ASIAN AMERICAN ACCULTURATION AND ENCULTURATION: DEVELOPMENT OF A
BILINEAR MULTIDIMENSIONAL OPERATIONALIZATION

By

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2013
To every person and family of immigrant background,
for your perseverance, resilience, and sense of humor in the face of change.
ACKNOWLEDGMENTS

"Life takes us to unexpected places... love brings us home." This quote from Sarah Mueller resonates with me as I think about Asian persons – like myself – and their experiences living in the United States. Since the immigration of the first Japanese person to the United States on May 7, 1843, many generations of Asian persons have set sail across the oceans to the United States in search for opportunities to better their lives. They worked hard, fought injustices, and loved furiously to make the United States home for their families and ethnic communities. As I embark on my own journey to this country by means of pursuing higher education, I continue to feel incredibly thankful toward a selected group of individuals whom have closely supported me along this long and rich journey. It is with great humility and deep gratitude that I honor them here with the completion of this dissertation project.

First, I would like to my dissertation committee members – Bonnie Moradi, Scott A. Miller, Constance L. Shehan, and Chun-Chung Choi, for their guidance and support. I especially want to thank Bonnie for her encouragement and mentorship as my faculty advisor. Not only did she spend numerous hours and tremendous efforts in helping me conceptualize research ideas and in repeatedly reviewing written drafts of my dissertation and thesis, she remains patient in fostering my research self-efficacy and my overall professional growth as a budding counseling psychologist. I am thankful to have had her play an integral role throughout my doctoral training. I also want to thank Chun-Chung Choi for playing a critical role in all aspects of my professional and personal growth possible. Chun-Chung generously offers me his guidance and support throughout our multiple professional collaborations in clinical, research, and service roles and responsibilities. But above all, it is his authentic and abundant care and encouragement for me as a mentor, teacher, and friend that kept me going in graduate school, to which I am most grateful.
There exists a group of very important people who have accompanied me in life thus far, who never saw me as anything less than a whole person, and inspire me to become better than I am. They deserve my deepest appreciation and gratitude. First, I owe my life existence and all that I have attained in life to my parents, Teo Leong Kai and Wong Siew Choo. I am eternally grateful for their undying love, warmth, and support for me. They have always encouraged me to dream big and stay grounded. It is their unconditional love and care from thousands of miles away that fuels my passion for life. They allow me to pursue my educational dreams and career goals in the security of their dedicated support and guidance. I thank my brother, Zhang Zhengyang, for always sharing with me the purest form of happiness and honesty that only a sibling could. I thank my sister-in-law, Tan Ying Shan, for her sweet nature, thoughtfulness, and care for everyone in our family.

I am extremely grateful to Sharon Lee and Yi-Jiun Lin for being there for me, whenever and wherever, no matter what happens. They inspire me to become a better version of myself, and never fail to make me believe in myself. Their very presence and active participation in my life is of great importance and meaning beyond words can describe. I deeply appreciate Kuan-Ling Yeh for our countless deep and meaningful conversations and for sharing her passion, honesty, and joyful connections. She exemplifies the vibrancy in life that I aspire to have and the many qualities as a person/professional I hope to grow as my own. I thank Taylor Locker for her wonderful friendship throughout my doctoral studies, joining me in every quest and celebrating each accomplishment with laughter and her dogs. I thank Khanh Nghiem for her camaraderie, encouragement, and positivity that brings me strength, calmness, and health through the most challenging and introspective times, over bubble teas and Indian cuisines no doubt. I thank Sara Nash for sharing with me her wholesome and spirited being, where her wisdom, emotionality,
and creativity often make me think, cry, and laugh all at the same time. I thank Yu-Ciao Kuo for embracing me as family in Gainesville as she provides me with a much-needed sense of comfort and sisterhood. I thank E. N. Tebbe, not only for rendering me statistical assistance to my dissertation, but also for the genuineness, enthusiasm, and zest as a person and a scholar. I thank Ryan Duffy for our open and honest conversations, often surrounding fun and intriguing analyses of everything, and for his consistent belief in and positive regard for me. I thank Jerry Macdaid for modeling for me the true nature and abilities of a crisis responder, and for his company through many wooded trails, lush prairies, and calm lakes and rivers. I thank Alice Martin for accompanying and enlightening me through every ups and downs, for helping me learn to trust and nurture myself, and for nourishing my soul as life challenges waxes and wanes. Special thanks go to Marshall Knudson and folks at the Alachua County Crisis Center who taught me the gestalt of therapeutic practice and doing what needs to be done; Charles L. Beale, Brad Wolgast, Merris A. Hollingsworth, Carolyn A. Heitzmann, Matthew E. FitzGerald, and everyone at the University of Delaware Center for Counseling and Student Development who help me integrate and hone my professional knowledge and skills as a psychology intern; Mary J. Heppner, Lisa Y. Flores, and faculty members at the University of Missouri-Columbia counseling psychology program who encouraged me to pursue doctoral training in counseling psychology; and my peers and colleagues at the University of Florida counseling psychology program who have ventured with me through trials and tribulations of graduate school.

Last but not least, I thank Kevin Y. Wang for his plentiful love, care, and support. He readily shares with me his steadiness, sensibility, humor, and warm embrace. In his doting ways, he reminds me to always eat, play, laugh, and sleep – thus maintaining my health and sanity. Most importantly, I am grateful to him for envisioning with me a safe space called home.
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Asian American acculturation and enculturation theory and measurement have evolved over the past several decades to better understand the adaptation experiences of Asian American individuals and their psychological functioning in the United States (U.S.). The present study extends the study of acculturation and enculturation by testing the factor structure of Asian American acculturation and enculturation, previously found to reflect (a) Language-related Behavior, (b) Cultural and Sociopolitical Knowledge, and (c) Pride and Cultural Group Association (Zhang & Moradi, 2013). Confirmatory factor analyses of data from 232 Asian and Asian American participants in the U.S. confirmed the stability of this three-factor structure. Evidence of internal consistency reliability as well as discriminant and concurrent criterion-related validity were garnered for the acculturation and enculturation full scale and subscale scores. Consistent with prior literature, results suggested that values measures assessed distinct but correlated constructs relative to these three acculturation and enculturation constructs. The present study offers the first known empirically tested bilinear multidimensional measure of Asian American acculturation and enculturation.
CHAPTER 1
INTRODUCTION AND REVIEW OF THE LITERATURE

Acculturation has been referred to as one of the most important individual difference constructs in understanding the experiences of racial and ethnic minority populations (Zane & Mak, 2003). The study of Asian/Asian American\(^1\) acculturation and enculturation processes is particularly significant and necessary at this time given that Asian populations represent the fastest growing racial group in the United States in the last decade (U.S. Census Bureau, 2012). According to the 2010 Census, populations who self-identified as “Asian only” in the United States grew by 43.3 percent from 2000 to 2010, representing 4.8 percent (or 14.7 million people) of the total U.S. population; comparatively, the overall increase in the total U.S. population was 9.7 percent from 2000 to 2010 (U.S. Census Bureau, 2012). Research within the field of counseling and counseling psychology also reflects this growing interest in understanding cultural adaptation and adherence among Asian/Asian American individuals as a result of interactive contact with the dominant culture in the United States; empirical evidence shows that the majority of studies on acculturation and enculturation between 1988 and 2009 have been conducted with Asian/Asian American individuals, and Asian/Asian American groups are also the most recently studied groups of racial/ethnic minority individuals as compared to African American, Native American, and Latino/a groups (Yoon, Langrehr, & Ong, 2011).

A large body of literature has focused on the conceptualization and operationalization of Asian/Asian American acculturation and enculturation (e.g., Kim, Atkinson, & Yang, 1999; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987) and this proliferation has led to efforts to clarify acculturation and enculturation models and the constructs assessed across measures (e.g., Kim,\(^1\))

\(^1\) The use of the term “Asian/Asian American” refers to individuals of Asian descent or background who reside in the United States.
2009; Kim & Abreu, 2001; Miller, 2007, 2010; Miller, Yang, Hui, Choi, & Lim, 2011c; Zhang & Moradi, 2013). The present study extends the literature on Asian/Asian American acculturation and enculturation by developing and evaluating a measure that is grounded in conceptual and empirical efforts to consolidate extant models (e.g., Kim & Abreu, 2001; Zhang & Moradi, 2013). Specifically, the purpose of the present study is to take the next steps toward developing a bilinear and multidimensional measure of Asian American acculturation and enculturation. Specifically, this study aims to replicate and refine the factor structure of Asian American acculturation and enculturation found by Zhang and Moradi (2013), and to offer further psychometric evaluation (e.g., reliability and validity) of data produced by the refined structure.

**Acculturation and Enculturation: Theory, Definition, and Correlates**

Redfield, Linton, and Herskovits (1936) first defined acculturation as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (p. 149). Although acculturation has been described to occur at both the societal/group (e.g., economical, political, structural) and individual level, psychological research has largely focused on the individual aspect of acculturation, termed “psychological acculturation” by Graves (1967). Specifically, the study of psychological acculturation (hereafter referred to as acculturation) examines the process of change in an individual’s attitudes, values, and identity as a result of being in contact with a dominant (e.g., mainstream or host) culture. It is important to note that Redfield et al.’s (1936) definition implies potential changes in both the dominant and non-dominant groups and individuals. In fact, Rudmin (2003) warned against conceptualizing acculturation as "something that happens only to minority people and that the cultures of dominant people are somehow monolithic, immutable, and without acculturative origins" (p. 6,
Rudmin, 2003). He asserted the need to examine the influence of intercultural contact and thus the acculturation processes for both minority and dominant groups. Nevertheless, various scholars (e.g., Berry, 1997; Schwartz, Unger, Zamboanga, & Szapocznik, 2010) have highlighted the greater likelihood for members of minority groups, such as individuals from racial/ethnic minority and/or immigrant populations in the United States, to adapt and adhere to the majority or mainstream culture (in this case, the mainstream culture of the United States) and the lower likelihood for members of a dominant group to adapt to a minority culture. As such, the process of acculturation is especially salient to individuals with immigrant backgrounds, including non-U.S. born first-generation and 1.5-generation Asian/Asian American immigrants (i.e., those who immigrated to the United States as a child or an adolescent; Kim, Brenner, Liang, & Asay, 2003), as well as U.S. born Asian American individuals raised in immigrant households (i.e., second-generation immigrants and beyond) (Schwartz, Unger, Zamboanga, & Szapocznik, 2011).

Related to the concept of acculturation, the concept of enculturation was first defined as the process of socialization to and maintenance of the norms of one’s indigenous culture, including the values, ideas, and concepts that are salient for the culture (Herskovits, 1948). Kim (2007a) emphasized two advantages in conceptualizing enculturation as a psychological construct separate from acculturation. First, enculturation may be a more appropriate term to describe the experiences of Asian American individuals who were born in the United States because the cultural maintenance process of acculturation may not accurately reflect the possibility that these individuals may not have been fully enculturated, or culturally socialized, into their Asian ethnic groups’ cultural norms. Second, using the term enculturation places an equal focus on the process of learning and retaining one’s Asian cultural norms, so as to be on
par with the term acculturation which focuses on the process of adaptation to U.S. dominant cultural norms. Weinreich (2009) further postulated that the term enculturation refers to the process of individuals selectively acquiring or retaining elements of significant cultures – be it of their own heritage culture, the mainstream culture, or a subculture within a multicultural context (e.g., Korean hiphop, Asian pride) – during their cultural socialization and maintenance.

In their content analyses of acculturation and enculturation theories and measures, Kim and Abreu (2001) proposed that acculturation be used to describe the process of adapting to U.S. cultural norms, and that enculturation be used to describe the process of (re)socializing and maintaining the norms of the indigenous culture. For Asian American individuals, Kim (2009) described that acculturation is “the extent to which these individuals have adopted the dominant cultural norms of the United States,” and enculturation refers to “the degree to which they have retained the norms of their heritage cultures” (p. 99). Within the existing research, acculturation and enculturation for Asian/Asian American individuals have been linked with mental health indicators such as disordered eating and body image problems (e.g., Lau, Lum, Chronister, & Forrest, 2006; Reddy & Crowther, 2007; Stark-Wroblewski, Yanico, & Lupe, 2005), acculturative stress (e.g., Hwang & Ting, 2008; Kim & Omizo, 2005), psychological pathology (e.g., Sue & Chu, 2003), depressive symptoms (e.g., Rahman & Rollock, 2004; Wong, Tran, & Lai, 2009), psychological functioning (e.g., Kim & Omizo, 2006), gender role conflict (e.g., Liu & Iwamoto, 2006), and substance use (e.g., Liu & Iwamoto, 2007); social functioning indicators such as family conflict (e.g., Park, Kim, Chiang, & Ju, 2010; Tajima & Harachi, 2010), vocational functioning (e.g., Leong, Kao, & Lee, 2004; Miller & Kerlow-Myers, 2009; Tang, Fouad, & Smith, 1999), prejudicial social attitudes (e.g., Liu, Pope-Davis, Nevitt, & Toporek, 1999), perceived prejudice (e.g., Frey & Roysircar, 2006; Nilsson, Butler, Shouse, & Joshi,
2008), communication styles (e.g., Park & Kim, 2008), concerns for loss of face (Yakunina & Weigold, 2011), social connectedness to mainstream and/or ethnic communities (Yoon, Hacker, Hewitt, Abrams, & Cleary, 2012), and family relationships (e.g., Kim, Ahn, & Lam, 2009); and counseling process and outcome-related variables such as attitudes toward help-seeking (e.g., Kim, 2007b; Liao, Rounds, & Klein, 2005; Miller et al., 2011c; Ruzek, Nguyen, & Herzog, 2011), perception of mental illness (e.g., Kumar & Nevid, 2010), perceived counselor empathy (e.g., Kim, Atkinson, & Umemoto, 2001; Wang & Kim, 2010), emotional self-disclosure (e.g., Chen & Danish, 2010), and client-counselor working alliance (e.g., Kim, Ng, & Ahn, 2005; Wang & Kim, 2010).

