficacy may be especially important for Asian Americans who are involved in, interacting with, and connected to both their heritage and the mainstream cultures, the current study obtained results that may have important service implications.

One potential clinical implication is to design interventions geared to increase bicultural identity integration, as this would help Asian Americans perceive their Asian and American cultures as more compatible or less conflicting, which may lead to better well-being. However,

due to the modern sociopolitical climate, in which racism and discrimination have been commonplace, this may not be an effective or realistic strategy toward improving the well-being of many people. In such cases, interventions geared toward improving bicultural self-efficacy will be important, as will systems-level interventions.

On an individual level, this can be seen through interventions that may take place in the therapy room. These programs may also focus on encouraging flexibility and adaptability in responding to distinct cultural cues, as incorporated in CA-CBT. Difficulty navigating various cultural norms may be addressed with one's therapist and tasks geared to identify and appreciate similarities and differences between cultures may be helpful. However, it should be noted that individual-level interventions should not be designed to create disillusionment, rather a sense of support and empowerment, as individuals may indeed not be sufficiently supported by their environment or community. Thus, community and systems level interventions will also be extremely important.

While considering clinical/community implications, we must also consider how we can change the environment and respective systems. On the community level, bicultural self-efficacy can be facilitated in schools by encouraging students to learn about their peers and about different cultures, thus creating an accepting environment for people of color from a young age. Teaching empathy can also help young minds understand how racism and discrimination affects their peers and their families, which may lead to fewer instances of bullying. Another example is in the workplace. Consider a first-generation immigrant navigating both Asian and American cultures. It is likely they will have a greater opportunity to build self-efficacy should their workplace and community be accepting of their culture, and also provide sufficient resources for success. This can be seen through platforms which appreciate and celebrate diversity in the

workplace (e.g., diversity days, potlucks). Other resources may be transportation services to and from work and/or translation support to help with communication difficulties.

In sum, the present study's findings that suggest that bicultural self-efficacy may be especially important for people who view their two cultures as incompatible/conflicting. That is, building efficacy in one's ability to navigate various domains between two cultures, despite perceived incompatibility of cultures, may positively influence one's well-being and satisfaction with life. This may be especially relevant for individuals who see their two cultures as incompatible/conflicting, but nevertheless are frequently operating in both cultures. Given today's highly connected and globalized world, bicultural self-efficacy seems to be an important factor for the well-being of an increasing number of people.

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Appendix A

Demographic Questionnaire

Adapted from Lau (2012)

Adapted from Al-Jabari (2012)

1) Age (in years): _____

2) Gender:

- Male
- Female
- Transgender
-

3) Do you consider yourself to be:

- Heterosexual or straight;
- Gay or lesbian;
- Bisexual;
- Other: _____

4) Marital Status:

- Single
- In a significant relationship
- Married
- Separated
- Divorced
- Widowed

5) What is your highest level of education achieved?

- Less than High School
- High School Diploma
- Vocational School
- Some College
- Bachelor's Degree
- Some Post-Bachelor's Education
- Graduate Degree (Masters, PhD, MD, etc.)

6) Are you currently employed (check all that apply):

- Full time, occupation: _____
- Part time, occupation: _____
- Unemployed
- Student

7) What is your approximate individual yearly income?

8) What is your family's approximate yearly income?

9) Were you born in the United States?

- a. Yes
- b. No (Please answer 10-13)

10) Where were you born?

_____ (State/City/Province), _____ (Country)

11) How old were you when you arrived to the United States? _____ Years old

12) How long have you lived in the United States? _____ Years and _____ month (s)

13) How many years of education did you receive while living in your country of origin?
_____ Years

14) Status in the U.S.A.:

- U.S. Citizen
- Naturalized Citizen
- Permanent resident (green card)
- International (non-resident)
- Other: _____

15) What is your generational status in the U.S.A.?

- 1st generation (*born outside the U.S. and immigrated to the U.S*)
- 2nd generation (*born in the U.S. of at least one 1st generation immigrant parent*)
- 3rd generation (*you and both parents are born in the U.S.*)
- 4th generation or later (*your grandparents, parents, and you are all born in the U.S.*)

16) What is your father's birth place?

