

**Developing a Multidimensional Instrument
to Measure Culture Brokering**

BY

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THESIS

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This thesis is dedicated, first and foremost to my family -- my husband, **Jesus Villanueva**, daughter **Lotus Olivia Villanueva**, mother, **Asdeghik Sorani**, late father, **Robert Sorani**, brother **Sako Sorani**, and aunts **Arev Taroyan** and **Anahid David** -- without whose continuous support and unwavering faith in me, it would never have been accomplished.

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LIST OF ABBREVIATIONS

BCB	Buchanan's (2001) Culture Broker Measure
CB	Culture Broker(ing)
CBI	Culture Broker Instrument
CFA	Confirmatory Factor Analysis
CG	Cultural Guide
CI	Cognitive Interview(s)
FC	Family Consultant
FDM	Family Decision Maker
FG	Focus Group(s)
FTM	Family Task Manager
LIB	Language, Identity, and Behavior Scale
TI	Translator/Interpreter
UIC	University of Illinois at Chicago
US	United States

SUMMARY

Migration from country to country has significantly increased over the past 25 years across the world (Beckerman & Corbett, 2008). During this transition, researchers assert that immigrants experience *acculturation*, the process of cultural and psychological change resulting from immigrants' interactions with the residents, norms, laws, and institutions of the host country (Berry, 2006; Birman & Trickett, 2001). The process of acculturation can be complex, stressful, and overwhelming for immigrant families (Rumbaut, 1994). As such, immigrant parents ask their children to assist them with the acculturation process, taking on a role that has been referred to as *culture brokering*. Researchers have conceptualized and measured the culture brokering in various ways. However, the current conceptualizations and measurements have not captured the full range of activities in which culture brokers engage. The present study aimed to first expand upon the definition of the culture brokering construct to include four domains: Translator/Interpreter, Cultural Guide, Family Task Manager, and Family Consultant. Given this broadened re-conceptualization, a new measure which included items fully reflecting the culture brokering construct was needed. The subsequent aim of this study was to develop and validate a culture brokering instrument that measures the degree to which children serve as translators, guides, task managers, and consultants as part of their family's acculturation process. Focus groups, cognitive interviews, and analyses of reliability and validity of the refined culture brokering instrument were conducted. Following, tests of discriminant, convergent, and predictive validity were performed, and a final version of the multidimensional culture brokering instrument is presented.

Keywords: Acculturation, culture brokering, measurement development

I. INTRODUCTION

Developing a Multidimensional Instrument to Measure Culture Brokering

Migration from country to country has significantly increased over the past 25 years across the world (Beckerman & Corbett, 2008). Immigrants leave their native country for several reasons. Researchers have categorized these reasons in two ways: *push factors* and *pull factors*. *Push factors* are those that lead individuals to leave their country of origin to avoid negative experiences, such as religious or political persecution, war, or natural disasters (Berry, 1992). *Pull factors*, on the other hand, are those reasons that lead individuals to leave in search of a positive experience, such as better education and more economic opportunities (Berry, 1992). During this transition, researchers assert that immigrants experience *acculturation*, the process of cultural and psychological change because of immigrants' interactions with the residents, norms, laws, and institutions of the host country (Berry, 2006; Birman & Trickett, 2001).

Acculturation occurs at both the group and individual levels. Acculturation at the group level, also known as *cultural acculturation*, "involves changes in social structures and institutions and cultural practices," which include those that occur in the economic, technological, social, cultural, and political domains (Redfield, Linton, & Herskovits, 1936). At the individual level, also known as *psychological acculturation* (Graves, 1967), acculturation "involves changes in a person's behavioral repertoire," (Berry, 2005, p. 698-700), which consist of changes in identity, language, behaviors, and values of the host country, and learning how to navigate its systems and institutions, such as schools and government agencies. Birman and Trickett (2001) expanded on this conceptualization of acculturation by applying an orthogonal and multidimensional conceptual framework to the construct. In doing so, they conceptualized acculturation in terms of cultural acculturation and psychological acculturation along three dimensions for both the host country and the native country: language, identity, and behavior (Birman & Trickett, 2001).

The process of acculturation can be complex, stressful, overwhelming, and context-specific for immigrant families (Rumbaut, 1994). As such, immigrant parents ask their children to assist them with the acculturation process, often in situations that are complicated or not age-appropriate (McQuillan & Tse, 1995; Tse, 1995; Valenzuela, 1999). As part of the acculturation process, parents may acquire some English skills and learn to navigate the systems of the host country. However, they might also rely on others, including their children, to assist them in their understanding of the new culture (Valdes, 2003).

Children often take on the culture broker (CB) role¹ from a very young age, usually when they are eight or nine years old, or between one to five years after arriving to the United States (McQuillan & Tse, 1995; Tse, 1995). Brokering usually begins when children can read and write because they learn the language, behaviors, and norms of the host country more quickly than do adults (Liebkind, 1996) -- skills that are recognized by parents, who in turn, call on their children to assist them (Jones & Trickett, 2005; McQuillan & Tse, 1995; Suárez-Orozco & Suárez-Orozco, 2001). The differences in acculturation between children and their parents has been referred to as an *acculturation gap* (Birman, 2006). Additionally, the designated culture broker is typically the eldest child, or daughter (Chao, 2011; Morales & Hanson, 2005; Sorani-Villanueva, *unpublished manuscript*). Furthermore, while parents may ask their children to broker for relatives or other individuals within their cultural group, culture brokering remains an immediate family affair (Sorani-Villanueva, *unpublished manuscript*, Tse, 1995).

Research has also demonstrated that the culture broker role persists and evolves after the children become adults themselves (Sorani-Villanueva, *unpublished manuscript*). This change in the brokering activities may be a function of three factors: 1) the developmental level or age of the

¹ The term culture brokering is used throughout this paper to refer to the activities in which children of immigrant parents engage to assist their family with the acculturation process.

child; 2) the acculturation level or length of time parents have lived in the host country; and 3) whether the family resides in an ethnic enclave (Schwartz, Unger, Zamboanga, & Sczapocznik, 2010).

Culture brokering occurs for most immigrant groups to varying degrees. In their literature review, Morales and Hanson (2005) concluded that brokering is “widely accepted among immigrant communities” (p. 472). Researchers in education, sociology, anthropology, and psychology have studied the phenomenon since the 1970s and have conceptualized, labeled, and measured it differently across these studies (e.g., Buchanan, 2001; Tse, 1995). Additionally, researchers have applied multiple methodologies, among various age and cultural groups, and across geographic locations (e.g., Dorner, Orellana, & Jimenez, 2008; Jones & Trickett, 2005) to understand various aspects of the culture brokering phenomenon. For example, previous research has found a relationship between culture brokering and parents’ acculturation (Birman & Trickett, 2001; Jones & Trickett, 2005; Trickett & Jones, 2007), academic performance (Buriel et al., 1998), psychosocial factors (Weisskirch 2005, 2006), and family relations (e.g., Hua & Costigan, 2012; Orellana et al., 2003; Titzmann, 2012).

II. REVIEW OF THE LITERATURE

Culture Brokering – Overview

In the acculturation literature from the United States, the terms *language brokering* or *culture brokering* are often used to describe one of the ways in which children assist their immigrant parents in their acculturation process. Language brokering refers to the linguistic translation and interpretation activities in which children and adolescents engage to assist their parents (McQuillan & Tse, 1995). Culture brokering, on the other hand, refers not only to the linguistic translation and interpretation activities, but also encompasses how children help their parents learn to navigate the systems and institutions of the host country, which may be different in different settings (DeMent & Buriel, 1999; Trickett, et al., 2010), and may involve the process of explaining how to navigate various systems of the host country, such as schools, government, medical, and financial institutions (Orellana, Dorner, & Pulido, 2003).

Culture brokering varies widely in terms of activity content, where it occurs, and to what extent children assist their parents, ranging from showing parents how to do something, or reading a document, or doing an activity for their parents. According to the empirical literature, children and adolescent culture brokers report that their family members ask for help with reading and translating documents, filling out forms/applications, and answering phone calls or doors (McQuillan & Tse, 1995). Children also report accompanying their parents to interpret or translate for them what teachers, doctors, government officials, store clerks, social service workers, and others communicate (McQuillan & Tse, 1995). At times, children culture brokers may even help their parents figure out how to accomplish certain tasks; examples are figuring out where to go to fill out a job application, what information is needed to pay a bill or schedule a doctor's appointment, or what steps are necessary to request a parent-teacher conference at school (Trickett et al., 2010).

Culture Brokering and Family Dynamics

Culture brokering entails interactions between parents and their children; parents request assistance and their children engage in various activities to provide that assistance. Because culture brokering is an interactive process that often includes several family members, there is an inevitable effect on family dynamics. Family dynamics refer to how children and parents interact with one another, as well as who has authority, influence, and decision-making power for the family, which may be counter-intuitive for many cultural groups where there is a rigid family hierarchy with parents at the top and children subservient to their parents. Researchers who examine the empirical relationship between culture brokering and family dynamics, have conceptualized and labeled the family dynamics construct in several ways, including *role reversal*, *adultification*, *parentification*, *parent-child conflict*, *parent-child bonding*, *family conflict*, *family disagreements*, and *filial responsibility*, (e.g., Buriel et al., 2006; Dorner et al., 2008; Kam, 2011).

More specifically, researchers conceptualize the relationship of brokering and family dynamics in one of two ways. One perspective, argues that parents' reliance on their children to broker, due in part to an acculturative gap (Birman, 2006), leads to a disruption in family dynamics, particularly with respect to issues of power between parents and children. According to this perspective, culture brokering is detrimental to the parent-child relationship; parental authority is undermined when children help parents with tasks that they are otherwise responsible for, such as making decisions on behalf of the family, or controlling what information they share or withhold from their parents (Buriel et al., 1998; Kaur & Mills, 1993; Martinez et al., 2009; Tse, 1995; Weisskirch, 2007). In turn, researchers conclude that children may feel burdened or annoyed by their brokering role, which may lead to tensions or resentment toward their parents (Chao, 2006). Conceptualizations of family dynamics that reflected this point of view include constructs as *role reversal* (e.g., Oznobishin & Kurman, 2009; Titzmann, 2012), *parentification* (e.g., Kam, 2011;

Ponizovsky et al., 2012), *adultification* (Puig, 2002), *parent-child conflict* (Hua & Costigan, 2012), *family conflict* (Jones & Trickett, 2005) or *family disagreements* (Jones et al., 2012).

The other perspective views the culture broker role as a normative part of immigrant family life and one of many ways in which immigrant youth contribute to their families (e.g., Orellana et al., 2003), much in the same way as taking out the trash or doing other daily chores (Dorner et al., 2008). Parents are also actively engaged in these interactions, because when culture brokers make decisions on behalf of their family, they do so in collaboration with their parents (Orellana et al., 2003). Additionally, brokering may promote a positive relationship between parents and their children (DeMent & Buriel, 1999; Love & Buriel, 2007). Conceptualizations of family dynamics on this end of the continuum include *parent-child bonding* (Buriel et al., 2006), *family relations* (Bucaria & Rossato, 2010), *familismo* (Corona et al., 2011), and *filial responsibility* (Ponizovsky et al., 2013).

As a result, however, there are mixed findings with respect to the relationship of family dynamics and culture brokering. Specifically, some studies found evidence for a disruption in family dynamics in the form of role reversal or parentification of the child (e.g., Kam, 2011; Titzmann, 2012), whereas other studies did not find evidence for this shift in family dynamics. In fact, some studies found a positive relationship between brokering and family dynamics (Buriel, et al., 2006; Love & Buriel, 2007). Additionally, the diverse ways in which researchers conceptualize and measure family dynamics provides support for the notion that brokering might have different effects on different aspects of the parent-child relationship.

Putting the Culture in Culture Brokering

As suggested in the term, culture brokering is influenced by and revolves around culture: the culture of the family's country of origin and the culture of those from the host country. Yet, the extant literature has often failed to incorporate the culture of immigrant groups when studying

the culture broker phenomenon. Cultural values of immigrants play an important role in the decisions made about who is selected to broker and whether this selection depends on the kinds of activities involved. The culture broker phenomenon is rooted in gender socialization practices of some cultures (e.g., Latinos) (Buriel et al., 1998; Love & Buriel, 2007; Love, et al, 2005). For example, the decision about who is selected to serve as the culture broker; that is, the older or younger child, the son or daughter, and which child (if there are multiple children in a family), may be influenced by cultural values. Beliefs about traditional gender roles may lead mothers to treat the culture brokers differently than fathers or female culture brokers may be treated differently than male culture brokers by both parents (DeMent et al., 2005). For example, Chao (2002) as well as Love and Buriel (2007) found that Mexican American parents are more likely to choose their daughters to serve as the culture broker, a decision that may be influenced by cultural beliefs about traditional gender roles. However, literature on this issue is very limited in terms of scope and cultural groups involved.

Second, cultural considerations may influence whether or how some domains are more appropriate than others for children to culture broker. For example, a parent-teacher conference or a mechanic shop may be an appropriate context for a male culture broker, but the doctor's office, especially for the mother, may be a more appropriate context for a female culture broker.

Culture Brokering Evolving over Time

Whether or how culture brokering changes over time, has received relatively little attention in the culture brokering literature. The paucity in this area of the literature may be due to the suggestion that the longer that parents have lived in a country, the more acculturated they will be, and in turn, will rely less on their children to culture broker for them (Orellana et al., 2003). On the other hand, length of time lived in a country is not a sufficient indicator or a proxy for acculturation, particularly if immigrants are living in ethnic enclaves, or are accustomed to the

culture brokering help they receive from their children (Berry, 2001; Trickett, Persky & Espino, 2009; Valdes et al., 2003).

Furthermore, cultural norms about family commitment and obligations may contribute to the ongoing culture broker role for some immigrant families. For example, Dorner and colleagues (2008) asked such questions of their Mexican-American adolescent participants, to understand the ways in which brokering changed over time. Sorani-Villanueva (*unpublished manuscript*) also found that culture-brokering activities might differ when the parent has first immigrated to the United States and the children are young, compared to the culture-brokering activities when parents have lived in the country much longer and the children are old enough and capable of understanding more complex language and situations. In fact, these participants reported that culture brokering never stops, despite the age of the culture broker, where the culture broker lives, if they have a family of their own, and/or how many years the parents have lived in the United States (Sorani-Villanueva, *unpublished manuscript*). The continued juggling of brokering for their parents and trying to lead their own individual lives as adults, led to feelings of frustration and possible added stress, particularly if these adult children were in school, worked full time jobs, or had families of their own, all of which may be outcomes to explore for adult culture brokers.

Current Conceptualizations of Language/Culture Brokering

As previously mentioned, researchers typically conceptualize brokering in one of two ways, but apply multiple labels to the phenomenon, including *natural translator* (Harris & Sherwood, 1978), *paraphraser* (Orellana, Dorner & Pulido, 2003), *language broker* (Tse, 1995), and *culture broker* (Buchanan, 2001). One way that brokering is conceptualized is as translating and interpreting between linguistically and culturally different groups (Tse, 1995) and is often associated with the *language broker* label. The second conceptualization includes not only linguistic translation and interpretation activities, but also encompasses how children may serve

as mediators and educators (Valenzuela, 1999) who help parents understand processes such as how to apply for jobs or U.S. citizenship, and how to navigate various systems of the host country, such as schools, government, medical, and financial institutions (Jones & Trickett, 2005). This is often associated with the *culture broker* label.

How Language/Culture Brokering is Currently Measured

Although the construct has been conceptualized in two ways, the current literature on language and culture brokering includes four different measures of the construct. Tse (1995) developed the first language brokering measure to assess the phenomenon she conceptualized as “linguistic translation and interpretation between culturally different groups.” Her widely used measure of language brokering is a checklist that focuses on four domains of the role: 1) for whom children broker; 2) where they broker; 3) what things they broker; and 4) how they feel about brokering (Tse, 1995). While the first three domains are descriptive, the last domain assesses participants’ attitudes about their role as a broker. Additionally, this measure asks about the number of siblings the broker has and whether they also broker, what languages the mother and father speak, and their proficiency in terms of speaking, reading, writing, and listening for each of these languages (Tse, 1995).

Buriel and colleagues (1998) later adapted Tse’s (1995) measure after collecting feedback from focus group participants. Their revised version included additional items for each of Tse’s (1995) four domains. Weisskirch and Alva (2002) also added a couple of items to capture feelings about brokering and modified the way in which items were worded so that younger participants would be able to understand what was asked of them.

Following, Buchanan (2001) developed the culture broker measure (BCB), a checklist, which consists of only seven items asking about the presence or absence of brokering activities in which children engage. Specifically, the items on the measure ask whether children help their

parents: 1) answer phone calls; 2) answer doors; 3) translate; 4) schedule appointments or go to appointments; 5) fill out applications; 6) explain how the U.S. school system works²; or 7) deal with government agencies. In his dissertation, Jones (2008) converted the checklist format of Buchanan's (2001) measure to a Likert scale to indicate the frequency with which parents ask their children to broker with the aforementioned tasks, using response anchors ranging from "Never" to "Always". All the measures and their revisions define culture brokering as either translating, interpreting, or, for one item in Buchanan's measure, serving as a guide to explain aspects of the new culture.

These three brokering measures have been used with children from various age groups. Specifically, studies have included participants as young as 10 years old (Titzmann, 2012) and as old as 54 years old (Weisskirch, 2006), with most participants between 12 and 18 years old. However, studies that included adult culture brokers only asked about their retrospective, not current, brokering experiences. Additionally, these measures have been used with various cultural groups, including Chinese (Hua & Costigan, 2012; Tse, 1996), Vietnamese (Jones & Trickett, 2005; Tse, 1996) Mexican (Kam, 2011; Tse, 1995; Weisskirch & Alva, 2002; Weisskirch, 2006, 2007), mixed Latino groups (Buriel, Love & DeMent, 2006; Love & Buriel, 2007) and ethnic Jews from the Former Soviet Union (Oznobishin & Kurman, 2009; Titzmann, 2012; Trickett & Jones, 2007; Trickett et al., 2012).

Re-Conceptualizing Culture Brokering

The underlying issue with the current measures is not the items themselves, but how the culture broker construct has been underrepresented in the current measures. Both earlier measures have focused primarily on the translator/interpreter domain of the role, apart from Buchanan

² Note: Only Item 6 reflects the Cultural Guide Domain.

(2001), who also included one item to capture how brokers guide their parents in navigating systems and institutions of the United States. Because culture brokering serves as an acculturation strategy for immigrant families, the brokering construct should be re-conceptualized to parallel acculturation, which has been conceptualized to include both cultural and psychological dimensions of acculturation to the host and native countries (Birman & Trickett, 2001).

To this end, qualitative research with a sample of twenty Orthodox Christian Iraqi culture brokers and their parents (Sorani-Villanueva, *unpublished manuscript*) found that the role entails much more than translation and interpretation activities. Specifically, participants in this study indicated that culture brokers are involved in various aspects of family decision-making, such as those that may affect a younger sibling (e.g., involvement in afterschool activities) or a large item purchase (e.g., car or house). The culture brokers in this study also shed light on how they serve as educators or cultural guides for the parents, often by explaining the processes of various systems and institutions such as paying bills, finding a job, and required parental involvement in American schools (e.g., report card pick-up). Thus, demonstrating how culture brokering consists of a richer set of activities, that reflect not only Translator/Interpreter domain, but also the Cultural Guide domain, and Family Consultant domain, all of which should be reflected in one instrument to comprehensively measure this construct.

Translating/Interpreting (TI) domain. Translating entails expressing words or texts in another language (Morales & Hanson, 2005) and interpreting is associated with nonverbal communication and explaining the meaning of information or words (Morales & Hanson, 2005). When children are asked to translate for their parents, these tasks are often followed by an interpretation of meaning of the words. As such, the Translator/Interpreter Domain includes activities such as translating what parents say from their native language into English in a written document (e.g., absence note for school) or in a conversation (e.g., parent-teacher conference) and

vice versa, interpreting the meaning or purpose of documents (e.g., tax bill or mortgage statement), translating different media (e.g., TV or radio), or filling out forms and paperwork.

Cultural Guide (CG) domain. A guide is a person who “leads or directs people on a journey; shows and explains interesting things in a place; helps to direct another person’s behavior,” (Merriam-Webster). The Cultural Guide Domain includes demonstrative and verbal activities wherein children serve as educators and explain to their parents how to operate in the host country because the parents do not have sufficient understanding of the language or process (e.g., Valenzuela, 1999). Thus, the activities associated with the cultural guide domain may overlap with the translating/interpreting domain. For example, parents often ask their culture brokers how to navigate the public transportation system in the host country. A cultural guide performs activities that may range from obtaining a public transportation transit card to paying for fares (i.e., completely doing something for the parents); showing parents how to reload money on their transit card (i.e., scaffolding for parents); to observing and providing necessary guidance while parents attempt to reload money on their transit cards themselves and use the public transportation system (i.e., mentoring parents).

Family Consultant (FC) domain. Lastly, the Family Consultant Domain includes activities such as engaging in meaningful conversations with parents about various decisions that are made on behalf of the family (Sorani-Villanueva, *unpublished manuscript*). For example, parents may consult with their culture-brokering child about their siblings or how to go about making major purchases (e.g., property or automobiles). Because of the acculturation process, and often also counter to their traditional cultural values, parents at times, agree to let the culture broker make a decision on behalf of the whole family, putting trust into and valuing their children’s knowledge of or experience with navigating U.S. systems and institutions.