Conceptual Models of Acculturation (and Enculturation)

Conceptualization and measurement of acculturation and enculturation have evolved over time. To promote conceptual clarity, Miller (2007) proposed a standardization of terminology based on recommendations by Kim and Abreu (2001) and Magaña et al. (1996). Specifically, Miller (2007) suggested that the terms linearity be used to describe the number of cultures that the model or measure of acculturation and enculturation references, and that dimensionality be used to describe the multiple domains of acculturation and enculturation. The terms linearity and dimensionality are used accordingly in the present discussion.

Linearity: From a Unilinear to a Bilinear Model

There exist two common conceptualizations about individuals’ experience of the acculturation process: the unilinear and bilinear models. Early perspectives conceptualized acculturation as a unilinear process whereby the retention of the heritage culture and the adaptation to the mainstream culture were considered opposite ends of a single continuum (Ryder, Alden, & Paulhus, 2000; Schwartz et al., 2010). As such, greater adherence to the
mainstream culture is at the expense of reduced adherence to one’s heritage culture. This conceptualization was thought to apply to many immigrants who were expected to lose their indigenous values, beliefs, and practices to acquire that of their new homelands’ mainstream cultures (Schwartz et al., 2010). However, a major criticism of the unilinear model is that it does not allow for independent determination of acculturation to the mainstream culture and of enculturation to the indigenous culture (Cuéllar, Arnold, & Maldonado, 1995; Kim & Abreu, 2001; Miller & Kerlow-Myers, 2009; Ryder et al., 2000). Consequently, the unilinear model fails to capture the reality of biculturalism for many ethnic minority people in the United States, which can include the possibilities of high adherence to both heritage and mainstream cultures, or low adherence to both cultures. As a result, in the recent development of acculturation and enculturation measures for different ethnic groups, the bilinear approach has superseded the unilinear approach for conceptualizing acculturation and enculturation (e.g., Cuéllar et al., 1995; Lee, Yoon, & Liu-Tom, 2006; Ryder et al., 2000; Zea, Asner-Self, Birman, & Buki, 2003).

In the 1980s, Berry (1980) developed a landmark model of acculturation that introduced the bilinear perspective, where it is possible for an individual to adhere to one’s heritage culture and a second mainstream culture. Within this model, Berry (1980) asserted that there are four acculturation outcomes possible, namely integration, assimilation, separation, and marginalization. Integration occurs when an individual maintains adherence and proficiency in both the indigenous and host (or dominant) cultures. Assimilation occurs when an individual internalizes the dominant culture and rejects or no longer adheres to the indigenous culture. Separation (or rejection) occurs when an individual maintains proficiency in the indigenous culture, but does not adapt to the dominant culture. Marginalization (or deculturation) occurs when an individual rejects both the indigenous and dominant cultures. However, this categorical
model of acculturation has been criticized for the following reasons: (a) distinctions between high and low indigenous culture retention and host culture acquisition rely on arbitrary cut-offs and (b) the validity and differentiation of four separate categories is not evident in extant samples (Rudmin, 2003; Schwartz et al., 2010).

More recent conceptualizations do not focus on these four formulations and rather emphasize a bilinear relation between degrees of adoption of one’s culture of origin and of the host culture, whereby it is possible for individuals to maintain a positive relationship with both cultures and to shift their behaviors as needed across social contexts to fit into these cultures (e.g., Cuéllar et al., 1995; LaFromboise, Coleman, & Gerton, 1993; Miller, 2007; Ryder et al, 2000). This newer paradigm is reflected in existing acculturation/enculturation research on Asian and/or Asian American individuals as well. Specifically, nonsignificant to moderate correlations between adherence to Asian culture (or enculturation) and adherence to mainstream American culture (or acculturation) support a bilinear model whereby acculturation and enculturation are psychometrically oblique (factors correlate with one another; e.g., Lee et al., 2006; Miller, 2007; Zhang & Moradi, 2013), but not opposite ends of a single continuum.

**Dimensionality: A Multidimensional Model**

Related to the issue of linearity, conceptualizations of acculturation and enculturation have evolved from a unidimensional framework that delineated acculturation and enculturation each as a single global domain, to multidimensional frameworks that delineate acculturation and enculturation each as involving multiple domains. For example, Schwartz et al. (2010) proposed that acculturation and enculturation each is composed of three dimensions, namely, practices (e.g., language and food preferences), values (e.g., collectivism, interdependence, and familism within one’s heritage culture, and individualism and independence within the receiving culture),
and identification (e.g., exploration, affirmation, and commitment to one’s heritage culture group as well as of the receiving culture group). These authors described that these processes may change at different rates and in different directions, may vary for different groups (e.g., immigrants, refugees, asylum seekers), and may vary depending on the receptivity of the host cultural context to the group (e.g., discrimination versus acceptance). They highlighted that the multidimensionality of acculturation and enculturation is important for capturing these nuances.

Schwartz et al.’s (2010) dimensions are subsumed by Kim and Abreu (2001)’s model derived from a review of acculturation and enculturation measures. Specifically, in their content review of acculturation and enculturation measures, Kim and Abreu (2001) examined the item content of 33 measures of acculturation for U.S. ethnic minority groups and identified four basic dimensions from these items: behaviors (e.g., language use and preferences, media preferences), values (e.g., attitudes and beliefs about social ties, cultural customs and traditions), knowledge (e.g., understanding culture-specific information such as history or cultural significance of an event), and cultural identity (e.g., self-identification, attitude, and feelings toward one’s indigenous cultural group and toward the mainstream cultural group). Based on this review, they proposed a formal, four-dimensional model comprised of the four interrelated dimensions of behaviors, values, knowledge, and cultural identity.

**Distinction between behaviors and values**

Although the aforementioned conceptualizations suggest multiple dimensions of acculturation and enculturation, research on Asian American acculturation/enculturation has often focused on broad behavioral (e.g., language and communication, social interactions) and values (e.g., belief systems, worldviews, political ideology) domains (Miller, 2007, 2010; Miller et al., 2011c). Specifically, the distinctions between the rates of change of behaviors and of
values over time and across individuals from different generational statuses since immigration have been examined. For instance, Kim et al. (1999) found that level of Asian values did not differ significantly across first generation, second generation, and third generation (and beyond) Asian American immigrant groups, but found the expected pattern of lower behavioral acculturation for individuals who have more recently immigrated to the United States. Consequently, Kim et al. (1999) argued that this pattern suggests distinct change processes for behaviors and values, with the former occurring faster than the latter. Similarly, Portes and Rumbaut (2005) found that while many Asian American adolescents did not use or were not proficient in their families' "native" languages (i.e., part of the behavioral domain), they may still identify strongly with their heritage cultural groups and/or adhere to many heritage cultural values.

The distinctiveness between behaviors and values dimensions was further iterated in studies that examined the fit of various measurement models to behaviors and values acculturation and enculturation data from Asian/Asian American samples (Miller, 2007, 2010). Specifically, Miller (2007) examined three measurement models, namely, unilinear unidimensional (i.e., single acculturation construct with host culture adopted at the expense of losing culture-of-origin, with no distinction between behaviors and values dimensions), bilinear unidimensional (i.e., acculturation and enculturation as correlated factors, but with no distinction between behaviors and values dimensions), and bilinear multidimensional (i.e., acculturation and enculturation each having behaviors and values dimensions).

Miller (2007) found that with a sample of Asian American individuals, the bilinear multidimensional measurement model demonstrated superior fit compared to the unilinear unidimensional and the bilinear unidimensional models. Miller (2010) conducted a cross-
validation study with a different sample of Asian American individuals and found again that a bilinear multidimensional model provided superior fit to the data when compared to unilinear unidimensional and bilinear unidimensional models. Together, these findings demonstrated support for the notion that Asian American individuals can simultaneously adhere to a second culture (acculturation) while maintaining adherence to their heritage culture (enculturation), and that the acculturation/enculturation process occurs across the behavioral and values domains separately. Additionally, the small and moderate correlations (i.e., in the .20s to .30s) found between behaviors and values dimensions for Asian American individuals (Miller, 2007, 2010; Miller et al., 2011c) also suggest the distinctiveness between these two dimensions.

**Distinction between cultural identity and ethnic identity**

Within the acculturation literature, overlap between conceptualizations of cultural identity, one of the four dimensions of acculturation identified by Kim and Abreu (2001), and conceptualizations of ethnic identity has been noted. Kim (2007a) described cultural identity as “attitudes toward one’s cultural identification (e.g., preferred name is in Mandarin), attitudes toward indigenous and dominant groups (e.g., feelings of pride toward the indigenous group), and level of comfort toward people of indigenous and dominant groups” (p. 147). In their review of racial and ethnic identity measures, Fischer and Moradi (2001) adopted Helm’s (1996) description of ethnic identity as “an aspect of acculturation, in which the concern is with individuals and the focus is on how they relate to their own group as a subgroup of the larger society” (p. 501, Helms, 1996; c.f. Fischer & Moradi, 2001). This confluence between the operational definitions of cultural identity and ethnic identity has caused considerable confusion in the literature. Scholars often point out the lack of differentiation between these two constructs (e.g., Kim, 2007a) or attempt to distinguish one from another in their reviews of ethnic identity.
(e.g., Fischer & Moradi, 2001) or cultural identity (e.g., Yoon et al., 2011) by only including studies that examined these constructs independent of one another; specifically, Fischer and Moradi (2001) only reviewed measures of “ethnic identity” that are not conceptualized as an assessment or a dimension of acculturation, whereas Yoon et al. (2011) excluded studies that examined ethnic identity as an independent construct instead of as a dimension of acculturation/enculturation in their review of acculturation/enculturation measures. Nevertheless, no current research study has clearly delineated the theoretical and conceptual differences—or similarities—between these two constructs, nor empirically examined these constructs from a measurement standpoint. However, some measures of acculturation have attempted to include some items reflecting cultural or ethnic identity (e.g., Chang, Tracey, & Moore, 2005; Suinn, Ahuna, & Khoo, 1992). As such, cultural identity remains one of the dimensions of acculturation/enculturation that requires further examination, specifically in its relatedness or distinctiveness from ethnic identity.

**Assessment of Acculturation and Enculturation**

**Existing Measures**

Currently, many measures of Asian/Asian American acculturation and enculturation have been developed and used in various studies. In their content analysis, Yoon et al. (2011) reported 18 most frequently used acculturation/enculturation measures, of which seven were specifically developed for use with Asian/Asian American individuals (Suinn et al., 1987; Kim et al., 1999; Gim Chung, Kim, & Abreu, 2004; Hong, Kim, & Wolfe, 2005; Tsai, Ying, & Lee, 2000; Kim, Li, & Ng, 2005a; Wolfe, Yang, Wong, & Atkinson, 2001). The most frequently used measure of all 18 measures was the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn et al., 1987), a unilinear measure that yields a single full-scale acculturation score. The second most
frequently used measure of these 18 measures that emerged from the content analysis was the Asian Values Scale (AVS; Kim et al., 1999), a 36-item unilinear unidimensional measure of individuals’ adherence to Asian values. The Asian American Multidimensional Acculturation Scale (AAMAS; Gim Chung et al., 2004), a trilinear measure that assesses adherence to one’s Asian culture of origin (enculturation), the White mainstream culture (acculturation), as well as a pan-ethnic Asian American culture, was ranked as the sixth most frequently used measure out of these 18 measures, and was tied at this sixth rank with four other measures. Notably, among the AAMAS items for each culture, six items assess behaviors (language and food consumption), three items assess cultural knowledge, and six items assess cultural identity; however, the items are not scored along these separate dimensions and instead yield a total score for each of the three cultural domains.

The other four acculturation/enculturation measures specifically developed for use with Asian/Asian American individuals that were reported on this list of most frequently used measures were European American Values Scale for Asian Americans–Revised (EAVS-AA-R; Hong et al., 2005), General Ethnicity Questionnaire (GEQ; Tsai et al., 2000), and Asian American Values Scale–Multidimensional (AAVS-M; Kim et al., 2005a). These widely used measures of Asian American acculturation and/or enculturation (e.g., AVS, AAMAS) often assess some, but not all, of the four dimensions of values, behaviors, cultural identity, and cultural knowledge that Kim and Abreu (2001) proposed; when multiple dimensions are assessed, the number of items measuring each dimension is not balanced (e.g., AAMAS), and often, only an overall score for acculturation and enculturation is computed (e.g., AAMAS, SL-ASIA) (Zhang & Moradi, 2013). Given the concerns about current measures’ lack of consistency in assessing the constructs of acculturation and enculturation and their multiple dimensions for
Asian American individuals, and given the viability of a bilinear multidimensional model, several researchers (Kim, 2007a; Kim & Abreu, 2001; Miller, 2007, 2010; Yoon et al., 2011) have called for the development of a single bilinear multidimensional measure of Asian American acculturation and enculturation. Specifically, Kim and Abreu (2001) called for research on existing measures – as opposed to developing a new measure from scratch – to separate items that assess different dimensions.

