Predicting depressive symptoms from acculturative family distancing theory: a study of adult Taiwanese parachute kids

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Predicting Depressive Symptoms from Acculturative Family Distancing Theory:

A Study of Adult Taiwanese Parachute Kids

by

Hsin-Hua Lee

A Dissertation

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Alex Pieterse, Ph.D.
Yun Dai, Ph.D.
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Abstract

The current study applied Hwang’s (2006a) theory of Acculturative Family Distancing (AFD) to adult Taiwanese parachute kids (Hamilton, 1993), partially replicating and extending Hwang et al.’s (2010) study, which tested relations among AFD, family conflict, and depression. The term parachute kids refers to individuals who immigrated to North America as children or adolescents unaccompanied by parents.

It was hypothesized that greater cultural value incongruence and communication breakdown, constructs measured by Hwang’s (2006b) AFD Scale, would predict greater family conflict, as measured by the Family Conflict subscale of the Social Interaction Scale (SIS-FC; Kessler et al., 1994), and family conflict would positively predict depressive symptoms, as measured by the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). Moreover, family conflict was hypothesized to at least partially mediate the relations between two aspects of AFD and depressive symptoms: cultural value incongruence and communication breakdown. Participants’ levels of acculturation and enculturation were also assessed to explore how these factors are associated with each other and how they may relate to the major study variables for adult parachute kids.

Participants were parachute kids, aged 18 to 36, recruited using snowball sampling for a web-based survey. Simple regression analyses showed that both cultural value incongruence and communication breakdown were significant predictors of family conflict and family conflict was significantly associated with depressive symptoms. Moreover, family conflict fully mediated the relation between communication breakdown
and depressive symptoms. However, family conflict did not explain the relation between cultural value incongruence and depressive symptoms.

With respect to acculturation and enculturation, participants who reported relatively more mainstream acculturation reported fewer communication difficulties with parents and fewer depressive symptoms. Participants who reported more Taiwanese enculturation also reported fewer communication difficulties with parents. Acculturation and enculturation scores were not correlated, supporting the bilinear view of acculturation (e.g., Berry, 1979; Miller 2010).
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Chapter I

Statement of the Problem

According to the most recent census (U.S. Census Bureau, 2011), the racial/ethnic minority population in the U.S. is over 85 million, i.e., roughly 28% of the population. Since the previous census, the population of Asian Americans, primarily Chinese, increased more than any other racial group (U.S. Census Bureau, 2012).

One subpopulation within the Asian-American community is parachute kids. This term, coined by Hamilton (1993a) to depict immigrants with a unique social and educational background (Zhou, 1998), refers to children and adolescents who migrated to the U.S. without parents; they are also often referred to as unaccompanied minors (Tsong & Liu, 2009). Although parachute kids come to the U.S. from various Asian countries (e.g., China, Korea, Japan, and Malaysia), the majority are of Taiwanese descent (Zhou, 1998), arriving in the U.S. between the ages of 13 and 17 (Chiang-Hom, 2004).

Various factors contribute to parents’ decisions to send their unaccompanied children to the U.S. Research suggests that Taiwanese parents primarily send their children to the U.S. for a better educational environment. Other reasons include a desire for the children to escape the political instability in Taiwan, to pursue a higher social status, and to prepare culturally and linguistically for the global job market (Leung, 1998; Lin, 1998; Zhou, 1998).

Research suggests that this group of adolescents is distinctly different from other adolescents who immigrate with their parents, and different from U.S.-born Asian

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1 As discussed in Chapter 3, the original plan was only to sample Taiwanese parachute kids in the U.S., but the sample was subsequently expanded to include Taiwanese Canadian residents.
Americans, in terms of immigration experiences, family dynamics, and psychological adjustment (e.g., Alaggia, Chau, & Tsang, 2001; Hom, 2002; Hsieh, 2007; Ying, 2001). However, despite these distinctions, authors tend to categorize parachute kids as either first- or second-generation immigrants. Several factors contribute to this false generalization of parachute kids. First, individuals who immigrate to the U.S. during late adolescence often have a distinguishable accent; they are frequently confused with Asian international college students who come to the U.S. after high school. In comparison to the generational population of international college students, however, parachute kids tend to adjust faster, both linguistically and culturally (Kim, Brenner, Liang, & Asay, 2003). For this reason, their acculturation experiences are considerably different from those of other international students (Kim et al., 2003). In addition, parachute kids who relocate to the U.S. during childhood and who tend to adopt mannerisms similar to those of second-generation Asian Americans are often assumed to have been born in the U.S. (Kim et al., 2003).

Authors have noted that many parachute kids develop behavioral problems, such as gang involvement and substance abuse, and are psychologically maladjusted (e.g., Chung, 1994; Hom, 2002; Hsieh, 2007; Pih & Mao, 2005) due to lack of parental support and supervision (Hsieh, 2007). Not surprisingly, some research suggests that parachute kids tend to feel increasingly distant from their parents over time (Hsieh, 2007). However, the emotional disconnection from family in this population has not been thoroughly examined, and there is little literature on the mental health of parachute kids.

To date, most studies with parachute kids are unpublished dissertations and theses. Among these, a few quantitative studies have compared the psychological symptoms (e.g.,
depression and anxiety) displayed by parachute kids with those of (a) adolescent immigrants who were accompanied to the U.S. by their parents and (b) Asian Americans born in the U.S. (e.g., Cheng, 1994; Chung, 1994; Hom, 2002). Notably absent are studies on the acculturative process as it relates to maladjustment, as well as the impact of a lack of parental support and supervision on these minors’ adjustment process. In fact, intergenerational conflict due to cultural differences in this population has not been studied empirically, despite literature on Asian Americans that suggests that varying levels of acculturation in a parent-child dyad can lead to conflict (e.g., Costigan & Dokis, 2006; Farver, Narang, & Bhadha, 2002) and that depression is highly associated with intergenerational conflict, even among young adults (Greenberg & Chen, 1996).

Moreover, because most previous studies (e.g., Chiang-Hom, 2004; Chung, 1994) focused primarily on the psychological adjustment of parachute kids during adolescence, there is a lack of information on how these individuals function in adulthood.

The current study focused on family conflict and mental health among adult Taiwanese students who came to the U.S. as parachute kids in adolescence and who remained in the U.S. without their parents. Young adult parachute kids were studied, rather than adolescents or individuals in mid-life, because the former are likely to face important decisions regarding career choice, choice of a romantic partner, and permanent country of residence. It was reasoned that these decisions are unique to young adult immigrants and are likely to lead to family conflict. Moreover, because these young adults are often financially and emotionally dependent on their parents, family conflict is likely to negatively influence their mental health.
The study tested Hwang’s (2006a) theory of Acculturative Family Distancing (AFD) to assess the role played by acculturation in intergenerational conflict among young adult parachute kids living in the U.S. Hwang defined AFD as “the problematic distancing that occurs between immigrant parents and children that is a consequence of differences in acculturative processes and cultural changes that become more salient over time” (p. 398).

According to Hwang, there are two dimensions of AFD: cultural value incongruence and a breakdown in communication. *Cultural value incongruence* refers to the parent-child distancing due to cultural beliefs and values, whereas *communication breakdown* refers to the communication barriers in many immigrant families. These two aspects of AFD are said to increase an individual’s risk for family conflict, which in turn increases the risk of individual and family psychological maladjustment (Hwang, 2006a).

Hwang (2006a) argued that immigrant parents and their children often differ in cultural values and beliefs due to factors like country of origin, age at immigration, and the ethnic composition of the neighborhood. Moreover, the lack of cultural congruence between parent and child can occur in their social life, work ethics, family roles, parenting, romantic relationships, and religion. Theoretically, if a family’s cultural incongruence is not addressed, conflict may persist into the child’s adulthood and cause psychological problems (Hwang, 2006a).

According to AFD theory (Hwang, 2006a), cultural incongruence is exacerbated by communication difficulties between parents and children, both nonverbal and verbal. For most immigrant families, children acculturate linguistically at a faster pace than their parents (Hwang, 2006a). Depending on a child’s age of arrival, the extent to which he or
she is able to speak the native language will vary. The inability to communicate effectively can create misunderstanding and conflict in parent-child relationships (Hwang, 2006a). In terms of nonverbal communication, research supports the assumption in Hwang’s AFD theory that immigrant parents and their children often express themselves differently due to cultural differences (Fang & Wark, 1998).

It is important to note that Hwang’s (2006a) AFD theory is applicable to families that are geographically distant, although it was developed for immigrant families in which parents relocated with their children to the U.S. First, technology has changed the way families communicate. Many parachute children/adolescents today maintain frequent communication with their parents through instant messenger, e-mail, and social media through the internet (Hsieh, 2007). Particularly, Skype, a broadly used application, allows individuals in different parts of the world to make voice and video calls at no cost. Skype has greatly improved families’ ability to communicate, because it allows individuals to not only verbally exchange information but also to read one another’s nonverbal cues. Moreover, with the convenience of cellular phones, parents are able to reach their children much more easily, and vice versa. It was reasoned that the more frequently parents and adolescents communicate, the more opportunities they have to be faced with their differences in values.

It is also noteworthy that AFD is a problem-focused construct, which emphasizes the perceived cultural value incongruence and breakdown in communication from either the youth’s or the parent’s perspective. AFD differs from the terms acculturation gap and enculturation gap, which are commonly assessed as predictors of family conflict (e.g., Costigan & Dokis; Farver et al., 2002). In most of the acculturation literature, a gap
in acculturation is explained as due to parents and their children acculturating to the U.S. culture at a different pace, whereas a gap in enculturation refers to varying levels of desire between the generations to stay connected with the native culture (e.g., Kim, Chen, Li, Huang, & Moon, 2009; Lim, Yeh, Liang, Lau, and McCabe, 2009).

Acculturation and enculturation, however, are experienced in a range of domains, including language, social affiliation, music, food, values, identity, some of which may not necessarily lead to family conflict (Hwang, 2006a). For this reason, Hwang conceptualized AFD to explain how acculturation processes can lead to family conflict. According to Hwang, AFD is a more focused, or proximal, construct than either acculturation gap or enculturation gap, because value incongruence and communication problems are more likely to lead to family conflict than differences in entertainment, cultural knowledge, and food consumption, which are more distal causes of family conflict.

A number of studies support the theoretical propositions in the AFD model with immigrant parents and adolescents, and research findings support the construct validity of Hwang’s (2006b) scale to measure AFD (Hwang & Wood, 2009), the Acculturative Family Distancing Scale. For example, Hwang, Wood, and Fujimoto (2010) tested AFD theory with Chinese-American high school students and their mothers. Results showed that youths’ AFD scores predicted family conflict, which in turn predicted levels of self-reported depression. In other words, AFD uniquely predicted depression through family conflict. However, the theorized model was not supported for the mothers. It is also important to note that depression, rather than other mental health outcomes, has been used in AFD research, perhaps because most studies (e.g., Chung, Flook, & Fuligni, 2009)
examining the relations between family conflict and psychological maladjustment in Asian-American families have shown that intergenerational conflict consistently predicts depression.