In addition, the types of activities children help their parents with can change over time or consist of different phases and multiple modalities. For example, the activities can range from completely doing something for the parents, such as translating a document or a conversation and interpreting the meaning (Translator/Interpreter Domain) to teaching parents about various processes and then intentionally observing parents while they learn to navigate U.S. systems for themselves, by (Cultural Guide Domain), to periodically giving advice on how parents can take action or make decisions for themselves or for their family (Family Consultant Domain). In sum, the culture broker role can be expanded from its current conceptualization to include three domains: translator/interpreter, cultural guide, and family consultant.

Purpose of the Current Study

Given this broadened re-conceptualization culture-brokering, it is imperative for a measure to include items that fully reflect different domains of the construct. Morales and Hanson (2005) state that “no one has looked at the psychometric properties of the language broker scales, even though they are used with children of different ages, cultural groups, and in different settings” (p. 498). Furthermore, Jones and colleagues (2012), assert the existing culture brokering measure “represents a uni-dimensional conception of the culture broker role that does not capture its complexities. Differentiating the culture broker concept into its multiple aspects would help create a more nuanced understanding of the role” (p. 15). As such, the purpose of the current study was to develop and validate a culture brokering instrument that measures the variety in and degree to which children serve as translators, guides, and consultants as part of their family’s acculturation process.

III. ECOLOGICAL FRAMEWORK

The ecological model (Trickett, 1996, 2009; Trickett, Kelly, & Vincent, 1985) guided the development of the new culture broker instrument, conceptually and methodologically. The ecological model is useful to understand how and why culture brokering is situated within the acculturation process of immigrant families by conceptualizing a person's behavior as effecting and being affected by different, interconnected contexts, including the individual, family, community, culture, and society (Trickett, 1996). In terms of acculturation, it is important to focus on ecology of people's lives and how multiple factors and levels of the ecological context influence adaptation strategies (e.g., culture brokering) (Trickett, et al., 2010).

To this end, the ecological model (Trickett, 1996, 2009; Trickett, et al., 1985) would conceptualize an immigrant family's ability to adapt to a new country, via culture brokering, as the interplay among multiple factors including acculturation and acculturative stress (of the parent and the child), neighborhood such as the extent to which residents and businesses reflect the culture of the family (e.g., ethnic enclave), cultural values such as traditional gender roles and filial responsibility, parents' characteristics, such as education levels and family structure (single- or two-parent households), child's characteristics, such as developmental level and exposure to other life stressors, as well as the current political climate, such as how well immigrants and refugees are received by the host country.

The ecological model (Trickett, 1996, 2009; Trickett, et al., 1985) also conceptualizes phenomena as involving person-environmental transactions and therefore shifts exclusive attention from the individual level of analyses. This is especially relevant to the conceptualization of culture brokering including items that reflect different activities across different settings and contexts and to consider information about the occurrence and perceived stressfulness of each activity.

In terms of measurement development, the ecological model (Trickett, 1996, 2009; Trickett, et al., 1985) provides a useful foundation because it emphasizes the importance of conceptualizing and measuring the culture broker construct across various life domains, among various cultural groups, and in different contexts. In doing so, the model focuses attention on etic-emic aspects of phenomena (Trickett, 1996), to differentiate which aspects of the brokering phenomenon are shared or universal among many groups and which aspects are culture- or context-specific.

The etic-emic approach is especially relevant for this study as it involved participants from diverse cultural groups in all phases of the measurement development. As such, the ecological model also informed the methodological choices in the development of the culture brokering instrument by examining person-environmental transactions via mixed methods and engagement of participants in all aspects of the study. Specifically, qualitative (focus groups, cognitive interviews) and quantitative (testing of the new scale) methods were both incorporated, first to identify the diversity in perspectives and range of culture brokering activities, and second to identify how well the final instrument can be applied across cultural groups and still reflect the underlying culture broker construct.

IV. METHODS

Developing the Culture Brokering Instrument (CBI)

This dissertation entailed the development and validation of a new instrument to measure culture brokering. The new instrument was designed to be a multidimensional scale, which "employs different items to measure each dimension of a construct separately, and then combine the scores on each dimension to create an overall measure of the multidimensional construct," (Social Science Research, p. 50).

Following, criteria for recruitment and sampling strategies for each phase of the research are outlined. Then, an overview of each phase in the measurement development process, from identifying the initial set of items that represent the culture broker construct, to conducting focus groups and cognitive interviews, to finally testing the Culture Brokering Instrument is provided. Lastly, each of the measures used to test the discriminant, convergent, and predictive validity of the new Culture Brokering Instrument are described.

Sampling

Purposive and snowball sampling strategies (Patton, 2005), specifically maximum variation sampling, were used to recruit participants for each phase of the instrument development. This sampling strategy was used to ensure a broad distribution of participants, along multiple demographic variables, to identify a wide range of possible culture brokering activities. Additionally, this maximum variation sampling strategy helped identify commonalities across participants' experiences as culture brokers. The inclusion criteria for participation in each phase of the study are listed below, followed by a rationale for each:

- 1) Undergraduate college students
- 2) Enrolled at the University of Illinois at Chicago (UIC)
- 2) Self-identify as the current culture broker in the family

- 3) First and second generation immigration status
- 4) Males and females
- 5) Represent various cultural backgrounds

Undergraduate college students. College students represent the emerging adulthood population of culture brokers that has been understudied in the extant literature. Although there have been a few studies that have included adult culture brokers, they have only asked about their retrospective, not current experiences. Recent studies have shown that the culture broker role does not cease when children become adults; rather the role persists and evolves to include different activities, some of which may not have been needed (e.g., application for retirement benefits) or some of which might have been inappropriate for younger children to complete (e.g., accompanying parent to the doctor's appointment). As such, college students continuing to serve as culture brokers can provide insight into the role for an emerging adult population.

UIC students. Students enrolled at the University of Illinois at Chicago (UIC) come from many diverse ethnic and cultural backgrounds, many of whom are children of immigrant parents, with at least one parent who immigrated to the United States. Additionally, the majority of UIC students are commuters and often living at home with their family. As such, they are more likely to continue culture brokering for their family. Furthermore, UIC students represent many diverse ethnic and cultural backgrounds, another inclusion criterion for the current study.

Current culture brokers. To determine the relevancy of the proposed culture brokering items, it was important that participants identified as the designated culture broker for their families when they participated in the focus groups, cognitive interviews, or testing of the instrument. This helped to ensure that the role is currently experienced by the participants and increased the possibility of identifying a wider range of brokering activities.

Immigrant generation status. The extant culture brokering literature has included both first and second-generation immigrants as participants. For the purposes of the current study, both first- and second-generation immigrants were included.

Gender. Both male and female culture brokers were included in the current study to shed light on gender differences with respect to the culture broker role.

Diverse cultural backgrounds. The culture brokering literature has explored the role among various cultural and ethnic groups. According to Weisskirch (2010), “culturally gendered language brokering may support cultural values. Outcomes of language brokering may be different by culture and yet there may be some commonality of the language brokering experience within and across immigrant families,” (p. 80). Previous culture brokering measures were developed and tested with only one cultural group and subsequently applied to other various cultural groups. As the goal of the current study was not to determine differences across cultural groups with respect to brokering, but to identify as wide a range of culture brokering activities as possible, participants who represented diverse cultural groups were included.

Recruitment

Participants for each phase of the study were recruited via the Psychology Department subject pool of students who were enrolled in the PSCH 100 – Introduction to Psychology course, as well as via multiple cultural student organizations on campus.

Procedures

Phase 1: Defining the initial set of items. To develop the initial set of items that reflect the culture broker construct (see Appendix A), three tasks were performed. First, the extant literature and measures provided initial items that reflect the translator/interpreter activities. Second, in addition to the extant literature, examples of how the culture broker role evolved over time, reported by participants from an unpublished master’s thesis that explored the perspectives

of Orthodox Christian Iraqi immigrant culture brokers and their parents, were selected (Sorani-Villanueva, *unpublished manuscript*). Lastly, examples from my own experiences as a culture broker, such as managing the family finances or signing documents on behalf of parents, were included in this list.

Phase 2: Focus groups. Following the initial stage of item development, five semi-structured focus groups were conducted. Given that gender differences among culture brokers can still be discussed in a mixed-gender group, the focus groups were only divided based on cultural/ethnic group. Participants were assigned to the groups based on similar cultural backgrounds, specifically by the continent where their culture of origin is geographically located.

Six to eight students were recruited to participate in each of the focus groups, which is “large enough to generate discussion, yet small enough to maintain adequate control over the agenda,” (Nassar-McMillan & Borders, 2002, p. 5). In total, there were 23 participants, 65% of which were females. Two of the focus groups consisted of participants whose cultural backgrounds were located in Europe or the Middle East. One focus group each consisted of participants whose cultural backgrounds were located in Asia or Latin America. The final focus group originally recruited for participants whose cultural background was in Africa. However, only one participant signed up for this study group so the primary researcher expanded the criteria to any participants who met the initial eligibility criteria: 1) undergraduate college students, 2) enrolled at the University of Illinois at Chicago (UIC), 3) self-identify as the current culture broker in the family, 4) first or second generation immigration status, 5) males and females, 6) and represent various, multiple cultural backgrounds. This decision was made due to the consistency of responses received from the previous focus groups. The participants provided comparable responses regardless of their cultural background (see Table 1 for descriptives regarding each focus group).

All focus groups were digitally recorded and conducted on UIC's campus. The primary researcher, with an insider's perspective into the culture broker role, moderated all focus groups to ensure consistency in the types of, and ways in which the questions were asked. The conversations were guided by the focus group protocol outlined in Appendix B. Following each focus group, the recordings were transcribed verbatim and modifications were made to the protocol as needed. Specifically, questions were added or reworded based on information learned from the previous focus groups. The duration of the focus groups averaged 50 minutes, and ranged from 25 to 59 minutes in length.

The data from each focus group were analyzed following the guide outlined by Knodel (1993). According to Knodel (1993), the analysis of focus group data is twofold: *mechanical* and *interpretive*. Mechanical analysis, which entails organizing and categorizing the data into "meaningful segments" using pre-existing information about the topic as well as emergent patterns evident from the data. The interpretive analysis involves searching for patterns within and between the codes "to draw substantively meaningful conclusions," (p. 45). The data were coded by 1) developing an initial set of codes that corresponded to items on the focus group protocol or the extant brokering literature and 2) creating additional codes for topics that emerged and were of relevant interest to the brokering role. Using Microsoft Excel, pivot tables were created to identify frequency counts of the codes, which were then used to determine how salient a topic was for the participants within and between the focus groups.

Once analyzed, coding reliability was assessed by working in conjunction with a member of the dissertation committee, first looking at the data independently, within and across focus groups. Disagreements were discussed by reviewing the transcripts together and resolving the source of the disagreement (Knodel, 1993). Once consensus was reached, the focus group data were synthesized to incorporate new items and refine the pool of existing items on the CBI.

Phase 3: Cognitive interviews. Following the focus groups, a total of six cognitive interviews were conducted. Five of the interviews were with female UIC students, and one interview was with a male UIC student, all of whom self-identified as culture brokers for their families (see Table 2 for descriptive information regarding each cognitive interview). Participants' responses to each item were captured using a digital voice recorder.

Participants were asked to respond to items on the CBI and to think about the relevance of the activity for themselves, the clarity of the wording of the item, and the cognitive difficulty in responding to the item. Think-aloud and probing questions were asked concurrently for each item, rather than retrospectively (after all items were read out-loud and a response was provided) (Willis, 2005). In this way, participants could practice/be exposed to the think-aloud process, which does not occur naturally for many individuals. Specifically, participants were asked the following questions with respect to each item on the CBI:

- 1) What does this mean to you?
- 2) What came to mind when you answered this question?
- 3) Was it easy or hard for you to answer this question?
- 4) Was this question relevant to your experience as a broker?
- 5) Was this question easy to understand?
- 6) How could this question be clearer?
- 7) Even if you are personally not familiar with this activity, do you think it would be relevant for the experiences of other culture brokers?
- 8) Even if you are personally not familiar with this activity, do you think it would be easy or hard for another culture broker to answer this question?

After the think-aloud and probing questions, participants were then asked if they would keep, modify, or remove (K-M-D) each item on the CBI. Their collective responses were recorded on a

grid (see Appendix C). Lastly, participants were asked to reflect on the instrument as a whole. Specifically, they were asked about the relevance and usefulness of including both a frequency scale and a stressfulness scale. They were also asked to rationalize which anchor response made more sense for both the frequency and stressfulness scales: a 4-point or a 5-point scale, and their preference for including descriptive anchors only at the ends, to allow participants to draw their own conclusions about the anchors in between.

For each cognitive interview, both qualitative and quantitative approaches were applied to analyze and interpret the participants' responses. The data consisted of the digitally recorded interviews, participants' written responses on the CBI, and the "K-M-D" scores for each item and each participant. Additional hypothetical questions were also asked during each subsequent interview, based on suggestions or recommendations made during the previous interview; these field notes were also recorded. In other words, analyses and data collection happened concurrently, an approach also suggested by Willis (2005).

As with the focus groups, the cognitive interviews were transcribed, analyzed, and synthesized to inform any additional revisions to the pool of items. Willis (2005) states that cognitive interviews can be analyzed quantitatively, qualitatively or using a combination of these methods. Qualitative methods were used to identify patterns or themes in participants' responses across domains of relevance, difficulty, and clarity. Microsoft Excel pivot tables were used to identify frequency counts of the codes, which was helpful in determining patterns across the cognitive interviews. Quantitative methods were also used to confirm whether the items should be kept, modified, or removed. Items consistently rated as "remove" were considered for removal, pending all interviews. Items consistently rated as "modify" were, either reworded, divided into multiple items, or parenthetical examples were included to frame the activity for the participant. If

there was a consensus on what items to keep by the participants (i.e., greater than 75%), they were included in the subsequent version of the CBI.

Phase 4: Testing and validating the CBI. After a finalized version of the instrument was determined, 250 participants were recruited to test and validate this version of the CBI. As with the focus groups and cognitive interviews, the final phase of the study recruited participants from the UIC Psychology Subject Pool and via listservs for on-campus student organizations. Participants who signed up via the Subject Pool were sent an email with a link to the Qualtrics packet of questionnaires. Participants recruited via listservs were sent a link to the Qualtrics site in the email. First, all participants were asked the following eligibility criteria questions:

1. Are you currently enrolled as an undergraduate student at UIC?
2. Are you a 1st or 2nd generation immigrant (born in the U.S. to immigrant parents or born in another country and then immigrated to the U.S)?
3. Do you identify as the current culture broker for your family? (A culture broker is a child of immigrants who helps his/her parents adjust to and teaches them about the new country in various ways).

To meet the inclusion criteria, participants had to respond “yes” to all three questions. If they did not meet the criteria, they were thanked for their time and automatically prompted to leave the Qualtrics website. Those who were recruited via the UIC Psychology Subject Pool, were still given Psychology Education Credits (PECs). If participants met the inclusion criteria, they were presented with an electronic informed consent document to sign, informed that their responses and their identity would be anonymous, and given the approximate length of time it would take to complete the packet. At the end of the semester, the Qualtrics link was closed and the data were downloaded to SPSS.

Measures

In addition to the CBI, participants were asked to complete a demographic questionnaire, the Culture Broker measure (BCB) (Buchanan, 2001), the Language, Identity, and Behavior (LIB) Acculturation Scale (Birman & Trickett, 2001), and a measure of family dynamics: The Family Conflict Scale (Rueter & Conger, 1995). The rationale for each of these measures is found below.

Demographics. The following demographic items were included in the packet to allow comparison of the sample to other studies of language and culture brokering: gender (0 = female, 1 = male), other siblings (0 = no, 1 = yes), birth order (1 = oldest child, 2 = youngest child, 3 = somewhere in the middle), immigrant generational status (1 = not born in the U.S., but came when young (under 18), 2 = not born in the U.S., but came when adult (over 18), 3 = born in the U.S.), length of time in United States (1 = less than 1 year, 2 = between 1 and 5 years, 3 = between 6 and 10 years, 4 = more than 10 years), and ethnic/cultural background (1 = non-Hispanic White or European American, 2 = Black, Afro-Caribbean or African American, 3 = Latino or Hispanic American, 4 = Asian or Asian American, 5 = Middle Eastern or Arab American, 6 = Native American or Alaskan Native, 7 = Other). Additionally, participants were asked about family indicators such as their mothers' and fathers' level of education (1 = less than high school, 2 = high school / GED, 3 = college degree, 4 = advanced/professional degree), and neighborhood information such as whether the residents and businesses predominantly reflected their ethnic/cultural background to determine if the participants lived in an ethnic enclave (0 = no, 1 = yes) (see Appendix D for demographics questionnaire). The demographic and background variables were used both to provide descriptive data and to assess their relationship to culture brokering.

Culture Brokering Instrument (CBI). The items were categorized by domain: translator/interpreter domain, cultural guide domain, family task manager, and family consultant

domain, along two scales: frequency and stressfulness. Participants were asked to reflect on the frequency with which they engaged in each of the respective activities in the last 6 months. The anchors for each frequency item were on a scale ranging from 1 to 5 with 1 being “Not at all” and 5 being “Very often”. Additionally, participants were asked about the stressfulness of each brokering activity to determine how much of a hassle it is for culture brokers. The anchors for each stressfulness item were also on a scale, determined with feedback from the cognitive interviews, and ranging from 1 “Not at all stressful” to 4 “Very stressful” (see Appendix E for preliminary formatting of CBI).

Buchanan’s (2001) Culture Broker Measure (BCB). To assess convergent validity, Buchanan’s (2001) culture broker measure was used. The BCB (2001) measure consists of seven items that ask about the presence or absence of brokering activities. Specifically, the items on the measure include whether children help their parents: 1) answer phone calls, 2) answer doors, 3) translate, 4) schedule appointments or go to appointments, 5) fill out applications, 6) explain how the U.S. school system works, or 7) deal with government agencies. To compare this measure to the CBI, the caveat of “in the past 6 months” was added to the instructions (see Appendix F for complete measure).

Acculturation Measure. To assess discriminant and predictive validity, participants were asked to complete the Language, Identity and Behavior (LIB) Acculturation Measure (Birman & Trickett, 2001). Specifically, participants were asked to report on their mothers’ American and native country acculturation, given the previous research on acculturation and culture brokering (Birman & Trickett, 2001; Jones & Trickett, 2005; Trickett & Jones, 2007).

The LIB is divided into three sections by domain, and asks questions regarding the participant’s native language/culture and host language/culture. Each item response is measured on a scale with anchors of 1 = “Not at all” to 4 = “Very well, like a native” for the Language

domain, and 1 = “Not at all” to 4 = “Very much” for both the Identity domain and the Behavior domain. There are 18 items that reflect the Language domain, 14 items that reflect the Identity domain, and 19 items that reflect the Behavior domain. Each domain asks questions about American acculturation and acculturation to their native country (see Appendix G for complete measure). The original measure was developed to be used with a sample of immigrants from the Former Soviet Union. For the purposes of this study, some items on the measure were modified by removing the specific country/culture (i.e., Russian) and replacing with more general wording (e.g., “your family’s native language,” “your ethnic/culture background”). These slight modifications allowed participants from various ethnic/cultural backgrounds to respond to the questions (see Appendix G for how and which items have been modified).

Family Dynamics Measure. As an additional measure to establish predictive validity, participants were asked to complete the Problem-Solving Checklist (Rueter & Conger, 1995), a measure of family dynamics. While several measures have been used to explore the relationship between culture brokering and family dynamics, the Problem-Solving Checklist (Rueter & Conger, 1995) has been used in previous studies where researchers argue that brokering and family dynamics are related. Jones & Trickett (2005) found that adolescents’ reports of family conflict were related to brokering, such that more culture brokering predicted more frequent and intense instances of family disagreements. The checklist consists of 28 items that ask participants to “indicate how often you and your parent(s) disagree or get upset with each other about the following topics.” Each item response is measured on a scale with anchors of 1 = “Never” to 4 = “All the time”. Examples of items about disagreements between parents and children include money, school grades, curfews, drugs, alcohol, and tobacco. Additionally, a final item asks participants to rank the top three topics that cause the most conflict with parents (see Appendix H for complete measure).

V. RESULTS

The results of the current study are presented in the following order. First, to establish content validity of the measure, results from the focus groups and intended use of the findings are presented. Second, results from the cognitive interviews and intended use of these findings are given. Lastly, to establish discriminant, convergent, and predictive validity, findings from the third phase, testing of the CBI, are described.

Focus Group Findings

The purpose of the focus groups was threefold. At the beginning of each focus group, participants were engaged in a general discussion about the culture broker role. Then, participants were asked to: 1) determine which items from the initial pool of items were relevant to and applicable for the participants' respective cultures and contexts, 2) identify items that needed revisions in content or wording, or needed to be omitted, and 3) generate new items with respect to the cultural guide or family consultant domains of the instrument.

Ultimately, the focus groups helped to further understand nuances of the culture broker role, by providing examples of additional items to be included in the subsequent version of the CBI. As previously mentioned, the role was initially re-conceptualized in terms of Translator/Interpreter, Cultural Guide, and Family Consultant. However, the focus groups helped to further conceptualize the role into five domains to include Family Task Manager and Decision-Maker. The Family Task Manager (FTM) domain is defined as activities in which a culture broker completes daily, regular tasks to benefit the family in their acculturation process (e.g., paying bills, making phone calls, representing the family and being a primary contact during an insurance claim). The Family Decision-Maker (FDM) domain is defined as the activities in which a culture broker makes decisions on behalf of the family without initially consulting them (e.g., making changes to an internet or phone plan, to a siblings' academic plan).