**Newer Development in Measurement**

In response to the calls for research on measurement development, Zhang and Moradi (2013) conducted a study that empirically evaluated the dimensions of Asian American acculturation and enculturation assessed in extant measures of these constructs. Specifically, these authors reviewed items from existing acculturation/enculturation measures along the conceptualization offered by Kim and Abreu (2001). They selected measures and items for their analyses using the following considerations: clarity and distinctiveness to minimize content redundancy; reflection of behaviors, values, knowledge, and cultural identity dimensions; parallel content across acculturation and enculturation dimensions; clarity and balance in item response formats (i.e., endorsement, frequency, and language proficiency formats; Kang, 2006). They also drew additional items from acculturation/enculturation measures designed for use with multiple populations in order to capture unique content not reflected in Asian/Asian American-specific measures. They refined the items to clarify terminology (e.g., using the terms mainstream America or Americans to assess U.S. acculturation) and selected a 4-point response scale (1 = strongly disagree to 4 = strongly agree) to rate all the items due to its precision in assessing Asian American samples in prior research (Hong et al., 2005; Kim & Hong, 2004). Finally, they submitted the item pool to Asian/Asian American consultants for feedback on item
clarity and relevance, as well as survey measure length. Ultimately, their final item set was made up of all 25 items from the Asian Values Scale–Revised (AVS-R; Kim & Hong, 2004), 25 items from the EAVS-AA-R (Hong, et al., 2005), 15 “Culture of Origin” and 15 “European American” items from AAMAS (Gim Chung et al., 2004), 17 “Asian orientation” and 13 “Western orientation” items from Acculturation Rating Scale for Mexican Americans–II modified for use with Asian Americans (ARSMA-II-AA; Lee et al., 2006), 11 of 39 items from the abridged version of General Ethnicity Questionnaire–Chinese (GEQC; Tsai et al., 2000) and 11 of 38 items from the abridged version of General Ethnicity Questionnaire–American (GEQA; Tsai et al., 2000), 6 “U.S. American” and 6 “culture-of-origin” items from Abbreviated Multidimensional Acculturation Scale (AMAS; Zea et al., 2003), and 3 “ethnic society immersion” and 3 “dominant society immersion” items from Stephenson Multigroup Acculturation Scale (SMAS; Stephenson, 2000).

Zhang and Moradi (2013) then submitted data from a sample of Asian and Asian American participants’ responses to these items to exploratory factor analyses. They found a three-factor solution to be the most interpretable for the acculturation items and for the enculturation items. The three-factor solutions reflected the dimensions of Language-related Behavior, Pride and Cultural Group Association, and Cultural and Sociopolitical Knowledge, which paralleled three of the four dimensions described by Kim and Abreu (2001), namely behavior, cultural identity, and knowledge respectively. Importantly, Zhang and Moradi (2013) found values to be a related but distinct construct from the other three acculturation and enculturation dimensions as assessed by the items from existing measures. Specifically, low inter-item correlations were found within the AVS-R items and within the EAVS-AA-R items, and these items sets also had low correlations with other acculturation and enculturation items.
As well, the correlations of values with the other acculturation and enculturation dimensions were small to medium ($r = .09$ to $.42$) and smaller than the magnitude of correlations among the other acculturation dimensions and among the other enculturation dimensions. This pattern suggested that behaviors, cultural identity, and knowledge dimensions are more closely related to one another than with values. Ultimately, Zhang and Moradi’s (2013) findings offered initial evidence that existing measures of acculturation and enculturation reflected multiple dimensions of Language-related Behavior, Pride and Cultural Group Association, and Cultural and Sociopolitical Knowledge, and that values may be a related but distinct construct from these dimensions. Consequently, Zhang and Moradi’s (2013) study showed the plausibility of consolidating existing measures into a bilinear multidimensional measure of Asian American acculturation and enculturation, thus leading to the focus of the present study on further measurement development.

**Purpose of the Study**

The purpose of the present study is to take the next steps toward developing a bilinear and multidimensional measure of Asian American acculturation and enculturation. Specifically, this study aims to replicate and refine the factor structure of Asian American acculturation and enculturation found by Zhang and Moradi (2013), and to offer further psychometric evaluation (e.g., reliability, and validity) of data produced by the refined structure.

Confirmatory factor analyses (CFA) will be used to test the replicability of the three-factor structure, derived by Zhang and Moradi (2013), reflecting Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association in a new sample. Additionally, item reductions will be made based on empirical (e.g., factor loading and cross-loadings discrepancy; Worthington & Whittaker, 2006) and conceptual (e.g., content areas
and redundancy; Yoon et al., 2011) considerations.

Subsequently, evidence of reliability and validity for the refined measure will be examined. With regard to reliability, Cronbach’s alphas for acculturation and enculturation full scale and subscale items are expected to be at least .70. To demonstrate discriminant validity, it is expected that acculturation and enculturation subscale scores will not be associated with socially desirable responding as reflected by scores on the Impression Management subscale of the Balanced Inventory of Desirable Responding (Paulhus, 1991). Evidence of discriminant validity will also be deduced from evidence of acculturation and enculturation subscales’ distinctive correlations with concurrent criterion-related validity indicators (described below).

To demonstrate concurrent criterion-related validity, it is expected that acculturation and enculturation full scale scores will be correlated significantly and positively with the corresponding scores on the Vancouver Index of Acculturation (VIA; Ryder et al., 2000), a bilinear but unidimensional measure of acculturation and enculturation. Specifically, it is expected that acculturation full scale scores will be correlated significantly and positively with the VIA Mainstream subscale scores, whereas the enculturation full scale scores will be correlated significantly and positively with the VIA Heritage subscale scores. Additionally, the posited distinctiveness of acculturation and enculturation dimensions (i.e., Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association) will be explored by testing correlations between these subscales and corresponding constructs of participants’ use of English as their first language, ethnic identity, and bicultural self-efficacy (i.e., the belief that a person can effectively function in two cultural groups without compromising one’s cultural identity; LaFromboise et al., 1993). Specifically, it is expected that Language-related Behavior enculturation subscales scores will be correlated significantly and
negatively with participants’ use of English as their first language, whereas Language-related Behavior acculturation subscales will be correlated significantly and positively with participants’ use of English as their first language (Zhang & Moradi, 2013). Furthermore, it is expected that Pride and Cultural Group Association enculturation subscale scores will correlate significantly and positively with the ethnic-identity subscale scores of the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992), whereas Pride and Cultural Group Association acculturation subscale scores will correlate significantly and positively with the MEIM Other-group subscale scores. It is also expected that both the Cultural and Sociopolitical Knowledge enculturation and acculturation subscale scores will correlate significantly and positively with the Knowledge subscale scores of the Bicultural Self-Efficacy Scale (BSES; David, Okazaki, & Saw, 2009).

In addition to the above aims, correlations with the AVS-R and EAVS-AA-R will be examined to evaluate the replicability of Zhang and Moradi’s (2013) findings that behaviors, cultural identity, and knowledge are more closely related to one another than with values. Data were collected in conjunction with Zhang and Moradi’s (2013) earlier study, but are from a sample independent of that used in that earlier study.
CHAPTER 2
METHOD

Participants

Data from 232 Asian and Asian American participants was analyzed. Participants ranged in age from 18 to 52 years old ($M = 25.21$, $SD = 6.17$, $Mdn = 23.00$). Approximately 56.5% of the sample identified as women, 29.3% as men, and 14.2% did not indicate their gender. In terms of sexual orientation, 63.8% of the sample identified as exclusively heterosexual, 16.4% as mostly heterosexual, 2.6% as bisexual, 2.2% as exclusively lesbian or gay, and 15.1% did not indicate their sexual orientation. Participants’ reports of their highest educational degree indicated that 26.3% of the sample had a college degree, 21.1% had a professional or graduate degree, 19.8% had some college or technical school education, 9.5% had a high school degree, 8.6% had some professional or graduate education, and 14.7% did not indicate the highest education they have completed. In terms of socioeconomic status, we used categories following a prior study with Asian American individuals (Shen, 2009) to assess participants’ qualitative experiences of their socioeconomic statuses: 29.7% of the sample indicated that “We could always make ends meet and had enough money,” 39.2% indicated “Most of the time, we could make ends meet and had enough money,” 11.2% indicated “Sometimes we were able to make ends meet and had enough money,” 3.4% indicated “Quite often, we could not make ends meet and were short of money,” 0.9% indicated “We could never make ends meet and were always short of money,” and 15.5% did not indicate their socioeconomic status. Participants reported residing in 34 out of the 50 United States, with most participants residing in the states of California (22.4%), Florida (9.5%), Pennsylvania (7.3%), New York (6.5%), Virginia (5.6%), Michigan (4.3%), Illinois (4.3%), Iowa (3.4%), and Hawaii (2.2%).

In terms of ethnicity, the participants identified themselves as Chinese (31.5%), Asian
with more than one ethnic/racial background (9.5%), Korean (8.2%), Vietnamese (8.2%), Filipino (6.9%), Taiwanese (6.5%), Asian Indian (4.7%), Japanese (2.2%), Singaporean (1.7%), Thai (1.7%), other (1.7%), Hmong (1.3%), Pakistani (0.9%), Cambodian (0.4%), and 14.7% did not indicate their ethnicity. Moreover, a plurality of participants identified their first language as English (39.2%) or Chinese or Mandarin (12.5%), and the remaining participants identified Cantonese/Taishanese (7.3%), Vietnamese (5.6%), Korean (4.3%), Chinese dialect (e.g., Fujianese, Teochew, Hunanese) (2.2%), Hindi (1.7%), Tagalog (1.7%), Hmong (1.3%), Thai (1.3%), Kannada (0.9%), Arabic (0.4%), Burmese (0.4%), Cambodian (0.4%), Japanese (0.4%), Persian (0.4%), Taiwanese (0.4%), Urdu (0.4%), other (2.2%) or unknown (14.7%) languages. In terms of the first generation of their family to move to the United States, 14.2% of the sample reported that they alone were the first generation to move to the United States, 21.6% reported themselves and their parents, 36.6% reported their parents, 9.5% reported their grandparents, 3.4% reported their great-grandparents and beyond, and 14.7% did not report the first generation of their family to move to the United States. Approximately 50.4% of the sample was born in the United States. For the participants who were not born in the United States, their mean number of years lived in the United States was 14.43 ($SD = 10.26$). The mean number of years that the participants were educated in the United States was 14.93 ($SD = 6.78$).

**Instruments**

**Dimensions of acculturation and enculturation.** Zhang and Moradi’s (2013) final EFA item pool reflecting the Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association dimensions of Asian American acculturation and enculturation was used as a starting point for the item selection steps described in the proposed analyses section for the confirmatory factor analyses. Zhang and Moradi’s (2013) final item set
was comprised of 41 items assessing the aforementioned three dimensions of acculturation and 39 items assessing the three dimensions of enculturation. All items were rated on a 4-point scale of level of agreement (1 = strongly disagree to 4 = strongly agree). This scale was selected due to its precision relative to a 7-point scale in assessing cultural values in Asian American samples (Hong et al., 2005; Kim & Hong, 2004). Examples of acculturation items include "I feel comfortable speaking English," "I know American political leaders well," and "I would prefer to live in a community made up of mainstream Americans." Examples of enculturation items include "I enjoy speaking the language of my heritage culture," "I am knowledgeable about the culture and traditions of my heritage culture," and "I like to interact and associate with people from the same heritage culture as myself."

In terms of reliability, the acculturation full scale and subscale items yielded Cronbach's alphas ranging from .93 to .96, and the enculturation full scale and subscale items yielded Cronbach's alphas ranging from .89 to .96 in a prior sample of Asian and Asian American individuals (Zhang & Moradi, 2013). In terms of criterion-related validity, the acculturation and enculturation full scale and subscale scores were correlated significantly in the expected directions with participants’ total number of years lived in the United States and with total number of years formally educated in the United States (Zhang & Moradi, 2013).

**Procedures**

Participants were recruited via online resources such as electronic mail and listserves, discussion boards, student organizations at universities and colleges, and virtual communities for Asian and Asian American individuals. Recruitment notices invited individuals to participate in a study of the experiences of Asian and Asian American individuals in the United States. Participants were directed to an online survey that was made available through an internet site.
hosted by SurveyMonkey. The survey began with an informed consent page that reiterated the purpose of the study, outlined the inclusion criteria for the study, stated the confidentiality and anonymity of responses, indicated institutional review board (IRB) approval, and provided contact information for the researchers and IRB, should the participants have any questions about the study. No compensation was offered. To participate in the study, respondents had to first affirm that they (1) were 18 years of age or older, (2) resided in the United States, and (3) were of Asian descent or background. If respondents affirmed that they met these inclusion criteria and agreed to participate after reading the informed consent, they were connected to the survey.