_____ (State/City/Province), _____ Country

17) What is your mother's birth place?

_____ (State/City/Province), _____ Country

18) Is English your native language?

- Yes
- No (Please complete question 18)

19) On a scale of 1 to 5, 5 being the best, please rate your competency with the English language.

Appendix B

Bicultural Self-Efficacy Scale (BSES)

Items

Factor 1 (Social Groundedness)

- I can count on both mainstream Americans and people from the same heritage culture as myself.
- I can develop new relationships with both mainstream Americans as well as people from the same heritage culture as myself.
- I feel comfortable attending a gathering of mostly mainstream Americans as well as a gathering of mostly people from the same heritage culture as myself.
- I have strong ties with mainstream Americans as well as people from the same heritage culture as myself.
- I feel at ease around both mainstream Americans and people from the same heritage culture as myself.
- I have an extensive network of mainstream Americans as well as an extensive network of people from the same heritage culture as myself.
- I feel like I fit in when I am with mainstream Americans as well as people from the same heritage culture as myself.

Factor 2 (Communication Ability)

- I can communicate my ideas effectively to both mainstream Americans and people from the same heritage culture as myself.
- I can communicate my feelings effectively to both mainstream Americans and people from the same heritage culture as myself.
- I am proficient in both standard English and the language of my heritage culture (e.g., urban street talk, Spanish, etc.)
- I can switch easily between standard English and the language of my heritage culture.

Factor 3 (Positive Attitudes)

- I have generally positive feelings about both my heritage culture and mainstream American culture.
- I have a generally positive attitude toward both mainstream Americans and my cultural group.
- I have respect for both mainstream American culture and my heritage culture.
- I take pride in both the mainstream American culture and my heritage culture.

Factor 4 (Knowledge)

- I am knowledgeable about the history of both mainstream America and my cultural group.
- I am knowledgeable about the values important to mainstream Americans as well as to my cultural group.
- I am knowledgeable about the gender roles and expectations of both mainstream Americans and my cultural group.
- I am knowledgeable about the holidays celebrated both by mainstream Americans and by my cultural group.

Bicultural Self-Efficacy Scale

Items

Factor 5 (Role Repertoire)

An individual can alter his or her behavior to fit a particular social context.

I can choose the degree and manner by which I affiliate with each culture.

I am confident that I can learn new aspects of both the mainstream American culture and my heritage culture.

Factor 6 (Bicultural Beliefs)

It is acceptable for an individual from my heritage culture to participate in two different cultures.

It is acceptable for a mainstream American individual to participate in two different cultures.

Being bicultural does not mean I have to compromise my sense of cultural identity.

It is possible for an individual to have a sense of belonging in two cultures without compromising his or her sense of cultural identity.

Note. These 26 items are rated on a partially anchored 9-point scale (1 = *strongly disagree*, 3 = *disagree*, 5 = *neutral*, 7 = *agree*, and 9 = *strongly agree*) and compose the Bicultural Self-Efficacy Scale. Instructions are as follows: "Please answer each statement as carefully as possible. Please circle *one* of the numbers to the right of each statement to indicate your degree of agreement or disagreement."

Appendix C

Satisfaction With Life Scale (SWLS)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

_____ In most ways my life is close to my ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

_____ If I could live my life over, I would change almost nothing.

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20 Neutral
- 15 - 19 Slightly dissatisfied
- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Appendix D

Acceptance and Action Questionnaire-II (AAQ-II)

Items

1. It's OK if I remember something unpleasant. ^a
2. My painful experiences and memories make it difficult for me to live a life that I would value.
3. I'm afraid of my feelings.
4. I worry about not being able to control my worries and feelings.
5. My painful memories prevent me from having a fulfilling life.
6. I am in control of my life. ^a
7. Emotions cause problems in my life.
8. It seems like most people are handling their lives better than I am.
9. Worries get in the way of my success.
10. My thoughts and feelings do not get in the way of how I want to live my life. ^a

^a Item reversed for scoring purposes.