The example quotes below reflect how these original items are representative of and relevant to a culture broker's experience. In terms of **translating and interpreting**, participants described culture brokering activities such as *"when we would go to school like [for] report card pick up, my mom would be like '¿que dijo?' like what did she say when the teacher would like make comments about us or me and it would be kinda like difficult because now that I think about it, it's not really reliable to rely on a kindergartner to translate for a teacher"* (FG #3).

In terms of serving as a **cultural guide**, the majority of participants cited examples of processes related to the education system of the United States from high school to college, including having to educate their parents about the differences in school systems from their native country. For example, one participant said, *"other colleges are very different from like, cause I'm from India and like because over there its separate like it's a girl's school and a boy's school and it's more conservative so they definitely, like when they send my oldest brothers they didn't know like it was a culture shock for them how things are different"* (FG #2).

With respect to **family consulting** domain, participants described examples where they had discussions with their parents regarding important family decisions or made the decisions on behalf of their family, (thus providing support for the inclusion of additional items for the Family Consultant Domain). In an example where brokers were being consulted by their parents about financial decisions, one participant said, *"sometimes I think they like just assume because I'm like [part of] the household, I know all of the financial, banking, stock market stuff; I'm the one that controls it all"* (FG #3). This implies that simply because they are part of the family and live at home, the broker is expected to assume management of the family's finances, inherently making decisions on behalf of the family.

Examples of the **Family Task Manager** domain included doing activities for the family members, rather than just showing their parents how to do something or helping them figure it out

so they can do the activity independently. One example included a culture broker who was trying to help her parents learn how to pay bills online, but ultimately ended up being the Family Task Manager, or the one who did the activity because the parents repeatedly did not learn, did not want to learn, or did not remember how to do this on their own. She said, *“They know I use the internet but not that well so when it comes to paying bills...online...I’ve taught them cause at first [they’re] like alright, I need you to do an account for me, I’m like okay, ‘pick a password...what do you want?’ and they’re like ‘you pick [a password], you’re doing it’, and I’m like what do you mean, you have to remember this...I know like their account numbers and everything to do with [their] money, so every month comes, they tell me ‘you gotta pay the bill,’ and I’m like ‘you wanna learn?’”* (FG #4).

Lastly, with respect to the **Family Decision Maker** domain, some participants indicated that their parents’ reliance on their children went beyond consulting, to the culture brokers making the decision in either conjunction with, or independent of their parents. This was most often the case with younger siblings and parenting decisions. One participant said, *“...like my sister, she lives by her university, and she lives off campus, so she had to look for an apartment, and I always give my input like costs and everything so it’s kinda umm we make those decisions together”* (FG #1). In this example, the culture broker’s mom asked her to do the research on housing and college-related decisions for her younger sister, and after asking for her input, both the culture broker and her mom made the decision for the younger sister together.

Cognitive Interview Findings

Following analysis of the focus group findings, a refined version of the CBI was developed to include items that represented these two additional domains: Family Task Manager and Family Decision Maker. The purpose of the cognitive interviews was to further understand and confirm the items and domains of the latest version of the CBI.

Overall, the cognitive interviews confirmed that most of the items were relevant and participants understood the items as intended. Of the items originally presented, participants suggested that several of them should be reworded for clarity. Participants also offered examples and suggested that these should be included parenthetically next to the items to provide further clarification. Other items were disaggregated into multiple items to help participants parse out related but different activities. Participants also confirmed the need to further re-conceptualize the role in terms of five domains, not just three.

The overwhelming majority of participants indicated that the anchors for the frequency scale should range from 1 to 5 with one being “not at all frequent” and five being “very often”. The participants also suggested not including anchor labels for each point on the scale. In terms of the stressfulness scale, participants indicated that a four-point scale would be better suited to encourage other participants to make a more specific choice, as stressfulness is more subjective than frequency. As with the frequency scale, participants suggested not to include anchor labels for each point except for one being “not at all stressful” and four being “very stressful”.

Additionally, participants believed it would be more helpful if descriptive information were provided to explain how each of the items were related by domain. In other words, they thought providing the reader with some context would be helpful (e.g., providing parenthetical examples of social norms of the host country).

Testing and Validating the CBI

Analyses. All analyses regarding the CBI were conducted using SPSS³. The results of the CBI are presented in the following order. First, demographic data are provided, followed by descriptive statistics of the original CBI. Next, outcomes from the analysis conducted to determine

³ A Confirmatory Factor Analysis (CFA) was also conducted using the MPlus software program.

the final CBI version are described and descriptive statistics and correlations are reported. Finally, tests of discriminant, convergent, and predictive validity, using the final version of the CBI, are presented. All findings for the CBI are presented at both the whole measure level and at the domain level, as well as in terms of frequency and stressfulness.

Preparing data for analyses. Prior to any descriptive or inferential analyses, the dataset was “cleaned.” According to Qualtrics, one hundred sixty-four individuals logged on to the survey website. First, individuals who did not indicate “yes” ($n = 1$) or did not provide a response to the informed consent ($n = 2$) were removed. Next, individuals who did not meet the eligibility criteria ($n = 47$) were removed from the dataset. The final sample size for the remaining analyses was 114.

Additionally, each of the CBI frequency items were first recoded from a 1 to 5 scale to a 0 to 4 scale with zero being “not at all” and four being “very often”. Then, each of the CBI frequency items were computed and recoded into a new dichotomous variable to compare to the results of the BCB (2001) measure which was also scored dichotomously. This dichotomization was also useful in determining presence and absence of a given activity in the item reduction process. The first level reflected the absence of an activity, where the recoded value of 0 remained zero; and the second level reflected the presence of an activity, where the recoded values of 1, 2, 3, and 4 were all recoded as one. Domain-level subscales and the overall frequency scale were created using the individual participants’ sum scores for “presence of” each item. Domain-level subscales and the overall stressfulness scale were created using the mean score of the items for each individual participant, based only if the individual indicated the presence of an activity (a score of 1) to the corresponding item on the frequency scale. If an individual did not indicate presence of an activity, their corresponding stressfulness response was not included.

Demographics and Descriptive Findings.

The final sample consisted of thirty-four males and eighty females, 30% and 70%, respectively. Thirty-nine (35%) participants were not born in the U.S., but came when they were under 18 years of age; nine (8%) participants were not born in the U.S., but came when they were 18 years or older, and sixty-six (58%) participants were born in the U.S. Eighty-nine (79%) participants had lived in the U.S. for more than 10 years, fifteen (13%) had lived in the U.S. between 1 and 5 years, nine (8%) had lived in the U.S. between 6 and 10 years, and one (<1%) participant had lived in the U.S. for less than a year.

Ninety-eight (86%) participants had siblings. In terms of birth order, of those who indicated that they had siblings, forty-seven (41%) were the oldest/first-born child, twenty-eight (25%) were the youngest child in the family, and twenty-three (20%) were somewhere in the middle. Ten (9%) participants were not included because they had indicated they were the only child in the previous question, and four (4%) participants left this item blank.

Forty-four (39%) participants identified as Asian or Asian American, thirty-one (27%) as Latino or Hispanic American, nineteen (17%) as Non-Hispanic White or Euro-American, seventeen (15%) as Middle Eastern or Arab American and two (<1%) as Black, Afro-Caribbean or African American. Thirty-six (32%) participants indicated that they lived in a neighborhood where the residents reflected their racial/ethnic background whereas the remaining seventy-six (68%) indicated that they did not.⁴ In terms of parents' education levels, mothers and fathers were comparable: (twenty-eight, twenty-four) (25%, 21%) with less than a high school diploma, (thirty-seven, thirty-eight) (32%, 34%) with a high school diploma or GED, (thirty-eight, thirty-seven)

⁴ Information about whether the participants lived on campus or were commuters was not collected, because the majority (88%) of UIC students are commuter students and typically reside with their family (UIC Office of Academic Affairs).

(35%, 33%) with a college degree, and (eight, twelve) (7%, 11%) with an advanced or professional degree. One participant declined to provide education information for either parent.

Developing the final version of the CBI.

Exclusion of items. The first step in the analyses was the development of a final version of the CBI. Multiple analyses were conducted to determine if any items could be excluded in the final version. Because the CBI is intended to be used with individuals who are engaging in various activities with respect to their own culture broker role, it was important to keep items that represented a possible range of activities, including those that were low and high in frequency and low and high in stressfulness in this population. Thus, the process of determining which items to retain and exclude was multi-layered, relying on both empirical and conceptual reviews of the items. Empirically, the inter-item correlations (overall, by domain, and by scale), the item-total correlations, and alpha values if an item was deleted, as well as the variability in means and standard deviations were all reviewed. Conceptually, items were reviewed to determine similarities, differences, and relevance across items and within domains. The following criteria were incorporated for each step in this process:

- 1) Consider removing if item had a high absence percentage (marked as 0 by participants) (over 50%) on the frequency scale and low presence mean (less than 0.5) on the frequency scale and/or stressfulness scale.
- 2) For the Translator/Interpreter domain specifically, within each action/verb grouping (i.e., reading, filling out forms, or translating), consider removing items with highest absence percentage and low(est) presence mean (less than 0.5) on the stressfulness scale because this domain had disproportionately more items than the other domains.
- 3) Consider removing if item was correlated highly (above .80) with multiple items within a given domain to reduce the length of the measure while maintaining variability of the items.

- 4) Consider removing if item was not significantly correlated (at the .05 or .01 level) with multiple items within a given domain.
- 5) Consider removing some items that were low in both frequency and stressfulness, and some items that were high in both frequency and stressfulness.
- 6) Review items from the first four criteria that were considered for removal and keep items that are diverse, in terms of actions and settings, within each domain.

Empirical Analyses with original CBI. For the original CBI, fifty-three items were included overall. By domain, there were twenty items included in the original Translator/Interpreter Domain; ten items in the Cultural Guide Domain; eight items in the Family Task Manager Domain; eleven items in the Family Consultant Domain; and four items in the Family Decision Maker Domain.

Descriptive statistics – CBI. As part of the first and second criteria for excluding items, descriptive statistics (i.e., counts, means, and standard deviations) for each item on both scales are presented⁵. Items that had a high absence percentage (marked as 0 by participants) (over 50%) and low presence mean (less than 0.5) on the frequency or stressfulness scale, were considered for exclusion from the final version of the CBI.

Correlations – CBI frequency scale. Next, inter-item correlations, within each domain, for the frequency scale, were analyzed to determine how correlated they were. Items that were highly correlated with several other items within a domain ($r = .80$ or greater) were considered for exclusion. This analysis revealed that for the frequency scale, items 4 “Reading and translating financial letters, documents, emails,” 5 “Reading and translating legal letters, documents, emails,” 9 “Filling out financial forms, documents, applications,” and 10 “Filling out legal forms,

⁵ Means and standard deviations for each item on the original CBI, organized by domain, and by scale, are presented in Tables 3-6.

documents, applications.” from the Translator/Interpreter Domain were highly correlated with one another; items 2 “Advising your parents what decision to make when buying a house,” and 7 “Making a decision together with your parents about buying a house,” from the Family Consultant Domain were highly correlated with one another, suggesting that they are not clearly unique items, and were considered for removal. Additionally, items 19 “Translating music or radio talk shows,” and 20 “Other” from the Translator/Interpreter Domain, items 4 “Explaining how to use technology (e.g., computers, cell phones),” 5 “Explaining how to use social media (e.g., Facebook, Twitter, Instagram),” and 10 “Other” from the Cultural Guide Domain, and item 6 “Updating social media content for your parents or other family members,” from the Family Task Manager Domain were not significantly correlated with multiple other items within their respective domains. As such, 12 items from the CBI were considered for removal according to this criterion.

Correlations – CBI stressfulness scale. Similarly, for the stressfulness scale, the “Other” items for the Cultural Guide, Family Consultant, and Family Decision Maker domains were highly correlated with several other items within their respective domains ($r = .80$ or greater). Additionally, items 8 “Making a decision together with your parents about relocating to another neighborhood, city, or state,” and 10 “Making a decision together with your parents related to your sibling(s) education,” from the Family Consultant Domain were highly correlated with multiple other items within this domain, suggesting that they are not clearly unique items, and were thus considered for removal.

In summary, the empirical analysis led to the following items being considered for exclusion from the final version of the CBI: the “Other” items from all 5 domains qualified for removal from the final version of the CBI because they did not contribute any new or unique activities that were not already incorporated in the existing items, thereby supporting the content validity of the instrument. Seventeen additional items were also considered for removal (delineated

with an asterisk in Table 7). These items were ranked lowest in count, mean frequency, or mean stressfulness, were either too highly correlated with other items within their respective domains, or were not significantly correlated with several other items within their respective domains. These items also represented activities that were high in their absence percentage, suggesting that they were not as relevant as the other items. Most of the items that were considered for exclusion were from the Translator/Interpreter domain. In total, as part of the empirical analysis, 22 of 53 items were considered for removal.

Conceptual analysis. As part of the conceptual item exclusion process, items were again reviewed to determine their conceptual relevancy and contribution to the culture-brokering construct. From this analysis, 6 of the items originally considered for removal, were kept (items 5, 10, 39, 40, 43, 47) to ensure that there would be variability in type of activity, context of activity, and in frequency and stressfulness of activity in the final version of the CBI. However, 10 items that were initially not considered for removal via the empirical analyses were marked for removal (delineated with two asterisks in Table 7) because they were too similar to some other items and thus did not add to the variability of the items on the instrument, overall. For example, items 17 “Translating movies or TV shows,” 18 “Translating websites or webpages,” and 19 “Translating music or radio talk shows,” from the Translator/Interpreter domain are very similar activities that pertain to translating some form of media. However, it is more likely that culture brokers explain the features and processes of using these media forms, than they translate the information that comes from them. As such, they were removed from the final version of the CBI, whereas items 24 “Explaining how to use technology (e.g., computers, cell phones),” and 25 “Explaining how to use social media (e.g., Facebook, Twitter, Instagram) from the Cultural Guide domain were retained.

The conceptual analysis also led to the removal of the Family Decision Maker domain altogether because 3 of the 4 items from this domain were already considered for removal as they did not contribute any additional information regarding the culture broker role that was not already represented by the other items.

CBI – The final version. Based on the above-mentioned empirical and conceptual analyses, the final version of the CBI included 27 items (see Table 8). The TI domain had 20 items originally and 11 items in the final version. The CG domain had 10 items originally and 6 in the final version. The FTM domain had 8 items originally and 5 in the final version. The FC domain had 11 items originally and 5 in the final version. The FDM domain had 4 items originally and 0 in the final version (see Appendix I for final formatting of the CBI).

Descriptive statistics. The means and standard deviations were recalculated with the final 27 items of the CBI scale (also presented in Tables 9-10). For the overall CBI frequency scale, the mean was 0.68 and the standard deviation was .26. For the overall CBI stressfulness scale, the mean was 1.97 and the standard deviation was .66. With respect to the frequency scale by domain, the means and standard deviations were: Translator/Interpreter domain ($M = 0.76$ $SD = .31$); Cultural Guide domain ($M = 0.78$ $SD = .25$); Family Task Manager ($M = 0.59$ $SD = .34$); and Family Consultant ($M = 0.48$ $SD = .45$). Thus, on average, 76% of the items on the Translator/Interpreter Domain were endorsed, 77% for the Cultural Guide Domain, 59% for the Family Task Manager Domain, and 48% for the Family Consultant Domain. Lastly, with respect to the stressfulness scale by domain, the means and standard deviations were: Translator/Interpreter domain ($M = 2.01$ $SD = .83$); Cultural Guide domain ($M = 1.94$ $SD = .69$); Family Task Manager ($M = 1.80$ $SD = .74$); and Family Consultant ($M = 2.16$ $SD = .90$) (see Table 11 for descriptive statistics presented by CBI domains).

*Demographics – Descriptive findings by overall measure and by domain*⁶. In terms of the culture brokering findings and some of the demographic variables, some interesting patterns for mean frequency and mean levels of stress across the CBI domains and ethnic groups were found. Overall, Middle Eastern brokers had the highest mean frequency ($M = .79$), but one of the lowest overall mean stress levels ($M = .183$). Conversely, African brokers had the second highest mean frequency ($M = .77$) and the highest overall mean stress level ($M = 1.79$). With respect to the CBI domains, African brokers had the highest mean frequency ($M = .88$) and mean stress level ($M = 2.35$), and Middle Eastern brokers had high mean frequency ($M = .88$) but the lowest mean stress level ($M = 1.78$) for the TI domain. For the CG domain, African brokers reported the highest mean frequency ($M = .86$), but the lowest mean stress levels ($M = 1.30$), and Latino/as were in the middle in terms of mean frequency ($M = .80$) but had the highest mean stress levels ($M = 2.10$). For the FTM domain, Middle Eastern and Latino/a brokers had the highest mean frequency ($M = .71$ and $M = .70$, respectively) and the highest mean stress levels ($M = 1.89$ and $M = 1.92$, respectively). Lastly, for the FC domain, European and Middle Eastern brokers had the highest mean frequency ($M = .60$ each), but were relatively lower than their counterparts for mean stress levels ($M = 2.10$ and $M = 1.76$, respectively). Additionally, Latino/as were in the middle in terms of mean frequency ($M = .47$) but had the highest mean stress levels ($M = 2.31$) for the FC domain. These different experiences for different cultural groups further lend support for the importance of not only including a frequency and stressfulness scale, but also for including items across multiple domains.

With respect to gender and brokering, males and females were comparable in terms of overall frequency of brokering activities ($M = .71$, $M = .67$, respectively) and comparable in terms of overall stress levels ($M = .1.98$, $M = .1.95$, respectively). Interestingly, males had slightly higher

⁶ See table 12 for CBI-related means organized by demographic variables.

mean frequencies for each of the CBI domains, compared to females, which is contrary to what the extant literature suggests about females engaging in more brokering activities and being the “designated” family culture broker. Perhaps this is the case for young children and adolescent brokers, but changes as the brokers become adults themselves, but it is unclear because a comparison of different age/developmental ranges was outside the scope of this study. An alternative explanation is that traditional gender roles are continuing to evolve and the findings from this study reflect those changes. In terms of perceived stress by domains, males reported higher stress levels than females for each domain apart from the FC domain where females had a mean of $M = 2.20$ compared to $M = 2.08$ for males.

Regarding immigration status, while there was no difference in frequency of brokering across domains, participants who were born in the United States reported higher overall mean levels of stress, compared to their non-U.S. born counterparts who immigrated when they were children (under 18) or when they were adults (18 and older).

With respect to birth order, findings confirmed that the oldest child is typically the designated culture broker in the family and therefore reporting a higher overall mean frequency and higher mean frequencies by domain, than the middle or youngest child. Despite the differences in frequency, however, there were no notable differences in how a broker’s birth order reflected their perceived stress of a brokering activity.

Lastly, findings from this study support previous research that brokers who live in ethnic enclaves not only report more brokering activities, overall and across domains, than those who do not live in ethnic enclaves, but also higher levels of perceived stress regarding these brokering activities, overall and across each CBI domain.

Correlations by CBI Domain. The CBI domains were also correlated with one another and significant at the .01 level, further supporting the validity of the measure. Additionally, the FC

domain had a lower correlation, overall, with the other domains, suggesting that the items here are tapping into issues other than translation, which are all reflected in the other three domains. (see Table 13 for the CBI domain-level correlation matrix).

Validity analyses⁷. Tests of discriminant, convergent, and predictive validity were conducted among the following measures: the new Culture Broker Instrument, Buchanan's (2001) Culture Broker Measure, the LIB Acculturation Scale (Birman & Trickett, 2001), and the Problem-Solving Checklist (Rueter & Conger, 1995) (descriptive statistics and reliability coefficients for each measure are presented in Table 16). Specific analyses are presented below.

Discriminant validity. Discriminant validity is defined as the degree to which two measures of constructs that theoretically should not be related, are in fact, unrelated (Trochim, 2006). Theoretically, the CBI and the LIB subscales of acculturation to the native culture should be unrelated because someone who has high native acculturation should not need culture brokering. As such, discriminant validity was tested by conducting a correlation between the frequency and stressfulness subscales of the CBI and the native acculturation subscales of the LIB. This analysis supported the discriminant validity of the CBI in that neither the frequency nor the stressfulness subscales of the CBI were significantly correlated with the native subscales of the LIB, except for overall CBI frequency and the native acculturation behavior subscale (see Table 17 for correlation matrix).

Convergent validity. Conversely, convergent validity is defined as the degree to which two measures of constructs that theoretically should be related, are, in fact, related (Trochim, 2006).

⁷ Psychometrics such as reliability analyses and confirmatory factor analysis were also conducted. However, because items on the CBI are not necessarily related to or dependent on one another, such analyses do not hold up statistically. As such, they are not presented in the body of the text, but are presented in Tables 14-15.

High correlations will indicate convergent validity. First, to determine if the CBI is related to an extant culture brokering measure, correlations between the final version of the CBI and the BCB (2001) measure were conducted. The BCB (2001) measure was positively correlated with the overall frequency scale of the CBI ($r = .62, p = .00$), with the TI frequency subscale ($r = .61, p = .00$), with the CG frequency subscale ($r = .53, p = .00$), with the FC frequency subscale ($r = .27, p = .00$) and with the FTM frequency subscale ($r = .64, p = .00$). With respect to stressfulness, the BCB (2001) measure was positively correlated with the overall stressfulness scale of the CBI ($r = .32, p = .00$), with the TI stressfulness subscale ($r = .31, p = .00$), with the CG stressfulness subscale ($r = .29, p = .00$), with the FC stressfulness subscale ($r = .11, ns$) and with the FTM stressfulness subscale ($r = .42, p = .00$) (see Table 17 for correlation matrix).