A total of 441 entries were submitted. To prepare the data for analyses, data were screened and incomplete entries (i.e., missing more than 50% of the total number of items excluding demographic items) or entries missing more than 20% of items on the acculturation and enculturation measures (the primary measures of interest) were removed from analyses. Additionally, two validity questions asking participants to mark a particular response (e.g., Please choose the response “Disagree”) were included in the survey to check that participants were responding attentively and not randomly. If participants responded incorrectly to either validity check item, their data were screened to determine if the rest of their responses suggested random responding. Based on these procedures, 202 entries were removed for missing more than 50% of responses on the entire survey; some of these incomplete entries may have been from individuals who responded to a few items to “check out” the survey and then returned to complete the survey at a later time, but this possibility cannot be tested due to the anonymity of the survey responses. An additional six participants were removed for missing more than 20% of items on the acculturation and enculturation measures, and one additional participant was removed because she answered both validity questions incorrectly and the rest of her answers
suggested random responding. These procedures resulted in 232 participants for analyses. NORM software (Schafer & Graham, 2002) was used to impute item-level missing data based on expectation maximization parameters in the data set.

**Instruments for Analyses of Concurrent and Discriminant Validity**

**Vancouver Index of Acculturation (VIA)**

The VIA (Ryder et al., 2000) is a 20-item self-report bilinear and unidimensional measure with 10 items assessing orientation toward mainstream North American culture or acculturation and 10 items assessing orientation toward one's heritage culture or enculturation. The measure asks participants to rate on a 9-point scale (1 = strongly disagree to 9 = strongly agree) their adherence to the values, social relationships, and traditions of each culture; examples of items include “I enjoy social activities with typical American people,” ”It is important for me to maintain or develop the practices of my heritage culture,” and ’I believe in mainstream North American values.” Items on each subscale are averaged and higher scores indicate greater levels of acculturation or enculturation on the respective subscale. Across samples of East and Southeast Asian individuals, Filipino American individuals, and Asian American college students, Cronbach’s alphas have been in the high .80s and low .90s for the VIA Heritage items and in the mid to high .80s for the VIA Mainstream items (e.g., David & Okazaki, 2006; Hwang & Ting, 2008; Ryder et al., 2000; Ting & Hwang, 2009). In terms of validity, in their samples of Chinese and non-Chinese East and Southeast Asian individuals, Ryder et al. (2000) reported convergent validity correlations of -.57 and -.60 for the Heritage dimension and .60 and .51 for the Mainstream dimension with the SL-ASIA (Suinn et al., 1987), a unidimensional and unilinear (i.e., Asian [low scores] to American [high scores]) measure of acculturation. For this study, VIA Mainstream items and Heritage items each both yielded a Cronbach’s alpha of .85.
**Multigroup Ethnic Identity Measure (MEIM)**

The MEIM (Phinney, 1992) is a self-report measure that assesses the dimensions of ethnic identity search, affirmation and belonging, and other-group orientation. Specifically, 12 items assess ethnic identity and 6 items assess other-group orientation separately. The measure asks participants to rate on a 4-point scale (1 = strongly disagree to 4 = strongly agree) for items such as "I have a clear sense of my ethnic background and what it means for me," "I participate in cultural practices of my own group, such as special food, music, or customs," and "I enjoy being around people from other ethnic groups other than my own." Appropriate items are reverse coded and item ratings are averaged to yield two separate scores for the MEIM-ethnic identity subscale and the Other-group orientation subscale. A higher score on the ethnic identity subscale indicates a more positive ethnic identity, whereas a higher score on the Other-group orientation subscale indicates a greater willingness to interact with other ethnic groups than one's own. Lee and Yoo (2004) reported Cronbach's alphas of .72 to .81 for ethnic identity-related subscales of the MEIM and .76 for Other-group orientation with a sample of Asian American college students, whereas Iwamoto and Liu (2010) reported Cronbach's alphas of .77 and .90 for the MEIM with a sample of Asian American and Asian international college and graduate students. In terms of validity, scores on the MEIM and Other-group orientation has been found in a prior study to be correlated with self-esteem ($r = .23$ for ethnic identity and $r = .33$ for Other-group orientation) and social connectedness ($r = .44$ for ethnic identity and $r = .48$ for Other-group orientation) with a sample of Asian American undergraduate students (Lee, 2003), suggesting support for criterion-related validity for both subscales. For this study, the ethnic identity subscale of MEIM yielded a Cronbach’s alpha of .90, while the MEIM Other-group orientation subscale yielded a Cronbach’s alpha of .77.
**Bicultural Self-Efficacy Scale (BSES)**

The BSES (David et al., 2009) is a 26-item self-report measure that assesses bicultural respondents’ perceived ability in the task of being biculturally competent across six domains: Social Groundedness (e.g., “I have strong ties with mainstream Americans as well as people from the same heritage culture as myself”), Communication Ability (e.g., “I am proficient in both standard English and the language of my heritage culture (e.g., urban street talk, Spanish, etc.”), Positive Attitudes Toward Both Groups (e.g., “I have generally positive feelings about both my heritage culture and mainstream American culture”), Knowledge of Cultural Beliefs and Values (e.g., “I am knowledgeable about the holidays celebrated both by mainstream Americans and by my cultural group”), Role Repertoire (e.g., “I can choose the degree and manner by which I affiliate with each culture”), and Bicultural Beliefs (e.g., “It is possible for an individual to have a sense of belonging in two cultures without compromising his or her sense of cultural identity”). For the purpose of this study, only the Knowledge of Cultural Beliefs and Values subscale will be used. Respondents use a 9-point rating scale (1 = strongly disagree to 9 = strongly agree) to answer each item. Item ratings are averaged to yield an overall score for each dimension, with higher scores indicating greater levels of perceived self-efficacy on being biculturally competent.

With their sample of bicultural individuals where approximately 64% was Asian American individuals, David et al. (2009) found Cronbach’s alphas for the BSES subscales to be .89 for Social Groundedness, .78 for Communication Ability, .84 for Positive Attitudes Toward Both Groups, .86 for Knowledge of Cultural Beliefs and Values, .63 for Role Repertoire, and .71 for Bicultural Beliefs. Wei et al. (2010) also reported Cronbach’s alphas for the BSES total scale and subscales to range from .46 to .92 with a sample of self-identified ethnic minority college students where approximately 34% was made up of Asian American individuals. With regards to
validity, scores for all BSES subscales were correlated positively with one’s adherence to heritage and mainstream cultures (David et al., 2009). For this study, the Knowledge of Cultural Beliefs and Values subscale of the BSES yielded a Cronbach’s alpha of .74.

**Impression Management subscale of the Balanced Inventory of Desirable Responding (IM-BIDR-6)**

The IM-BIDR-6 (Paulhus, 1991) is a 20-item measure that assesses socially desirable responding. The measure asks participants to rate on a 7-point scale (1 = not true to 7 = very true) items such as “I sometimes tell lies if I have to” and “I have done things that I don’t tell other people about.” Appropriate items are reverse coded and item ratings are averaged to yield an overall score, with higher scores indicating exaggerated desirable responding. With their sample of Chinese American individuals, Mak, Chen, Lam, and Yiu (2009) found Cronbach’s alpha for the IM-BIDR-6 to be .79. In terms of validity, prior studies have found that IM-BIDR-6 scores correlate positively with other measures of social desirability for Asian American individuals (David et al., 2009; Lalwani, Shavitt, & Johnson, 2006). For this study, the IM-BIDR-6 yielded a Cronbach’s alpha of .78.

**Asian Values Scale-Revised (AVS-R)**

The AVS-R (Kim & Hong, 2004) is a 25-item self-report unilinear measure based on the original 36-item AVS (Kim et al., 1999). The AVS-R is designed to assess Asian American individuals’ adherence to Asian cultural values such as collectivism (e.g., "One should consider the needs of others before considering one's own needs"), conformity to norms (e.g., "One should not deviate from familial and social norms"), family recognition through achievement (e.g., "One's achievements should be viewed as family's achievements"), emotional self-control (e.g., "One should have sufficient inner resources to resolve emotional problems"), filial piety (e.g.,...
"Children should not place their parents in retirement homes", and humility (e.g., "One should be discouraged from talking about one's accomplishments"). The measure asks participants to rate on a 4-point scale (1 = strongly disagree to 4 = strongly agree) their endorsement of these Asian cultural values. Appropriate items are reverse coded and item ratings are averaged to yield an overall score, with higher scores indicating greater adherence to Asian cultural values. Miller et al. (2011c) reported a Cronbach’s alpha of .77 with a sample of Asian American undergraduate and graduate students, while Zhang and Moradi (2013) reported a Cronbach's alpha of .80 with a sample of Asian and Asian American individuals. In terms of validity, scores on the AVS-R have been found to be correlated with psychological distress disclosure (r = -.34) with individuals of Asian descent (Chen & Danish, 2010), suggesting support for criterion-related validity. For this study, the AVS-R yielded a Cronbach’s alpha of .83.

**European American Values Scale for Asian Americans-Revised (EAVS-AA-R)**

The EAVS-AA-R (Hong et al., 2005) is a 25-item self-report unilinear measure that is an extension of the original European American Values Scale for Asian Americans (EAVS-AA; Wolfe et al., 2001). The EAVS-AA-R is designed to assess Asian American individuals’ endorsement of European American cultural values such as childrearing practices, marital behavior, autonomy, and sexual freedom. Items such as “Single women should not have children and raise them alone” and “A student does not always need to follow the teacher’s instructions” are rated on a 4-point scale (1 = strongly disagree to 4 = strongly agree). Appropriate items are reverse coded and item ratings are averaged to yield an overall score, with higher scores indicating greater adherence to European American cultural values. Miller et al. (2011c) reported a Cronbach’s alpha of .67 with a sample of Asian American undergraduate and graduate students, while Zhang and Moradi (2013) reported a Cronbach's alpha of .71 with a sample of
Asian and Asian American individuals. In terms of validity, scores on the EAVS-AA-R have been found to be correlated with precise communication style ($r = .19$) with a sample of Asian American students (Park & Kim, 2008), suggesting support for criterion-related validity. For this study, the EAVS-AA-R yielded a Cronbach’s alpha of .65.

**Demographic and Background Variables**

In addition to the instruments above, participants were asked to report their demographic characteristics (e.g., gender, age, sexual orientation) and a number of background variables (e.g., their length of stay in the United States, whether English was their first language, generation status since immigration).
CHAPTER 3
RESULTS

Several guidelines in the literature indicated that sample sizes of at least 200 were usually sufficient to derive meaningful and interpretable models and fit indices for CFA (Hau & Marsh, 2004; Quintana & Maxwell, 1999; Weston & Gore, 2006), and models with greater degrees of freedom attain higher power at lower sample sizes (MacCallum, Browne, & Sugawara, 1996). Under these guidelines, the sample size of 232 was considered acceptable for the analyses.

Preliminary Analyses

**Item exclusion and retention.** Prior to conducting the CFA, item retention decisions were made by examining the EFA results reported by Zhang and Moradi (2013). To ensure the construct specificity and stability of emergent factors for the CFA (Kahn, 2006), item retention decisions were made based on empirical (e.g., factor loading and cross-loading discrepancy; Worthington & Whittaker, 2006) and conceptual (e.g., content areas and redundancy; Yoon et al., 2011) considerations. Specifically, based on Zhang and Moradi’s (2013) EFA results, items with factor loadings of less than .40 and with indistinctive loadings across factors (i.e., factor loadings and cross-loading discrepancies of less than .15; Worthington & Whittaker, 2006) were identified for removal. Additionally, one enculturation item (i.e., "I like to identify myself as Asian American") loaded negatively on the Language-related Behavior factor (-.51), indicating ambiguity in its conceptual meaning and reflection of enculturation. Specifically, this negative loading indicated that individuals who reported more language-related behavioral enculturation (e.g., spoke, wrote, read in Asian language, consumed Asian language media) were less likely to identify as Asian American. Given that this item was embedded among other items asking about heritage culture, it is possible that participants may have interpreted identification as Asian American as a contrast to identification as Asian, and that relative to Asian identification, Asian
American identification may be associated with lower levels of Asian language-related behavior. Nevertheless, this item was a lower loader relative to the other items on the Language-related Behavior factor (Zhang & Moradi, 2013). In sum, the vagueness in this item’s conceptual meaning and reflection of enculturation identified it for removal. Overall, there were 41 acculturation (13 Language-related Behavior, 12 Cultural and Sociopolitical Knowledge, and 16 Pride and Cultural Group Association) and 38 enculturation (18 Language-related Behavior, 9 Cultural and Sociopolitical Knowledge, and 11 Pride and Cultural Group Association) items from Zhang and Moradi’s (2013) EFAs that meet these factor loading and cross-loading criteria.

A preliminary CFA of data from the present sample of 232 participants was conducted using AMOS 7.0 (Arbuckle, 1995–2006) to confirm the stability of these item exclusion decisions. Specifically, these item exclusion decisions were checked against the modification indices from the CFA to ensure that dropped items based on the EFA results were those whose modification indices suggested high overlap with other items, suggesting some content redundancy. Also, the standardized regression weights were examined to ensure that dropped items based on the EFA results were those whose standardized regression weights were low relative to other items retained. Upon inspection, all the item exclusion decisions based on the EFA results from Zhang and Moradi (2013) were supported by the preliminary CFA.

**Confirmatory Factor Analyses**

To test the replicability of the three-factor structure reflecting Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association with acculturation items and enculturation items, CFA of the 41 retained acculturation items and the 38 retained enculturation items was conducted using Amos 7.0 (Arbuckle, 1995–2006) with data from the present sample of 232 participants. To examine if the items met the guidelines of
univariate and multivariate normality as outlined by Weston and Gore (2006), the skewness and kurtosis for each item and cases that had large Mahalanobis distances were examined. In terms of univariate normality, most of the data met guidelines for univariate normality except one acculturation item “I often speak English” which was found to have a negative skew (-3.44) and a positive kurtosis (11.66) above the absolute value of 3.0 and 10.0 cutoffs for skewness and kurtosis respectively (Weston & Gore, 2006). Nevertheless, this item was retained for CFA as its skewness and kurtosis may be a function of participants responding to the survey items in English; as well, the item content appeared conceptually relevant to retain. In terms of multivariate normality, cases with the largest Mahalanobis distances were examined to check against random responding. It was also found that the removal of the largest multivariate outlier within the acculturation and enculturation data had minimal impact on fit indices and parameter estimates. As such, all 232 participants in the CFA data sets were retained.