In the present application of AFD theory to Taiwanese parachute kids, several aspects of the target population were considered. First, to date AFD theory has not been tested with adult parachute kids. It seemed unlikely that the same patterns of acculturation and enculturation found in earlier AFD research with immigrant families would generalize to adult parachute kids, whose parents reside in Taiwan, not the U.S. Moreover, in Hwang et al.’s (2010) investigation the parent-child acculturation and enculturation gaps were controlled for, and results showed that these variables did not directly predict family conflict after AFD was taken into account. Second, the two dimensions of AFD are distinct. For these reasons, it was decided to examine the two dimensions of AFD separately. It was reasoned that these two variables, cultural value incongruence and communication breakdown, are proximal mechanisms of an acculturation gap that increases the risk of intergenerational conflict between adult parachute kids and their parents in Taiwan.

Historically, acculturation was defined as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (Redfield, Linton, & Herskovits, 1936, p. 149). This process was assumed to occur at the expense of losing connection with the birth culture. In the past three decades, however, theorists (e.g., Berry, 1979; LaFromboise, Coleman, & Gerton, 1993) have concurred on a bilinear view of acculturation, i.e., individuals can develop an orientation toward the
host culture (acculturation) while maintaining ties to the heritage culture (enculturation).

In addition, acculturation and enculturation can occur across domains, including food, entertainment, values, beliefs, and so on (Miller, 2007; Yoon, Langrehr, & Ong, 2011). Studies with Asian-American and Chinese-American immigrant families have found that levels of enculturation and acculturation are predictive of mental health (e.g., Schwartz et al., 2011; Smith & Silva, 2011). Because acculturation and enculturation have not been empirically examined among adult parachute kids, it seemed important to include them in the current study. For this reason, acculturation and enculturation were included for exploratory purposes. Specifically, their relations to AFD (i.e., cultural value incongruence and communication breakdown), family conflict, and depressive symptoms were examined.

**Summary and Hypotheses**

In sum, the current study applied Hwang’s (2006a) AFD theory to adult Taiwanese parachute kids, a population that has to date been understudied. The study partially replicated and extended Hwang et al.’s (2010) study, by testing relationships among cultural value incongruence, communication breakdown, family conflict, and depression.

It was hypothesized that adult parachute children’s levels of cultural value incongruence and communication breakdown would be predictive of reported family conflict, which in turn would predict depressive symptomatology. Moreover, family conflict was hypothesized to at least partially mediate relationships between two acculturative factors (i.e., cultural value incongruence and communication breakdown) and depressive symptomatology. Partial mediation would be indicated if the direct effects
of the two predictors on depressive symptoms were significantly reduced when family
certainty was included in the regression equation (Frazier, Tix, & Barron, 2004).

Finally, participants’ self-reported levels of acculturation and enculturation were
examined. Specifically, the relations of the two factors, as well as their relations with
cultural value incongruence, communication breakdown, family conflict, and depressive
symptoms, were included in the study for exploratory purposes.

**Significance of the Study**

The current study was the first to examine intergenerational conflict as perceived
by adult Taiwanese parachute kids. Results of the study were expected to elucidate the
unique immigration experiences of this population, and therefore provide an
understanding of how perceived value incongruence and communication difficulties may
affect adult parachute kids’ relationships with their parents, who live overseas, as well as
their mental health. Thus, psychological interventions can be used to address the basis of
perceived family conflict and depression in this client population.

The current study was also expected to contribute to theory and research on
acculturation and enculturation by clarifying how these constructs might relate to adult
parachute kids’ evaluation of the difficulties they experience with their parents. More
importantly, the current study would provide information on the association between
acculturation and mental health among adult parachute kids.

Moreover, AFD theory and its measurement are relatively new in the literature.
For this reason, they need to be tested with different immigrant populations. Additional
support for the AFD theory with adult Taiwanese parachute kids was expected to expand
our understanding of the intergenerational conflict in these families. Finally, use of the
AFD scale (Hwang, 2006b) in the current study adds to the measurement literature in the area of acculturation and enculturation.
Chapter II

Review of Literature

The term parachute kids refers to a subpopulation within the Asian-American community, primarily Taiwanese (Zhou, 1998). Their unique immigration processes and how these experiences influence family relations and mental health outcomes have not been examined empirically. The lack of research is especially evident among adult parachute kids. Thus, the current study examined the effect of perceived acculturative family distancing (AFD) on Taiwanese adult parachute kids’ perceptions of actual family conflict and levels of depressive symptoms. Additionally, the study included an exploratory component that focused on the interrelation of acculturation and enculturation, as well as an assessment of how these factors relate to AFD, family conflict, and depressive symptoms among adult parachute kids. AFD refers to perceived cultural value incongruence and a breakdown in communication in families (Hwang, 2006a), whereas acculturation and enculturation refer to an individual’s personal experiences, irrespective of those of other family members.

This chapter begins with a discussion of parachute kids and issues facing this subgroup of Asian Americans, followed by an overview of Hwang’s (2006a) AFD theory and research on relationships among acculturative family distancing and mental health outcomes for immigrant families. Additionally, current literature on acculturation and enculturation, the impact of these phenomena on mental health will be summarized. This chapter concludes with a summary and the specific hypotheses to be tested in the study.
Parachute Kids

The term *parachute kids* was coined by Hamilton (1993a) to describe a specific subgroup of the Asian-American community who immigrated to the U.S. as children or adolescents unaccompanied by parents(s). Typically, parachute kids live with relatives other than their parents or in boarding schools (Tsong & Liu, 2009).

It is important to note the difference between parachute kids and *1.5-generation Asian Americans*, a term that sometimes describes parachute kids. The term *1.5-generation* was originally used to describe Asian Americans who immigrated to the U.S. during childhood or adolescence (Hurh, 1990). Although these individuals immigrate during the same developmental stage as parachute kids, the term does not indicate whether a 1.5-generation individual’s parents did or did not accompany him or her to the U.S. Indeed, many studies on Asian Americans tend to include parachute kids and consider these individuals to be 1.5-generation Asian Americans. Moreover, 1.5-generation Asian Americans often rely on family and friends for support during their immigration process (Kim et al., 2003). Because having family members nearby to provide support is a privilege not held by parachute kids, the term *1.5-generation Asian Americans* is not used in this study. Nonetheless, results from studies that sampled 1.5-generation Asian Americans are highly relevant for this study, because many of them probably unknowingly included parachute kids due to failure to clarify the parents’ immigration status. For example, Hwang and Wood (2009) applied AFD theory to Asian-American and Latino undergraduate students, but nearly 40% of the Asian Americans were foreign-born who immigrated during adolescence or childhood.
Due to the strong emphasis on education in Taiwan, education is the primary reason for Taiwanese parents to send their children overseas unaccompanied (Zhou, 1998). Unlike the U.S. educational system, in which students have the freedom to repeat standardized aptitude examinations and choose the best scores to use in their college application, Taiwanese high school students historically had only one chance to sit for the national college entrance examination (Zhou, 1998). Recently, as more colleges and universities have been established in Taiwan, the pressure for Taiwanese students to be accepted to college has significantly declined. However, being accepted to a reputable institution remains extremely difficult. When Taiwanese adolescents fail to perform well in school as they approach the end of their primary education, their parents often consider sending them overseas (Zhou, 1998). Some Taiwanese parents send their children to the U.S. at an early age, so that they can be more prepared linguistically and culturally for postgraduate studies and be competitive in a highly globalized job market (Lin, 1998; Rowe, 2006). Because those who can afford to live in the U.S. and make multiple trips to Asia tend to come from affluent families, having children who are U.S.-educated became a symbol of status (Leung, 1998).

The political uncertainty in Taiwan is another factor that led many parents to decide to send their children overseas (Lin, 1998). Taiwan has been under constant military threat of China since 1949, when the Chinese Communist Party gained control of mainland China. Many Taiwanese parents feared for their children’s future, especially boys, who were mandated to serve in the military for two years; for this reason, children were sent away to avoid potential warfare or escalated political conflict (Lin, 1998).
Although the duration of the required military service has subsequently been reduced to less than a year, the relation between China and Taiwan remains unstable.

Most parachute kids reside in the U.S. with relatives or friends of their families (Chiang-Hom, 2004). Some attend boarding schools or live with an American family under a home stay arrangement. There is not an accurate account of the total number of parachute kids living in the U.S. due to a lack of official records. Some parachute children initially immigrate as legal permanent residents with their parents, but their parents leave as soon as living arrangement and school registration are settled. In some cases, parachute kids come as international students or as visitors, staying illegally until they finish their education (Zhou, 1998). The wide range of circumstances under which parachute kids enter the U.S. makes it difficult to estimate the population of unaccompanied Taiwanese minors in the U.S. It is even more difficult to estimate the number of adults who came to the U.S. as parachute kids, since their legal status may have changed over time.

Life in the U.S. Having spent their formative years in two highly different cultures, parachute kids face many challenges that most second-generation Asian Americans do not typically encounter. First, many parachute kids are sometimes viewed as being “too Americanized” by their parents and relatives in Taiwan, whereas they are ridiculed for being “too Asian” by other second-generation Asian Americans or by peers of other ethnicities (Ng, 1998). For example, many Asian Americans use the term FOB (i.e., Fresh off the Boat) to ridicule individuals who recently migrated to the U.S. for having typical Asian mannerisms and a distinguishable accent. Research has shown that many parachute kids have more difficulty making sense of their ethnic identity than do
Asian-American adolescents who immigrated with their parents, because the former tend to be uncertain about whether they will stay in the U.S. after completing their education (Han, 2003).

Second, parachute kids are forced to become more independent and responsible than other children of their age (Han, 2003; Hsieh, 2007; Kim et al., 2003). They are often expected to care for younger siblings, complete household chores, and perform well in a foreign school environment, using a new language. If they reside with extended families, they are often asked to do chores that may be unfamiliar to them, e.g., maintaining a garden or washing cars. Parachute kids are also often in charge of their own finances, paying bills and making large purchases, which can be distressing for adolescents (Hsieh, 2007; Kim et al., 2003).