Predictive validity⁸: In addition to the correlations, eight hierarchical regressions were also conducted to determine 1) if frequency of CB activities could predict American language acculturation, American identity acculturation, American behavior acculturation, and family conflict, and 2) if stressfulness associated with CB activities could predict mothers' American language acculturation, American identity acculturation, American behavior acculturation, and family conflict. These regressions were first run as a 2-block model with the demographic variables entered in the first block and the CBI entered in the second block. The regressions were rerun as a 3-block model with the BCB (2001) measure entered in the second step, and the CBI entered in the third step to determine if the CBI scales could predict the outcome variables over and above another measure of CB. All regressions were run separately for frequency and stressfulness, first with the overall CBI scales and second with each of the four domains of the CBI entered individually into the final step of the model.

⁸ See Tables 18-19 for beta coefficients for the predictive validity 2-block and 3-block regression analyses, respectively.

To identify which demographic variables to include in the regression analyses, a correlation was conducted among demographic variables and the dependent variables of interest: mothers' American language, identity, and behavior acculturation, and Family Conflict (see Table 17 for correlation matrix). While only a few correlated with the outcomes, all demographic variables, except for ethnicity/cultural background, were subsequently entered into the regression models as they made sense conceptually to include them. Additionally, the mothers' education level and fathers' education level variables were recoded as dichotomous variables, with levels of 1) high school and below, and 2) college degree and greater prior to running the regressions. Tests of multi-collinearity were also performed to determine if mothers' education and fathers' education were highly correlated. However, the correlations were not high enough to indicate multicollinearity, thus both variables were included in the regression models.

Predictive Validity (Frequency).

Full-scale 2-block regression models⁹. To assess whether the new measure by itself predicted outcomes, a 2-block regression analysis was conducted. The predictive validity model for the frequency scale analyses included demographic variables entered into block 1 (i.e., mothers' education level, fathers' education level, length of time in the country, immigrant generation status, having other siblings, birth order, gender, and ethnic enclave), and the overall frequency scores from the final version of the CBI entered into block 2. In general, the overall frequency scale of the CBI was a significant predictor of mothers' English language acculturation $F(9, 92) = 6.34, p = .00$ and mothers' American behavior acculturation $F(9, 93) = 4.87, p = .00$. However, the overall frequency scale of the CBI was not a significant predictor of mothers'

⁹ The 2-block predictive validity analyses were repeated by entering the frequency and stressfulness scales together in the second block. However, there was no change in outcome from including one scale to including both scales in the second block.

American identity acculturation $F(9, 92) = .72, ns$, or family conflict $F(9, 93) = .72, ns$. The findings from these analyses confirmed all hypotheses related to predictive validity of the CBI, except for family conflict.

Full-scale 3-block regression models. To assess whether the new measure added predictive validity over and above the BCB (2001) measure, the abovementioned regression analyses were rerun with the same demographic variables in block 1, but with overall scores from the BCB entered into block 2, and the overall scores from the final version of the CBI's frequency scale entered into block 3.

Mothers' English Language Acculturation. In the first block, demographic variables were significant predictors of mothers' English language acculturation, $F(8, 93) = 6.63, p = .00$. Specifically, the lower the mothers' education level, the lower the fathers' education level, and the shorter the length of time in the U.S. ($\beta = .26, p < .05$, $\beta = .29, p < .05$, and $\beta = .38, p < .05$ respectively), the less acculturated the mother was in terms of English language competence. When the BCB (2001) measure was added in the second block, the second block was also a significant predictor of mothers' English language acculturation $F(9, 92) = 9.15, p = .00$, such that low mothers' education level, shorter length of time in the U.S., and more culture brokering activities were predictors of less acculturation in terms of English language competence ($\beta = .22, p < .05$, $\beta = .33, p < .05$, and $\beta = -.39, p = .00$, respectively). In the third overall block, mothers' education level, length of time in the U.S., and the BCB (2001) measure were the only significant predictors of mothers' English language acculturation. Buchanan's (2001) measure contributed 42% to the variance, however, including the CBI to the model did not significantly add to accounting for the variance in the outcome.

Mothers' American Identity Acculturation. Neither the demographic variables in block 1, $F(8, 93) = .63, ns$; nor the BCB (2001) measure in block 2, $F(9, 92) = .66, ns$, were significant

predictors of mothers' American identity acculturation. The CBI was also not a significant predictor of mothers' American identity acculturation $F(10, 91) = 1.01, ns$. Both culture broker measures contributed less than 1% to the variance in their respective blocks.

Mothers' American Behavior Acculturation. In the first block, demographic variables were significant predictors of mothers' American behavior acculturation, $F(8, 94) = 4.90, p = .00$. Specifically, the lower the fathers' education level, the shorter the length of time in the U.S., and living in an ethnic enclave ($\beta = .38, p < .05$, $\beta = .27, p < .05$, and $\beta = .18, p < .05$ respectively), the less acculturated the mother was in terms of American behavior acculturation. In the second block, the CBI was also a significant predictor of mothers' American behavior acculturation $F(9, 93) = 8.61, p = .00$, such that low fathers' education level, shorter length of time in the U.S., and more culture brokering activities were predictors of less acculturation in terms of American behavior acculturation ($\beta = .20, p < .05$, $\beta = .21, p < .05$, and $\beta = -.48, p < .05$ respectively). When the CBI was added in the third block, fathers' education level, length of time in the U.S., and the BCB (2001) measure were the only significant predictors of American behavior acculturation. Buchanan's (2001) measure contributed 40% to the variance, however, the CBI did not significantly add to accounting for the variance in the outcome.

Family Conflict. As with the predictive model for mothers' American identity acculturation, neither the demographic variables, $F(8, 94) = .75, ns$, nor the BCB (2001) measure $F(9, 93) = .86, ns$, were significant predictors of family conflict. The CBI was also not a significant predictor of family conflict $F(10, 92) = 1.04, ns$. Both culture broker measures contributed less than 1% to the variance in their respective blocks.

Predictive Validity (Stressfulness).

Full-scale 2-block regression models¹⁰. Similar hierarchical regressions were also conducted for CBI stressfulness. The predictive validity model for these analyses included all the above-mentioned demographic variables and the overall mean stressfulness scores from the final version of the CBI entered into block 2. In general, the overall stressfulness scale of the CBI was a significant predictor of mothers' English language acculturation $F(9, 92) = 6.14, p = .00$ and mothers' American behavior acculturation $F(9, 93) = 4.43, p = .00$. However, the overall stressfulness scale of the CBI was not a significant predictor of mothers' American identity acculturation $F(9, 92) = .61, ns$ or family conflict $F(9, 93) = 1.49, ns$. These findings partially supporting the hypotheses, except for American identity and family conflict.

Full-scale 3-block regression models. The predictive validity model for the following analyses included demographic variables entered into block 1, the overall scores from the BCB (2001) measure entered into block 2, and the overall mean stressfulness scores from the final version of the CBI entered into block 3.

Mothers' English Language Acculturation. In the first model, demographic variables were significant predictors of mothers' English language acculturation, $F(8, 93) = 6.63, p = .00$. Specifically, the lower the mothers' education level, the lower the fathers' education level, and the shorter the length of time in the U.S. ($\beta = .26, p < .05$, $\beta = .29, p < .05$, and $\beta = .38, p < .05$, respectively), the less acculturated the mother was in terms of English language. When the BCB (2001) measure was added in the second block, the second block was also a significant predictor of mothers' English language acculturation $F(9, 92) = 9.15, p = .00$, such that low mothers'

¹⁰ The 2-block predictive validity analyses were repeated by entering the frequency and stressfulness scales together in the second block. However, there was no change in outcome from including one scale to including both scales in the second block.

education level, shorter length of time in the U.S., and more culture brokering activities were predictors of less acculturation in terms of English language competence ($\beta = .22, p < .05$, $\beta = .33, p < .05$, and $\beta = -.39, p = .00$, respectively), adding 42% to the variance. The third overall block, which included the CBI, was also a significant predictor of mothers' English language acculturation $F(10, 91) = 8.19, p = .00$, but the CBI did not contribute any additional predictive value to the model. In the third block, mothers' education level, length of time in the U.S., and the BCB (2001) measure were the only predictors of mothers' English language acculturation ($\beta = .21, p = .00$, $\beta = .33, p = .00$, and $\beta = -.38, p = .00$, respectively).

Mothers' American Identity Acculturation. Demographic variables were not significant predictors of mothers' American identity acculturation, $F(8, 93) = .63, ns$. The BCB (2001) measure was also not a significant predictor of family conflict $F(9, 92) = .66, ns$. The CBI was also not a significant predictor of mothers' American identity acculturation $F(10, 91) = 1.01, ns$. Both culture broker measures contributed less than 1% to the variance in their respective blocks.

Mothers' American Behavior Acculturation. In the first block, demographic variables were significant predictors of mothers' American behavior acculturation, $F(8, 94) = 4.90, p = .00$. Specifically, the lower the fathers' education level, the shorter the length of time in the U.S., and living in an ethnic enclave ($\beta = .38, p < .05$, $\beta = .27, p < .05$, and $\beta = .18, p < .05$ respectively), the less acculturated the mother was in terms of American behavior acculturation. When the BCB (2001) measure was added to model in the second block, this block was also a significant predictor of mothers' American behavior acculturation $F(9, 93) = 8.61, p = .00$, such that lower the fathers' education level, shorter length of time in the U.S., and more culture brokering activities were predictors of less acculturation in terms of American behavior ($\beta = .20, p < .05$, $\beta = .21, p < .05$, and $\beta = -.48, p < .05$ respectively). The third overall block, which included the CBI, was still a

significant predictor of American behavior acculturation $F(10, 92) = 7.68, p = .00$. However, fathers' education level, length of time in the U.S., and the BCB (2001) measure were the only significant predictors of American behavior acculturation. The BCB (2001) measure contributed 40% to the variance, but when included in the model, the CBI did not add additional predictive value, above and beyond Buchanan's (2001) measure.

Family Conflict. Demographic variables were not significant predictors of family conflict, $F(8, 94) = .75, ns$. Buchanan's (2001) CB measure was also not a significant predictor of family conflict $F(9, 93) = .86, ns$. However, when the CBI stressfulness scale was entered into the model in the third block, the BCB (2001) measure and the CBI stressfulness scale were the only significant predictors of family conflict, $F(10, 92) = 1.78, p < .10$, such that more CB activities and more CB-related stress, the more family conflict they reported ($\beta = -.24, p = .00$ and $\beta = .33, p = .00$, respectively). Whereas the BCB (2001) measure contributed less than 1% to the variance in block 2, the CBI contributed to 6% variance in block 3, thus adding to the predictive value, above and beyond Buchanan's measure.

CBI domain-level predictive validity (frequency and stressfulness scales). To assess the predictive contributions of the specific domains to the outcomes assessing validity, all the regression analyses were rerun with the respective CBI domains (frequency or stressfulness) entered into block 3, one CBI subscale at a time. However, the results were not substantially different from the findings for the overall scales reported above.

Overall, for the whole-measure regression analyses, the CBI stressfulness scale was the only statistically significant predictor of family conflict. For the regressions by domain, none of the domains were statistically significant predictors of the outcome variables, apart from the Cultural Guide domain on the frequency scale, as a predictor of family conflict.

VI. DISCUSSION

Purpose of and Rationale for Current Research

The purpose of the current study was to offer a new conceptualization of and way to measure the construct of culture brokering. Culture brokers are a crucial asset for immigrant families as they are directly and indirectly involved in facilitating families' acculturative process. The extant literature has conceptualized and measured the culture broker role as a primarily one-dimensional construct, consisting of activities that are focused solely on translating and interpreting. However, research has shown that the culture broker role entails more nuanced and broader-ranging activities (Sorani-Villanueva, *unpublished manuscript*). As such, the purpose of the current study was twofold: 1) to re-conceptualize and broaden the culture broker role and 2) to develop and validate a culture brokering instrument (CBI) that measures the various ways in and degree to which children serve as translators, guides, and consultants as part of their family's acculturation process. To accomplish these goals, the present study used focus groups and cognitive interviews to develop items that represented multiple aspects of the CB role, then conducted analyses of the newly developed measure to test aspects of its reliability and validity.

Contributions of Current Research

The current research contributed to the literature and understanding of the culture-brokering phenomenon in the following ways. The first of these contributions is the incorporation of the ecological model (Trickett, 1996, 2009; Trickett, et al., 1985) to guide all phases of measurement development, from the way in which the CB construct was re-conceptualized to include person-environment transactions across multiple domains, to the application of mixed-methods, to the participatory nature of including culture brokers from diverse cultural backgrounds to determine which items to include in the final version. The re-conceptualization of the CB role to include activities in multiple domains: translator/interpreter, cultural guide, family task

manager, and family consultant is important in that it expands our understanding of the CB role where existing measures have narrowly operationalized the role to reflect only linguistic translating and interpreting activities. However, the current study demonstrated that the CB role can be conceptualized as a more complex and nuanced construct than originally conceptualized and measured.

These additional domains also broaden the ways in which the CBI can be used in the future. Because the existing measures are limited to translating activities in one or two settings, it has been difficult to determine the additional areas in which children broker or how these activities change across the brokers' developmental stages or differ across cultural groups. Tse's (1995) measure asked participants for whom they broker, what sites or settings, and their attitudes about brokering. Likewise, Buchanan's (2001) measure focused more on generic activities without considering the setting or scope of the activity. Both measures predominantly focused on linguistic activities, whereas the CBI went beyond to include more specific actions that take place in different settings. For example, the Tse (1995) and Buchanan (2001) measures asked if brokers "translate" for their parents, but did not specify the setting or the kind of information that needed to be translated. Translating at a grocery store is different than translating information at a bank or at a doctor's office. The terminology is different; the scope, seriousness, stressfulness of the activity is different. The CBI accounts for these differences by delineating not only the action (e.g., reading, writing, translating, or further explaining), the setting (e.g., schools, banks, medical or governmental offices), but also the perceived stressfulness of each activity.

This study was also unique in how items for the final version of the CBI were determined. The item exclusion process for this study entailed both an empirical and conceptual analysis. Though an empirical item exclusion analysis is common for measurement development and validation, the conceptual analysis is an important addition to this process and further reflects how

the ecological model (Trickett, 1996, 2009; Trickett, et al., 1985) was embedded in all facets of the process. After the empirical process was conducted, items marked for exclusion were reviewed again, and based on existing literature as well as the focus group and cognitive interview findings, a decision was made to keep some of those items in the final version of the CBI. Conversely, items marked for inclusion after the empirical analysis were reviewed again; those that were too similar and did not allow for good range of variability were not included in the final version. Ultimately, the conceptual analysis contributed to the variability of items by including those that were most frequently endorsed, not as frequently endorsed, most stressful, and not as stressful. The variability of items in the final version of the CBI will allow future researchers to use the instrument with a diverse range of participants where some items might be more salient than others, such as how explaining financial documents like tax or retirement forms might be an activity delegated to adult children but not so much for younger children. Alternatively, young children might be asked to perform this activity and it might be more stressful for them because their limited understanding of these concepts compared to older/adult children. Or how some activities might be more salient for some cultural groups but not for others, such as explaining possible threats to deportation for being undocumented. Ultimately, this information could help researchers, clinicians, and social service providers to better understand variations in frequency and stressfulness activities for different groups of brokers.

The new CBI measure also expands understanding of the CB role by not only capturing information about the frequency, or how often culture brokers engage in various activities, but also capturing information about how stressful they appraise each activity to be. This is an important contribution because conceptually there is a difference between the occurrence of an event and its effect or impact on the person involved. The existing measures do not differentiate between frequency and stressfulness of the CB activity. Culture brokering entails a wide range of activities,

from the most trivial, such as reading and translating a sales advertisement or restaurant menu, to explaining the process of paying and filing taxes. Therefore, the perceived stressfulness of the activity according to the culture broker will vary as a function of the activity itself as well as other multiple individual and contextual level factors.

When frequency and stressfulness of such activities are not captured separately, the different kinds of information regarding the CB role can be lost or difficult to parse out, particularly if an activity is not frequently occurring, but extremely stressful. Additionally, separating these two scales allows researchers to determine any differences across various demographic and contextual variables such as developmental stage or immigration status. Therefore, it is a strength of the CBI that it separately captures the frequency in which an activity occurs and how stressful that activity is appraised to be for the culture broker.

Another conceptual contribution of the study is found in the variation of participants' responses across culture broker domains and across the frequency/stressfulness distinction. For example, while the CG domain had the highest mean for frequency, its mean for stressfulness was one of the lowest, suggesting that although brokers frequently engage in culture-brokering related activities, they are not perceived to be as stressful as activities in some of the other domains. In the current study, the culture brokers were college-aged, so it is quite possible that by this age, many have already had experience with explaining various processes to their parents, thus not as overwhelming for brokers to engage in such activities. Additionally, many of the processes reflected in the CG domain are those that brokers need to become familiar with for themselves (e.g., how to apply to college or how banking works in the U.S). Their familiarity with these activities might offset the perceived stress in performing the same activities for their parents. In like manner, activities reflecting the FTM domain might not be that different from the activities that brokers do for themselves, such as paying their own bills, scheduling appointments, or

applying for a job. In other words, they may have been learning how to do these activities for themselves alongside their parents' requests.

Conversely, the mean for the frequency scale of the FC domain was the lowest, though it had the highest mean in terms of stressfulness compared to the other domains. With respect to the FC domain, brokers do not engage in consulting-related items as frequently as the others, but they may be the most stressful to complete. A possible explanation for this is that serving in the consultant capacity entails more responsibility, whereas serving as a cultural guide or even as the family task manager (lowest overall mean for stressfulness), is not as stressful due to the regular, even daily, occurrence of many of these activities.

Demographics and brokering. This diversity of responses was further evidenced when the means of the CBI domains were compared across demographic and contextual variables and descriptive differences were found. For example, with respect to brokering and gender, it is possible that the burden of serving in the CB capacity is much more stressful for female brokers if their cultural group adheres to traditional gender roles wherein females are not typically expected to make important decisions on behalf of the family. Future research might focus more explicitly on how gender interacts with differing domains of culture brokering. Additionally, differences in terms of immigration status suggest that U.S.-born culture brokers might be less acculturated to the native culture, thus valuing less the notions of familial responsibility or obligations. This interpretation is consistent with the finding that participants who lived in the U.S. the longest (more than 10 years) also reported higher overall mean levels of stress compared to those who had lived in the U.S. for less than 10 years.

Lastly, differences in perceived stress for brokers who reported that their families were living in an ethnic enclave compared to those who did not, suggest that the former can be a source of acculturative support for parents because they can interact with others of similar cultural and

linguistic backgrounds. For example, one focus group participant said, *“it depends where you grew up because the community really depends on...because...where I grew up there was other people that I had to translate for, other parents and stuff like that so I think that was part of the norm in that community having to help your parents through that stuff.”* However, ethnic enclaves may also hinder parents’ acculturation to the host country and subsequent exposure to American culture, processes, and the English language, thus increasing the reliance on their children to perform activities along these domains. In turn, this reliance not only contributes to increased frequency in which these activities occur, but the prolonged and often repetitiveness of performing these activities may create stress and frustration for the brokers. Taken together, these findings lend additional support for the importance of including culture brokering activities from different domains and understanding these activities in terms of frequency and stressfulness.

Validity Findings.

One purpose of the present study was to assess multiple aspects of validity of the CBI. One of those aspects involved a comparison of the newly developed measure to another measure of CB used in the published literature. Analyses comparing the overall instruments and domain specific analyses were conducted. Descriptively, the overall CBI frequency scale ($M = .68$) had a somewhat higher mean compared to the BCB (2001) measure ($M = .60$). In fact, the TI ($M = .76$) and CG ($M = .78$) domains also had higher mean frequencies compared to the BCB (2001) measure, which are the two domains that were also captured on the BCB. The FTM and FC domains had slightly lower frequency means ($M = .59$, $M = .48$, respectively). Whether this is due to the more robust definition of what constitutes brokering in the CBI, or because the BCB (2001) measure was developed for children culture brokers from the Former Soviet Union (FSU), and therefore may not be as fully applicable to diverse groups as the new CBI, is unclear.

Additionally, the correlation between the overall CBI frequency scale and BCB (2001) measure was $r = .62$, which is moderate in terms of strength. With respect to frequency, the correlations between the CBI domains and the BCB (2001) measure were moderate and positive, except for the FC domain, which had a weak correlation of $r = .28$, suggesting that the CBI captured information that was not present in Buchanan's (2001) measure. The correlation between the overall CBI stressfulness scale and the BCB (2001) was $r = .32$, which is relatively low, suggesting that the CBI captures information that the BCB (2001) does not. This was also seen for the stressfulness scale domains, where there was a positive, but weak correlation between the CBI domains and the BCB (2001) measure (see Table 20 for correlation matrix). These low correlations are plausible given that the BCB (2001) does not directly measure stressfulness at all, further supporting the notion that frequency and stressfulness are different aspects of the same phenomenon.

As part of the comparison between the CBI and Buchanan's (2001) measure, multiple regression analyses were conducted for the CBI overall and by domain, for both frequency and stressfulness. Findings supporting the predictive validity of the overall instrument compared to the existing Buchanan (2001) measure were modest. The frequency scores of the new measure did not add unique variance to the prediction of mothers' English language acculturation, American identity acculturation, American behavior acculturation, or family conflict. In terms of the regression model, the overall CBI stressfulness scale was only found to contribute shared and unique variance when predicting family conflict, but not for any of the American acculturation subscales. This finding suggests that stressfulness of CB activities can contribute to or be exacerbated by instances of family conflict, further supporting findings from previous studies that explored the relationship between CB and family dynamics (Jones & Trickett, 2005; Jones et al.,

2012). Overall, however, the new measure does not seem to add predictive validity over and above the Buchanan (2001) measure with respect to the outcomes studied here.