Following several recommendations outlined by Weston and Gore (2006) and Worthington and Whittaker (2006), the model fit was evaluated based on the significance and strength of estimated parameters, variance accounted for in endogenous observed and latent variables, and the extent to which the overall model fits the observed data as indicated by a range of fit indices such as Comparative Fit Index (CFI), Residual Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) values. Weston and Gore (2006) noted that criteria for acceptable fit have ranged from CFI ≥ .90, RMSEA ≤ .10 with a maximum upper bound of the 90% CI of .10, and SRMR ≤ .10 (e.g., Hu & Bentler, 1995; Browne & Cudek, 1993; Bentler, 1995) to a more stringent CFI ≥ .95, RMSEA ≤ .06 and SRMR ≤ .08 (e.g., Hu & Bentler, 1999; Quintana & Maxwell, 1999), and that the less stringent criteria should be used for samples smaller than 500 and for more complex models.
Additionally, modification indices were evaluated to inform further item removal decisions (Weston & Gore, 2006). Items with the largest modification indices suggested high overlap with other items and were reviewed for conceptual content redundancy with other items. Specifically, items that were conceptually redundant were considered for removal to optimize measure length. For instance, the item “Now, my friends are mainstream Americans” was removed because it overlapped with and had a lower factor loading (.63) than the item “My friends now are mainstream Americans” (.72). After these item removal decisions, there remained 22 acculturation (7 Language-related Behavior, 7 Cultural and Sociopolitical Knowledge, and 8 Pride and Cultural Group Association) and 18 enculturation (6 Language-related Behavior, 5 Cultural and Sociopolitical Knowledge, and 7 Pride and Cultural Group Association) items that met criteria for retention and yielded adequate model fit. The details of each of these final models for acculturation and enculturation items are described next.

**Acculturation Items**

The three-factor structure reflecting Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association was tested with acculturation items. Items were estimated to load onto their intended factors on the basis of Zhang and Moradi’s (2013) EFA findings, and the three factors were allowed to correlate. After the previously described iterative item eliminations following recommendations (Weston & Gore, 2006; Worthington & Whittaker, 2006), all the remaining items loaded significantly onto their intended factors; loadings for the Language-related Behavior factor ranged from .58 to .83, for the Cultural and Sociopolitical Knowledge factor ranged from .71 to .86, and for the Pride and Cultural Group Association factor ranged from .61 to .85. CFA of the final set of acculturation items suggested that this three-factor model met the less stringent criteria (Weston
& Gore, 2006) for acceptable fit to the data, $\chi^2 (206, N = 232) = 459.75, p < .001, CFI = .913,$ SRMR = .069, RMSEA = .073, 90% CI [.064, .082]. All items loaded significantly onto their intended factors; factor loadings and factor intercorrelations are presented in Table 3-1 and the model is presented in Figure 3-1.

**Enculturation Items**

The three-factor structure reflecting Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association was tested with enculturation items. Items were estimated to load onto their intended factors on the basis of Zhang and Moradi’s (2013) EFA findings, and the three factors were allowed to correlate. After the previously described iterative item eliminations following recommendations (Weston & Gore, 2006; Worthington & Whittaker, 2006), all the remaining items loaded significantly onto their intended factors; loadings for the Language-related Behavior factor ranged from .67 to .83, for the Cultural and Sociopolitical Knowledge factor ranged from .60 to .87, and for the Pride and Cultural Group Association factor ranged from .59 to .79. This model approximated but did not meet the less stringent criteria for acceptable model fit, $\chi^2 (132, N = 232) = 399.27, p < .001, CFI = .887,$ SRMR = .066, RMSEA = .094, 90% CI [.083, .104]. Examination of modification indices indicated large modification indices for the covariances between the uniquenesses of two pairs of items on the Language-related Behavior subscale, namely “I enjoy reading in the language of my heritage culture (e.g., books)” and “I often write in the language of my heritage culture (e.g., letters)”, and “I enjoy watching TV in the language of my heritage culture” and “I read and write well in the language of my heritage culture.” Covariances for each of these item pairs were estimated and fit indices were reexamined. CFA of the final set of enculturation items suggested that this three-factor model (with the two uniqueness covariances) provided acceptable
fit to the data, $\chi^2 (130, N = 232) = 328.16, p < .001, CFI = .916, SRMR = .063, RMSEA = .081, 90\% CI [.070, .092]. All items loaded significantly onto their intended factors; factor loadings and factor intercorrelations are presented in Table 3-2 and the model is presented in Figure 3-2.

Acculturation and enculturation full scale and subscale scores were computed based on these final models and used in reliability and validity analyses.

**Reliability**

Internal consistency reliability for the acculturation and enculturation full scale and subscale items was examined by computing Cronbach’s alphas. For the acculturation and enculturation full scale items, Cronbach’s alphas were .93 and .91 respectively. For the acculturation subscale items (i.e., Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association), Cronbach’s alphas ranged from .85 to .92; whereas for the enculturation subscale items, Cronbach’s alphas were .88 (see Table 3-3 for a report of all Cronbach’s alphas).

**Validity**

To evaluate validity evidence for the acculturation and enculturation full scale and subscale scores, zero-order and point-biserial correlations were computed with scores on the validity indicators. Effect sizes were interpreted as small ($r = |.10|$), medium ($r = |.30|$), and large ($r = |.50|$) following benchmarks summarized by Cohen (1992). Correlations are reported in Table 3-3.

In support of discriminant validity, acculturation and enculturation full scale and subscale scores was found to be generally uncorrelated with socially desirable responding as reflected by scores on the Impression Management subscale of the Balanced Inventory of Desirable Responding (IM-BIDR-6; Paulhus, 1991), with the exception of two significant correlations.
between IM-BIDR-6 scores and the Cultural and Sociopolitical Knowledge acculturation subscale scores ($r = .19, p < .05$) and the Language-related Behavior enculturation subscale scores ($r = -.15, p < .05$).

Evidence of discriminant validity was also deduced from acculturation and enculturation subscales’ distinctive correlations with concurrent criterion-related validity indicators. Specifically, in support of concurrent criterion-related validity, acculturation and enculturation full scale scores were found to be correlated significantly and positively with the corresponding scores on the VIA (Ryder et al., 2000). Specifically, it was found that acculturation full scale scores correlated significantly and positively with the VIA Mainstream subscale scores ($r = .58, p < .01$), whereas the enculturation full scale scores correlated significantly and positively with the VIA Heritage subscale scores ($r = .69, p < .01$).

Additionally, the posited distinctiveness of acculturation and enculturation dimensions (i.e., Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association) was supported by correlations between these subscale scores and corresponding constructs of participants’ use of English as their first language ($1 = \text{no}, 2 = \text{yes}$), ethnic identity, and bicultural self-efficacy (i.e., the belief that a person can effectively function in two cultural groups without compromising one’s cultural identity; LaFromboise et al., 1993). Specifically, Language-related Behavior enculturation subscale scores correlated significantly and negatively with participants’ use of English as their first language ($1 = \text{no}, 2 = \text{yes}$) ($r = -.22, p < .01$), whereas Language-related Behavior acculturation subscale scores correlated significantly and positively with participants’ use of English as their first language ($1 = \text{no}, 2 = \text{yes}$) ($r = .18, p < .05$) (Zhang & Moradi, 2013). Furthermore, Pride and Cultural Group Association enculturation subscale scores correlated significantly and positively with the ethnic
identity subscale scores of the MEIM (Phinney, 1992) \( (r = .69, p < .01) \), whereas Pride and Cultural Group Association acculturation subscale scores correlated significantly and positively with the MEIM Other-group orientation subscale scores \( (r = .36, p < .01) \). Finally, the Cultural and Sociopolitical Knowledge enculturation and acculturation subscales scores correlated significantly and positively with the Knowledge of Cultural Beliefs and Values subscale scores of the BSES (David et al., 2009) (enculturation: \( r = .44, p < .01 \); acculturation: \( r = .28, p < .01 \)). It should be noted that the strongest correlation with each criterion validity indicator was mostly with the intended subscale score. For instance, Language-related Behavior acculturation subscale scores were correlated significantly and positively with participants’ use of English as their first language \( (1 = \text{no}, 2 = \text{yes}) \) \( (r = .18, p < .05) \), but Pride and Cultural Group Association as well as Cultural and Sociopolitical Knowledge acculturation subscales scores were not correlated with participants’ use of English as their first language \( (1 = \text{no}, 2 = \text{yes}) \) \( (r = .09 \text{ and } .07, \text{n.s., respectively}) \). Similarly, Pride and Cultural Group Association enculturation subscale scores had a large correlation with the ethnic identity subscale scores of the MEIM \( (r = .69, p < .01) \), but Language-related Behavior as well as Cultural and Sociopolitical Knowledge enculturation subscale scores had small to medium correlations with the ethnic identity subscale scores of the MEIM \( (r = .23 \text{ and } .38, p < .01, \text{respectively}) \). The only exception was the correlation between MEIM Other-group orientation subscale scores and Language-related Behavior acculturation subscale scores \( (r = .46, p < .01) \) which was comparatively larger than the correlation between MEIM Other-group orientation subscale scores and the intended Cultural and Sociopolitical Knowledge acculturation subscale scores \( (r = .36, p < .01) \). Overall, these findings provided support for the distinctiveness of the acculturation and enculturation dimensions of Language-related Behavior, Pride and Cultural Group Association, and Cultural and Sociopolitical
Knowledge.

For exploratory purposes, correlations of the acculturation and enculturation subscale scores with AVS-R and EAVS-AA-R scores were examined to evaluate the replicability of Zhang and Moradi’s (2013) findings that behaviors, knowledge, and cultural identity are more closely related to one another than with values. Similar to Zhang and Moradi’s (2013) findings, while acculturation full scale and subscale scores were correlated positively with EAVS-AA-R scores, the effect sizes were small to medium ($r = |.17|\text{ to } |.33|$, $p < .05$). Moreover, while enculturation full scale score were correlated significantly and positively with the AVS-R scores ($r = .15$, $p < .05$), enculturation subscale scores were generally not correlated with AVS-R scores with the exception of significant positive correlation between Pride and Cultural Group Association subscale scores and AVS-R scores ($r = .14$, $p < .05$), and both of these effect sizes were small. As such, these findings were consistent with Zhang and Moradi’s (2013) findings that some orthogonality exists between behaviors, knowledge, and cultural identity on the one hand and values on the other hand.
Table 3-1. Confirmatory factor analysis of acculturation items

<table>
<thead>
<tr>
<th>Factors/ Items</th>
<th>Factor Loadings</th>
<th>Uniqueness</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language-related Behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I speak English well.</td>
<td>.58</td>
<td>.34</td>
<td>3.89</td>
<td>.31</td>
</tr>
<tr>
<td>I often write in English (e.g., letters).</td>
<td>.66</td>
<td>.44</td>
<td>3.81</td>
<td>.45</td>
</tr>
<tr>
<td>I enjoy speaking English.</td>
<td>.65</td>
<td>.42</td>
<td>3.73</td>
<td>.54</td>
</tr>
<tr>
<td>My thinking is often done in English.</td>
<td>.61</td>
<td>.38</td>
<td>3.70</td>
<td>.59</td>
</tr>
<tr>
<td>I feel comfortable speaking English.</td>
<td>.77</td>
<td>.59</td>
<td>3.78</td>
<td>.48</td>
</tr>
<tr>
<td>I enjoy reading in English (e.g., books).</td>
<td>.83</td>
<td>.69</td>
<td>3.76</td>
<td>.49</td>
</tr>
<tr>
<td>I enjoy watching TV in English.</td>
<td>.64</td>
<td>.40</td>
<td>3.64</td>
<td>.57</td>
</tr>
<tr>
<td><strong>Cultural and Sociopolitical Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know the history of mainstream Americans well.</td>
<td>.86</td>
<td>.74</td>
<td>3.20</td>
<td>.71</td>
</tr>
<tr>
<td>I know popular mainstream American newspapers and magazines well.</td>
<td>.71</td>
<td>.50</td>
<td>3.19</td>
<td>.75</td>
</tr>
<tr>
<td>I know mainstream American current affairs well.</td>
<td>.76</td>
<td>.58</td>
<td>3.22</td>
<td>.69</td>
</tr>
<tr>
<td>I know the national heroes of mainstream America well.</td>
<td>.80</td>
<td>.64</td>
<td>3.18</td>
<td>.73</td>
</tr>
<tr>
<td>I know mainstream American literature well.</td>
<td>.80</td>
<td>.64</td>
<td>3.09</td>
<td>.78</td>
</tr>
<tr>
<td>I know mainstream American social norms and customs well.</td>
<td>.83</td>
<td>.69</td>
<td>3.42</td>
<td>.65</td>
</tr>
<tr>
<td>I am knowledgeable about mainstream American culture and traditions.</td>
<td>.75</td>
<td>.57</td>
<td>3.45</td>
<td>.68</td>
</tr>
<tr>
<td><strong>Pride and Cultural Group Association</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to identify myself as mainstream American.</td>
<td>.77</td>
<td>.59</td>
<td>2.41</td>
<td>.82</td>
</tr>
<tr>
<td>I am proud to be a part of mainstream Americans.</td>
<td>.72</td>
<td>.52</td>
<td>2.72</td>
<td>.76</td>
</tr>
<tr>
<td>My friends now are mainstream Americans.</td>
<td>.65</td>
<td>.42</td>
<td>2.77</td>
<td>.79</td>
</tr>
<tr>
<td>I feel I have a lot in common with mainstream Americans.</td>
<td>.84</td>
<td>.70</td>
<td>2.71</td>
<td>.85</td>
</tr>
<tr>
<td>I like to interact and associate with mainstream Americans.</td>
<td>.68</td>
<td>.46</td>
<td>3.06</td>
<td>.73</td>
</tr>
<tr>
<td>I relate to my partner or spouse in a way that is similar to mainstream Americans.</td>
<td>.61</td>
<td>.37</td>
<td>2.71</td>
<td>.75</td>
</tr>
<tr>
<td>I identify with mainstream Americans.</td>
<td>.85</td>
<td>.73</td>
<td>2.70</td>
<td>.83</td>
</tr>
<tr>
<td>I feel connected with mainstream American culture.</td>
<td>.79</td>
<td>.62</td>
<td>2.99</td>
<td>.87</td>
</tr>
</tbody>
</table>