Third, without parents nearby to provide immediate support, the acculturation process and general adjustment are often more difficult for these children (Hsieh, 2007). To cope with feelings of abandonment, loneliness, fear, and difficulties in adjustment, most parachute kids seek peer support, and some of them might turn to illicit drugs and drinking (Hsieh, 2007). In order to seek social support and a sense of belongingness, some parachute kids become involved in gang activities (Pih & Mao, 2005). Unlike typical gang members who are from a disadvantaged socioeconomic backgrounds, parachute kids who are involved in gang activities tend to be academically successful and have a wide access to resources (Pih & Mao, 2005).

Due to the stressors that parachute kids face in a new country, parachute kids also present with a wide range of psychological symptoms. Chung (1994) compared the self-perceived psychological well-being (i.e., anxiety, psychological distress, and self-concept)
between Taiwanese parachute kids who immigrated after the age of 10, American-born Chinese, and Taiwanese adolescents who immigrated with their parents. All participants were residents of southern California; namely, Los Angeles and nearby cities. Three instruments were used to measure the variables of interest: Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1992), Brief Symptom Inventory (BSI; Derogatis, 1993), and Tennessee Self-Concept Scale (TSCS; Fitts, 1965). Results showed that parachute kids experienced higher levels of anxiety and overall distress than did other groups of adolescents. Parachute kids also experienced more worries, social concerns, and somatization symptoms than did U.S.-born adolescents, and they reported higher levels of depression and paranoid ideation than did accompanied minors. In responding to overall happiness, only 40% of the parachute kids reported that they were happy, as compared with 97% of the American-born Chinese and 67% of the minors who immigrated with their parents. Overall, unaccompanied minors reported more psychological problems but did not differ significantly in terms of self-esteem and self-concept in comparison with other adolescents. Also, gender differences were not noted for any of the comparisons in the study.

Interestingly, studies have shown inconsistent results in terms of adjustment (e.g., use of illicit drugs, drinking, and unsafe sexual activities) among parachute kids, as compared to children who immigrate with their parents and to second-generation Asian Americans (Hom, 2002). More specifically, depression was not found to be more prevalent among parachute kids, after gender was taken into consideration, and they performed as well in school as other immigrant children and second-generation Asian-American adolescents; however, they were more likely to engage in illicit drug use and
excessive alcohol consumption (Hom, 2002). Cheng (1994) also found nonsignificant
group differences between accompanied and unaccompanied minors in terms of academic
performance, somatic complaints, and distress. On the other hand, these unaccompanied
minors or parachute kids experienced higher levels of depression, when age at arrival and
length of stay were taken into account. Perhaps the mixed findings are a result of the use
of different factors. For example, some researchers used age at arrival, and others used
current age when comparing mental health outcomes between different immigrant
adolescent groups. In sum, most studies indicate that unaccompanied minors tend to
experience more depression and are more likely to engage in maladaptive behavior (e.g.,
drinking and using illicit drugs) than either children who immigrated with their parents or
U.S.-born Asian Americans.

**Family dynamics.** In addition to psychological symptoms, the family dynamics
and parent-child relationships change considerably when children depart from their
parents prematurely (Hsieh, 2007). In one study (Hsieh, 2007), many Taiwanese adults
who came to the U.S. as parachute kids reported feeling increasingly disconnected from
their parents the longer they lived in the U.S. Many participants also expressed
resentment for not being part of the decision-making process prior to immigration and
regretted not being able to participate in important family events in Taiwan (Hsieh, 2007).

These findings echo Zhou’s (1998) study on parachute kids’ relationships with
their parents. Zhou found that frequency of phone calls and other forms of contact
decreased over time, and as did the reported quality of communication between parent
and child. Moreover, parachute kids, especially those who live by themselves or in
boarding schools, are forced into adulthood prematurely and become more independent
than their peer. However, the newly found identity as young adults may lead to conflict when the parents are not psychologically prepared to treat their children as such.

Furthermore, a family system faces sudden changes when a guardian/pseudo-parent is introduced into the parent-child dyad. Parachute kids have to learn to manage two sets of rules and two ways of relating to their primary caretakers. This change in parent-child relationship was eloquently described by Hom (2002):

“If a parachute adolescent lives with a restrictive or overbearing guardian, the parent-child bond may be weakened if the parents do not act as allies or mediators. Alternatively, the parent-child bond may be weakened if a parachute kid has a close and intimate relationship with their guardian such that the guardian is perceived to be more understanding or helpful than the parents. In any case, the newly acquired physical independence from one’s parents is likely to have profound effects on a parachute kids’ daily routine and lifestyle, ranging from how they dress to those with whom they associate” (p. 17).

It is evident that little changes in parachute kids’ lifestyle may be perceived as efforts to separate from their parents and/or as a growing bond with the guardian’s family. However, parachute kids need to acculturate, at the minimum, linguistically and behaviorally in order to fit in with their host family and their peers in the U.S.

Acculturation also implies a process of change in values and beliefs, which can lead to conflict in a family system (Hwang, 2006a). Traditionally, Taiwanese children are expected to defer to their parents, respect them, and provide for them as they age; this expectation is generally referred to as *filial piety* (Yeh, 2003). It is also children’s
obligation to maintain harmony within the family even when they disagree with their parents’ behaviors and values.

Although the concept of filial piety has evolved in contemporary Taiwanese families, it remains an important framework from which families make sense of intergenerational relations or conflict (Yeh & Bedford, 2004). Yeh and Bedford, for example, found that parental demands conflicting with the child’s desire was the most frequent source of conflict in a sample of Taiwanese families. The conflict usually involved topics like relationships, how parents communicate their needs or demands, friendships, and work ethics. These authors also found that Taiwanese children tended to avoid intense verbal argument or physical altercations with their parents when conflict arose; typically, they engaged in reframing or compromise to resolve the conflict. However, it is unclear how acculturation may change the way adult parachute kids communicate needs and negotiate differences with their parents and how parent-child relationship might affect an individual’s mental health. It is important to note that greater family conflict has been found to consistently predict suicidal attempts (Tang, Ko, Yen, Lin, Liu, Huang, & Yen, 2009), sleep problems (Yen, Ko, Yen, & Cheng, 2008), and substance abuse (Yen, Yen, Chen, Chen, & Ko, 2007) among Taiwanese adolescents.

Similarly, studies have shown that intergenerational conflict is a strong predictor of depression and anxiety among Asian American families, as compared to their Latino and European peers (Chung et al., 2009). When Chinese adolescents experience a high level of family conflict, they are likely to present with a wide range of psychosocial adjustment problems, such as poor coping strategies, poor relationship with peers, emotional problems, difficulty with impulse control, and body image issues (Florsheim,
1997). In general, depressive symptoms are important indicator of adjustment for Chinese youth, as this population has been found to report higher levels of depression than European-American youth (Zhou, Peverly, Xin, Huang, & Wang, 2003).

Although the literature on family conflict among Asian Americans adults is scant, results generally suggest that these adults are likely to report psychological maladjustment when experiencing intergenerational conflicts (Lee, Jung, Su, Tran, & Bahrassa, 2009; Lee, Su, & Yoshida, 2005). Specifically, Lee et al. (2005) examined relationships between intergenerational family conflict and young adults’ psychological adjustment (i.e., negative affect, positive affect, and somatic distress).

Overall, these findings suggest that family dynamics often change considerably after parachute kids move to the U.S. and that these changes are likely to be related to parachute kids’ constant re-negotiation of how much they acculturate or stay connected with their culture of origin. There are, however, no empirical studies that systemically examined the consequences of these changes, in contrast to many studies on Asian Americans that indicate that a serious impact of acculturation on family dynamics (e.g., Costigan & Dokis, 2006; Kim et al., 2009).

**U.S. orientation vs. Chinese ethnic identity.** A few studies examined ethnic identity or orientation towards one’s native culture among Taiwanese parachute kids. Using the Chinese and American Cultural Orientation scale (derived from the General Ethnicity Questionnaire-Chinese and American versions; Tsai, Ying, & Lee, 2000), Ying (2001) tested the theory, postulated by some psychoanalytic theorists, that minors need to embrace the values of their native culture during their transition when they lack primary caretakers. Results of Ying’s study showed that unaccompanied minors’ level of Chinese
orientation was greater than that of adolescents who migrated with their parents or of adults who migrated without parents.

Kuo and Roysircar (2006) also examined education-related acculturation and ethnicity identities among Taiwanese parachute kids in Toronto. Results showed that ethnic identity among these minors was not related to their educational acculturation or age at arrival. Overall, there seemed to be a strong desire for these Taiwanese minors to stay connected with their culture of origin, despite the length of time that they were away from home or how acculturated they appeared in terms of behavior. It is unknown how an internal need to maintain a strong tie with Chinese culture influences individuals’ acculturation processes and how these processes may be manifested in family dynamics.

**Summary and critique.** In sum, research suggests that parachute kids tend to feel more disconnected from their families over time (e.g., Hsieh, 2007), but the research evidence is inconsistent in terms of parachute kids’ psychological adjustment, especially depression. Therefore, more studies are needed to examine psychological and systemic issues in young adult parachute kids. It is also unclear how adult parachute kids’ acculturation processes affect their relationships with parents, since these families have a unique immigration pattern. Hwang’s (2006a) Acculturative Family Distancing theory, discussed in the following section, seems particularly relevant to examining how acculturative processes and family functioning may be related to mental health outcomes among adult Taiwanese parachute kids.

**Acculturative Family Distancing Theory**

In Hwang’s (2006a) theory of Acculturative Family Distancing, AFD is said to contribute to family conflict in immigrant families, in turn leading to psychopathology,
including depression and anxiety. AFD theory was developed to explain why some immigrant families and individuals develop psychological problems. Indeed, research findings are inconsistent regarding immigrant families’ level of symptomatology and the origins of these problems (Hwang, 2006a).

In several studies, a large enculturation gap between parents and children was predictive of young Asian Americans’ mental health, e.g., depression, achievement, motivation, and experience of family conflict (Costigan & Dokis, 2006; Farver et al., 2002; Park, Vo, & Tsong, 2009). Parent-child acculturation gap was also found to have a negative impact on children’s mental health (Crane, Ngai, Larson, & Hafen, 2005; Fu, 2002; Kim et al., 2009). However, some studies found the acculturation gap to be a stronger predictor of family conflict and mental health outcomes than the enculturation gap (e.g., Farver et al., 2002), whereas other studies found more support for enculturation gap (e.g., Costigan & Dokis, 2006). This inconsistency may be due to the instruments used to assess acculturation and enculturation, as well as to the definition of a “gap.” In a study by Costigan and Dokis (2006), acculturation and enculturation gaps were obtained by placing each individual’s score into the high, medium, or low category and then comparing these categories with those of the parents. The distance between parent-child dyad’s categories determined acculturation gap and enculturation gap. The use of these arbitrary cutoffs is problematic, however, because valuable information is lost in the process of dichotomizing data (Cohen, 1983). Lim et al. (2009) used two methods to operationalize the acculturation gap (i.e., differences in continuous data vs. gaps in categories), yet inconsistent results were found within the same sample. These
measurement issues are further complicated by the use of scales that were constructed based on varying conceptualizations of culture.