Predictive validity analyses for the CBI domains were consistent with the whole-measure analyses, in that the CBI frequency domains did not add any unique variance to the relationship. Additionally, with respect to the relationship between the CBI stressfulness domains and family conflict, the only significant predictor of this relationship was the Cultural Guide Domain. This finding is telling because it suggests that the stressfulness of explaining how processes of various systems and institutions operate has a toll on family dynamics, such that it leads to an increase in conflict between parents and brokers. Imagine having to explain the concept of living in a dorm (or off campus somewhere) to parents whose cultural beliefs are such that children are expected to live at home until they are married. This was also reiterated by a focus group participant who had to explain to her mom *“about dorming, ‘cause I dorm here and...she's like well why can't you commute and I'm like well it's easier for me to like focus when I'm here and she's like no, you don't have to, there's going to be boys on your floor...so there's like many things I have to tell her about [being a college student in the U.S.]”* It is quite plausible that the stressfulness of this activity would contribute to family conflicts, especially if the broker and parents have developed different beliefs/attitudes about independence and autonomy.

Limitations of Current Study

One of the limitations of the current study was the small sample size for the last phase of the study, testing and validating the final version of the CBI. To increase the power of the validity and reliability analyses, a larger sample size could have been beneficial. Of the 164 individuals who logged in to the Qualtrics website, only 114 participants completed the packet of questionnaires, yielding a 68% response rate. It took participants, on average, 21 minutes to complete the questionnaires, and there were just under 200 items across the multiple surveys. The

number of items and length of time it took participants to complete the questionnaire packet might indicate why there was not a higher response rate and why there was such a high rate of dropout/incomplete responses (31%).

This may also reflect the fact that the questionnaire packet was distributed online, so participants may not have felt much accountability to answer all the questions. Additionally, because most of the participants were students enrolled in the Psychology Subject Pool, they could have simply logged on to the online survey and not completed any or most of the items, knowing they would still receive their participation credit.

Another limitation of the study was lack of diversity in the participants who were recruited. Almost all participants were from the Subject Pool, which limited the sample to those who are typically first-year, traditional-aged college students, and essentially minimized the range in ages and/or culture brokering experiences of the participants compared to older students or students who might not have been taking a psychology class. Although all three phases of the current study included participants that represented multiple cultural groups, ethnicities, languages, and immigration experiences, and included a different group of culture brokers (adult-aged), more attention to diversity of participants and diversity of community settings is needed.

A final limitation is the measurement of mothers' acculturation via the broker's perspective, which may not be fully accurate, and therefore skew findings obtained from the predictive analyses. Additional variables were also excluded, such as the brokers' self-reports of their own native and American acculturation, which could have helped to understand descriptive differences in acculturation levels of the broker and to explain the predictive ability of the CBI.

Directions for Future Research

Though the current study has expanded understanding of the nuanced and multi-faceted culture broker role, there are many directions for future research. For one, future studies should

increase the sample size to ensure the strength and power of the validity analyses. Additionally, by incorporating items that reflect more complex contexts and activities (e.g., explaining the process of filing property or income taxes), researchers can understand the role from brokers who vary in age and developmental stages. Thus, researchers would reimagine the portrait of a culture broker, who in the past, has been depicted as a young child or teenager, without necessarily considering brokers when they become adults. For example, the CBI's multiple domains can help to answer questions about how brokering activities vary and evolve as the children grow and develop. The addition of these items across different contexts and domains would allow researchers to paint a more comprehensive and diverse portrait of culture brokers.

Another direction for future research would be to include additional items on the questionnaire to test other relationships between culture brokering and contextual variables such as where the participants are currently residing while they are engaging in culture-brokering activities. College-aged culture brokers who reside on campus (or not with their parents) might have a different level of involvement compared to college-aged culture brokers who live at home. This information was not collected in the current study, but is an interesting research question to explore, particularly when thinking about what supports are available to a culture broker who is undergoing multiple personal and family-related transitions, as well as the supports available to the parents who might still need assistance, but their children's brokering skills are not readily accessible. For example, many culture brokers are not only first-generation immigrants (either born in another country or immigrated when they were very young), but often they are also first-generation students of the American education system. Specifically, for college-aged culture brokers, the dual burden of navigating the higher education system (i.e., institutions, processes, and academic and social expectations), along with the demands that come with the culture broker role, can impact not only the educational experience of the broker but also alter family dynamics.

Additionally, the culture broker may have to choose between going to college at all or staying with the family and continuing to help. If the child can go to college, they may not be able to have the full experience as other non-culture brokering students (e.g., living on campus, going to an out-of-state school, participating in extra-curricular/co-curricular activities, committing enough time to their academic requirements). One focus group participant expressed frustration with her college experience and her parents constantly relying on her to broker and serve her family in other ways where, *“sometimes I think they like just assume because I’m [part of] the household, I know all of the financial, banking, stock market stuff. I’m the one that controls it all, so I’ve gone to all the meetings....so I feel like in some way they expect me to know more because I speak English and have to translate it to them...I guess in a way they assume that because you’re going to all the meetings [and speak English] you’re going to understand it.”* The dilemma between serving as a culture broker as an adult or fully immersing oneself in the college experience is ever present for many culture brokers. This internal and often perpetual conflict for culture brokers may have implications for their academic, social, and psychological well-being.

Family-level information could also help to further our understanding of the nuances of the culture broker role. For example, parental configuration of a household (i.e., a single-parent or two-parent) may influence the extent to and which domains of brokering are salient for some families but not for others. Parental configuration may also have implications for how stressful an activity and role in general is perceived by the broker. For example, single-parent headed households may require additional support from brokers either because one parent has to juggle multiple responsibilities, including caring for other children or working multiple jobs, to the point that they might not have time to acculturate, thus perpetuating the need for a culture broker.

The notion that the CB role extends beyond adolescence and into adulthood is another interesting area for future research. In the focus groups, for example, several participants echoed

the issue of having to broker the same activity repeatedly for their parents, even though their parents knew how to perform that activity themselves. These participants highlighted the possibility that lines can be blurred in terms of realizing when brokering ceases to be brokering and becomes doing favors/tasks for parents. For example, one focus group participant expressed her frustration at having to keep having to schedule the bills to be paid, even though her parents knew how because she had shown them several times before: *“they know I use the internet but not that well so when it comes to paying bills...online...I’ve taught them cause at first [they’re] like alright, I need you to do an account for me, I’m like okay, ‘pick a password...what do you want?’ and they’re like ‘you pick [a password], you’re doing it’, and I’m like what do you mean, you have to remember this...I know like their account numbers and everything to do with [their] money, so every month comes, they tell me ‘you gotta pay the bill,’ and I’m like ‘you wanna learn?’”* This is an example of how the culture broker role can be contorted to where the children are no longer brokering, but doing favors for their parents. As such, future research could collect qualitative or quantitative family-level information from participants about parental configuration to further explore the evolution of the CB role.

Researchers can also add to our existing knowledge of the culture broker role by collecting acculturation information about the culture broker himself/herself. The current study only captured acculturation information regarding the mother, but it would be very telling to gather information about the culture brokers as this might shed some light on how their own acculturation is related to the brokering they do and the perceived stress they experience. For example, it is not unlikely that a broker who is not as acculturated to the host country, but engages in multiple activities because the parents’ acculturation levels to the host country are also low, would experience more stress compared to a broker who is more American acculturated and engages in a similar number of or types of culture brokering activities.

The broker who is intended to provide support to his or her family is simultaneously in need of culture-brokering related support. One such example was provided by a focus group participant described having to help his mom with learning how to use public transportation while also having to figure it out for himself because he didn't know the system either: *"I had to teach my mom how to...catch the bus...umm so back home buses weren't really a thing it's a really small country, everyone just drives or when the weather is nice enough, you just walk....so I had to teach her like you know put money into the into the you know the bus thing and you know the stop here pull the little thing...but I think what the difference, I had to learn how to do it as well cause I didn't take public transport either but for me I felt like it was easier for me to learn it than it was for them..."* Thus, knowing both the American and native acculturation levels of the broker, as well as their levels of acculturative stress, and how these also relate to the parents' acculturation, can provide insight into better understanding influencing factors on the CB role and how practitioners can extend the support to all members of the family.

Finally, it would be interesting to compare college-aged culture brokers who attend different kinds of institutions (e.g., 4-year universities versus 2-year community colleges). Many community colleges have seen an influx in recent immigrants and refugees, who are not only navigating a new country, but also a new role as a college student, are serving as the culture broker for their families, and often, have the added stress of working full-time or multiple jobs to help financially support themselves and/or their families. In this light, it would be important to identify some of the other stressors, acculturative and general, in a culture broker's life and further explore how those stressors compare to the perceived stress they feel when they broker.

VII. CONCLUSION

The purpose of the current study is to further our knowledge and understanding of the nuanced and multi-faceted role that culture brokers adopt (voluntarily or by default), through the development of an instrument, which includes items that reflect those nuances in terms of types of activities and the varying contexts in which they can occur. Though culture brokers are an important part of the acculturation process for their family members, the richness and complexity of their roles have been under- and even misrepresented in both conceptualization and measurement. As such, the goal of this study was to shed some light on this population in the hopes that a deeper understanding could also yield more support for brokers and their family.

As a community psychologist, I would be remiss if I did not include a note about the social justice implications of research with refugees and immigrants, especially considering the recent political atmosphere in the United States. Community psychologists have an obligation and commitment to issues of social justice (Prilleltensky & Nelson, 2009), and the healthy adjustment and acculturation of immigrants and refugees (Birman, Simon, Chan, & Tran, 2014). At a time when immigrants and refugees face increasing discrimination and political vilification, and a greater likelihood of being separated from their family members, the role and scope of culture brokering may further evolve and become more crucial for families. One culture broker described how his role was shifting because of the potential ramifications given, *“the political debate and upcoming campaign, I think explaining [about] Donald Trump or something like that ‘cause they’ve been asking about that a lot, they understand a little bit but...the thing is my parents don’t have papers, they’re immigrants and stuff so they’re really concerned about a lot of repercussions.”*

The current political climate and the often negative rhetoric against immigrants and refugees can find brokers in the difficult position of having to broker in contexts that and between

people who may display hostility toward them and their parents. These negative tones and exposure to microaggressions can also take a toll on the brokers. This can also have implications for how stressfulness is perceived by the brokers – how stressfulness with respect to brokering has currently been conceptualized – may not only have to do with the activity itself but with how the broker experiences the reaction to or response from individuals who are displaying these negative attitudes and behaviors toward their family.

The current political context also has implications for how the CB role may continue to evolve from one that entails serving as a translator/interpreter, cultural guide, family task manager, or family consultant, to also include engaging in activities related to advocacy, activism and empowerment (Garcia-Ramirez, de la Mata, Paloma, Hernandez-Plaza, 2011). For example, some brokers may have to provide protection from discrimination or threats from police and Immigration and Customs Enforcement (ICE). This was eloquently mentioned by one of the participants during the focus groups where *“sometimes [parents] can't do things without me because they actually can't, they're not allowed to cause they don't have their papers, like they don't have their license so I have to drive them somewhere.”* In this case, the scope of the brokering role has potentially shifted to being an advocate and protector for the family because exposure of their undocumented status could lead to deportation.

Additionally, brokers may find themselves assisting members outside of their family, which is contrary to what the extant literature on brokering has suggested, however, making it all the more imperative to not only understand the culture brokering role, in general, but also how it is situated in the lives of different immigrant and refugee groups, and how this role influences the acculturation, adaptation, and dynamics of families. The ways in which the brokering role is experienced may be different from one broker to the next and from one cultural group to another, indicating the importance of also considering contextual, familial, and cultural differences with

respect to brokering. For example, filling out legal forms or going with parents to the immigration office may be different for Polish families compared to Mexican families compared to Iraqi families, all of which may be governed by the political climate. Understanding the multiple contextual and cultural influences is helpful for researchers and practitioners alike.

It is also important to understand how the culture broker role could promote familiar and community resources, especially with respect to organizing and empowering families and communities to gain more resources, have their voices heard, and collectively engage in promoting a fairer society. Immigrants and refugees are becoming more vulnerable populations in the United States in the current political climate, and the role of community psychologists, researchers, and practitioners, is not only to better understand their lived experiences, but to provide supports for and advocate on their behalf to promote a positive transition and adjustment for these individuals and their families.

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APPENDICES

Appendix A

Initial Pool of Instrument Items

Domain 1: Verbal/Linguistic Translator

- Reading and translating mail, emails, internet
- Filling out forms, documents, applications
- Replying to letters, emails
- Translating between parents and others
- Translating media (TV / radio / internet)
- Dictating to parents what/how to write a letter or fill out a form
- Answering phone calls, translating information

Domain 2: Cultural Guide

- Educating/informing parents about various systems in the U.S. including school, health, finance, immigration, government, work, etc.
- Scheduling/making appointments on parents' behalf
- Signing documents on behalf of parents
- Pretending to be the parent (on the phone / via email)

Domain 3: Family Consultant

- Scaffolding/modeling how to do something
- Going with parents to appointments/errands
- Managing family finances (e.g., writing checks, or scheduling online bill pay)
- Consulting with parents on decisions affecting them and/or entire family (e.g., how to discipline a sibling who has been doing poorly in school; whether the mother should get a job or stay at home and take care of the children)

Appendix B

Focus Group Protocol

Hello, everyone! My name is Sandra Villanueva and I am a doctoral student in the Psychology department at UIC. I am working on my dissertation and my topic is on a concept called culture brokering. Culture brokering includes activities that children do to assist their family when they immigrate to the United States. Today, I want to hear about your experiences with these activities, in particular those that may have happened in the last 6 months.

Question Type	Question	Time
Opening	First, I'd like to ask some basic questions about each of you. Tell us your name, your major, and what your favorite food.	5
Introduction	Describe how children of immigrants help their parents learn about and adjust to the United States.	10
Transition	How old do you think you were when you first started helping your parents in this way?	5
Transition	Other than you, who else do your parents ask for help?	5
Key	In the past six months, how have you helped your parents learn about or adjust to the way things are done in the United States?	15
Key	How have some of these activities changed over the years?	10
PROBE	Verbally provide participants with any items on Appendix A that was not mentioned and ask if they've helped in these ways.	5
Key Domain 1	Describe how you've helped your parents by translating or interpreting something verbally or in writing.	10
Key Domain 2	Describe how you've helped your parents by explaining how things are done in the U.S., such as applying for a job, or taking public transportation.	10
Key Domain 3	Describe some decisions you've made that affected the whole family? How was it made: with your parents or on your own?	10
Key	What are some things that your parents will not ask for help with?	10
Key	How do you feel when your parents ask you to help them?	5
Ending	Is there anything that you'd like to add to what was already said?	5
Final	Is there anything that we should have talked about but didn't?	5

Appendix C

Cognitive Interview Grid

For each item, the following questions will be asked of the participants:

- Appropriateness – how suitable the item is to the participants’ culture?
- Clarity/comprehensibility – how clear is the wording and syntax of the item?
- Difficulty – participants’ ability to cognitively respond or react to the item?
- Relevance – how well participants can connect items to their experiences as a broker?

Item	Appropriateness	Clarity	Relevance	Difficulty	Suggested Solution K – M - R	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

K = Keep M = Modify R = Remove

Appendix D

Demographics Questionnaire

1)	What is your gender?	Male Female
2)	What is your immigrant generation status?	Not born in U.S.; came young (under 18) Not born in U.S.; came as an adult (over 18) Born in the U.S.
3)	How long have you lived in the United States?	Less than 1 year 1 – 5 years 6 – 10 years 11 or more years
4)	Do you have any other siblings?	Yes No
5)	If yes, what is your birth order?	Oldest Middle Youngest Other _____
6)	What is your racial/ethnic background?	Non-Hispanic White or European American Black, Afro-Caribbean or African American Latino or Hispanic American Asian or Asian American Middle Eastern or Arab American Native American or Alaskan Native Other
7)	What is your mothers' highest level of education?	Less than high school High school / GED College degree (B.A. / B.S) Advanced / Professional degree (Ph.D. / Ed.D / JD / MD)
8)	What is your fathers' highest level of education?	Less than high school High school / GED College degree (B.A. / B.S) Advanced / Professional degree (Ph.D. / Ed.D / JD / MD)
9)	Does your family live in a neighborhood where the majority of residents reflect your racial/ethnic background?	Yes No

Appendix E

Preliminary Format of the Culture Broker Instrument (CBI)*

For each of the following activities, please indicate how often have your parents or other family members relied on you to participate in the following activities because they don't speak English and/or are not familiar with American customs in the past six months. Then for each activity, please indicate how stressful the activity is for you.

	Frequency**					Stressfulness**				
	1	2	3	4	5	1	2	3	4	5
Translating/Interpreting Domain										
Item 1										
Item 2										
Item 3										
Item 4										
Cultural Guide Domain										
Item 5										
Item 6										
Item 7										
Item 8										
Family Consultant Domain										
Item 9										
Item 10										
Item 11										
Item 12										

**Subject to change. Number of items for each domain and which items will be included will be determined after analyzing the results of the focus groups and cognitive interviews.*

***Anchor wording and number of anchors (4 point or 5 point) will be determined by participants of the cognitive interviews.*

Appendix F

Culture Broker Survey (Buchanan, 2001)

For each of the following items, please indicate whether your parents or other family members have relied on you to do these things in the past 6 months, *because they don't speak English and/or are not familiar with American customs*.

Do your parents or other family members rely on you to:

Yes

No

1. Answer the telephone for them?
2. Answer the door for them?
3. Translate for them?
4. Schedule appointments or go with them to appointments?
5. Help them fill out applications?
6. Explain how schools work in this country?
7. Deal with government agencies?

Appendix G

Language, Identity, and Behavior (LIB) Acculturation Measure (Birman & Trickett, 2001)

Modified Version

What is your family's country of origin? _____

What is your family's cultural background? _____

What is your family's native language? _____

For each of the following statements, think about your *mothers' immigration experience*, and respond by selecting one of the four possible answers.

A. Language

How would you rate *your mothers' ability* to speak *English*:

	Not at all		Very well, like a native	
1. at work	1	2	3	4
2. with American friends	1	2	3	4
3. on the phone	1	2	3	4
4. with strangers	1	2	3	4
5. overall	1	2	3	4

How well does *your mother* understand *English*:

6. on TV or at the movies	1	2	3	4
7. in newspapers or in magazines, internet	1	2	3	4
8. in songs	1	2	3	4
9. overall	1	2	3	4

How would you rate *your mothers' ability* to speak *your family's native language*:

10. with family	1	2	3	4
11. with friends of the same cultural background	1	2	3	4
12. on the phone	1	2	3	4
13. with strangers	1	2	3	4
14. overall	1	2	3	4

How well does *your mother* understand *your family's native language*:

15. on TV or at the movies	1	2	3	4
16. in newspapers or in magazines, internet, social media	1	2	3	4
17. in songs	1	2	3	4
18. overall	1	2	3	4

B. Cultural Identity:

In the following questions, we would like to know the extent to which ***your mother*** considers herself as an American and the extent to which ***she*** identifies with your family's cultural background.

To what extent are the following statements true of ***your mother***?

		Not at all	Very much	
19. Your mother thinks of herself as being <i>American</i>	1	2	3	4
20. Your mother feels good about being <i>American</i>	1	2	3	4
21. Being <i>American</i> plays an important part in your mothers' life.....	1	2	3	4
22. Your mother feels that she is part of <i>American</i> culture.....	1	2	3	4
23. If someone criticizes <i>Americans</i> , your mother feels like they are criticizing her	1	2	3	4
24. Your mother has a strong sense of being <i>American</i>	1	2	3	4
25. Your mother is proud of being <i>American</i>	1	2	3	4

We are interested in learning about ***your mothers'*** identification with ***her*** ethnic identity (e.g. Mexican, Chinese, Pakistani, Russian, Nigerian, etc.).

26. How would you describe ***your mothers'*** ethnic identity: _____

Please answer the questions below concerning ***your mothers'*** ethnic identity mentioned above.

27. Your mother thinks of herself as being (<i>your ethnic identity</i>)	1	2	3	4
28. Your mother feels good about being (<i>your ethnic identity</i>).....	1	2	3	4
29. Being (<i>your ethnic identity</i>) plays an important part in your mothers' life...	1	2	3	4
30. Your mother feels that she is part of (<i>your ethnic identity</i>).....	1	2	3	4
31. If someone criticizes (<i>your ethnic identity</i>), your mother feels they are criticizing her....	1	2	3	4
32. Your mother has a strong sense of being (<i>your ethnic identity</i>).....	1	2	3	4
33. Your mother is proud that she is (<i>your ethnic identity</i>)	1	2	3	4

C. Cultural Participation ("Behavioral Acculturation")

To what extent are the following statements true about the things that ***your mother*** does?