*Note. The latent variable correlations between Language-related Behavior and Cultural and Sociopolitical Knowledge, Language-related Behavior and Pride and Cultural Group Association, and Cultural and Sociopolitical Knowledge and Pride and Cultural Group Association were r = .58, r = .42, and r = .51, respectively. Fit indices for final model: CFI = .913, SRMR = .069, RMSEA = .073 [90% CI: .064, .082].*
Table 3-2. Confirmatory factor analysis of enculturation items

<table>
<thead>
<tr>
<th>Factors/ Items</th>
<th>Factor Loadings</th>
<th>Uniqueness</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language-related Behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy watching TV in the language of my heritage culture.</td>
<td>.67</td>
<td>.45</td>
<td>2.50</td>
<td>.95</td>
</tr>
<tr>
<td>I enjoy reading in the language of my heritage culture (e.g., books).</td>
<td>.72</td>
<td>.52</td>
<td>1.90</td>
<td>.84</td>
</tr>
<tr>
<td>I often write in the language of my heritage culture (e.g., letters).</td>
<td>.73</td>
<td>.53</td>
<td>1.63</td>
<td>.74</td>
</tr>
<tr>
<td>I speak the language of my heritage culture well.</td>
<td>.81</td>
<td>.65</td>
<td>2.59</td>
<td>1.02</td>
</tr>
<tr>
<td>My thinking is often done in the language of my heritage culture.</td>
<td>.69</td>
<td>.48</td>
<td>1.78</td>
<td>.82</td>
</tr>
<tr>
<td>I read and write well in the language of my heritage culture.</td>
<td>.83</td>
<td>.69</td>
<td>2.06</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>Cultural and Sociopolitical Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know history of my heritage cultural group well.</td>
<td>.77</td>
<td>.60</td>
<td>2.61</td>
<td>.90</td>
</tr>
<tr>
<td>I am knowledgeable about the culture and traditions of my heritage culture.</td>
<td>.60</td>
<td>.36</td>
<td>3.09</td>
<td>.67</td>
</tr>
<tr>
<td>I know current affairs of my heritage cultural group well.</td>
<td>.78</td>
<td>.61</td>
<td>2.39</td>
<td>.89</td>
</tr>
<tr>
<td>I know national heroes from my heritage cultural group well.</td>
<td>.87</td>
<td>.75</td>
<td>2.41</td>
<td>.92</td>
</tr>
<tr>
<td>I know political leaders from my heritage cultural group well.</td>
<td>.80</td>
<td>.64</td>
<td>2.17</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Pride and Cultural Group Association</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to interact and associate with people from the same heritage culture as myself.</td>
<td>.78</td>
<td>.61</td>
<td>3.14</td>
<td>.69</td>
</tr>
<tr>
<td>I am proud to be a part of my heritage cultural group.</td>
<td>.59</td>
<td>.35</td>
<td>3.53</td>
<td>.62</td>
</tr>
<tr>
<td>I often interact and associate with people from the same heritage culture as myself.</td>
<td>.73</td>
<td>.53</td>
<td>2.84</td>
<td>.85</td>
</tr>
<tr>
<td>I feel I have a lot in common with people from the same heritage culture as myself.</td>
<td>.79</td>
<td>.62</td>
<td>2.97</td>
<td>.79</td>
</tr>
<tr>
<td>I go to places where people are from the same heritage culture as myself.</td>
<td>.59</td>
<td>.35</td>
<td>2.79</td>
<td>.79</td>
</tr>
<tr>
<td>I identify with my heritage cultural group.</td>
<td>.78</td>
<td>.61</td>
<td>3.09</td>
<td>.71</td>
</tr>
<tr>
<td>I associate with my heritage cultural group.</td>
<td>.79</td>
<td>.62</td>
<td>3.25</td>
<td>.71</td>
</tr>
</tbody>
</table>

Note. The latent variable correlations between Language-related Behavior and Cultural and Sociopolitical Knowledge, Language-related Behavior and Pride and Cultural Group Association, and Cultural and Sociopolitical Knowledge and Pride and Cultural Group Association were \( r = .61 \), \( r = .44 \), and \( r = .53 \), respectively. Fit indices for final model: CFI = .916, SRMR = .063, RMSEA = .081 [90% CI: .070, .092].
### Table 3-3. Means, standard deviations, Cronbach’s alphas, and bivariate correlations for acculturation and enculturation full scale and subscale scores and criterion-related validity indicators

<table>
<thead>
<tr>
<th>Variable</th>
<th>(n_i)</th>
<th>(M)</th>
<th>(SD)</th>
<th>(\alpha)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acculturation (full)</td>
<td>22</td>
<td>3.23</td>
<td>0.43</td>
<td>.93</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. ACC-B</td>
<td>7</td>
<td>3.76</td>
<td>0.36</td>
<td>.85</td>
<td>.71</td>
<td></td>
<td></td>
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<tr>
<td>3. ACC-K</td>
<td>7</td>
<td>3.25</td>
<td>0.58</td>
<td>.92</td>
<td>.83</td>
<td>.53</td>
<td></td>
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<tr>
<td>4. ACC-Cl</td>
<td>8</td>
<td>2.76</td>
<td>0.62</td>
<td>.91</td>
<td>.85</td>
<td>.41</td>
<td>.49</td>
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<tr>
<td>5. Enculturation (full)</td>
<td>18</td>
<td>2.60</td>
<td>0.53</td>
<td>.91</td>
<td>-.42</td>
<td>-.25</td>
<td>-.33</td>
<td>-.39</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. ENC-B</td>
<td>6</td>
<td>2.07</td>
<td>0.72</td>
<td>.88</td>
<td>-.42</td>
<td>-.30</td>
<td>-.40</td>
<td>-.31</td>
<td>.83</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7. ENC-K</td>
<td>5</td>
<td>2.53</td>
<td>0.70</td>
<td>.88</td>
<td>-.35</td>
<td>-.23</td>
<td>-.23</td>
<td>-.36</td>
<td>.83</td>
<td>.57</td>
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<td></td>
</tr>
<tr>
<td>8. ENC-Cl</td>
<td>7</td>
<td>3.09</td>
<td>0.56</td>
<td>.88</td>
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<td>9. IM-BIDR-6^b</td>
<td>20</td>
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<td>0.83</td>
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<td>10. VIA-Mainstream^a</td>
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<td>1.08</td>
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<td>11. VIA-Heritage^a</td>
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<td>6.67</td>
<td>1.14</td>
<td>.85</td>
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<td>12. English as 1st language^c</td>
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<td>1.46</td>
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<td>.18</td>
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<td>13. MEIM-EI^d</td>
<td>12</td>
<td>3.11</td>
<td>0.51</td>
<td>.90</td>
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<td>14. MEIM-Other^e</td>
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<td>1.16</td>
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<td>16. AVS-R^b</td>
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<td>17. EAVS-AA-R^b</td>
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<td>.08</td>
<td>.17</td>
<td>.28</td>
<td>.22</td>
<td>-.43</td>
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</table>

**Note.** Sample size ranged from 185 to 232 due to missing data on some criterion-related validity indicators. \(n_i\) = Number of items that comprised each score; Enculturation (full) = Enculturation items that loaded in the three-factor structure; ENC-B = Language-related Behavior Enculturation; ENC-K = Cultural and Sociopolitical Knowledge Enculturation; ENC-Cl = Pride and Cultural Group Association Enculturation; Acculturation (full) = Acculturation items that loaded in the three-factor structure; ACC-B = Language-related Behavior Acculturation; ACC-K = Cultural and Sociopolitical Knowledge Acculturation; ACC-Cl = Pride and Cultural Group Association Acculturation; IM-BIDR-6 = Impression Management subscale of the Balanced Inventory of Desirable Responding; VIA = Vancouver Index of Acculturation; MEIM-EI = Multigroup Ethnic Identity Measure ethnic identity subscale; MEIM-Other = Multigroup Ethnic Identity Measure Other-group orientation subscale; BSES-K = Knowledge of Cultural Beliefs and Values domain of the Bicultural Self-Efficacy Scale; AVS-R = Asian Values Scale-Revised; EAVS-AA-R = European American Values Scale for Asian Americans-Revised; English as 1st language (1 = no, 2 = yes).

^a Convergent validity indicator. ^b Discriminant validity indicator. ^c Dichotomous variable (Point-biserial correlation coefficient reported). * \(p < .05\). ** \(p < .01\)

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Figure 3-1. Confirmatory factor analysis model for acculturation items
Figure 3-2. Confirmatory factor analysis model for enculturation items
The present study responds to calls for the development of a single bilinear multidimensional measure of Asian American acculturation and enculturation (Kim, 2007a; Kim & Abreu, 2001; Miller, 2007, 2010; Yoon et al., 2011) that is derived from the examination of items that assess different acculturation/enculturation dimensions in existing measures (Kim & Abreu, 2001). This research contributes to the growing literature on Asian American acculturation and enculturation by taking the next steps toward developing and psychometrically evaluating a bilinear multidimensional measure of Asian American acculturation and enculturation. The present findings from confirmatory factor analyses of data from Asian and Asian American individuals replicate and support a stable three-factor structure of Asian American acculturation/enculturation found by Zhang and Moradi (2013); reliability and validity analyses offer support for this refined structure. Together, these findings offer evidence of a bilinear multidimensional measure of Asian American acculturation and enculturation and prompt directions for future research.

**Bilinear Multidimensional Operationalization**

The present findings from confirmatory factor analyses support the replicability of the three-factor structure, derived by Zhang and Moradi (2013), reflecting Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association of Asian American acculturation and enculturation. Specifically, low or indistinctive loading items from Zhang and Moradi’s (2013) exploratory factor analyses findings were iteratively removed based on empirical and conceptual guidelines (Weston & Gore, 2006; Worthington & Whittaker, 2006) to optimize measure length while attaining adequate model fit. The outcome reflected 22 acculturation and 18 enculturation items that loaded significantly onto their intended factors.
where the final models met criteria for acceptable fit to the data (Weston & Gore, 2006). The correlations among the three acculturation factors (i.e., \( r = .58 \) between Language-related Behavior and Cultural and Sociopolitical Knowledge, \( r = .41 \) between Language-related Behavior and Pride and Cultural Group Association, and \( r = .51 \) between Cultural and Sociopolitical Knowledge and Pride and Cultural Group Association) and the correlations among the three enculturation factors (i.e., \( r = .61 \) between Language-related Behavior and Cultural and Sociopolitical Knowledge, \( r = .44 \) between Language-related Behavior and Pride and Cultural Group Association, and \( r = .53 \) between Cultural and Sociopolitical Knowledge and Pride and Cultural Group Association) reflect medium to large effect sizes, which are consistent with Zhang and Moradi’s (2013) findings of factor intercorrelations. These patterns of correlations from the present study suggest that these three acculturation/enculturation factors are moderately associated with each other and thus suggest support for the multidimensionality conceptualization within the acculturation/enculturation framework.

Reliability and validity evidence also support the three-factor structure and the utility of a multidimensional measure. Cronbach’s alphas for the acculturation full scale and subscale scores ranged from .85 to .93, and for the enculturation full scale and subscales scores ranged from .88 to .91, falling in the excellent range (i.e., Cronbach’s alpha \( \geq .85 \) for sample sizes between 100 to 300 and for each subscale to have 11 or less items) according to Ponterotto and Ruckdeshel’s (2007) matrix for interpreting Cronbach’s alpha. Discriminant validity was garnered by the finding that acculturation and enculturation full scale and subscale scores were generally not related to impression management, with the exception of Cultural and Sociopolitical Knowledge acculturation subscale scores and the Language-related Behavior enculturation subscale scores. Specifically, these exceptions indicated that individuals who reported more knowledge
acculturation (e.g., knowledgeable about mainstream American history, current affairs, social norms and customs, culture and traditions) and less language-related behavioral enculturation (e.g., spoke, wrote, read in Asian language, consumed Asian language media) were more likely to express socially desirable responses. Given that some of the items in the IM-BIDR-6 ask about adhering to the law (e.g., "I always obey laws, even if I'm unlikely to get caught," "I always declare everything at customs," and "I sometimes drive faster than the speed limit" which is a reverse-coded item) and about respecting other people (e.g., "I have said something bad about a friend behind his or her back" which is a reverse-coded item, "When I hear people talking privately, I avoid listening," and "I don't gossip about other people's business"), it is possible that Asian/Asian American participants who bear more knowledge about the social norms and cultures in the United States may be more prone to report conforming to socially and interpersonally acceptable ways of being (e.g., behave in a law-abiding manner, be respectful of others).