Appendix E: Depression, Anxiety, and Stress Scale -21 (DASS-21)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree or a good part of time
- 3 Applied to me very much or most of the time

1 (s)	I found it hard to wind down	0	1	2	3
2 (a)	I was aware of dryness of my mouth	0	1	2	3
3 (d)	I couldn't seem to experience any positive feeling at all	0	1	2	3
4 (a)	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5 (d)	I found it difficult to work up the initiative to do things	0	1	2	3
6 (s)	I tended to over-react to situations	0	1	2	3
7 (a)	I experienced trembling (e.g. in the hands)	0	1	2	3
8 (s)	I felt that I was using a lot of nervous energy	0	1	2	3
9 (a)	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10 (d)	I felt that I had nothing to look forward to	0	1	2	3
11 (s)	I found myself getting agitated	0	1	2	3
12 (s)	I found it difficult to relax	0	1	2	3
13 (d)	I felt down-hearted and blue	0	1	2	3
14 (s)	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15 (a)	I felt I was close to panic	0	1	2	3
16 (d)	I was unable to become enthusiastic about anything	0	1	2	3
17 (d)	I felt I wasn't worth much as a person	0	1	2	3
18 (s)	I felt that I was rather touchy	0	1	2	3
19 (a)	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
20 (a)	I felt scared without any good reason	0	1	2	3
21 (d)	I felt that life was meaningless	0	1	2	3

Appendix F
Cognitive Flexibility Inventory (CFI)

Strongly disagree	Disagree	Somewhat agree	Neutral	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. I am good at “sizing up” situations.—(47)^R
2. I have a hard time making decisions when faced with difficult situations.—(19)

3. I consider multiple options before making a decision.—(29)
4. When I encounter difficult situations, I feel like I am losing control.—(40)
5. I like to look at difficult situations from many different angles.—(20)
6. I seek additional information not immediately available before attributing causes to behavior.—(14)
7. When encountering difficult situations, I become so stressed that I can not think of a way to resolve the situation.—(43)
8. I try to think about things from another person’s point of view.—(8)
9. I find it troublesome that there are so many different ways to deal with difficult situations.—(26)
10. I am good at putting myself in others’ shoes.—(12)
11. When I encounter difficult situations, I just don’t know what to do.—(36)
12. It is important to look at difficult situations from many angles.—(41)
13. When in difficult situations, I consider multiple options before deciding how to behave.—(18)
14. I often look at a situation from different viewpoints.—(28)
15. I am capable of overcoming the difficulties in life that I face.—(50)
16. I consider all the available facts and information when attributing causes to behavior.—(31)
17. I feel I have no power to change things in difficult situations.—(30)
18. When I encounter difficult situations, I stop and try to think of several ways to resolve it.—(16)
19. I can think of more than one way to resolve a difficult situation I’m confronted with.—(2)
20. I consider multiple options before responding to difficult situations.—(6)

Appendix G

Cognitive Flexibility Scale (CFS)

TABLE I
COGNITIVE FLEXIBILITY SCALE: ITEMS AND RESPONSE FORMAT

Instructions: The following statements deal with your beliefs and feelings about your own behavior. Read each statement and respond by circling the number that best represents your agreement with each statement.

Strongly Agree 6	Agree 5	Slightly Agree 4	Slightly Disagree 3	Disagree 2	Strongly Disagree 1
1. I can communicate an idea in many different ways.					
2. I avoid new and unusual situations. (R)					
3. I feel like I never get to make decisions. (R)					
4. I can find workable solutions to seemingly unsolvable problems.					
5. I seldom have choices when deciding how to behave. (R)					
6. I am willing to work at creative solutions to problems.					
7. In any given situation, I am able to act appropriately.					
8. My behavior is a result of conscious decisions that I make.					
9. I have many possible ways of behaving in any given situation.					
10. I have difficulty using my knowledge on a given topic in real life situations. (R)					
11. I am willing to listen and consider alternatives for handling a problem.					
12. I have the self-confidence necessary to try different ways of behaving.					

Note.—Items marked (R) are reverse scored.