How much does ***your mother*** speak ***English***:

Very much

Not at all

1. at home?	1	2	3	4
2. at work?	1	2	3	4
3. with friends?.....	1	2	3	4

How much *does your mother*:

4.	read <i>American</i> books, newspapers, or magazines, websites?	1	2	3	4
5.	listen to <i>American</i> songs?.....	1	2	3	4
6.	watch <i>American</i> movies (on TV, internet, etc.)?	1	2	3	4
	4				
7.	eat <i>American</i> food?.....	1	2	3	4
8.	have <i>American</i> friends?....	1	2	3	4
9.	attend <i>American</i> clubs or parties?.....	1	2	3	4

How much does *your mother* speak *your family's native language*:

10.	at home?	1	2	3	4
11.	at work?	1	2	3	4
12.	with friends?	1	2	3	4

How much does *your mother*:

13.	read books, newspapers, or magazines written in <i>your family's native language</i> ?.....	1	2	3	4
14.	listen to songs in <i>your family's native language</i> ?	1	2	3	4
15.	watch movies in <i>your family's native language</i> ?.....	1	2	3	4
16.	eat <i>your ethnic</i> food?	1	2	3	4
17.	have friends of the <i>same cultural/ethnic</i> <i>background</i> as you?....	1	2	3	4
18.	attend <i>your ethnic</i> clubs or parties?	1	2	3	4

Appendix H

Family Conflict (Rueter & Conger, 1995)

Please circle the number, which indicates *how often you and your parent(s)* disagree or get upset with each other about the following topics:

	Never				All the Time
1. Money.....	0	1	2	3	4
2. School grades/homework.....	0	1	2	3	4
3. Choice of friends.....	0	1	2	3	4
4. How I spend my free time.....	0	1	2	3	4
5. Curfews.....	0	1	2	3	4
6. Chores at home.....	0	1	2	3	4
7. School activities.....	0	1	2	3	4
8. Family time together.....	0	1	2	3	4
9. Alcohol.....	0	1	2	3	4
10. Drugs.....	0	1	2	3	4
11. Tobacco.....	0	1	2	3	4
12. Clothes and/or appearance.....	0	1	2	3	4
13. Movies/TV.....	0	1	2	3	4
14. Church/Synagogue.....	0	1	2	3	4
15. Fighting with brothers/sisters.....	0	1	2	3	4
16. Dating.....	0	1	2	3	4
17. Outside jobs.....	0	1	2	3	4
18. Attitudes/respect.....	0	1	2	3	4
19. Discipline.....	0	1	2	3	4
20. Transportation to places or use of family car...	0	1	2	3	4
21. Eating.....	0	1	2	3	4
22. Lying.....	0	1	2	3	4
23. Swearing, talking back.....	0	1	2	3	4
24. Breaking rules.....	0	1	2	3	4
25. Activities with friends.....	0	1	2	3	4
26. Trouble with the law.....	0	1	2	3	4
27. Troubles at school.....	0	1	2	3	4
28. Other topic (if none, circle 0).....	0	1	2	3	4
Please write in other topics:					
a.	0	1	2	3	4
b.	0	1	2	3	4

From the list above, choose the topic number that causes . . .

1. The **most conflict** for you with your parent(s) # _____
2. The **2nd most conflict** for you with your parent(s) # _____
3. The **3rd most conflict** for you with your parent(s) # _____

Appendix I

Final Format of the Culture Broker Instrument (CBI)

For each of the following activities, please indicate how often have your parents or other family members relied on you to participate in the following activities because they don't speak English and/or are not familiar with American customs in the past six months. Then for each activity, please indicate how stressful the activity is for you.

	Occurrence		Stressfulness			
	0 No	1 Yes	0 Not at all Stressful	1	2	3 Very Stressful
Translating/Interpreting Domain						
Item 1						
Item 2						
Item 3						
Item 4						
Item 5						
Item 6						
Item 7						
Item 8						
Item 9						
Item 10						
Item 11						
Cultural Guide Domain						
Item 1						
Item 2						
Item 3						
Item 4						
Item 5						
Item 6						
Family Task Manager Domain						
Item 1						
Item 2						
Item 3						
Item 4						
Item 5						
Family Consultant Domain						
Item 1						
Item 2						
Item 3						
Item 4						
Item 5						

TABLES

Table 1. Focus Group Descriptives

Focus Group	Participants	Females	Males	Cultural Background(s)	Duration
1	2	2	0	European/Middle Eastern	25 min.
2	6	5	1	Asian	52 min.
3	6	3	3	Latino	57 min.
4	5	2	3	Mixed	59 min.
5	4	3	1	European/Middle Eastern	56 min.

Table 2. Cognitive Interview Descriptives

Cognitive Interview	Gender	Duration*
1	F	46 min.
2	M	35 min.
3	F	32 min.
4	F	40 min.
5	F	40 min.
6	F	20 min.

*Note: As the data became more saturated, the duration of the interviews decreased.

Table 3. CBI Frequency Scale (Original) Sorted by Domain

Item	Domain	Description	N	M	SD	Frequency Endorsed	
1	TI	1 Reading and translating medical letters, documents, emails.	113	.84	.37	95	84%
2	TI	2 Reading and translating school-related letters, documents, emails.	113	.82	.38	93	82%
3	TI	3 Reading and translating work-related letters, documents, emails.	113	.80	.40	90	80%
4	TI	4 Reading and translating financial letters, documents, emails.	112	.81	.39	91	81%
5	TI	5 Reading and translating legal letters, documents, emails.	113	.79	.41	89	79%
6	TI	6 Filling out medical forms, documents, applications.	113	.75	.43	85	75%
7	TI	7 Filling out school-related forms, documents, applications.	113	.81	.39	92	81%
8	TI	8 Filling out work-related forms, documents, applications.	113	.70	.46	79	70%
9	TI	9 Filling out financial forms, documents, applications.	112	.76	.43	85	76%
10	TI	10 Filling out legal forms, documents, applications.	111	.73	.45	81	73%
11	TI	11 Translating in-person between your parents and a salesperson at the store.	113	.76	.43	86	76%
12	TI	12 Translating in-person between your parents and other individuals at the doctor's office or hospital.	112	.71	.46	79	71%
13	TI	13 Translating in-person between your parents and other individuals at your school.	112	.68	.47	76	68%
14	TI	14 Translating in-person between your parents and other individuals at the bank.	112	.58	.50	65	58%
15	TI	15 Translating in-person between your parents and other individuals at a government agency or office.	113	.62	.49	70	62%
16	TI	16 Translating on the phone between your parents and other individuals.	113	.65	.48	74	65%
17	TI	17 Translating movies or TV shows.	113	.58	.50	66	58%
18	TI	18 Translating websites or webpages.	112	.71	.45	80	71%
19	TI	19 Translating music or radio talk shows.	112	.52	.50	58	52%
20	TI	20 Other	44	.27	.45	12	27%
21	CG	1 Explaining how schools work in this country (grammar school, high school, college).	112	.88	.33	98	88%
22	CG	2 Explaining how to pay bills or do banking, online or in person.	112	.61	.49	68	61%
23	CG	3 Explaining the process of applying for a job in the United States.	112	.49	.50	55	49%

24	CG	4	Explaining how to use technology (e.g., computers, cell phones).	112	.90	.30	101	90%
25	CG	5	Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	112	.82	.38	92	82%
26	CG	6	Explaining local, state, and/or federal laws to parents.	111	.63	.48	70	63%
27	CG	7	Explaining the process of using different modes of transportation (e.g., buses, trains, cars).	112	.52	.50	58	52%
28	CG	8	Explaining the process of shopping or negotiating for better prices.	112	.39	.49	44	39%
29	CG	9	Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	112	.81	.39	91	81%
30	CG	10	Other	33	.30	.47	10	30%
31	FTM	1	Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	112	.66	.48	74	66%
32	FTM	2	Scheduling or making appointments for your parents or family members.	113	.59	.49	67	59%
33	FTM	3	Paying bills or doing the banking, online or in person for your parents or other family members.	113	.50	.50	57	50%
34	FTM	4	Applying for a job for your parents or other family members.	112	.36	.48	40	36%
35	FTM	5	Navigating the Internet or using the cell phone for your parents or other family members because they did not have access to these technologies before they immigrated.	113	.74	.44	84	74%
36	FTM	6	Updating social media content for your parents or other family members.	113	.52	.50	59	52%
37	FTM	7	Going with your parents or family members to their appointments.	113	.66	.47	75	66%
38	FTM	8	Other	29	.34	.48	10	34%
39	FC	1	Advising your parents what decision to make when buying a car.	113	.37	.49	42	37%
40	FC	2	Advising your parents what decision to make when buying a house.	112	.43	.50	48	43%
41	FC	3	Advising your parents what decision to make about relocating to another neighborhood, city, or state.	113	.50	.50	57	50%
42	FC	4	Advising your parents how to discipline a sibling(s).	113	.56	.50	63	56%
43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	113	.58	.50	65	58%
44	FC	6	Making a decision together with your parents about buying a car together with your parents.	112	.49	.50	55	49%

45	FC	7	Making a decision together with your parents about buying a house.	113	.43	.50	49	43%
46	FC	8	Making a decision together with your parents about relocating to another neighborhood, city, or state.	113	.50	.50	57	50%
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	113	.50	.50	56	50%
48	FC	10	Making a decision together with your parents related to your sibling(s) education.	113	.52	.50	59	52%
49	FC	11	Other	30	.30	.47	9	30%
50	FDM	1	Making a medically related decision for your family (e.g., switching health insurance policies) without discussing it with them first.	113	.27	.45	31	27%
51	FDM	2	Making an academically related decision for your family (e.g., which school to attend, whether or not live on campus) without discussing it with them first.	113	.58	.50	65	58%
52	FDM	3	Making a financially related decision for your family (e.g., switching cell phone carriers) without discussing it with them first.	113	.40	.50	45	40%
53	FDM	4	Other	29	.24	.44	7	24%

Table 4. CBI Frequency Scale (Original) Sorted by Most Endorsed Activity (Highest Mean)

Item	Domain		Description	N	M	SD	Frequency Endorsed	
24	CG	4	Explaining how to use technology (e.g., computers, cell phones).	112	.90	.30	101	90%
21	CG	1	Explaining how schools work in this country (grammar school, high school, college).	112	.88	.33	98	88%
1	TI	1	Reading and translating medical letters, documents, emails.	113	.84	.37	95	84%
2	TI	2	Reading and translating school-related letters, documents, emails.	113	.82	.38	93	82%
25	CG	5	Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	112	.82	.38	92	82%
4	TI	4	Reading and translating financial letters, documents, emails.	112	.81	.39	91	81%
7	TI	7	Filling out school-related forms, documents, applications.	113	.81	.39	92	81%
29	CG	9	Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	112	.81	.39	91	81%
3	TI	3	Reading and translating work-related letters, documents, emails.	113	.80	.40	90	80%
5	TI	5	Reading and translating legal letters, documents, emails.	113	.79	.41	89	79%
9	TI	9	Filling out financial forms, documents, applications.	112	.76	.43	85	76%
11	TI	11	Translating in-person between your parents and a salesperson at the store.	113	.76	.43	86	76%
6	TI	6	Filling out medical forms, documents, applications.	113	.75	.43	85	75%
35	FTM	5	Navigating the Internet or using the cell phone for your parents or other family members because they did not have access to these technologies before they immigrated.	113	.74	.44	84	74%
10	TI	10	Filling out legal forms, documents, applications.	111	.73	.45	81	73%
12	TI	12	Translating in-person between your parents and other individuals at the doctor's office or hospital.	112	.71	.46	79	71%
18	TI	18	Translating websites or webpages.	112	.71	.45	80	71%
8	TI	8	Filling out work-related forms, documents, applications.	113	.70	.46	79	70%
13	TI	13	Translating in-person between your parents and other individuals at your school.	112	.68	.47	76	68%
31	FTM	1	Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	112	.66	.48	74	66%

37	FTM	7	Going with your parents or family members to their appointments.	113	.66	.47	75	66%
16	TI	16	Translating on the phone between your parents and other individuals.	113	.65	.48	74	65%
26	CG	6	Explaining local, state, and/or federal laws to parents.	111	.63	.48	70	63%
15	TI	15	Translating in-person between your parents and other individuals at a government agency or office.	113	.62	.49	70	62%
22	CG	2	Explaining how to pay bills or do banking, online or in person.	112	.61	.49	68	61%
32	FTM	2	Scheduling or making appointments for your parents or family members.	113	.59	.49	67	59%
14	TI	14	Translating in-person between your parents and other individuals at the bank.	112	.58	.50	65	58%
17	TI	17	Translating movies or TV shows.	113	.58	.50	66	58%
43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	113	.58	.50	65	58%
51	FDM	2	Making an academically related decision for your family (e.g., which school to attend, whether or not live on campus) without discussing it with them first.	113	.58	.50	65	58%
42	FC	4	Advising your parents how to discipline a sibling(s).	113	.56	.50	63	56%
19	TI	19	Translating music or radio talk shows.	112	.52	.50	58	52%
27	CG	7	Explaining the process of using different modes of transportation (e.g., buses, trains, cars).	112	.52	.50	58	52%
36	FTM	6	Updating social media content for your parents or other family members.	113	.52	.50	59	52%
48	FC	10	Making a decision together with your parents related to your sibling(s) education.	113	.52	.50	59	52%
33	FTM	3	Paying bills or doing the banking, online or in person for your parents or other family members.	113	.50	.50	57	50%
41	FC	3	Advising your parents what decision to make about relocating to another neighborhood, city, or state.	113	.50	.50	57	50%
46	FC	8	Making a decision together with your parents about relocating to another neighborhood, city, or state.	113	.50	.50	57	50%
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	113	.50	.50	56	50%
23	CG	3	Explaining the process of applying for a job in the United States.	112	.49	.50	55	49%
44	FC	6	Making a decision together with your parents about buying a car together with your parents.	112	.49	.50	55	49%
40	FC	2	Advising your parents what decision to make when buying a house.	112	.43	.50	48	43%
45	FC	7	Making a decision together with your parents about buying a house.	113	.43	.50	49	43%

52	FDM	3	Making a financially related decision for your family (e.g., switching cell phone carriers) without discussing it with them first.	113	.40	.50	45	40%
28	CG	8	Explaining the process of shopping or negotiating for better prices.	112	.39	.49	44	39%
39	FC	1	Advising your parents what decision to make when buying a car.	113	.37	.49	42	37%
34	FTM	4	Applying for a job for your parents or other family members.	112	.36	.48	40	36%
38	FTM	8	Other	29	.34	.48	10	34%
30	CG	10	Other	33	.30	.47	10	30%
49	FC	11	Other	30	.30	.47	9	30%
20	TI	20	Other	44	.27	.45	12	27%
50	FDM	1	Making a medically related decision for your family (e.g., switching health insurance policies) without discussing it with them first.	113	.27	.45	31	27%
53	FDM	4	Other	29	.24	.44	7	24%

Table 5. CBI Stressfulness Scale (Original) Sorted by Domain

Item	Domain	Description	n	M	SD
1	TI	1 Reading and translating medical letters, documents, emails.	95	2.12	0.96
2	TI	2 Reading and translating school-related letters, documents, emails.	91	1.74	0.84
3	TI	3 Reading and translating work-related letters, documents, emails.	90	2.07	0.93
4	TI	4 Reading and translating financial letters, documents, emails.	91	2.25	1.04
5	TI	5 Reading and translating legal letters, documents, emails.	89	2.26	1.1
6	TI	6 Filling out medical forms, documents, applications.	84	2.08	0.95
7	TI	7 Filling out school-related forms, documents, applications.	92	1.91	1.03
8	TI	8 Filling out work-related forms, documents, applications.	78	1.94	0.92
9	TI	9 Filling out financial forms, documents, applications.	86	2.22	0.99
10	TI	10 Filling out legal forms, documents, applications.	82	2.24	1.08
11	TI	11 Translating in-person between your parents and a salesperson at the store.	84	1.98	1.03
12	TI	12 Translating in-person between your parents and other individuals at the doctor's office or hospital.	78	2.06	1.04
13	TI	13 Translating in-person between your parents and other individuals at your school.	77	1.9	1.00
14	TI	14 Translating in-person between your parents and other individuals at the bank.	65	1.97	0.98
15	TI	15 Translating in-person between your parents and other individuals at a government agency or office.	70	2.07	1.07
16	TI	16 Translating on the phone between your parents and other individuals.	74	2.04	1
17	TI	17 Translating movies or TV shows.	66	1.55	0.81
18	TI	18 Translating websites or webpages.	81	1.67	0.79
19	TI	19 Translating music or radio talk shows.	59	1.54	0.82
20	TI	20 Other	17	1.76	0.90
21	CG	1 Explaining how schools work in this country (grammar school, high school, college).	98	1.87	0.87
22	CG	2 Explaining how to pay bills or do banking, online or in person.	68	1.90	0.88
23	CG	3 Explaining the process of applying for a job in the United States.	55	1.93	1.00
24	CG	4 Explaining how to use technology (e.g., computers, cell phones).	101	2.14	0.99
25	CG	5 Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	91	1.82	0.9
26	CG	6 Explaining local, state, and/or federal laws to parents.	70	2.07	0.95
27	CG	7 Explaining the process of using different modes of transportation (e.g., buses, trains, cars).	58	1.74	0.81
28	CG	8 Explaining the process of shopping or negotiating for better prices.	44	1.82	0.72
29	CG	9 Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	91	2.15	1.1

30	CG	10	Other	16	1.63	0.72
31	FTM	1	Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	73	2.14	0.95
32	FTM	2	Scheduling or making appointments for your parents or family members.	67	1.82	0.89
33	FTM	3	Paying bills or doing the banking, online or in person for your parents or other family members.	57	1.86	1.01
34	FTM	4	Applying for a job for your parents or other family members.	41	1.95	1.05
35	FTM	5	Navigating the Internet or using the cell phone for your parents or other family members because they did not have access to these technologies before they immigrated.	83	1.9	1.07
36	FTM	6	Updating social media content for your parents or other family members.	57	1.7	0.96
37	FTM	7	Going with your parents or family members to their appointments.	75	1.96	0.97
38	FTM	8	Other	12	1.75	1.14
39	FC	1	Advising your parents what decision to make when buying a car.	41	2.00	0.95
40	FC	2	Advising your parents what decision to make when buying a house.	49	2.20	0.98
41	FC	3	Advising your parents what decision to make about relocating to another neighborhood, city, or state.	56	2.09	1
42	FC	4	Advising your parents how to discipline a sibling(s).	63	2.43	1.06
43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	65	2.22	1.01
44	FC	6	Making a decision together with your parents about buying a car together with your parents.	56	2.18	1.03
45	FC	7	Making a decision together with your parents about buying a house.	48	2.17	0.98
46	FC	8	Making a decision together with your parents about relocating to another neighborhood, city, or state.	57	2.28	1.07
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	55	2.33	1.00
48	FC	10	Making a decision together with your parents related to your sibling(s) education .	59	2.29	0.98
49	FC	11	Other	13	2.00	1.08
50	FDM	1	Making a medically related decision for your family (e.g., switching health insurance policies) without discussing it with them first.	30	2.33	0.99
51	FDM	2	Making an academically related decision for your family (e.g., which school to attend, whether or not live on campus) without discussing it with them first.	65	2.58	1.10
52	FDM	3	Making a financially related decision for your family (e.g., switching cell phone carriers) without discussing it with them first.	45	2.20	1.12
53	FDM	4	Other	11	1.91	1.22

Table 6. CBI Stressfulness Scale (Original) Sorted by Highest Mean

Item	Domain		Description	n	M	SD
51	FDM	2	Making an academically related decision for your family (e.g., which school to attend, whether or not live on campus) without discussing it with them first.	65	2.58	1.10
42	FC	4	Advising your parents how to discipline a sibling(s).	63	2.43	1.06
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	55	2.33	1.00
50	FDM	1	Making a medically related decision for your family (e.g., switching health insurance policies) without discussing it with them first.	30	2.33	0.99
48	FC	10	Making a decision together with your parents related to your sibling(s) education .	59	2.29	0.98
46	FC	8	Making a decision together with your parents about relocating to another neighborhood, city, or state.	57	2.28	1.07
5	TI	5	Reading and translating legal letters, documents, emails.	89	2.26	1.1
4	TI	4	Reading and translating financial letters, documents, emails.	91	2.25	1.04
10	TI	10	Filling out legal forms, documents, applications.	82	2.24	1.08
9	TI	9	Filling out financial forms, documents, applications.	86	2.22	0.99
43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	65	2.22	1.01
40	FC	2	Advising your parents what decision to make when buying a house.	49	2.20	0.98
52	FDM	3	Making a financially related decision for your family (e.g., switching cell phone carriers) without discussing it with them first.	45	2.20	1.12
44	FC	6	Making a decision together with your parents about buying a car together with your parents.	56	2.18	1.03
45	FC	7	Making a decision together with your parents about buying a house.	48	2.17	0.98
29	CG	9	Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	91	2.15	1.1
24	CG	4	Explaining how to use technology (e.g., computers, cell phones).	10		
31	FTM	1	Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	73	2.14	0.95
1	TI	1	Reading and translating medical letters, documents, emails.	95	2.12	0.96
41	FC	3	Advising your parents what decision to make about relocating to another neighborhood, city, or state.	56	2.09	1
6	TI	6	Filling out medical forms, documents, applications.	84	2.08	0.95
3	TI	3	Reading and translating work-related letters, documents, emails.	90	2.07	0.93
15	TI	15	Translating in-person between your parents and other individuals at a government agency or office .	70	2.07	1.07

26	CG	6	Explaining local, state, and/or federal laws to parents.	70	2.07	0.95
12	TI	12	Translating in-person between your parents and other individuals at the doctor's office or hospital.	78	2.06	1.04
16	TI	16	Translating on the phone between your parents and other individuals.	74	2.04	1
39	FC	1	Advising your parents what decision to make when buying a car.	41	2.00	0.95
49	FC	11	Other	13	2.00	1.08
11	TI	11	Translating in-person between your parents and a salesperson at the store.	84	1.98	1.03
14	TI	14	Translating in-person between your parents and other individuals at the bank.	65	1.97	0.98
37	FTM	7	Going with your parents or family members to their appointments.	75	1.96	0.97
34	FTM	4	Applying for a job for your parents or other family members.	41	1.95	1.05
8	TI	8	Filling out work-related forms, documents, applications.	78	1.94	0.92
23	CG	3	Explaining the process of applying for a job in the United States.	55	1.93	1.00
7	TI	7	Filling out school-related forms, documents, applications.	92	1.91	1.03
53	FDM	4	Other	11	1.91	1.22
13	TI	13	Translating in-person between your parents and other individuals at your school.	77	1.9	1.00
22	CG	2	Explaining how to pay bills or do banking, online or in person.	68	1.90	0.88
35	FTM	5	Navigating the Internet or using the cell phone for your parents or other family members because they did not have access to these technologies before they immigrated.	83	1.9	1.07
21	CG	1	Explaining how schools work in this country (grammar school, high school, college).	98	1.87	0.87
33	FTM	3	Paying bills or doing the banking, online or in person for your parents or other family members.	57	1.86	1.01
25	CG	5	Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	91	1.82	0.9
28	CG	8	Explaining the process of shopping or negotiating for better prices.	44	1.82	0.72
32	FTM	2	Scheduling or making appointments for your parents or family members.	67	1.82	0.89
20	TI	20	Other	17	1.76	0.90
38	FTM	8	Other	12	1.75	1.14
2	TI	2	Reading and translating school-related letters, documents, emails.	91	1.74	0.84
27	CG	7	Explaining the process of using different modes of transportation (e.g., buses, trains, cars).	58	1.74	0.81
36	FTM	6	Updating social media content for your parents or other family members.	57	1.7	0.96
18	TI	18	Translating websites or webpages.	81	1.67	0.79
30	CG	10	Other	16	1.63	0.72
17	TI	17	Translating movies or TV shows.	66	1.55	0.81
19	TI	19	Translating music or radio talk shows.	59	1.54	0.82

Table 7. Final CBI Item Exclusion Analyses

Item	Description	Empirical Decision	Notes/ Justifications	Theoretical Decision	Notes/ Justification
1	Reading and translating medical letters, documents, emails.	Keep		Keep	
2	Reading and translating school-related letters, documents, emails.	Keep		Keep	
3	Reading and translating work-related letters, documents, emails.	Keep		Remove**	Work-related activities are not as relevant today
4	Reading and translating financial letters, documents, emails.	Keep		Keep	
5	Reading and translating legal letters, documents, emails.	Remove*	Within this set of actions, this item had the highest Absence Percentage and one of the lowest Presence Means	Keep	Provides greater range in variability of context
6	Filling out medical forms, documents, applications.	Keep		Keep	
7	Filling out school-related forms, documents, applications.	Keep		Keep	
8	Filling out work-related forms, documents, applications.	Remove*	Within this set of actions, this item had the highest Absence Percentage and the lowest Presence Means	Remove**	
9	Filling out financial forms, documents, applications.	Keep		Keep	
10	Filling out legal forms, documents, applications.	Remove*	Within this set of actions, this item had the highest Absence Percentage and one of the lowest Presence Means	Keep	Decided to keep this item because it compliments item 5 above.