As well, discriminant validity was attained from the finding that acculturation and enculturation subscales correlated distinctively with concurrent criterion-related validity indicators such as participants’ use of English as their first language (yes or no), ethnic identity, and bicultural self-efficacy. Specifically, these concurrent criterion-related validity indicators yielded a pattern of stronger correlations with the intended acculturation and enculturation subscale scores. For instance, Language-related Behavior acculturation and enculturation subscale scores were both correlated significantly with participants’ use of English as their first language, but the other two subscale scores (i.e., Pride and Cultural Group Association, and Cultural and Sociopolitical Knowledge) were not correlated with this indicator. This finding supports and is consistent with the expectation of distinctiveness among the three acculturation
and enculturation dimensions of Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association. Concurrent criterion-related validity was also garnered by the finding that acculturation and enculturation full scale scores correlated significantly and positively with the respective subscales of the VIA (Ryder et al., 2000), a bilinear and unidimensional measure assessing orientation toward mainstream North American culture (or acculturation) as well as orientation toward one’s heritage culture (or enculturation). Taken together, these reliability and validity findings offer preliminary support for future use of these acculturation and enculturation full scales and subscales to assess Asian American individuals’ acculturation and/or enculturation as general processes (i.e., by using full scales) or as domain-specific processes (i.e., by using subscales independently).

Furthermore, consistent with findings from Zhang and Moradi (2013), values was found to be a correlated but separate construct from the three acculturation and enculturation dimensions. The magnitude of correlations between AVS-R scores and enculturation full scale and subscale scores ($r = .09$ to $.15$) and those between EAVS-AA-R scores and acculturation full scale and subscale scores ($r = .17$ to $.33$) were small to medium. These correlations of values with acculturation and enculturation dimensions were also generally smaller than the magnitude of correlations among the acculturation dimensions ($r = .41$ to $.53$) and among the enculturation dimensions ($r = .40$ to $.57$). These findings were consistent with Zhang and Moradi’s (2013) findings that behaviors, knowledge, and cultural identity are more closely aligned with one another than with values. These patterns of correlations raise questions that warrant further exploration regarding the distinctiveness of values from acculturation and enculturation processes for Asian and Asian American individuals. For instance, Zhang and Moradi (2013) broached the question of whether values are so distinctive from these acculturation and
enculturation dimensions so as to be conceptualized as correlated with but separate from the acculturation and enculturation framework. However, it should be noted that low internal consistency reliabilities with the EAVS-AA-R found in recent studies – where Cronbach’s alphas for EAVS-AA-R were found to range from .60 to .67 (Iwamoto & Liu, 2010; Kim & Omizo, 2005; Miller et al., 2011; Omizo & Kim, 2008; Park & Kim, 2008; Wang & Kim, 2010) – occurred in the present study as well; consistent with these low alphas, Cronbach’s alpha for the EAVS-AA-R in the present study was found to be low and deemed unsatisfactory at .65 (Ponterotto & Ruckdeshel, 2007). This internal consistency problem for the EAVS-AA-R reflects the need for further construct clarification and operationalization of the values domain before firm conclusions or interpretations are drawn with regards to the association (or distinctiveness) between values and the acculturation and enculturation dimensions.

**Limitations and Implications for Research and Practice**

The present findings should be interpreted in light of a number of limitations and directions for future research. First, while Internet recruitment allows for access to large numbers of potential participants, an age diverse sample, and variability in residence location (including locations with many Asian American communities or few Asian American persons), Internet samples limit participation to individuals who have computer and Internet access. Also, the majority of participants in the present study reported that they were college educated, financially comfortable or affluent, and exclusively or mostly heterosexual. Therefore, caution must be taken when generalizing the present findings to broader populations of Asian American individuals.

There are several other noteworthy considerations regarding the generalizability of the findings. Specifically, this survey was conducted in English and thus Asian and Asian American
individuals who were less comfortable with the use of English may not be well-represented in the current sample. Given that Language-related Behavior is one of the key dimensions of acculturation/enculturation assessed in existing measures, the language in which a research survey on acculturation is conducted in may be particularly salient as Asian individuals who may be less acculturated may be missed in the sampling. Also, while a broad number of Asian ethnic groups were represented in this study, the predominance of participants from East Asian (i.e., Chinese, Korean, Taiwanese, and Japanese) ethnicities may limit the generalizability of the findings across other Asian ethnic communities where large within-group variability exists. Similarly, it is important to consider inclusion of participants across various histories of immigration to the United States to capture the variability of their acculturation and enculturation processes (Chang et al., 2005; del Prado & Church, 2010). Overall, the demographic composition of the sample shapes the boundaries of generalizability for the present findings. Further research is needed to evaluate the stability and replicability of these findings with Asian and Asian American individuals of diverse socioeconomic, education, ethnic, sexual orientation, and other backgrounds.

Within the context of these limitations, the present findings can inform theory, research, and practice in a number of ways. With regard to theoretical and research advancements, the present factor analyses and full scale and subscale intercorrelations offer support for a single bilinear multidimensional measure of acculturation and enculturation for Asian American individuals with distinct subscales representing Language-related Behavior, Cultural and Sociopolitical Knowledge, and Pride and Cultural Group Association. Specifically, the correlation between acculturation and enculturation full scale scores was -.43, suggesting that the shared variance between these constructs is insufficient to represent opposite ends of a single
continuum (i.e., of a unilinear conceptualization). In addition, the magnitude of intercorrelations for acculturation subscales ($r = .41$ to $.53$) and those for enculturation subscales ($r = .40$ to $.57$) was stronger than the correlations across corresponding acculturation and enculturation subscales ($r = -.30$ for Language-related Behavior, $r = -.23$ for Cultural and Sociopolitical Knowledge, and $r = -.29$ for Pride and Cultural Group Association), therefore also supporting the bilinearity conceptualization for acculturation and enculturation.

Future research may explore the reliability and validity of this measure with Asian and Asian American individuals of previously highlighted diverse backgrounds, especially by further evaluating the relationships of the acculturation and enculturation subscales with various mental health correlates to examine concurrent criterion-related validity, as well as establishing measurement stability over time by assessing test-retest reliability. Additionally, further refinement of values measures, particularly in assessing Asian and Asian American individuals’ adoption of mainstream values in the United States, could help clarify whether the observed distinctiveness of the values domain from the acculturation and enculturation dimensions in the present study and in prior research (Miller, 2007, 2010; Miller et al., 2011; Zhang & Moradi, 2013) is indicative of methodological error that may limit the confidence of empirical findings (for instance, as reflected in the lower internal consistency estimate for the EAVS-AA-R scores in this study) or conceptually meaningful distinction that may prompt theoretical refinement about the dimensions of acculturation and enculturation for Asian and Asian American individuals.

Furthermore, the present findings reflected the overlap between conceptualizations of cultural identity and of ethnic identity within acculturation literature (Kim & Abreu, 2001) as evidenced by the large correlation between Pride and Cultural Group Association enculturation
subscale scores and the ethnic identity subscale scores of the MEIM ($r = .69, p < .01$); items in the ethnic identity subscale of the MEIM (e.g., “I am active in organizations or social groups that include mostly members of my own ethnic group”) seem to be similar to items in the Pride and Cultural Group Association enculturation subscale (e.g., “I often interact and associate with people from the same heritage culture as myself”). Nevertheless, this conceptual overlap presents a promising area in future research for two bodies of literature (acculturation/enculturation and ethnic identity) to inform each other in exploring and clarifying construct conceptualization and operationalization.

As Zhang and Moradi (2013) stated in their study, the development of a bilinear multidimensional measure of Asian American acculturation and enculturation can help practitioners understand the nuances across these different dimensions and in turn allow them to identify the salience of these acculturation and enculturation dimensions in their Asian and Asian American clients’ socio-cultural-political experiences of living in the United States. Furthermore, practitioners may tailor their therapy processes or intervention strategies to meet the psychological needs of their Asian and Asian American clients. For example, upon a client’s request, a therapist may still conduct bilingual counseling in English and in an Asian language of their client’s heritage culture (i.e., high language-related behavioral acculturation and enculturation) while understanding that the client’s bilingual proficiency may concurrently exist with the client’s high knowledge of American culture but not of one’s Asian heritage culture (i.e., high cultural and sociopolitical knowledge acculturation and low cultural and sociopolitical knowledge enculturation) and who primarily associates oneself with Asian American social groups and also enjoys hanging out with a few non-Asian American friends (i.e., high pride and cultural group association enculturation and acculturation). Ultimately, the present study
provides the first known empirical evidence for a bilinear multidimensional measure of Asian American acculturation and enculturation and thus represents an important advancement in the literature on acculturation theory and conceptualization. The development and psychometric evaluation of this measure can serve to advance our knowledge and understanding of the unique experiences of Asian/Asian American populations, the fastest growing racial group in the United States from 2000 to 2010 (U.S. Census Bureau, 2012). Such understanding, in turn, can inform the development of culturally-sensitive and empirically-based policy, prevention, and intervention strategies to better serve Asian/Asian American persons and communities.
APPENDIX A
ZHANG AND MORADI’S (2013) ACCULTURATION ITEMS

The following questionnaire contains statements about (a) heritage culture, heritage cultural group, and language of my heritage culture as well as (b) mainstream America or Americans.

By heritage culture and heritage cultural group, we are referring to your Asian culture-of-origin (e.g. Chinese, Indian, Indonesian, Turkish). By language of my heritage culture, we are referring to the Asian language spoken by you or your family (e.g., Mandarin, Hindi, Bahasa Indonesia, Turkish). If you come from a multicultural family, please choose the Asian culture you relate to the most.

By mainstream America or Americans, we are referring to the dominant culture or cultural group in the United States of America.

INSTRUCTIONS: Please use the scale below to indicate how much you agree with the following statements.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
<td>1</td>
<td>2</td>
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<td>4</td>
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1. I speak English well.
2. I understand English well.
3. I often speak English.
4. I often write in English (e.g., letters).
5. I read and write well in English.
6. I enjoy speaking English.
7. My thinking is often done in English.
8. I feel comfortable speaking English.
9. I enjoy reading in English (e.g., books).
10. I enjoy listening to English music.
11. I enjoy movies in English.
12. I enjoy watching TV in English.
13. I often listen to music or look at movies and magazines from mainstream America.
14. I like to identify myself as mainstream American.
15. I am proud to be a part of mainstream Americans.
16. Now, my friends are mainstream Americans.
17. I would prefer to live in a community made up of mainstream Americans.
18. My friends now are mainstream Americans.
19. I feel I have a lot in common with mainstream Americans.
20. I admire people who are mainstream Americans.
21. I like to interact and associate with mainstream Americans.
22. I am proud of mainstream American culture.
23. I relate to my partner or spouse in a way that is similar to mainstream Americans.
24. The people I date are mainstream Americans.
25. I identify with mainstream Americans.
26. I feel connected with mainstream American culture.
27. I often interact and associate with mainstream Americans.
28. I go to places where people are mainstream Americans.
29. My family often cooks foods from mainstream America.
30. I know the history of mainstream Americans well.
31. I know popular mainstream American newspapers and magazines well.
32. I know mainstream American current affairs well.
33. I know American political leaders well.
34. I know the national heroes of mainstream America well.
35. I know mainstream American literature well.
36. I know popular mainstream American actors and actresses well.
37. I know popular mainstream American television shows well.
38. I know holidays celebrated by mainstream Americans well.
39. I know mainstream American social norms and customs well.
40. I am knowledgeable about the history of mainstream Americans.
41. I am knowledgeable about mainstream American culture and traditions.
APPENDIX B
ZHANG AND MORADI’S (2013) ENCULTURATION ITEMS

The following questionnaire contains statements about (a) heritages and cultures, and language of my heritage culture as well as (b) mainstream America or Americans.

By heritages, we are referring to your Asian culture-of-origin (e.g., Chinese, Indian, Indonesian, Turkish). By language of my heritage culture, we are referring to the Asian language spoken by you or your family (e.g., Mandarin, Hindi, Bahasa Indonesia, Turkish). If you come from a multicultural family, please choose the Asian culture you relate to the most.

By mainstream America or Americans, we are referring to the dominant culture or cultural group in the United States of America.