Based on the above inconsistent results as well as his clinical experience, Hwang (2006a) argued that the inconsistent findings in the literature were due to the use of non-problem focused constructs, such as acculturation gap and enculturation gap, to predict family conflict. In other words, some acculturation and enculturation differences are not as problematic and therefore not likely to lead to family conflict. For this reason, Hwang (2006a) proposed a more problem-focused construct, AFD, to bridge the gap in the literature, namely that only some immigrant families experience conflict and psychological maladjustment in the U.S.

To date, Hwang’s (2006a) theory is the first to articulate how a problem-focused construct, AFD, explains the intergenerational conflicts caused by differential parent-child acculturation processes. According to Hwang, AFD refers to “the problematic distancing that occurs between immigrant parents and children that is a consequence of differences in acculturative processes and cultural changes that become more salient over time” (p. 398). AFD includes two dimensions, i.e., incongruent cultural values and problematic communication patterns, which are said to increase an individual’s risk of family conflict. Theoretically, the experience of family conflict leads to greater likelihood of individual and family dysfunction. In other words, parents’ and children’s acculturative processes set the stage for problematic gaps to occur; when AFD becomes significant within the family, conflicts are likely to follow (Hwang, 2006a).

The first dimension of AFD is cultural value incongruence (Hwang, 2006a). According to Hwang, parents and children differ in cultural values and beliefs, which are
influenced by country of origin, age at immigration, and the ethnic make-up of the neighborhood. These intergenerational differences can occur across domains (e.g., social life, career choice, family, marriage, religion, etc.); if these differences are unresolved, family conflicts can persist into adulthood (Hwang, 2006a).

The second dimension of AFD is a *breakdown in communication* (Hwang, 2006a). For most immigrant families, parents have more difficulties acculturating linguistically than do their children. Children typically become proficient linguistically at a faster pace and often act as translators for their parents. Depending on their age at immigration, some children eventually lose the ability to speak their native language. Not being able to communicate effectively can create misunderstandings and conflict in the parent-child relationship (Hwang, 2006a).

Moreover, research has shown that immigrant parents and children tend to differ in non-verbal communication due to cultural differences (Hwang, 2006a). For example, children who grow up in the U.S. are likely to use gestures and facial expressions that are different from those of their parents. Also, children may be more direct in their mannerisms and depend less on context (i.e., they use more high- than low-context communication). Another problematic communication pattern is the use of pauses during conversations. Many first-generation Asian Americans are socialized to formulate their thoughts thoroughly before speaking, resulting in longer pauses during a conversation. In contrast, second-generation Asian Americans or immigrant children/adolescents often speak to assist the meaning-making process, and they interpret pauses as a sign for others to take turns in the conversation. Consequently, immigrant parents often feel disrespected in conversations with their more acculturated children (Fang & Wark, 1998).
Although AFD theory was originally developed for families in which both parents and children are immigrants, it is reasoned to be appropriate for studying parachute kids. As mentioned previously, parachute kids and their parents today rely heavily on technology to maintain frequent communication. Various applications, e.g., Skype, allow family members to see each other’s facial expressions and read the nonverbal cues during conversations. Also, the cost of communication has reduced significantly, thus family members who are separated by a great physical distance are able to communicate frequently. The increased frequency of communication, although may be an agent for better relations, it also provides more opportunities for disagreement due to cultural value incongruence to surface.

In sum, AFD theory provides a framework for understanding why some immigrants are more susceptible than others to psychological problems. Hwang (2006a) argued that AFD, defined as problematic distancing in cultural values and communication between parent and child, predicts the development of family conflict more so than the non-problem focused indices of acculturation gap and enculturation gap, and that family conflict in turn plays a role in individual and family psychopathology. This theory appears to be a promising one for conceptualizing the unique experiences of adult parachute kids, i.e., disconnection from family members due to immigration over a long period of time.

**Research on AFD Theory**

To test his theory, Hwang (2006b) developed a measure of AFD based on his clinical experiences with immigrants and a review of the acculturation literature. In the first test the theory, Hwang and Wood (2009) surveyed Asian-American and Latino
undergraduates in terms of AFD, self-reported psychological distress, depressive symptoms, and family conflict. Results supported the theory in that higher levels of AFD were associated with more psychological distress and depression, and these relationships were mediated by family conflict. However, 40% of the sample was born outside of the U.S., and there was no indication of participants’ age of arrival. It is likely that some participants may have been parachute kids who were in college at the time of the study, but no information was provided to determine whether this was the case.

Despite this initial support for AFD among Asian college students, questions remain about the extent to which other factors (i.e., acculturation gap and enculturation gap) may influence the relations of AFD and family conflict. Hwang et al. (2010) tested AFD theory using Chinese-American high school students and their mothers, taking into account generational status, youth and mother age, acculturation gap and enculturation gap between parents and youth, language fluency gap between parents and youth, and birth place. Participants’ language fluency was assessed using two items created by the authors (“How well do you speak your native language?” and “How well do you speak English?”), and the parents’ scores were subtracted from the youths’ scores in order to obtain a language fluency gap. To assess acculturation gap and enculturation gap, the authors used the Vancouver Index of Acculturation (VIA; Ryders, Alden, & Paulhus, 2000) and subtracted the parents’ scores from the youths’ scores. Depression was assessed using the Hamilton Depression Inventory (HDI; Reynolds & Kobak, 1995a; 1995b), and family conflict was measured using the Social Interaction Scale (SIS: Kessler et al., 1994).
Results showed that among youth, higher AFD (after taking into account acculturation gap and enculturation gap) was significantly associated with more family conflict and a greater likelihood of depressive symptoms. On the other hand, the hypothesized mediation effect of family conflict did not emerge for mothers; rather, mothers’ reported AFD directly predicted levels of depression, and their perceptions of family conflict were significantly associated with depressive symptoms. Interestingly, only youths’ enculturation gap with mothers significantly predicted levels of AFD. This association suggests that whether youth maintain a strong tie with their native culture may set the stage for problematic distancing in terms of cultural values and parent-child communication.

In summary, Hwang’s (2010) study provided empirical support for AFD among Chinese immigrant mothers and their adolescent children. The study also indicated the importance of understanding that acculturation gap and enculturation gaps may function differently in the context of family conflict and mental health. Specifically, the gap between parents’ adherence to their culture of origin and children’s levels of connection to their native culture was more predictive of AFD than was the acculturation gap for Chinese high school students. However, this pattern of acculturation and enculturation may not be generalized to adult parachute kids, inasmuch as their formative years were spent in both U.S. and Taiwan and their parents do not experience U.S. acculturation. In fact, acculturation and enculturation among adult parachute kids have not been empirically examined, despite the unique immigration experiences of this population. The following section reviews the relevant acculturation literature.
Acculturation and Enculturation

Acculturation has been defined as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (Redfield et al., 1936, p. 149). This process can occur on (a) a societal level, i.e., how policies are affected by the influence of other cultures, and (b) an individual level, as suggested by Graves (1967), who was the first author to write about the psychological impact of acculturation on individuals. From a psychological point of view, Stonequist (1935) described acculturation as a “dual pattern of identification and a divided loyalty”, which can lead to an “ambivalent attitude” (p. 96). Other acculturation theorists, who are interested in the psychological aspect of acculturation, described it as double consciousness (LaFromboise et al., 1993).

Unilinear vs. bilinear acculturation. Historically, theorists have conceptualized acculturation as a unilinear process in which immigrants’ internationalization of the values and beliefs of the second culture occurs at the expense of losing ties with their cultures of origin (Kim & Abreu, 2001). In other words, traditional acculturation theories assume an inverse relationship between orientation towards the host culture and continual connection with the culture of origin. This view has been supported by research with first-generation Americans. Tsai et al. (2000), for example, found that identifying as Chinese (i.e., language proficiency, social affiliation, activities, attitudes, exposure, and food) and identifying as American (i.e., language proficiency, social affiliation, activities, attitudes, media, and food) were inversely associated.
Other authors, however, challenged the unilinear view of how individuals undergo psychological adjustment after migration. For example, Berry (1979), one of the most frequently cited acculturation theorists, proposed that individuals are able to develop an appreciation for a new culture and internalize some of its values while maintaining a connection with the original culture. These two independent processes are generally referred to in the literature by other authors as acculturation and enculturation (Yoon et al., 2001). According to Berry, there are four strategies that individuals use to respond to acculturative processes, which are also commonly referred to as acculturation styles: integration, assimilation, separation, and marginalization. Integration describes individuals who are able to identify with both cultures. Assimilation occurs when individuals are highly oriented towards the host culture and lose ties with the culture of origin. Separation describes individuals who reject the new culture and maintain a strong adherence to the culture of origin. Finally, marginalization occurs when individuals lose connection with the native culture yet demonstrate a lack of participation in the host culture.

Echoing Berry’s (1979) bilinear view of acculturation, LaFromboise et al. (1993) argued that individuals are able to gain competence in both cultures, i.e., host and origin, without losing the values, beliefs, or knowledge about their native culture. Together, these authors’ work set the foundation for research in the area of bicultural identity, acculturation, and enculturation.

Berry’s (1979) bilinear acculturation model, although generally preferred by researchers over the unilinear view of acculturation, requires dichotomization of individuals’ acculturation style into high vs. low categories. Theorists have argued,
however, that the category *marginalization* may not be valid because most individuals rely on a certain cultural framework, either heritage or host, to make sense of their experiences (e.g., Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Additionally, Berry’s acculturation model lacks a consideration of context, e.g., how similar or different the host society is from the heritage culture. According to Benet-Martinez and Haritatos (2005), the degree to which Chinese Americans perceive American culture and Chinese culture as “different” or “in conflict” affects their ability to successfully achieve bicultural identity integration; this process is also affected by personality, socioeconomic background, acculturation stressors, and acculturation strategies.

**Dimensionality of culture.** In addition to a bilinear view of acculturation, theorists suggest that acculturation and enculturation can occur across different domains. According to Szapocznik, Scopetta, Kurtines, and Aranalde (1978), for example, two dimensions, behavior and values, need to be considered in acculturation research. On the other hand, Kim and Abreu (2001) suggested that acculturation and enculturation can occur across behavior, values, knowledge, and cultural identity.