11	Translating in-person between your parents and a salesperson at the store.	Keep		Remove**	
12	Translating in-person between your parents and other individuals at the doctor's office or hospital.	Keep		Keep	Provides greater range in variability of context
13	Translating in-person between your parents and other individuals at your school.	Keep		Keep	Provides greater range in variability of context
14	Translating in-person between your parents and other individuals at the bank.	Remove*	Within this set of actions, this item had one of the highest Absence Percentage and one of the lowest Presence Means	Remove**	
15	Translating in-person between your parents and other individuals at a government agency or office.	Keep		Remove**	
16	Translating on the phone between your parents and other individuals.	Keep		Keep	More likely to happen than translating in person
17	Translating movies or TV shows.	Remove*	Within this set of actions, this item had one of the highest Absence Percentage and one of the lowest Presence Means	Remove**	
18	Translating websites or webpages.	Keep		Remove**	
19	Translating music or radio talk shows.	Remove*	Borderline High Absence Percentage (over 50%) AND very Low Presence Mean.	Remove**	
20	Other	Remove*	Open-ended responses did not indicate any unique examples	Remove**	

			of activities for this domain.		
21	Explaining how schools work in this country (grammar school, high school, college).	Keep		Keep	
22	Explaining how to pay bills or do banking, online or in person.	Keep		Keep	
23	Explaining the process of applying for a job in the United States.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	Not very relevant today
24	Explaining how to use technology (e.g., computers, cell phones).	Keep		Keep	
25	Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	Keep		Keep	
26	Explaining local, state, and/or federal laws to parents.	Keep		Keep	
27	Explaining the process of using different modes of transportation (e.g., buses, trains, cars).	Keep		Remove**	Not very relevant today
28	Explaining the process of shopping or negotiating for better prices.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	Not very relevant today
29	Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	Keep		Keep	
30	Other	Remove*	Open-ended responses did not indicate any unique examples of activities for this domain.	Remove**	
31	Advocating for or representing your parents or	Keep		Keep	

	family members to others (e.g., doctors, businesses).				
32	Scheduling or making appointments for your parents or family members.	Keep		Keep	
33	Paying bills or doing the banking, online or in person for your parents or other family members.	Keep		Keep	
34	Applying for a job for your parents or other family members.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	Not very relevant today
35	Navigating the Internet or using the cell phone for your parents or other family members because they did not have access to these technologies before they immigrated.	Keep		Remove**	
36	Updating social media content for your parents or other family members.	Keep		Keep	
37	Going with your parents or family members to their appointments.	Keep		Keep	
38	Other	Remove*	Open-ended responses did not indicate any unique examples of activities for this domain.	Remove**	
39	Advising your parents what decision to make when buying a car.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Keep	Provides greater range in variability of activity
40	Advising your parents what decision to make when buying a house.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Keep	Provides greater range in variability of activity
41	Advising your parents what decision to make about relocating to another neighborhood, city, or state.	Keep		Remove**	Not very relevant, per the FGs and CIs

42	Advising your parents how to discipline a sibling(s).	Keep		Remove**	Not very relevant, per the FGs and CIs
43	Advising your parents about what decisions to make regarding your sibling(s)' education.	Remove*	Highly correlated with several other items. Consider removing	Keep	
44	Making a decision together with your parents about buying a car together with your parents.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	Not very relevant, per the FGs and CIs
45	Making a decision together with your parents about buying a house.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	Not very relevant, per the FGs and CIs
46	Making a decision together with your parents about relocating to another neighborhood, city, or state.	Keep		Remove**	Not very relevant, per the FGs and CIs
47	Making a decision together with your parents about how to discipline a sibling(s).	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Keep	Decided to keep this item because it was frequently mentioned in across the focus groups
48	Making a decision together with your parents related to your sibling(s) education.	Keep		Keep	
49	Other	Remove*	Open-ended responses did not indicate any unique examples of activities for this domain.	Remove**	
50	Making a medically related decision for your family (e.g., switching health insurance policies) without discussing it with them first.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	
51	Making an academically related decision for your family (e.g., which school to attend, whether or not live on campus) without discussing it with them first.	Keep		Remove**	

52	Making a financially related decision for your family (e.g., switching cell phone carriers) without discussing it with them first.	Remove*	High Absence Percentage (over 50%) AND Presence Mean	Remove**	
53	Other	Remove*	Open-ended responses did not indicate any unique examples of activities for this domain.	Remove**	
	Total Keep	31		27	
	Total Remove	22		26	

Table 8. Final Version of CBI Items

Domain	Item	Description
TI	1	Reading and translating medical letters, documents, emails.
TI	2	Reading and translating school-related letters, documents, emails.
TI	4	Reading and translating financial letters, documents, emails.
TI	5	Reading and translating legal letters, documents, emails.
TI	6	Filling out medical forms, documents, applications.
TI	7	Filling out school-related forms, documents, applications.
TI	9	Filling out financial forms, documents, applications.
TI	10	Filling out legal forms, documents, applications.
TI	12	Translating in-person between your parents and other individuals at the doctor's office or hospital.
TI	13	Translating in-person between your parents and other individuals at your school.
TI	16	Translating on the phone between your parents and other individuals.
CG	21	Explaining how schools work in this country (grammar school, high school, college).
CG	22	Explaining how to pay bills or do banking, online or in person.
CG	24	Explaining how to use technology (e.g., computers, cell phones).
CG	25	Explaining how to use social media (e.g., Facebook, Twitter, or Instagram).
CG	26	Explaining local, state, and/or federal laws to parents.
CG	29	Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).
FTM	31	Advocating for or representing your parents or family members to others (e.g., doctors, businesses).
FTM	32	Scheduling or making appointments for your parents or family members.
FTM	33	Paying bills or doing the banking, online or in person for your parents or other family members.
FTM	36	Updating social media content for your parents or other family members.
FTM	37	Going with your parents or family members to their appointments.
FC	39	Advising your parents what decision to make when buying a car.
FC	40	Advising your parents what decision to make when buying a house.
FC	43	Advising your parents about what decisions to make regarding your sibling(s)' education.
FC	47	Making a decision together with your parents about how to discipline a sibling(s).
FC	48	Making a decision together with your parents related to your sibling(s) education.

Table 9. CBI Frequency Scale (Final) Sorted by Most Endorsed Activity (Highest Mean)

Item	Domain	Description	N	M	SD	Frequency Endorsed	
24	CG	4 Explaining how to use technology (e.g., computers, cell phones).	112	.90	.30	101	90%
21	CG	1 Explaining how schools work in this country (grammar school, high school, college).	112	.88	.33	98	88%
1	TI	1 Reading and translating medical letters, documents, emails.	113	.84	.37	95	84%
2	TI	2 Reading and translating school-related letters, documents, emails.	113	.82	.38	93	82%
25	CG	5 Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	112	.82	.38	92	82%
4	TI	4 Reading and translating financial letters, documents, emails.	112	.81	.39	91	81%
7	TI	7 Filling out school-related forms, documents, applications.	113	.81	.39	92	81%
29	CG	9 Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	112	.81	.39	91	81%
3	TI	3 Reading and translating work-related letters, documents, emails.	113	.80	.40	90	80%
5	TI	5 Reading and translating legal letters, documents, emails.	113	.79	.41	89	79%
9	TI	9 Filling out financial forms, documents, applications.	112	.76	.43	85	76%
6	TI	6 Filling out medical forms, documents, applications.	113	.75	.43	85	75%
10	TI	10 Filling out legal forms, documents, applications.	111	.73	.45	81	73%
12	TI	12 Translating in-person between your parents and other individuals at the doctor's office or hospital.	112	.71	.46	79	71%
8	TI	8 Filling out work-related forms, documents, applications.	113	.70	.46	79	70%
13	TI	13 Translating in-person between your parents and other individuals at your school.	112	.68	.47	76	68%
31	FTM	1 Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	112	.66	.48	74	66%
37	FTM	7 Going with your parents or family members to their appointments.	113	.66	.47	75	66%
16	TI	16 Translating on the phone between your parents and other individuals.	113	.65	.48	74	65%
26	CG	6 Explaining local, state, and/or federal laws to parents.	111	.63	.48	70	63%
22	CG	2 Explaining how to pay bills or do banking, online or in person.	112	.61	.49	68	61%
32	FTM	2 Scheduling or making appointments for your parents or family members.	113	.59	.49	67	59%

43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	113	.58	.50	65	58%
36	FTM	6	Updating social media content for your parents or other family members.	113	.52	.50	59	52%
48	FC	10	Making a decision together with your parents related to your sibling(s) education.	113	.52	.50	59	52%
33	FTM	3	Paying bills or doing the banking, online or in person for your parents or other family members.	113	.50	.50	57	50%
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	113	.50	.50	56	50%
23	CG	3	Explaining the process of applying for a job in the United States.	112	.49	.50	55	49%
40	FC	2	Advising your parents what decision to make when buying a house.	112	.43	.50	48	43%
39	FC	1	Advising your parents what decision to make when buying a car.	113	.37	.49	42	37%

Table 10. CBI Stressfulness Scale (Final) Sorted by Highest Mean

Item	Domain	Description	n	M	SD
1	TI	1 Reading and translating medical letters, documents, emails.	95	2.12	0.96
2	TI	2 Reading and translating school-related letters, documents, emails.	91	1.74	0.84
3	TI	3 Reading and translating work-related letters, documents, emails.	90	2.07	0.93
4	TI	4 Reading and translating financial letters, documents, emails.	91	2.25	1.04
5	TI	5 Reading and translating legal letters, documents, emails.	89	2.26	1.1
6	TI	6 Filling out medical forms, documents, applications.	84	2.08	0.95
7	TI	7 Filling out school-related forms, documents, applications.	92	1.91	1.03
8	TI	8 Filling out work-related forms, documents, applications.	78	1.94	0.92
9	TI	9 Filling out financial forms, documents, applications.	86	2.22	0.99
10	TI	10 Filling out legal forms, documents, applications.	82	2.24	1.08
12	TI	12 Translating in-person between your parents and other individuals at the doctor's office or hospital.	78	2.06	1.04
13	TI	13 Translating in-person between your parents and other individuals at your school.	77	1.9	1.00
16	TI	16 Translating on the phone between your parents and other individuals.	74	2.04	1
21	CG	1 Explaining how schools work in this country (grammar school, high school, college).	98	1.87	0.87
22	CG	2 Explaining how to pay bills or do banking, online or in person.	68	1.90	0.88
23	CG	3 Explaining the process of applying for a job in the United States.	55	1.93	1.00
24	CG	4 Explaining how to use technology (e.g., computers, cell phones).	101	2.14	0.99
25	CG	5 Explaining how to use social media (e.g., Facebook, Twitter, Instagram).	91	1.82	0.9
26	CG	6 Explaining local, state, and/or federal laws to parents.	70	2.07	0.95
29	CG	9 Explaining social/cultural norms (e.g., slang words, American holidays, dating, gender roles, respect towards adults, other peoples' cultures).	91	2.15	1.1
31	FTM	1 Advocating for or representing your parents or family members to others (e.g., doctors, businesses).	73	2.14	0.95
32	FTM	2 Scheduling or making appointments for your parents or family members.	67	1.82	0.89
33	FTM	3 Paying bills or doing the banking, online or in person for your parents or other family members.	57	1.86	1.01
36	FTM	6 Updating social media content for your parents or other family members.	57	1.7	0.96
37	FTM	7 Going with your parents or family members to their appointments.	75	1.96	0.97
39	FC	1 Advising your parents what decision to make when buying a car.	41	2.00	0.95

40	FC	2	Advising your parents what decision to make when buying a house.	49	2.20	0.98
43	FC	5	Advising your parents about what decisions to make regarding your sibling(s)' education.	65	2.22	1.01
47	FC	9	Making a decision together with your parents about how to discipline a sibling(s).	55	2.33	1.00
48	FC	10	Making a decision together with your parents related to your sibling(s) education.	59	2.29	0.98

Table 11. Final Version of the CBI - Descriptive Statistics for Overall Domains

		Scale		Dichotomous	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
CBI – Frequency					
Overall	114	1.67	.89	.69	.26
Translator/Interpreter	111	1.95	1.13	.76	.30
Cultural Guide	110	1.95	.98	.78	.25
Family Task Manager	111	1.35	1.05	.60	.34
Family Consultant	111	1.07	1.05	.49	.40
CBI - Stressfulness					
Overall	111	0.98	.66	--	--
Translator/Interpreter	105	1.02	.83	--	--
Cultural Guide	108	0.95	.69	--	--
Family Task Manager	101	.80	.74	--	--
Family Consultant	82	1.16	.90	--	--

Table 12. CBI Means by Demographic Variables

	Frequency Scale				Stressfulness Scale			
	TI	CG	FTM	FC	TI	CG	FTM	FC
<i>Gender</i>								
Male	0.77	0.74	0.69	0.52	2.03	2.00	1.86	2.08
Female	0.75	0.73	0.54	0.46	1.98	1.89	1.78	2.20
<i>Immigration Status</i>								
Not Born – Young	0.73	0.69	0.52	0.49	1.75	1.71	1.68	2.00
Not Born – Adult	0.76	0.77	0.66	0.40	1.82	1.57	1.49	1.87
U.S. Born	0.77	0.76	0.62	0.49	2.16	2.10	1.93	2.30
<i>Length of Time in U.S.</i>								
Less than 1 year	0.54	0.86	1.00	0.20	2.14	1.50	1.20	4.00
Between 1 and 5 years	0.75	0.79	0.67	0.59	1.70	1.63	1.56	1.71
Between 6 and 10 years	0.82	0.63	0.62	0.56	1.83	1.53	1.32	2.27
More than 10 years	0.76	0.73	0.57	0.46	2.06	2.03	1.91	2.20
<i>Birth Order</i>								
Oldest Child	0.82	0.76	0.61	0.56	1.97	1.94	1.85	2.20
Youngest Child	0.69	0.69	0.51	0.34	2.12	1.92	1.82	2.03
Somewhere in Middle	0.73	0.76	0.58	0.54	1.98	1.93	1.76	2.06
<i>Ethnic Enclave</i>								
Yes	0.90	0.85	0.73	0.59	2.17	2.11	1.94	2.32
No	0.69	0.68	0.52	0.43	1.91	1.84	1.73	2.06

Table 13. Correlations between CBI Domains

		1	2	3	4	5	6	7	8	9	10
1	TI (Freq)	--	.65**	.64**	.42**	.90**	.25*	.26**	.37**	.20	.33**
2	CG (Freq)			.63**	.47**	.82**	.18	.27**	.28**	.06	.24*
3	FTM (Freq)				.42**	.80**	.28**	.26**	.35**	.25*	.29**
4	FC (Freq)					.69**	.04	.12	.17	.13	.15
5	CBI Overall (Freq)						.25**	.29**	.39**	.22*	.33**
6	TI (Stress)							.59**	.58**	.37**	.89**
7	CG Stress)								.66**	.41**	.82**
8	FTM (Stress)									.34**	.76**
9	FC (Stress)										.60**
10	CBI Overall (Stress)										--

Note: * $p < .05$; ** $p < .01$.

Table 14. Reliability Analyses – Internal Consistency of the CBI

Measure	Number of Items	Frequency α	Stressfulness α
CBI (overall)	27	.93	.96
Translator/Interpreter	11	.91	.96
Cultural Guide	6	.69	.77
Family Task Manager	5	.73	.80
Family Consultant	5	.85	.92

N = 114.

Table 15. Confirmatory Factor Analysis (CFA) of the CBI

Model	χ^2	df	<i>p</i>	χ^2/df	CFI/TLI	RMSEA	AIC	SRMR
Single Factor	1034.89	324	0.00	3.19	0.56 / 0.52	0.15	2616.20	.108
Four Factor	774.02	318	0.00	2.43	0.72 / 0.69	0.12	2367.32	.109

N = 114.

Table 16. Descriptive Statistics and Reliability for Other Measures

Measure	n Items	M	SD	α
Buchanan (2001) CB	7	.61	.30	.74
Family Conflict	27	2.45	.91	.95
Acculturation (LIB)				
Native (Overall)	21	3.55	.38	.84
Language	5	3.89	.42	.97
Identity	7	3.64	.50	.90
Behavior	9	3.32	.51	.73
American (Overall)	25	2.33	.68	.90
Language	9	2.57	.81	.96
Identity	7	2.12	.80	.93
Behavior	9	2.20	.69	.87

Table 17: Correlations of Demographic Variables and Predictive Regression Outcome Variables

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Gender	-.03	-.22*	.02	-.16	.16	.11	.21*	-.01	-.00	.12	.02	-.18	.00	-.14	.08	.01	-.01	.19*	.06	.06
Imm. Gen.		.32**	.26**	.20*	-.05	-.19	-.27**	.01	.08	-.01	.01	.06	.06	-.08	.13	.05	.12	.13	.01	.09
LOT			.29**	.12	-.16	-.19*	-.16	-.04	.18	.07	.07	.24*	.14	.03	.16	.03	-.06	-.15	-.10	-.06
Siblings				.00	-.03	-.02	-.03	-.11	.03	.03	.06	.10	.11	-.13	.07	-.02	.08	-.18	.11	.01
Birth Order					-.02	-.08	-.08	.05	0.1	-.09	.03	.16	.08	-.07	.00	-.09	.10	.01	-.03	-.02
Mom Edu						.69**	.28**	-.46**	.56**	-.02	.25**	-.09	.48**	-.10	-.04	-.39**	-.20*	-.33**	-.01	-.30**
Dad Edu							.33**	-.50**	.49**	-.02	.24*	-.16	.47**	-.22*	-.07	-.37**	-.28**	-.33**	-.03	-.30**
Enclave								-.38**	.25**	.10	.14	-.16	.27**	-.16	-.13	-.33**	-.30**	-.28**	-.18	-.34**
BCB									-.57**	.03	-.19*	.14	-.60**	.23*	-.00	.60**	.55**	.64**	.26**	.62**
EGL Lang										-.08	.48**	-.02	.81**	-.29**	.04	-.36**	-.34**	-.40**	-.16	-.38**
Native Lang											-.15	.23*	-.14	.36**	.10	.03	-.06	.06	-.11	-.03
Amer Ident												.02	.56**	-.21*	-.07	-.01	-.08	-.10	.08	-.01
Native Ident													-.04	.29**	.11	.06	-.01	-.04	-.15	-.04
Amer Behav														-.30**	.04	-.37**	-.28**	-.40**	-.15	-.38**
Nativ Behav															.27**	.23*	0.17	.22*	.11	.23*
Fam Con																.11	.19*	.06	.14	.13
TI Freq																	.65**	.64**	.42**	.90**
CG Freq																		.63**	.47**	.82**
FTM Freq																			.42**	.80**
FC Freq																				.69**
Tot Freq																				--

Note: * $p < .05$; ** $p < .01$.