INSTRUCTIONS: Please use the scale below to indicate how much you agree with the following statements.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

1. I enjoy watching TV in the language of my heritage culture.
2. I enjoy reading in the language of my heritage culture (e.g., books).
3. I often listen to music or look at movies and magazines from my heritage culture.
4. I enjoy listening to music in the language of my heritage culture.
5. I often write in the language of my heritage culture (e.g., letters).
6. I speak the language of my heritage culture well.
7. I often speak the language of my heritage culture.
8. My thinking is often done in the language of my heritage culture.
9. I enjoy speaking the language of my heritage culture.
10. I know popular television shows in the language of my heritage culture well.
11. I enjoy movies in the language of my heritage culture.
12. I read and write well in the language of my heritage culture.
13. I feel comfortable speaking the language of my heritage culture.
14. I know popular newspapers and magazines in the language of my heritage culture well.
15. I understand the language of my heritage culture well.
16. I know popular actors and actresses from my heritage cultural group well.
17. When I was a child, my friends were from the same heritage culture as myself.
18. My friends, while I was growing up, were from the same heritage culture as myself.
19. I know history of my heritage cultural group well.
20. I am knowledgeable about the culture and traditions of my heritage culture.
21. I am knowledgeable about the history of my heritage cultural group.
22. I know social norms and customs of my heritage cultural group well.
23. I know current affairs of my heritage cultural group well.
24. I know holidays celebrated by my heritage cultural group well.
25. I know national heroes from my heritage cultural group well.
26. I know political leaders from my heritage cultural group well.
27. I often practice the traditions and keep the holidays of my heritage cultural group.
28. I like to interact and associate with people from the same heritage culture as myself.
29. I am proud to be a part of my heritage cultural group.
30. I often interact and associate with people from the same heritage culture as myself.
31. I feel I have a lot in common with people from the same heritage culture as myself.
32. I go to places where people are from the same heritage culture as myself.
33. I am proud of my heritage culture.
34. I associate with my heritage cultural group.
35. I identify with my heritage cultural group.
36. My heritage culture has had a positive impact on my life.
37. My friends now are from the same heritage culture as myself.
38. I would prefer to live in a community made up of people from the same heritage culture as myself.
APPENDIX C
VANCOUVER INDEX OF ACCULTURATION

Many of these questions will refer to your *heritage culture*. By *heritage culture*, we are referring to your Asian culture-of-origin (e.g. Japanese, Chinese, Vietnamese).

INSTRUCTIONS: Please answer each question as carefully as possible by using the scale to indicate your degree of agreement or disagreement.

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

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

INSTRUCTIONS: Please fill in: In terms of ethnic group, I consider myself to be ___________.

Use the scale below to indicate how much you agree or disagree with each statement.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I like meeting and getting to know people from ethnic groups other than my own.
5. I think a lot about how my life will be affected by my ethnic group membership.
6. I am happy that I am a member of the group I belong to.
7. I sometimes feel it would be better if different ethnic groups didn’t try to mix together.
8. I often spend time with people from ethnic groups other than my own.
9. I have a strong sense of belonging to my own ethnic group.
10. I understand pretty well what my ethnic group membership means to me.
11. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.
12. I have a lot of pride in my ethnic group.
13. I don’t try to become friends with people from other ethnic groups.
14. I participate in cultural practices of my own group, such as special food, music, or customs.
15. I am involved in activities with people from other ethnic groups.
16. I feel a strong attachment towards my own ethnic group.
17. I enjoy being around people from other ethnic groups other than my own.
18. I feel good about my cultural or ethnic background.
APPENDIX E
BICULTURAL SELF-EFFICACY SCALE

INSTRUCTIONS: Please answer each statement as carefully as possible. Please use the scale to indicate your degree of agreement or disagreement.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I can count on both mainstream Americans and people from the same heritage culture as myself.
2. I can communicate my ideas effectively to both mainstream Americans and people from the same heritage culture as myself.
3. I have generally positive feelings about both my heritage culture and mainstream American culture.
4. I am knowledgeable about the history of both mainstream America and my heritage cultural group.
5. I can develop new relationships with both mainstream Americans as well as people from the same heritage culture as myself.
6. It is acceptable for an individual from my heritage culture to participate in two different cultures.
7. I can communicate my feelings effectively to both mainstream Americans and people from the same heritage culture as myself.
8. I am knowledgeable about the values important to mainstream American as well as to my heritage cultural group.
9. 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.
10. An individual can alter his or her behavior to fit a particular social context.
11. I have a generally positive attitude toward both mainstream Americans and my heritage cultural group.
12. It is acceptable for a mainstream American individual to participate in two different cultures.
13. I have strong ties with mainstream Americans as well as people from the same heritage culture as myself.
14. I am proficient in both standard English and the language of my heritage culture.
15. I can choose the degree and manner by which I affiliate with each culture.
16. I am knowledgeable about the gender roles and expectations of both mainstream Americans and my heritage cultural group.
17. I feel at ease around both mainstream Americans and people from the same heritage culture as myself.
18. I have respect for both mainstream American culture and my heritage culture.
19. Being bicultural does not mean I have to compromise my sense of cultural identity.
20. I can switch easily between standard English and the language of my heritage culture.
21. I have an extensive network of mainstream Americans as well as an extensive network of people from the same heritage culture as myself.
22. I take pride in both the mainstream American culture and my heritage culture.
23. I am confident that I can learn new aspects of both the mainstream American culture and my heritage culture.
24. It is possible for an individual to have a sense of belonging in two cultures without compromising his or her sense of cultural identity.
25. I am knowledgeable about the holidays celebrated both by mainstream Americans and by my heritage cultural group.
26. I feel like I fit in when I am with mainstream Americans as well as people from the same heritage culture as myself.
APPENDIX F
IMPRESSION MANAGEMENT SUBSCALE OF THE BALANCED INVENTORY OF DESIRABLE RESPONDING

INSTRUCTIONS: Using the scale below as a guide, indicate how much you agree with each statement.

<table>
<thead>
<tr>
<th>Not True</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Somewhat True</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very True</th>
<th>7</th>
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</thead>
</table>
1. I sometimes tell lies if I have to.  
2. I never cover up my mistakes.  
3. There have been occasions when I have taken advantage of someone.  
4. I never swear.  
5. I sometimes try to get even rather than forgive and forget.  
6. I always obey laws, even if I’m unlikely to get caught.  
7. I have said something bad about a friend behind his or her back.  
8. When I hear people talking privately, I avoid listening.  
9. I have received too much change from a salesperson without telling him or her.  
10. I always declare everything at customs.  
11. When I was young I sometimes stole things.  
12. I have never dropped litter on the street.  
13. I sometimes drive faster than the speed limit.  
14. I never read sexy books or magazines.  
15. I have done things that I don’t tell other people about.  
16. I never take things that don’t belong to me.  
17. I have taken sick-leave from work or school even though I wasn’t really sick.  
18. I have never damaged a library book or store merchandise without reporting it.  
19. I have some pretty awful habits.  
20. I don’t gossip about other people’s business.
APPENDIX G

ASIAN VALUES SCALE-REVISED

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

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

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

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tr>
<td>4</td>
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<td>2</td>
<td>1</td>
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</table>

1. I think it is fine for an unmarried woman to have a child.
2. Sometimes, it is necessary for the government to stifle individual development.
3. You can do anything you put your mind to.
4. Single women should not have children and raise them alone.
5. I prefer not to take on responsibility unless I must.
6. I do not like to serve as a model for others.
7. It is OK if work interferes with the rest of my life.
8. It is OK to allow others to restrict one's sexual freedom.
9. No one is entitled to complete sexual freedom without restriction.
10. A woman should not have a child unless she is in a long term relationship.
11. I follow my supervisor's instructions even when I do not agree with them.
12. The world would be a better place if each individual could maximize his or her development.
13. Partners do not need to have similar values in order to have a successful marriage.
14. I cannot approve of abortion just because the mother's health is at risk.
15. It is OK for a woman to have a child without being in a permanent relationship.
16. Friends are very important.
17. Faithfulness is very important for a successful marriage.
18. Monetary compensation is not very important for a job.
19. A student does not always need to follow the teacher's instructions.
20. Luck determines the course of one's life.
21. Cheating on one's partner doesn't make a marriage unsuccessful.
22. Greater emphasis on individual development is not a good thing.
23. I have always enjoyed serving as a model for others.
24. Being humble is better than expressing feelings of pride.
25. Faithfulness is not important for a successful marriage.
APPENDIX I
DEMOGRAPHIC QUESTIONNAIRE

INSTRUCTIONS: Please tell us a little about yourself. This information will be used only to describe the sample as a group.

1. What is your age? Age: ____________

2. What is your ethnic background?
   a. Cambodian
   b. Chinese
   c. Filipino
   d. Hmong
   e. Indian
   f. Japanese
   g. Korean
   h. Laotian
   i. Malaysian
   j. Pakistani
   k. Taiwanese
   l. Thai
   m. Vietnamese
   n. Pacific Islander (please specify): _____________________
   o. More than one ethnic/racial background (please specify): _____________________
   p. Other (please specify): _____________________

3. How would you identify your gender?
   a. Man
   b. Woman
   c. Transgender (Male to Female)
   d. Transgender (Female to Male)
   e. Gender queer
   f. Other (please describe): _________________

4. What is your generational status?
   a. 1st generation (I was NOT born in the U.S.)
   b. 1st generation-Adoptee (I was NOT born in the U.S. AND I was adopted)
   c. 1.5 generation (I was NOT born in the U.S., but was predominantly raised there since I was a child)
   d. 2nd generation (I WAS born in the U.S., and at least one parent was not)
   e. 3rd generation (Both myself and parents were born in the U.S., but at least one grandparent was not)
   f. 4th generation (Myself, both parents, & all grandparents were born in the U.S.)
   g. 5th generation and beyond (Myself, both parents, all grandparents, and all great-grandparents were born in the U.S.)

5. Were you born in the U.S.?
a. Yes
b. No, please specify the country you were born in: _______________

6. How long have you lived in the U.S.?:
   a. _____ years and ____ months
   b. I was born in the U.S.

7. Is English your first language?
   a. Yes
   b. No, please specify your first language:
      1) Cantonese
      2) Chinese/Mandarin Chinese
      3) Hmong
      4) Japanese
      5) Khmer
      6) Korean
      7) Nepali
      8) Tagalog
      9) Taiwanese
      10) Tamil
      11) Thai
      12) Vietnamese
      13) Other (please specify) ____________________________

8. With what language(s) are you fluent? [multiple selection possible]
   a. Cantonese
   b. Chinese/Mandarin Chinese
   c. Hmong
   d. Japanese
   e. Khmer
   f. Korean
   g. Nepali
   h. Tagalog
   i. Taiwanese
   j. Tamil
   k. Thai
   l. Vietnamese
   m. Other (please specify) ____________________________

9. What is the highest professional education/degree you have completed:
   a. Elementary school
   b. Middle/Junior high school
   c. High school
   d. Some college/technical school
   e. College
   f. Some professional/graduate school
10. How long were you formally educated in the U.S.? _____ years and _____ months

11. Are you currently a full-time student?
   a. I am currently not a student
   b. I am currently an undergraduate college student: Please indicate what year you are in:
      1) 1st year
      2) 2nd year
      3) 3rd year
      4) 4th year
      5) 5th year or more
   c. I am currently a graduate/professional student: Please indicate what degree you are pursuing:
      1) Master’s degree (e.g., MS, MA, MEd, MBA)
      2) Doctoral degree (Ph.D. only)
      3) Professional degree (e.g., JD, MD, PharmD)

12. If you are a student, what is your academic major or professional field?
   a. ___________________ (please specify academic major or professional field)
   b. I am not a student.

13. What is your employment status:
   a. Employed full time
   b. Employed part time
   c. Not employed

14. Which do you think best describes your family’s financial status?
   a. We could never make ends meet and were always short of money.
   b. Quite often, we could not make ends meet and were short of money.
   c. Sometimes, we were able to make ends meet and had enough money.
   d. Most of the time, we could make ends meet and had enough money.
   e. We could always make ends meet and had enough money

15. Are you financially independent of the family in which you grew up?
   a. Yes
   b. No

16. What is your annual household income (the combined income of people (including yourself) who are currently responsible for you financially):

<table>
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<tr>
<th>Income Range</th>
<th></th>
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<tbody>
<tr>
<td>Below $10,000</td>
<td>$100,001 to $110,000</td>
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<tr>
<td>$10,001 to $20,000</td>
<td>$110,001 to $120,000</td>
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<tr>
<td>$20,001 to $30,000</td>
<td>$120,001 to $130,000</td>
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<td>$30,001 to $40,000</td>
<td>$130,001 to $140,000</td>
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<tr>
<td>$40,001 to $50,000</td>
<td>$140,001 to $150,000</td>
</tr>
<tr>
<td>Income Range</td>
<td>$50,001 to $60,000</td>
</tr>
<tr>
<td>------------------</td>
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</table>

17. How would you identify your sexual orientation? (please check the one best descriptor)
   a. Exclusively lesbian or gay
   b. Mostly lesbian or gay
   c. Bisexual
   d. Mostly Heterosexual
   e. Exclusively Heterosexual
   f. Asexual
   g. Other. Please describe: ________________

18. What is your relationship status?
   a. Single
   b. Dating
   c. Married/Committed relationship
   d. Divorced/Separated

19. Finally, we would like to obtain information regarding the geographic location of our sample. This information will remain confidential. Please fill in the state and city in the UNITED STATES where you currently reside below:

   State: ________________ City: ________________
LIST OF REFERENCES


Kim, B. S. K., & Omizo, M. M. (2006). Behavioral acculturation and enculturation and

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BIOGRAPHICAL SKETCH

Shengying Zhang was born and raised in Singapore. She graduated with a Bachelor of Arts in psychology from the National University of Singapore in 2004, and received a Master of Education in counseling psychology from the University of Missouri-Columbia in 2007. She received her Doctor of Philosophy in counseling psychology from the University of Florida in the summer of 2013 and will subsequently begin a postdoctoral fellowship at the University of Delaware Center for Counseling and Student Development.