More recently, Miller (2007) reasoned that some of the dimensions are “nested” or “hierarchical,” meaning that some categories of acculturation and enculturation may be subsumed by a broader category (p. 120). For example, a behavioral dimension may include language, interaction with people of similar ethnic background, and participation in ethnic activities. Similarly, one broad value dimension can include components like beliefs and knowledge pertaining to a specific culture. Using Asian undergraduate and graduate students, Miller (2010) found that individuals’ acculturation and enculturation occurred across values and behaviors and that the model fit was invariant across
generations (e.g., second-generation, first generation, and 1.5-generation Asian Americans).

**Bilinear and multidimensional acculturation.** Despite the ongoing debate about the conceptualization of acculturation and culture, theorists are moving toward a bilinear view of acculturation. According to a recent content analysis (Yoon et al., 2011), the bicultural view of acculturation has gained much theoretical and empirical support in the past 20 years, and psychologists are moving toward a more contextually sensitive way of understanding this process. Specifically, Yoon et al. described “acculturation /enculturation as a bilinear cultural socialization that proceeds across multiple dimensions through dynamic interactions between an individual and surrounding systems” (p. 85). Schwartz et al. (2010) also proposed a multidimensional biculturalism model, defining acculturation “as a multidimensional process consisting of the influence among heritage-cultural and receiving-cultural practices, values, and identification” (p. 237). Schwartz et al. reasoned that researchers should take into consideration the context of the receiving society, as it has significant implications on an individual’s acculturation process.

Therefore, the bilinear framework seem to be optimal for studying acculturation processes for individuals across generation status, and various domains should be assessed (i.e., values, cultural practice or behaviors, and ethnic identification). Nonetheless, whether this conceptual framework applies to parachute kids needs to be assessed empirically. A secondary goal of the current study was to provide information on adult parachute kids’ acculturation experiences, i.e., to identify whether they better reflect a unilinear or a bilinear developmental process.
Acculturation/Enculturation and Mental Health

In addition to the theoretical conceptions of acculturation, the impact of acculturation and enculturation on mental health has gained a considerable amount of attention among researchers (Yoon et al., 2011). Approximately, 29.21% of previous studies on acculturation used mental health, adjustment, and well-being (e.g., depression, anxiety, self-esteem, and satisfaction with life, and other psychological distress) as outcome indices (Yoon et al., 2011). In a meta-analysis of 184 studies conducted by Smith and Silva (2011), ethnic identity was directly related to self-reported positive well-being (e.g., self-esteem and global well-being) with an omnibus effect size of $r = .17$, and this relationship was particularly prominent among adolescents and young adults. No significant differences were found across race, gender, or socioeconomic status. These results suggest that ethnic identity may serve as a protective function, which implies the importance of staying connected with one’s culture of origin. Interestingly, stress, anxiety, and depressive symptoms, although correlated with ethnic identity, the associations were not as strong as those with well-being, indicating the possibilities of other mediators or moderators. Moreover, in Smith and Silva’s study, acculturation levels were found to interact with ethnic identity to predict self-reported well-being, especially for participants who had moderate and high levels of acculturation. However, the moderating effect of acculturation should be interpreted cautiously since the measurement of acculturation varied greatly across studies.

Schwartz et al. (2011) found similar results in a study of first- and second-generation immigrant students from 30 U.S. colleges and universities. Specifically, heritage value and practice were associated with less use of illicit drugs use among Asian
Americans, and individuals who were more oriented toward American values, cultural practices, and cultural identity reported a higher incidence of unsafe sexual practice.

In contrast, other studies have shown mixed findings on the effect of Asian orientation and psychological well-being, defined as relationship with others, sense of purpose in life, self-acceptance, sense of mastery, and so on (Iwamoto & Liu, 2010). Specifically, Asian values were inversely associated with positive psychological well-being among Asian-American and Asian international college and graduate students. The results contradicted Iwamoto and Liu’s hypotheses, as well as other studies in literature (e.g., Smith & Silva, 2011). Furthermore, the effect of acculturation on Asian college students’ levels of depressive symptoms appeared to dissipate after acculturative stress was taken into account (Hwang & Ting, 2008). This latter finding suggested the importance of a third factor, such as family conflict, that may explain the association between acculturative processes and depressive symptoms. Indeed, not all immigrants experience psychological maladjustment and those who experience family conflict due to cultural differences are likely to be at greater risk for depression.

To better understand the associations between acculturative process and psychological maladjustment, it is important to keep in mind that acculturation and enculturation are affected by contextual factors, like age at arrival and family immigration pattern (Glick, 2010; Kuo & Roysircar, 2004). For example, as compared with other immigrant youth, parachute kids tend to show greater Chinese ethnic identity due to their lack of primary caretakers (Ying, 2001). Additionally, in a study conducted by Kuo and Roysircar (2004), demographic factors were used to predict acculturation level, and results were compared across three age groups: early immigrant (born in
Canada or migrated before elementary school), late immigrant (migrated after completing elementary school), and international students. All participants were between the ages of 12 and 19. The authors found that immigrating at a younger age, longer residence in Canada, higher socioeconomic status, and greater English proficiency were associated with greater acculturation. Moreover, highly acculturated individuals reported experiencing less acculturative stress. When the groups were examined separately, the authors found that gender, age at arrival, length of stay, socioeconomic status, and English proficiency accounted for substantial differences in the acculturation level of late immigrants and international students. Therefore, it appears that these subgroups within the Asian-American community experience different acculturation and/or enculturation patterns.

In general, the literature indicates an unclear relationship between acculturation/enculturation and mental health. It is also worth noting that ethnic identity, enculturation in general, and acculturation only explained a small portion of the variance in mental health outcomes (Smith & Silva, 2011). These mixed findings are indicative of the measurement issues that are common within the literature (e.g., an inconsistent operationalization of culture), a lack of consideration of possible moderators and mediators (e.g., acculturative stress, family conflict), and the failure to account for the influence of extraneous variables, such as immigrants’ age at arrival and parents’ immigration status.

**Summary and Hypotheses**

A review of the literature on parachute kids warrants a continued exploration of this distinct population’s immigration experiences, psychological adjustment, and family
functioning, especially for adults who immigrated as adolescents. Based on Acculturative Family Distancing theory (Hwang, 2006a), the current study tested adult parachute kids’ perceived cultural value incongruence and communication difficulties with parents, as predictors of family conflict, which in turn were hypothesized to predict depressive symptomatology.

The current study was a partial replication and an extension of Hwang et al.’s (2010) study on the AFD model. First, whereas Hwang et al. (2010) sampled Chinese high school students, the population of this study was adult parachute kids. Second, the two dimensions of AFD were examined separately, because they are distinct and may function differently in this specific population. Third, acculturation and enculturation were included for exploratory purposes, because these acculturative constructs have not been examined empirically among adult parachute kids. That is, the relationship between acculturation and enculturation, as well as the relations of each variable to the other study variables, was examined.

The following hypotheses were tested:

1. Greater cultural value incongruence would predict more family conflict.
2. Greater communication breakdown would predict more family conflict.
3. Greater family conflict would predict more depressive symptomatology.
4. Family conflict would at least partially mediate the relation between cultural value incongruence and depressive symptomatology.
5. Family conflict would at least partially mediate the relation between communication breakdown and depressive symptomatology.
Chapter III

Method

Participants

Because the majority of parachute kids immigrate between the ages of 13 and 17 (Chiang-Hom, 2004) and are of Taiwanese descent (Zhou, 1998), only adults (between the ages of 18 to 25) who fit these two criteria were recruited for the present study. The age range of 18 to 25 was selected to maximize homogeneity. Potential participants were informed that the purpose of the study was to understand “the experiences of adult Taiwanese who came to the U.S. as adolescents unaccompanied by parent(s).”

Several challenges emerged during the data collection process. First, accessing the targeted population proved to be a significant barrier. No social groups or organizations specifically for adult parachute kids were located. Therefore, it was difficult to identify a recruitment method that would be most effective. Second, the inclusion and exclusion criteria were highly specific. It was difficult to locate volunteers who fit all of the criteria, although the investigator extensively searched avenues through which to reach the target population.

For this reason, the inclusion and exclusion criteria were broadened. Participants were eligible to participate if they were over the age of 18 and had come to the U.S. or Canada unaccompanied by parents between the ages of 10 and 18. The inclusion of Canadian was suggested by literature on parachute kids, which has not indicated any significant differences between the acculturation processes in the U.S. versus Canada. In fact, Canada is another destination that is popular for sending parachute kids overseas,
and Canadians have often been included in studies on parachute kids (e.g., Kuo and Roysircar, 2006).

The final sample consisted of 68 participants (see Table 1). Participants’ ages ranged from 18 to 36 years ($M = 26.22$, $SD = 4.88$). Twenty-one of the participants (30.9%) identified as male, 44 (64.7%) identified as female, and 3 (4.4%) did not specify a gender. The majority of participants moved to North America between the ages of 13 and 17 (66.2%), consistent with the previous literature (Chiang-Hom, 2004). Most participants (73.5%) have obtained citizenship in either Canada or the U.S. Others had either a student visa (14.7%), or were permanent residents (10.3%). In terms of level of education, 44 participants (64.7%) had a bachelor degree or higher, 13 (19.1%) had a high school diploma or equivalent, and 11 (16.2%) had some college or other.

Contrary to previous literature on parachute kids, the majority of the parents of the participants in the sample lived in North America for various durations. Specifically, 39 (57.4%) participants reported that their parents have lived in the U.S. or Canada at some point. Because the majority of participants’ parents had had some previous exposure to North American culture, these participants were included in the final sample. Preliminary analyses were computed to examine differences between participants whose parents did versus did not live in North America for some period of time.

Of note, a total of 115 individuals logged into the survey online. Of these, 10 individuals did not answer any questions and 6 did not complete the survey; therefore, they were removed from the data. Additionally, 31 cases were removed because they did not meet the inclusion criteria. That is, they did not immigrate to the U.S. or Canada between the ages of 10 and 18 and/or they are currently residing outside North America.
Table 1

Demographic Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>26.22</td>
<td>4.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of arrival</td>
<td>13.75</td>
<td>2.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years in the U.S./Canada</td>
<td>12.11</td>
<td>5.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>21</td>
<td></td>
<td>30.88</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>44</td>
<td></td>
<td>64.71</td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td>3</td>
<td></td>
<td>4.41</td>
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<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or equivalent</td>
<td>13</td>
<td></td>
<td>19.11</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>6</td>
<td></td>
<td>8.82</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>21</td>
<td></td>
<td>30.88</td>
<td></td>
</tr>
<tr>
<td>Master’s degree</td>
<td>12</td>
<td></td>
<td>17.65</td>
<td></td>
</tr>
<tr>
<td>Professional degree</td>
<td>11</td>
<td></td>
<td>16.18</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td></td>
<td>7.36</td>
<td></td>
</tr>
<tr>
<td>Legal Status</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Citizen</td>
<td>50</td>
<td></td>
<td>73.53</td>
<td></td>
</tr>
<tr>
<td>Student Visa</td>
<td>10</td>
<td></td>
<td>14.71</td>
<td></td>
</tr>
<tr>
<td>Permanent resident</td>
<td>7</td>
<td></td>
<td>10.29</td>
<td></td>
</tr>
<tr>
<td>Work Visa</td>
<td>1</td>
<td></td>
<td>1.47</td>
<td></td>
</tr>
<tr>
<td>Parents lived in US/Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>39</td>
<td></td>
<td>57.35</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td></td>
<td>42.65</td>
<td></td>
</tr>
</tbody>
</table>
Design

The present ex post facto study investigated relationships among cultural value incongruence, communication breakdown, family conflict, and depressive symptomatology. A series of simple regression equations was used to test the major hypotheses. According to Frazier et al. (2004), regression is an appropriate method for testing mediation effect when measurements are adequately reliable (.80 or higher).