Gender (0 = female, 1 = male); **Immigration Generation Status** (1 = Not born in the U.S., came when young (under 18), 2 = Not born in the U.S., came as an adult (over 18), 3 = Born in the U.S.); **Length of Time in the U.S.** (1 = Less than 1 year, 2 = 1 – 5 years, 3 = 6 – 10 years, 4 = 11 or more years); **Have Siblings** (0 = No, 1 = Yes); **Birth Order** (1 = Oldest, 2 = Youngest, 3 = Somewhere in the middle); **Mothers' Education Level** (1 = Less than high school, 2 = High school / GED, 3 = College degree (B.A. / B.S), 4 = Advanced / Professional degree (Ph.D. / Ed.D / JD / MD); **Fathers' Education Level** (1 = Less than high school, 2 = High school / GED, 3 = College degree (B.A. / B.S), 4 = Advanced / Professional degree (Ph.D. / Ed.D / JD / MD); **Ethnic Enclave** (0 = No, 1 = Yes).

Table 18. CBI Overall 2-Block Predictive Validity Models

Variables/Block	American Acculturation			Family Conflict
	Language	Identity	Behavior	
<i>Frequency Scale</i>				
Standardized Beta Coefficients				
1. Demographics				
Mothers' Education	.25**	-.01	.04	.03
Fathers' Education	.26**	.15	.34***	.03
Gender	-.04	-.05	.01	-.11
Ethnic Enclave	.09	.16	.13	-.88
Siblings	.08	-.00	-.06	-.03
Length of Time	.36***	.14	.25***	.15
Immigrant Generation	.08	.05	.08	.08
Birth Order	.06	.01	.04	-.05
2. CBI (Frequency)	-.03	.13	-.18*	.22
<i>Stressfulness Scale</i>				
Standardized Beta Coefficients				
1. Demographics				
Mothers' Education	.24**	-.01	.04	.05
Fathers' Education	.27**	.14	.36***	.08
Gender	-.04	-.06	.02	.01
Ethnic Enclave	.13	.13	.18*	-.09
Siblings	.08	-.00	-.06	-.10
Length of Time	.39***	.12	.28***	-.02
Immigrant Generation	.11	.04	.09	.12
Birth Order	.06	.01	.06	-.03
2. CBI (Stressfulness)	-.12	.08	-.08	.28***

Note: * $p < .10$; ** $p < .05$, *** $p < .01$.

Table 19. CBI Overall 3-Block Predictive Validity Models

Variables/Block	American Acculturation			Family Conflict
	Language	Identity	Behavior	
<i>Frequency Scale</i>				
Standardized Beta Coefficients				
1. Demographics				
Mothers' Education	.21**	-.03	.01	-.00
Fathers' Education	.15*	.09	.20**	-.06
Gender	-.05	-.06	.01	-.11
Ethnic Enclave	.04	.13	.07	-.12
Siblings	.07	-.01	-.07	-.06
Length of Time	.33***	.13	.21**	.11
Immigrant Generation	.06	.04	.05	.06
Birth Order	.07	.02	.08	-.03
2. Buchanan's (2001) CB	-.42***	-.26*	-.52***	-.28
3. CBI (Frequency)	.04	-.26**	.07	.20
<i>Stressfulness Scale</i>				
Standardized Beta Coefficients				
1. Demographics				
Mothers' Education	.21**	-.02	.01	.02
Fathers' Education	.14	.09	.21**	-.01
Gender	-.06	-.06	.01	-.10
Ethnic Enclave	.04	.09	.06	-.16
Siblings	.07	-.01	-.07	-.06
Length of Time	.33***	.10	.20**	.07
Immigrant Generation	.08	.02	.05	-.01
Birth Order	.06	.01	.07	-.03
2. Buchanan's (2001) CB	-.38***	-.15	-.48***	-.24**
3. CBI (Stressfulness)	-.04	.11	.02	.33***

Note: * $p < .10$; ** $p < .05$, *** $p < .01$.

Table 20. Correlation Matrix – CBI Domains and Buchanan CB Measure

		1	2	3	4	5	6	7	8	9	10	11
1	CBI Overall (Freq)	--	.90**	.84**	.79**	.67**	.34**	.28**	.29**	.40**	.22	.62**
2	CBI TI (Freq)			.67**	.62**	.40**	.33**	.28**	.25**	.40**	.19	.61**
3	CBI CG (Freq)				.64**	.52**	.27**	.21*	.30**	.28**	.11	.53**
4	CBI FTM (Freq)					.44**	.30**	.29**	.26**	.35**	.25*	.64**
5	CBI FC (Freq)						.15	.06	.14	.17	.13	.27**
6	CBI Overall (Stress)							.91**	.82**	.75**	.59**	.32**
7	CBI TI (Stress)								.62**	.59**	.37**	.31**
8	CBI CG (Stress)									.68**	.42**	.29**
9	CBI FTM (Stress)										.34**	.42**
10	CBI FC (Stress)											.11
11	Buchanan (CB)											--

Note: * $p < .10$; ** $p < .05$, *** $p < .01$.

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

**Approval Notice
Initial Review (Response to Modifications)**

July 16, 2015

Sandra Villanueva, MA
Psychology
1007 W Harrison Street- BSB 1009
M/C 285
Chicago, IL 60612
Phone: (312) 848-4563 / Fax: (312) 413-4122

RE: **Protocol # 2015-0506**
“Developing a Multidimensional Scale to Measure Culture Brokering”

Dear Ms. Villanueva:

Your Initial Review application (Response to Modifications) was reviewed and approved by the Expedited review process on July 16, 2015. You may now begin your research

Please note the following information about your approved research protocol:

Please remember to submit any revised procedures and/or data collection instruments prior to their use in this research (for example, if documents are tested in an early phase and revised for use in Phases 3 or 4). All revised procedures, instruments, and documents must be accompanied by an Amendment form when submitted to the UIC IRB.

Protocol Approval Period: July 16, 2015 - July 15, 2016
Approved Subject Enrollment #: 200
Additional Determinations for Research Involving Minors: The Board determined that this research satisfies 45CFR46.404, research not involving greater than minimal risk.
Performance Site: UIC
Sponsor: None
Research Protocol:

a) Developing a Multidimensional Scale to Measure Culture Brokering; 05/27/2015

Recruitment Materials:

- a) Recruitment and Snowball Sampling Email Focus Groups; Version 2; 07/01/2015
- b) Recruitment and Snowball Sampling Email Cognitive Interviews; Version 2; 07/01/2015

- c) Recruitment and Snowball Sampling Email CB Survey; Version 3; 07/09/2015
- d) Cognitive Interview Eligibility Checklist; Version 1; 07/09/2015
- e) Focus Groups Eligibility Checklist; Version 1; 07/09/2015
- f) Survey Eligibility Checklist; Version 1; 07/09/2015

Informed Consents:

- a) Debriefing Statement; Version 1; 05/29/2015
- b) Culture Brokering FG; Version 3; 07/08/2015
- c) Consent/Subject Information Sheet; Version 3; 07/08/2015
- d) Culture Brokering CI; Version 3; 07/09/2015
- e) A waiver of documentation (electronic consent; no signature obtained) has been granted for eligibility screening under 45 CFR 46.117(c)(2) (minimal risk)
- f) A waiver of documentation (electronic consent, no signature obtained) has been granted for the online survey only under 45 CFR 46.117(c)(2) (minimal risk; subjects will be presented with an online information sheet containing all of the elements of consent which they may print out for their records)

Parental Permission:

- a) A waiver of parental permission has been granted under 45 CFR 46.116(d) and 45 CFR 46.408(c); however, as per UIC Psychology Subject Pool policy, as least one parent must sign the Blanket Parental Permission document prior to the minor subject's participation in the UIC Psychology Subject Pool.

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific categories:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes., (7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
05/06/2015	Initial Review	Expedited	05/10/2015	Modifications Required
06/03/2015	Response To Modifications	Expedited	06/04/2015	Modifications Required
07/13/2015	Response To Modifications	Expedited	07/16/2015	Approved

Please remember to:

→ Use your **research protocol number** (2015-0506) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,

"UIC Investigator Responsibilities, Protection of Human Research Subjects"

(<http://tiger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>)

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-2014. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Sandra Costello

Assistant Director, IRB # 2

Office for the Protection of Research Subjects

Enclosures:

1. UIC Investigator Responsibilities, Protection of Human Research Subjects

2. Informed Consent Documents:

- a) Debriefing Statement; Version 1; 05/29/2015
- b) Culture Brokering FG; Version 3; 07/08/2015
- c) Consent/Subject Information Sheet; Version 3; 07/08/2015
- d) Culture Brokering CI; Version 3; 07/09/2015

3. Recruiting Materials:

- a) Recruitment and Snowball Sampling Email Focus Groups; Version 2; 07/01/2015
- b) Recruitment and Snowball Sampling Email Cognitive Interviews; Version 2; 07/01/2015
- c) Recruitment and Snowball Sampling Email CB Survey; Version 3; 07/09/2015
- d) Cognitive Interview Eligibility Checklist; Version 1; 07/09/2015
- e) Focus Groups Eligibility Checklist; Version 1; 07/09/2015
- f) Survey Eligibility Checklist; Version 1; 07/09/2015

cc: Michael E. Ragozzino, Psychology, M/C 285
Edison J. Trickett (faculty advisor), Psychology, M/C 285

CURRICULUM VITA

SANDRA VILLANUEVA

EDUCATION

- 2017 Ph.D. University of Illinois at Chicago, Chicago, Illinois**
Program: Community & Prevention Research
Minor: Statistics, Methods, and Measurement
Doctoral Thesis: *“Developing a multidimensional instrument to measure culture brokering”*
- 2012 M.A. University of Illinois at Chicago, Chicago, Illinois**
Program: Community & Prevention Research
Thesis: *“Culture brokering: A qualitative exploration of Orthodox Christian Iraqi immigrant families”*
- 2008 B.A. DePaul University, Chicago, Illinois**
Magna cum Laude
Majors: Psychology, Spanish
Field of Concentration: Community Psychology

RESEARCH EXPERIENCE

Research Assistant, National Police Research Platform [May 2011 – December 2011]
University of Illinois at Chicago
Department of Criminology, Law & Justice

For an Institute of Justice funded grant, headed by Dr. Dennis Rosenbaum, I performed data entry, management and analysis tasks using SPSS syntax commands for several datasets across time and participants. Created PowerPoint presentations to report various data statistics. Drafted reports for the project to be submitted to the Institute of Justice. Helped to write and edit a book chapter about the National Police Research Platform Project.

Research Assistant, Center for Capacity Building on Minorities with Disabilities Research (CCBMDR) – Spinal Cord Injury Peer Mentoring Program [August 2009 – January 2010]
University of Illinois at Chicago
Department of Disabilities and Human Development

For an American Recovery & Reinvestment Act (ARRA)-funded formative and summative evaluation, headed by Dr. Fabricio Balcazar, I performed data entry, management, and analysis tasks in SPSS. Assisted in the development of measures and questionnaires to use for the peer- mentoring program. Co-facilitated trainings for potential peer mentors for the three-partnership sites. I conducted literature searches and co-wrote the IRB application for the evaluation of the peer-mentoring program.

Research Assistant, Schools and Families Educating Children
University of Illinois at Chicago
Psychiatry Department – Institute for Juvenile Research

[May 2009 – August 2009]

Performed data management tasks for the SAFE Children study, a longitudinal intervention, for inner-city children headed by Dr. David Henry and Dr. Michael Schoeny. Navigated multiple databases simultaneously to create, manage, and troubleshoot datasets, using Microsoft Excel and Access, SPSS, Ci3 Sawtooth. Accumulated participant surveys into compatible data created syntax documents to import/export, run measures, and “clean” datasets and created spreadsheets, queries, and tables in Microsoft Excel and Access to manage participant information.

Research Assistant, School Transition Evaluation Project
DePaul University, Chicago, Illinois
Honors in Psychology Thesis

[June 2007 – August 2008]

Conducted graduate level research under the guidance and support of Dr. Susan McMahon and Ronald Crouch on teachers’ perceptions of the problems that students with disabilities experienced in a transition from a school that primarily served students with disabilities to integrated schools and how these problems were resolved. Performed qualitative data analyses using Kappa checking statistical tools. Transcribed open-ended and semi-structured interviews into word processing documents. Analyzed open-ended responses from a questionnaire administered to teachers using NVivo, a qualitative statistical software program.

Research Assistant, Youth Tobacco Access Project
DePaul University, Chicago, Illinois
Center for Community Research

[September 2005 – June 2007]

Assisted on an NCI-funded research team focused on youth tobacco use headed by Dr. Leonard Jason and Monica Adams. I conducted literature searches on youth tobacco policy. I processed surveys and assisted in data management. I reviewed and edited manuscripts for publication. I also analyzed student data utilizing statistical software, SPSS. In addition, I conducted an independent research investigation on the influence of parents on their children’s intentions to quit smoking. Finally, I presented project findings at the Midwestern Psychological Association Conference (May 2007).

TEACHING EXPERIENCE

Instructor
Oakton Community College

[Spring 2015, Spring 2016]

- Introduction to Psychology (PSY 101)

Instructor
Oakton Community College

[Summer 2014, Fall 2015]

- The College Experience (COL 101)
- The College Experience (COL 108)

Adjunct Faculty [Summer 2014, Summer 2015]
The Chicago School of Professional Psychology
• Program Evaluation in the Global Context (IP 825)

Teaching Assistant [August 2008 – Present]
University of Illinois at Chicago

- Introduction to Psychology (PSCH 100)
- Introduction to Community Psychology (PSCH 231)
- Research Methods in Psychology (PSCH 242)
- Abnormal Psychology (PSCH 270)
- Writing in Psychology (PSCH 303)
- Field Work in Applied Psychology (PSCH 385)

Summer Research Opportunities Program Research Team Leader [May 2010 – 2012]
University of Illinois at Chicago

- Mentored 10-12 undergraduate students, across social science disciplines, in a summer-long research experience
- Facilitated weekly, three-hour long seminars, about the research process including conducting a study, writing a research report, and presenting at conferences
- Facilitated workshops on the graduate school application process

Guest Lecturer [July 2009, June 2011, July 2012, June 2013]
University of Illinois at Chicago

- Introduction to Community Psychology (PSCH 231) - Edison J. Trickett, Ph.D.
“Quantitative and Qualitative Research Methods in Community Psychology”

Ronald E. McNair Scholars – Summer Research Program Mentor [June 2008-August 2008]
DePaul University

- Mentored 10-12 undergraduate students, across social science disciplines, in a summer-long research experience
- Facilitated weekly, three-hour long seminars, about the research process including conducting a study, writing a research report, and presenting at conferences
- Facilitated workshops on the graduate school application process

Guest Lecturer [October 2007]
DePaul University

- Community Psychology (PSY 354) - Susan D. McMahon, Ph.D.
“Qualitative Research Methods” and “Getting Into Graduate School”

CONFERENCE PRESENTATIONS

- Sorani-Villanueva, S.** (2016). Developing a Multidimensional Instrument to Measure Culture Brokering: Preliminary Analyses. American Psychology Association Convention, Denver, Colorado.
- Sorani-Villanueva, S.,** (2015). Developing a Multidimensional Instrument to Measure Culture Brokering. Midwest Ecological Community Psychology Conference, Madison, Wisconsin.
- Villanueva, S., & Garcia, G.** (2015). Using Tutoring Data to Inform Learning Center Practices. 30th Annual National College Learning Centers Association, Milwaukee, Wisconsin.
- Villanueva, S.** (2015). Poster: Using Data to Make Informed Decisions about Tutoring 17, 403 Students, 19th Annual Illinois Community College Assessment Fair, Sugar Grove, Illinois.
- Villanueva, S., & Salas, J.** (2015). Using Data to Make Informed Decisions about Tutoring 17, 403 Students, 19th Annual Illinois Community College Assessment Fair Proposal, Sugar Grove, Illinois.
- Belyaev-Glantsman, O., **Sorani-Villanueva, S.,** et al. (2014). Undergraduate Fieldwork Experiences and Preparation for Graduate School and the Job Market within Community Psychology. Midwest Ecological Community Psychology Conference, Lisle, Illinois.
- Sorani-Villanueva, S., et al.** (2013). Roundtable: How Internships Help Undergraduates Become Better Prepared for Graduate School and the Job Market. Midwestern Psychological Association Society for Community Research and Action (MPA SCRA), Chicago, Illinois.
- Sorani-Villanueva, S.,** Simon, C. D., Jeong, A., & Birman, D. (2012). Symposium: Theory, Measurement, and Findings: Acculturation of Immigrant Adolescents, Adults, and Families from Vietnam, Korea, and Iraq. 4th International Conference of Community Psychology. Barcelona, Spain.
- Sorani-Villanueva, S., et al.** (2012). Roundtable: Undergraduate Fieldwork: Various Experiences within Community Psychology. Midwestern Psychological Association Society for Community Research and Action (MPA SCRA), Chicago, Illinois.
- Sorani-Villanueva, S.** (2011). Culture Brokering Perspectives of Orthodox Christian Iraqi Immigrant Families: Preliminary Findings. 13th Biennial Conference of the Society for Community Research and Action, Chicago, Illinois.
- Ponce-Rodas, M., **Sorani-Villanueva, S.,** Jeong, A., & Trickett, E. J. (2011). Symposium: Navigating the Insider-Outsider Continuum in Community Psychology Research. 13th Biennial Conference of the Society for Community Research and Action, Chicago, Illinois.
- Sorani-Villanueva, S.,** (2010). Culture Brokering: A Qualitative Proposal for Exploring the Perspectives of Orthodox Christian Iraqi Immigrant Families. Midwest Ecological Community Psychology Conference, Champaign-Urbana, Illinois.

- Belyaev-Glantsman, O., **Sorani, S.**, & Jason, L. (2009). Roundtable: What to do with an undergraduate concentration in community psychology? Midwestern Psychological Association Society for Community Research and Action (MPA SCRA), Chicago, Illinois.
- Belyaev-Glantsman, O., **Sorani, S.**, Flynn, A., Horin, E., & Braciszewski, J. (2008). Community psychology values: Beyond the textbook. Roundtable Discussion. Midwest Ecological Community Psychology Conference, Battle Creek, Michigan.
- Sorani, S.**, Crouch, R., McMahon, S. D., Berardi, L., & Keys, C. B. (2008). Symposium: Educational inclusion of students with disabilities: Resolving the issues. Midwest Ecological Community Psychology Conference, Battle Creek, Michigan.
- Crouch, R., **Sorani, S.**, & McMahon, S. D. (2007). Qualitative Methods used for the Evaluation of Students with Disabilities Transition into New Schools: School Transition Evaluation Project: Multiple Perspectives on Practice. Midwest Ecological Community Psychology Conference, Chicago, Illinois.
- Sorani, S.**, Crouch, R., & McMahon, S. D. (2007). Educational inclusion of students with disabilities: A review of the literature. McNair Scholars Program Summer Research Conference.
- Sorani, S.**, Adams, M. L., Hunt, Y., Jason, L. A., & Gadiraju, P. (2007). Parental influences on their children's intentions to quit smoking. Midwestern Psychological Association Society for Community Research and Action (MPA SCRA), Chicago, Illinois.
- Gadiraju, P., Adams, M., Hunt, Y., Jason, L. A., & **Sorani, S.** (2007). Roundtable: Developing comprehensive approaches for health and wellness among high-risk adolescents. Midwestern Psychological Association Society for Community Research and Action (MPA SCRA), Chicago, Illinois.

SCHOLARLY PUBLICATIONS

- Sorani-Villanueva, S.** (2017). Culture brokering and family dynamics: Exploring the diversity in conceptualization, measurement and methods. Manuscript in preparation.
- Sorani-Villanueva, S.** & Trickett, E. J. (2017). Culture brokering: A qualitative exploration of Orthodox Christian Iraqi immigrant families. Manuscript in preparation.
- Sorani, S.**, McMahon, S. D., Crouch, R., & Keys, C. B. (2014). School problems and resolutions for students with disabilities: A qualitative examination. *Journal of Prevention and Intervention in the Community*, 42(1):58-71. doi: 10.1080/10852352.2014.855060.
- Trickett, E. J., **Sorani, S.**, & Birman, D. (2010). Towards an ecology of the culture broker role: Past work and future directions. *MediAzioni*, 10. Retrieved from <http://www.mediazioni.sitlec.unibo.it>.

PEER-REVIEWING ACTIVITIES

International Journal of Intercultural Relations
Journal of Family Issues
Journal of Multilingual and Multicultural Development

PROFESSIONAL AFFILIATIONS

Gamma Phi Omega International Sorority, Incorporated	2011 -
Midwestern Psychological Association (Graduate Student Member)	2008 -
American Psychological Association (Graduate Student Member)	2008 -
Society for Community Research and Action (Graduate Student Member)	2005 -

ACADEMIC HONORS & AWARDS

DePaul University Vincentian Heritage Tour Participant, Paris, France	2007-2008
Honors Program in Psychology, DePaul University	2007-2008
Northern Trust Scholarship Recipient, DePaul University	2006-2008
Ronald E. McNair Post-baccalaureate Achievement Program	2006-2008
Psi Chi, National Honor Society in Psychology, President	2005-2008
Monsignor Egan Hope Scholarship Recipient	2004-2008
DePaul University Honors Program	2004-2008
DePaul University Dean's List	2004-2008

COMMUNITY SERVICE

Division Student Representative (University of Illinois at Chicago)	2008-2011
Midwestern (ECO) Conference (University of Illinois at Chicago)	2009
Midwestern (ECO) Conference (DePaul University)	2007
Ronald E. McNair Post-Baccalaureate Scholars Program	2007
Psi Chi, The National Honor Society in Psychology	2006-2007
Egan Hope Scholars Program (DePaul University)	2002-2006