Appendix H

Bicultural Identity Integration Scale (BII)

Table 2
Factorial Structure of the Bicultural Identity Integration Scale (BIIS-1)

	Cultural	
	Distance	Conflict
I am simply a Chinese who lives in North America	.72	-.03
I keep Chinese and American cultures separate	.58	-.13
I feel Chinese American	-.73	-.04
I feel part of a combined culture	-.79	-.03
I am conflicted between the American and Chinese ways of doing things	.04	.66
I feel like someone moving between two cultures	.18	.64
I feel caught between the Chinese and American cultures	.00	.76
I don't feel trapped between the Chinese and American cultures	.09	-.78

Note. $N = 133$ first-generation, Chinese American biculturals.

Appendix I Vancouver Index of Acculturation (VIA)

Please circle *one* of the numbers to the right of each question to indicate your degree of agreement or disagreement.

Many of these questions will refer to your *heritage culture*, meaning the original culture of your family (other than American). It may be the culture of your birth, the culture in which you have been raised, or any culture in your family background. If there are several, pick the one that has influenced you *most* (e.g. Irish, Chinese, Mexican, African). If you do not feel that you have been influenced by any other culture, please name a culture that influenced previous generations of your family. Your heritage culture (other than American) is:

	Disagree	Agree
1. I often participate in my <i>heritage</i> cultural traditions.	1 2 3 4 5 6 7 8 9	
2. I often participate in mainstream American cultural traditions.	1 2 3 4 5 6 7 8 9	
3. I would be willing to marry a person from my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
4. I would be willing to marry a white American person.	1 2 3 4 5 6 7 8 9	
5. I enjoy social activities with people from the same <i>heritage culture</i> as myself.	1 2 3 4 5 6 7 8 9	
6. I enjoy social activities with typical American people.	1 2 3 4 5 6 7 8 9	
7. I am comfortable interacting with people of the same <i>heritage culture</i> as myself.	1 2 3 4 5 6 7 8 9	
8. I am comfortable interacting with typical American people.	1 2 3 4 5 6 7 8 9	
9. I enjoy entertainment (e.g. movies, music) from my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
10. I enjoy American entertainment (e.g. movies, music).	1 2 3 4 5 6 7 8 9	
11. I often behave in ways that are typical of my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
12. I often behave in ways that are typically American.	1 2 3 4 5 6 7 8 9	
13. It is important for me to maintain or develop the practices of my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
14. It is important for me to maintain or develop American cultural practices.	1 2 3 4 5 6 7 8 9	
15. I believe in the values of my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
16. I believe in mainstream American values.	1 2 3 4 5 6 7 8 9	
17. I enjoy the jokes and humor of my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
18. I enjoy white American jokes and humor.	1 2 3 4 5 6 7 8 9	
19. I am interested in having friends from my <i>heritage culture</i> .	1 2 3 4 5 6 7 8 9	
20. I am interested in having white American friends.	1 2 3 4 5 6 7 8 9	

Appendix J

Resilience Research Center Adult Resilience Measure (RRC-ARM)

To what extent do the sentences below describe you? Circle one answer for each statement.