Cultural Value Incongruence and Communication Breakdown, both of which were measured using the AFD Scale (AFDS; Hwang, 2006b). The criterion variable, Depressive Symptoms, was assessed using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). Family conflict, the mediator, was measured using the Family Conflict subscale of Social Interaction Scale (SIS-FC; Kessler et al., 1994). In addition, for the exploratory aspect of the study, acculturation and enculturation levels were measured using the Asian American Multidimensional Acculturation Scale (AAMAS; Chung, Kim, & Abreu, 2004). Both acculturation and enculturation consist of four dimensions: Cultural Identity, Language, Cultural Knowledge, and Food Consumption. The total scores for acculturation and enculturation were used in the analyses. Potential covariates included gender, age, age at immigration, years living in the U.S./Canada, and educational level.

Instruments

Acculturative Family Distancing Scale. The Acculturative Family Distancing Scale –Youth Report (AFDS; Hwang, 2006b) was developed based on Hwang’s (2006a) AFD theory; items were refined through focus groups conducted with 10 undergraduate and graduate students. The measure has been translated into simplified Chinese and
traditional Chinese, and each language has a parent version and a youth version. For the current study, only the English youth version was used.

The AFDS is composed of two dimensions, Cultural Value Incongruence (CVI; 22 items) and Communication Breakdown (CB; 24 items). The CVI measures the degree to which parents and children disagree on various aspects of life (e.g., work, marriage, and social life). Items include, “My parent(s) and I have similar work ethics” and “My parent(s) and I disagree on the roles that men and women should have.” The CB measures the quality of communication between parents and children, verbal and nonverbal interactions that are largely influenced by culture. Items include, “I can communicate concrete or basic needs to my parent(s), but I have a hard time communicating feelings and emotional needs,” and “Sometimes I misunderstand my parents’ non-verbal communication (e.g., gestures, facial expressions, body language, eye contact, personal space.” Each item is rated on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). A total score was created for each scale by summing the scores on all items after a number of items had been reversely coded, and then dividing by the total number of items in the subscale, so that potential scores could range from 1 to 7. Higher scores on CVI indicated greater level of incongruence between parent(s) and children, and higher scores on CB indicated a greater communication barrier.

The AFDS was found to have strong internal consistency among Asian Americans, including Chinese and Taiwanese, i.e., \( \alpha = .95 \) for CVI and .90 for CB (W-H. Hwang, personal communication, January 20, 2011). In the current sample, the internal consistency estimates for the two subscales were \( \alpha = .89 \) for CVI and .91 for CB (see Table 2). Using Rasch modeling, Hwang et al. (2010) reduced the AFDS to 29 items
Table 2

**Internal Consistency Coefficients**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVI</td>
<td>.89</td>
</tr>
<tr>
<td>CB</td>
<td>.91</td>
</tr>
<tr>
<td>FC</td>
<td>.89</td>
</tr>
<tr>
<td>Dep</td>
<td>.93</td>
</tr>
<tr>
<td>Acc</td>
<td>.89</td>
</tr>
<tr>
<td>Enc</td>
<td>.82</td>
</tr>
</tbody>
</table>

based on a sample of 105 Chinese high school students; results indicated that a four-dimensional structure (i.e., communication barrier, effective communications, value agreement, and value disagreement) fit the data better than the original two-dimensional structure. The four-dimensional version of the AFDS also evidenced strong convergent and discriminant validity based on a multitrait multimethod matrix (MTMM) analysis. However, Hwang (personal communication, January 20, 2011) suggested that because the original 46-item scale has more psychometric support, it is preferable for research purposes.

The construct validity of the 46-item AFDS was supported by Hwang et al.’s (2010) findings. First, the association between AFD and family conflict was significant, whereas the associations between acculturation/enculturation gaps and family conflict were not. These findings supported Hwang’s theoretical argument that acculturation gap and enculturation gap are distal constructs to family conflict. Additionally, Hwang et al. found that acculturation gap and enculturation gap were only moderately associated with AFD ($r = -.01$ to $.42$), suggesting that AFD is a theoretically distinct construct.

**Social Interaction Scale.** To assess level of family conflict, the Social Interaction Scale (SIS; Kessler et al., 1994) was used, as it had been used in other studies of AFD (Hwang & Wood, 2009; Hwang et al., 2010). SSI is a 36-item scale with 6 subscales (Family Support, Family Conflict, Friend Support, Friend Conflict, Spousal Support, and Spousal Conflict) that assesses supportive and negative interactions with family, friends, and spouse. Schuster, Kessler, and Aseltine (1990) derived the SIS from Turner, Frankel, and Levin’s (1983) scale of social support in order to study the association between the
quality of social interactions and depression. The scale was subsequently modified for the National Comorbidity Study (Kessler et al., 1994).

Only the Family Conflict subscale (FC) was used in the current study. Each item was rated on a 4-point Likert-type scale, with 1 = none at all and 4 = a lot. Items include, “How often do your family members make too many demands on you?” and “How often do your family members criticize you?” A total score was obtained for the subscale, potentially ranging from 6 to 24 with higher scores representing more perceived family conflict.

The FC subscale was selected because its items appear to capture the conflict in Taiwanese families well. Many of these items are similar to the items on the Parent-child Interaction Scale (PIS; Yeh, 1999) developed using a group of Taiwanese adolescents. For example, the PIS included items like “My father (mother) compares me with others.” and “My father (mother) makes unreasonable demands.” It is important to note that parental demands seem to be the most frequent source of conflict in Taiwanese families (Yeh & Bedford, 2004). Also, some Taiwanese adolescents tend to avoid, compromise, or reframe the situations when conflict with parents arises (Yeh & Bedford, 2004), which can lead to feeling tense as assessed in the FC subscale.

The FC subscale was also selected because previous research findings support the construct validity and cross-cultural validity of the SIS among adult Chinese Americans (e.g., Hwang, Chun, Kurasaki, Mak, & Takeuchi, 2000). Hwang et al. found depression to be positively associated with conflict and a lack of social support, which was consistent with previous literature and provided evidence for the construct validity of the scale. These authors also found support for the scale’s cross-cultural validity by
demonstrating an adequate fit of its factor structure with adult Chinese Americans. Other studies (i.e., Hwang, Myers, Takeuchi, 2000; Hwang & Wood, 2009; Hwang et al., 2010) also demonstrated strong internal consistency for the SIS-FC in Chinese Americans, including those of Taiwanese descent ($\alpha = .84$ to $.87$). Additionally, Hwang et al. (2010) showed that scores on the FC subscale represent a construct that is distinctly different from differences in values and communication pattern as measured by the AFDS ($r = .39$ to $.48$).

Although the FC subscale was chosen because Hwang et al. (2010) used it in their study of AFD, it was reasoned that this subscale might not be valid for the proposed population. Whereas the adolescent participants in Hwang et al.’s study were not separated from their parents by a great physical distance over a long period of time, the participants of this study were adults who have resided apart from their parents for many years. For this reason, a pilot study was conducted, with a convenience sample of 12 Taiwanese adults (9 women, 3 men, aged 36 to 24), who had immigrated to and reside in the U.S. The participants’ immigration background ranged from international students, parachute kids, to individuals who relocated to the U.S. for work during adulthood. They were contacted by e-mail, and were informed of the purpose of the study as an effort to clarify whether the scale assessing for family conflict would be viable for the author’s dissertation study. The participants were administered the scale online.

Results of the pilot study (see Table 3) showed that the total score was normally distributed (skewness $= .65$, kurtosis $= .19$), as were each of the 6 items, (skewness $= -.33$ to 1.29, kurtosis $= -.43$ to 2.06). The reliability was adequate, $\alpha = .84$. Based on the
Table 3

*Results of the SIS Pilot Study*

<table>
<thead>
<tr>
<th>Item/ Scale</th>
<th>$M$</th>
<th>$SD$</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “How often do your family members make too many demands on you?”</td>
<td>2.58</td>
<td>0.79</td>
<td>-0.33</td>
<td>0.33</td>
</tr>
<tr>
<td>2. “How often does your family make you feel tense?”</td>
<td>2.58</td>
<td>0.90</td>
<td>0.15</td>
<td>-0.43</td>
</tr>
<tr>
<td>3. “How often do your family members argue with you?”</td>
<td>2.08</td>
<td>0.67</td>
<td>-0.08</td>
<td>-0.19</td>
</tr>
<tr>
<td>4. “How often do your family members criticize you?”</td>
<td>2.50</td>
<td>0.79</td>
<td>1.29</td>
<td>0.15</td>
</tr>
<tr>
<td>5. “How often do your family members let you down when you are counting on them?”</td>
<td>2.00</td>
<td>1.13</td>
<td>0.91</td>
<td>-0.34</td>
</tr>
<tr>
<td>6. “How often do your family members get on your nerves?”</td>
<td>2.25</td>
<td>0.75</td>
<td>1.05</td>
<td>2.06</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14.00</td>
<td>3.81</td>
<td>0.65</td>
<td>0.19</td>
</tr>
</tbody>
</table>

*Note. N = 12.*
findings of the pilot study, the FC subscale was determined to be acceptable for this study. In the current sample, the measure’s internal consistency was $\alpha = .89$.

**Center for Epidemiologic Studies Depression Scale.** The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item, self-report scale that measures depressive symptomatology in the general adult population. This measure was chosen because it is widely used in nonclinical samples and because it is not diagnostic in nature like the HDI (Reynolds & Kobak, 1995a; 1995b) used in Hwang et al.’s (2010) study. Each item assesses for a depressive symptom experienced in the past week. There are four possible responses to each item, ranging from 0 = rarely or none of the time (less than 1 day) to 3 = most or all of the time (5 – 7 days). The scoring of the positive items was reversed, with higher scores indicating more symptomatology. Based on a principal components factor analysis, four factors emerged: depressive affect, positive affect, somatic and retarded activity, and interpersonal (Radloff, 1977).