	Not at All	A Little	Some -what	Quite a Bit	A Lot
1. I have people I can respect in my life	1	2	3	4	5
2. I cooperate with people around me	1	2	3	4	5
3. Getting and improving qualifications or skills is important to me	1	2	3	4	5
4. I know how to behave in different social situations	1	2	3	4	5
5. My family have usually supported me through life	1	2	3	4	5
6. My family know a lot about me	1	2	3	4	5
7. If I am hungry, I can get food to eat	1	2	3	4	5
8. I try to finish what I start	1	2	3	4	5
9. Spiritual beliefs are a source of strength for me	1	2	3	4	5
10. I am proud of my ethnic background	1	2	3	4	5
11. People think that I am fun to be with	1	2	3	4	5
12. I talk to my family/partner about how I feel	1	2	3	4	5
13. I can solve problems without harming myself or others (e.g. without using drugs or being violent)	1	2	3	4	5
14. I feel supported by my friends	1	2	3	4	5
15. I know where to get help in my community	1	2	3	4	5
16. I feel I belong in my community	1	2	3	4	5
17. My family stands by me during difficult times	1	2	3	4	5
18. My friends stand by me during difficult times	1	2	3	4	5
19. I am treated fairly in my community	1	2	3	4	5
20. I have opportunities to show others that I can act responsibly	1	2	3	4	5
21. I am aware of my own strengths	1	2	3	4	5
22. I participate in organized religious activities	1	2	3	4	5
23. I think it is important to support my community	1	2	3	4	5
24. I feel secure when I am with my family	1	2	3	4	5
25. I have opportunities to apply my abilities in life (like skills, a job, caring for others)	1	2	3	4	5
26. I enjoy my family's/partner's cultural and family traditions	1	2	3	4	5
27. I enjoy my community's culture and traditions	1	2	3	4	5
28. I am proud to be a citizen of _____ (insert country)	1	2	3	4	5

Appendix K

Consent Form

You are being asked to participate in a study. Before you volunteer, please read the following.

The researcher of this study is Dhara Shah. The study is being conducted through the Department of Psychology at the University of Alaska Anchorage under the supervision of Dr. E.J.R. David.

We are trying to understand the relationship between cultural identity and well-being among Asian Americans. The requirements to participate are as follows:

- 1) You must be at least 18 years old.
- 2) You must be living in the United States.
- 3) You must be of Asian American heritage. Asian American refers to anyone with Asian heritage such as Chinese, Filipino, Vietnamese, Korean, Japanese, Asian Indian, Other Asian, and Mixed Asian (those who identify with two or more Asian ethnic groups).

This survey contains questions about your ethnic/cultural identity, well-being, and distress. Your answers will remain confidential. Only the investigators will have access to your responses. All survey data will be stored on a password-protected computer.

Your participation is strictly voluntary. If you decide not to participate, it will not affect your relationship with the researchers. If you decide to participate, you may stop participating at any time.

Some questions may make you feel uncomfortable. If this happens, you may stop taking the survey at any time. If you feel you need to talk to someone, call Careline Crisis Intervention at 1(800) 273-8255. If you are taking this survey in Anchorage, call the Psychological Services Center at (907) 786-1795. If you are taking this survey in Fairbanks, call the UAF Community Mental Health Clinic at (907) 474-1999.

When you are done taking the survey, you have the option to enter a raffle for a chance to win 1 of 4 \$50 Amazon.com gift cards. In order to enter the raffle, click on the link provided at the end of the survey. This will lead you to another page where you can provide your first and last name and an email address. Your name and email will be kept separate from your answers.

If you have any questions about this study, contact Dhara Shah at djshah@alaska.edu. If you have questions about your rights as a participant, contact the UAA Office of Research Integrity at (907) 786-1099, or simumaw@uaa.alaska.edu.

Appendix L

Debriefing Form

Thank you for taking time to participate in our study!

This page will provide some background information about the study and how you can obtain further information. While we encourage you to pass this survey along, we kindly ask you not to share the contents of this survey because doing so will jeopardize the results of the study.

The study that you have just participated in was designed to measure how well you believe you can manage living between two cultures – Asian and American. In addition, the study also investigates how such feelings might be related to mental health (e.g., satisfaction with life, depression, anxiety, and stress). There has been speculation that Asian Americans across the United States experience high rates of psychological distress. This may be due, in part, to the difficulties experienced while navigating two different cultures.

Some of the questions may have been distressing or emotionally discomforting. If you experienced emotional discomfort after participating in this study and feel that you need to talk to someone, please call Careline Crisis Intervention at 1-800-273-8255. If you are taking this survey in Anchorage, Alaska, then please call the Psychological Services Center at (907)786-1795. If you are taking this survey in Fairbanks, Alaska, then please call the UAF Community Mental Health Clinic at (907)474-1999.

We appreciate your participation in this study. We hope this has been an educational and enjoyable experience for you. If you have any questions or would like to know the results, feel free to contact:

Dhara Shah - djshah@alaska.edu