During its initial assessment, the scale was found to have adequate reliabilities ($\alpha = .85$ to .84) for three normative populations (Radloff, 1977). Convergent validity was found with the Depressive Experiences Questionnaire-Chinese version in a sample of Chinese undergraduate students (Yao, Fang, Zhu, & Zuroff, 2009). Additionally, the psychometric properties of the CES-D based on a community sample of Chinese-American adults suggested that the measure is valid and reliable for this population (Ying, 1988). Specifically, Ying reported $\alpha = .77$; both the Guttman split-half and Spearman-Brown coefficients were .77.
Using a principal components factor analysis, Ying (1988) obtained a three-factor structure: (a) depressive and somatic, (b) positive affect, and (c) interpersonal. Of note, there was no distinction between somatization and depressive mood in Ying’s study, which was inconsistent with the factors identified by Radloff (1977) in the initial assessment of CES-D. However, Ying’s results support previous research on depressive disorders among Chinese Americans, who are more likely to report somatic symptoms than Caucasians when experiencing depression (Chang, 1985).

Because of the unclear conceptualization of depression among Chinese Americans, Ying, Lee, Tsai, Yeh, and Huang (2000) examined the factor structure of the CES-D with a more homogenous sample, i.e., Chinese-American college students, than Ying’s (1988) community sample. Results showed that the CES-D evidenced internal consistency $\alpha = .88$ and a one-month test-retest reliability of .77. A confirmatory factor analysis also revealed that Radloff’s (1977) original conception of depression (i.e., a four-factor model) was a better fit for the sample of Chinese-American college students (Ying et al., 2000). In summary, Ying et al.’s (2000) study suggested that the CES-D adequately conceptualizes depression in Chinese-American college students. In the current sample, the total score of CES-D was used, and the internal consistency was $\alpha = .93$.

**Asian American Multidimensional Acculturation Scale.** The Asian American Multidimensional Acculturation Scale (AAMAS; Chung et al., 2004) is a 45-item multidimensional measure of acculturation. The AAMAS was developed based on a bilinear conceptualization of acculturation, with the additional consideration of a pan-ethnic orientation. The third dimension of acculturation, i.e., a pan-ethnic Asian
American culture, was included in the development of the AAMAS, because there was research showing that one’s identification with other subgroups in the Asian-American community and the subsequent development of a new culture may serve as a political resource and a source of empowerment (Le Espiritu, 1992).

The items of AAMAS was largely adapted from the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987), and the respondents were asked to rate each item according to three referent groups: (a) their culture of origin, (b) other Asian Americans, and (c) European Americans. Therefore, the AAMAS comprises of three 15-item scales: AAMAS-EA (acculturation), AAMAS-CO (enculturation), and AAMAS-AA (orientation towards a pan-ethnic Asian-American culture).

Each scale consists of 15 items, assessing four dimensions of culture: Cultural Identity, Language, Cultural Knowledge, and Food Consumption. Items include, for example, “How knowledgeable are you about the history of your own Asian culture of origin?” and “How much do you feel you have in common with people from the White mainstream groups?” Each item was rated on a 6-point Likert-type scale ranging from 1 (not very well) to 6 (very well). Scale scores were obtained by summing the scores on the 15 items for the scale and dividing by 15, so that the potential range was 1-6. Because the current study only examined acculturation and enculturation, the AAMAS-AA scale was not used.

The AAMAS-CO and AAMAS-EA were chosen, because the AAMAS was developed specifically for Asian Americans based on a bilinear, multidimensional conceptualization of acculturation, whereas other acculturation measures, such as the
Vancouver Index of Acculturation (VIA; Ryders et al., 2000), have a less clear conceptualization of culture. The AAMAS-CO and AAMAS-EA were initially validated with three samples of Asian-American undergraduate students (Chung et al., 2004). Internal consistency for AAMAS-CO ranged from $\alpha = .87$ to .91, with a 2-week test-retest reliability of .89. AAMAS-EA was also found to be reliable, $\alpha = .76$ to .81, with a 2-week test-retest reliability of .78. In the current sample, the internal consistency estimates for AAMAS-CO and AAMAS-EA were .82 and .89, respectively.

Concurrent and divergent validity for AAMAS-CO and AAMAS-EA were supported by comparing the two scales with the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987), the Cultural Identification Scale (CIS; Oetting & Beauvais, 1991), and the Asian Values Scale (AVS; Kim, Atkinson, & Yang, 1999). AAMAS-CO correlated significantly with AL-ASIA ($r = -.75$), CIS ($r = .51$ to -.30), and AVS ($r = .37$). AAMAS-EA also correlated significantly with AL-ASIA ($r = .32$), CIS-Anglo ($r = .49$), and AVS ($r = -.25$) in the hypothesized directions. The correlation between the AAMAS-EA and the AAMAS-CO was -.06, which suggests that these two scales measure constructs that are distinctly different. Additionally, other studies (e.g., Kim & Omizo, 2010) have demonstrated strong internal consistency for AAMAS-CO ($\alpha = .90$) and AAMAS-EA ($\alpha = .91$).

**Demographic questionnaire.** A demographic questionnaire (see Appendix A) was included to assess participant gender, age, marital status, partner’s racial/ethnic background, number of children, age at arrival in the U.S., education level, current occupation, frequency of contact with parents, method of contact with parents, frequency
of visit to Taiwan, legal status in the U.S., state of residency, class standing in college, and length of residency in the U.S. Responses to these questions were used to describe the sample and to determine, in preliminary analyses, which should be used as covariates.

**Procedure**

Due to the specificity of the population under investigation, a snowball-sampling procedure was used. Specifically, the investigator contacted acquaintances via e-mail and social networks like Facebook. Individuals who received the invitation to participate in the study were also asked to forward the online survey to others. Additionally, Taiwanese organizations and universities in New York City, Chicago, San Francisco, Boston, Huston, Washington D.C., Los Angeles, as well as major Canadian cities were contacted for in-person recruitment or recruitment through listservs. The investigator also posted flyers (see Appendix D) on the campus of the University at Albany and local Chinese markets/restaurants in Albany, New York. Specifically, the Taiwanese Student Associations on the campuses of University of California (i.e., UCLA, UCI, Berkeley, San Diego, Davies, and Riverside), McGill University, and University of British Columbia were targeted for recruitment because of the higher concentration of parachute kids in this region. The investigator sent out individual e-mails to Taiwanese students attending these schools and asked them to forward the study to others who might also fit the criteria.

The solicitation e-mail and flyer (see Appendix B and D) stated that the purpose of this study was to understand “the experiences of Taiwanese adults who came to the U.S./Canada as adolescents unaccompanied by their parent(s).” Additionally, participants were informed that they had an opportunity to win one of four $100 cash
prizes in a raffle. In the e-mail solicitation, there was a link directing potential participants to a website within psychdata.com, where the online survey was housed. Volunteers receiving the flyer were directed to the psychdata.com URL as well.

At the end of the survey, participants were asked to e-mail the investigator their contact information if they wished to participate in the raffle. When requests to participate in the raffle were received, the investigator wrote to the participants and asked them to forward the study and link to others who might fit the criteria.

The online survey began with a brief explanation of the study and the inclusion and exclusion criteria, followed by an explanation that their participation was voluntary and that they could withdraw at any time. Informed consent (see Appendix C), including a statement that the volunteer was at least 18 and had understood the criteria for participating in the study, was indicated by clicking at the bottom of the introductory page. The measures were administered, followed by the demographic questionnaire.

**Analyses**

**Preliminary analyses.** A series of preliminary analyses were conducted based on the recommendations of Tabachnick and Fidell (2007). First, missing data points were examined, and univariate outliers were identified based on Z scores with a criterion of ≥ 3.29 ($p < .001$, two-tailed test). Second, the internal consistency reliability of all measures was assessed using Cronbach’s (1951) alpha. Third, the skewness and kurtosis of each variable were assessed to ensure univariate normality. Furthermore, a series of independent-sample $t$ tests, each with $\alpha = .05$, were performed to assess for gender differences on the study variables. Because many parachute kids’ parents had lived in the U.S./Canada, a series of $t$ tests, each with $\alpha = .05$, were also performed to assess whether
this factor had significant impact on the major variables in the study. Finally, intercorrelations among the scores on the AAMAS-CO, AAMAS-EA, the two AFD subscales (CVI and CB), FC, and CES-D were calculated, along with the following demographic variables in order to identify potential covariates: age, age at immigration, length of residency in the U.S., and level of education.

**Major analyses.** To test Hypothesis 1, i.e., the direct relation between CVI and FC, a simple regression analysis conducted, and the strength of association was described by $\beta$ and $R^2$, with $\alpha = .05$. Similarly, Hypothesis 2, i.e., the direct relation between CB and FC, was tested using simple regression analysis, and the strength of association was described by $\beta$ and $R^2$, with $\alpha = .05$.

Hypothesis 3, i.e., greater FC predicting higher CES-D, was tested using simple regression. The strength of association was described by $\beta$ and $R^2$, with $\alpha = .05$.

To test Hypotheses 4 and 5, i.e., that FC would at least partially mediate the relations between the predictor variables and depressive symptoms, Baron and Kenny’s (1986) outline for testing mediation effect was used. The mediation models were the following: FC would at least partially mediate the relation between CVI and CES-D (Hypothesis 4; see Fig. 1A), and (b) FC would at least partially mediate the relation between CB and CES-D (Hypothesis 5; see Fig. 2A).

According to Baron and Kenny (1986), there are four necessary criteria for a significant mediation effect. First, there must be a significant relation between the predictor (CVI and CB) and criterion (CES-D) variable. To test this requirement, two simple regression analyses were performed. This requirement would be satisfied
Figure 1. Mediation Model for Cultural Value Incongruence. A. Direct effect (with FC as the mediator). B. Indirect effect (CVI predicting CES-D).
Figure 2. Mediation Model for Communication Breakdown. A: Indirect effect (with FC as mediator). B: Direct effect (CB predicting CES-D).
if Paths c and f were significant (Fig. 1A, p. 53, and Fig. 2A, p. 54). The strength of association would be described by $\beta$ and $R^2$, with $\alpha = .05$. Second, the predictor variables must significantly associate with the mediator (FC), which were tested by Hypotheses 1 and 2, respectively. Third, the relation between the predictor and criterion variable, controlling for the effect of the mediator variable on the outcome, should be significantly reduced in a partial mediation model. If the relation between the predictor and criterion variable becomes insignificant, a full mediation model would be supported. To test the third requirement, two simultaneous regression analyses were performed. Specifically, the relation between CVI and CES-D (Path c'), controlling for FC (Path b), was tested (Fig. 1B, p. 53). Also, the relation between CB and CES-D (Path f'), controlling for the effect of FC (Path e), was assessed (Fig. 2B, p. 54). For these analyses, the strength of association was described by $\beta$ and $R^2$, with $\alpha = .05$. If Path c' was insignificant, a full mediation model would be supported. If Path c' was significantly less than Path c, but still statistically significant, a partial mediation model would be supported. Moreover, If Path f' was not significant, a full mediation model would be supported. If Path f’ was significantly less than Path f, but still statistically significant, a partial mediation model would be supported.

To test the forth requirement (Baron & Kenny, 1986) that the indirect effect is significant a bootstrapping procedure was used. Bootstrapping is a powerful procedure because it can detect significant indirect effects even when effect sizes are small and when the sample distributions violate the assumption of normality (Preacher & Hayes, 2004). Using SPSS macro created by Preacher and Hayes (2004), 1000 samples from the data were generated and the indirect effect for each of these samples was evaluated. This
procedure would yield a mean estimate of the indirect effect, a standard error of the mean, and a 95%- confidence interval. An indirect effect is significant if the confidence interval does not include zero. This procedure was performed twice: once for the indirect effect of FC on the relation between CVI and CES-D (Fig. 1A, p.53), and one for the indirect effect of FC on the relation between CB and CES-D (Fig.2A, p.54).

Finally, the relations of participants’ levels of acculturation and enculturation to CVI and CB were examined to elucidate how these different acculturation experiences might related to AFD in this immigrant population. Specifically, the zero-order correlations among AAMAS-CO, AAMAS-EA, CVI, CB, FC, and CES-D were examined and alpha levels were set at $p < .05$. 

Chapter IV

Results

Missing Values

Among the 68 cases in the sample, 22 participants (32.4%) had missing values ($N = 102$ total items), ranging from 1 to 4 items. Specifically, 15 participants had 1 missing value, 2 participants had 2 missing values, 3 participants had 3 missing values, and 2 participants had 4 missing values.

The missing values did not appear to follow a specific pattern. Because there were few missing values overall, person mean substitution was used (Downey & King, 1998). That is, whenever a value for an item was missing, the mean of the participant’s score on that subscale was substituted for that item.

Preliminary Analyses

Preliminary analyses were conducted to obtain descriptive statistics for the major variables (see Table 4). Internal consistency reliability coefficients were calculated using Cronbach’s $\alpha$ (Table 2, p. 41). Skewness and kurtosis values for the major variables were also calculated to assess for univariate normality. According to Tabachnick and Fidell (2007), a $Z$ score $\pm 3.29$ indicates non-normality at $\alpha = .001$. Based on the values obtained, there was no indication of problematic skewness or kurtosis for any of the major variables, nor were there any outliers among these variables, based on the same $Z$-score criterion.

Mean values on the major scales suggested moderate levels of Cultural Value Incongruence, Communication Breakdown, and Family Conflict; low levels of Depressive Symptoms; and moderately high levels of Acculturation and Enculturation. A
<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVI</td>
<td>3.03</td>
<td>0.84</td>
<td>0.01</td>
<td>-0.29</td>
</tr>
<tr>
<td>CB</td>
<td>3.42</td>
<td>1.00</td>
<td>-0.22</td>
<td>-0.24</td>
</tr>
<tr>
<td>Acc</td>
<td>4.35</td>
<td>0.72</td>
<td>0.12</td>
<td>0.34</td>
</tr>
<tr>
<td>Enc</td>
<td>5.15</td>
<td>0.57</td>
<td>-0.76</td>
<td>-0.19</td>
</tr>
<tr>
<td>FC</td>
<td>13.57</td>
<td>4.42</td>
<td>0.48</td>
<td>-0.35</td>
</tr>
<tr>
<td>Dep</td>
<td>15.32</td>
<td>11.69</td>
<td>0.70</td>
<td>-0.39</td>
</tr>
</tbody>
</table>

Note. $N = 68$. CVI = Cultural Value Incongruence (potential range 1 to 7) on the Acculturative Family Distancing Scale (Hwang, 2006b). CB = Communication Breakdown (potential range 1 to 7) on the Acculturative Family Distancing Scale (Hwang, 2006b). Acc = Acculturation (potential range 1 to 6) on the Asian American Multidimensional Acculturation Scale (Chung et al., 2004). Enc = Enculturation (potential range 1 to 6) on the Asian American Multidimensional Acculturation Scale (Chung et al., 2004). FC = Family Conflict (potential range 6 to 24) on the Family Conflict subscale of the Social Interaction Scale (Kessler et al., 1994). Dep = Depressive Symptoms (potential range 0 to 60) on the Center for Epidemiologic Studies Depression Scale (Radloff, 1977). Standardized error = .29 for skewness. Standardized error = .57 for kurtosis.
dependent-sample $t$ test showed a significant difference between participants’ level of Acculturation and Enculturation, $t(67) = -7.15, p = .00$; in that participants reported being more enculturated than acculturated ($M_s = 5.15$ and $4.35$, $SD_s = .57$ and $.72$, respectively).

In the demographic questionnaire, 40 participants (58.8%) indicated using Skype or other instant messaging programs as their primary means of communication with parents. Similarly, 40 participants (58.8%) reported having contact with parents at least once or twice a week. Approximately 35% of the participants, who provided narrative responses on how they typically resolved conflict with parents, indicated an avoidant pattern of communication (e.g., hang up on parents, change the topic, suppress their feelings); whereas, others sought different ways to approach the conflict.

Pearson correlations for all study variables and for the continuous demographic variables (i.e., current age, age at immigration, years living in the U.S. or Canada, and education) were calculated to assess for potential covariates. Additionally, a series of independent-sample $t$ tests was performed to test the relationship of the two categorical demographic variables (i.e., gender and whether parents had lived in the U.S. or Canada) to the study variables.

Current age and age at immigration were not significantly correlated with any of the major variables (see Table 5). Additionally, participants’ scores on Cultural Value Incongruence, $t(66) = -.08, p = .93$; Communication Breakdown, $t(66) = -1.35, p = .18$; Family Conflict, $t(66) = .15, p = .89$; and Depressive Symptoms, $t(66) = -.88, p = .38$, did not differ significantly between participants whose parents had lived in North America and those whose parents had not done so. These results supported the decision to include the former group in the final sample.
Table 5

**Intercorrelations of the Demographic and Study Variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CVI</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CB</td>
<td></td>
<td>.53**</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Acc</td>
<td></td>
<td></td>
<td>-.01</td>
<td></td>
<td>-.24*</td>
<td></td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Enc</td>
<td></td>
<td>-.10</td>
<td></td>
<td>-.27*</td>
<td>-.01</td>
<td></td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. FC</td>
<td></td>
<td>.41**</td>
<td>.61**</td>
<td>-.03</td>
<td>.09</td>
<td></td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Dep</td>
<td></td>
<td>.00</td>
<td></td>
<td>.35**</td>
<td>-.27*</td>
<td>-.10</td>
<td>.48**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Education</td>
<td></td>
<td>.05</td>
<td></td>
<td>-.08</td>
<td>.20</td>
<td>-.22</td>
<td>-.10</td>
<td>-.25*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Age</td>
<td></td>
<td>-.03</td>
<td></td>
<td>.05</td>
<td>.12</td>
<td>-.17</td>
<td>.03</td>
<td>-.15</td>
<td>.56**</td>
<td></td>
</tr>
<tr>
<td>9. Years in N.A</td>
<td></td>
<td>.02</td>
<td></td>
<td>.15</td>
<td>.12</td>
<td>-.25*</td>
<td>.09</td>
<td>-.09</td>
<td>.55**</td>
<td>.84**</td>
</tr>
<tr>
<td>10. Age at arrival</td>
<td></td>
<td>.01</td>
<td></td>
<td>-.11</td>
<td>-.03</td>
<td>.10</td>
<td>.00</td>
<td>-.02</td>
<td>-.06</td>
<td>-.00</td>
</tr>
</tbody>
</table>

In contrast, a significant gender difference emerged for Family Conflict, $t(63) = -2.46, p = .02$, in that women reported significantly more family conflict than did men ($M$s = 14.50 and 11.67, $SD$s = .70 and .81, respectively). To further investigate the effect of gender on Family Conflict, Hypotheses 1 and 2 (described below) were tested in two ways, i.e., with and without gender, in order to determine whether inclusion of this variable would affect the results. Because a comparison of the two sets of analyses (see Appendix E) indicated that the inclusion of gender did not change the results meaningfully, the analyses reported in this chapter did not include gender in the model.

Furthermore, level of education correlated significantly with Depressive Symptoms ($r = -.25, p < .01$), such that participants who were more highly educated reported fewer depressive symptoms. To examine whether inclusion of this variable would affect the results (i.e., the test of Hypothesis 3), a regression analysis was conducted. Results showed that Education did not contribute significantly to the prediction of Depressive Symptoms, when controlling for Family Conflict, $\beta = -.20, t(65) = -1.92, p = .06$. Therefore, level of education was not included as a covariate in the major analyses.

In terms of the intercorrelations of the major variables, as shown in Table 5, the two AFD subscales, CVI and CB, were significantly correlated, $r = .53, p < .01$, sharing roughly 25% of the variance. Both scales were also significantly correlated with Family Conflict ($rs = .41$ and .61, $ps < .01$, respectively). Depressive Symptoms was positively correlated with Communication Breakdown ($r = .35, p < .01$), but not with Cultural Value Incongruence ($r = .00$). Family Conflict and Depressive Symptoms were also positively correlated, $r = .48, p < .01$. 
Finally, the mean scores on Depressive Symptoms in the current sample was compared with the mean score reported in a previous study (Yen et al., 2000) that tested the construct validity of CES-D with a sample of Chinese-American undergraduate students. This comparison was not significant, $t(165) = -1.07, p = .29$. Additionally, the present mean score on Family Conflict did not differ significantly from the mean score reported by Hwang et al. (2010) in a previous AFD study $t(167) = .02, p = .99$.

Major Analyses

**Hypothesis 1.** To test Hypothesis 1, that Cultural Value Incongruence would directly predict Family Conflict, a simple regression analysis was conducted. The results were significant, $F(1, 66) = 13.34, p = .00$ (see Table 6). The beta weight for Cultural Value Incongruence was $.41, t(66) = 3.65, p = .00, adj. $R^2 = .16$. Thus, Hypothesis 1 was supported.

**Hypothesis 2.** To test Hypothesis 2, i.e., that Communication Breakdown would directly predict Family Conflict, a simple regression analysis was conducted. The results were significant, $F(1, 66) = 38.23, p = .00$, and the beta weight for Communication Breakdown was $.61, t(66) = 6.18, p = .00, adj. $R^2 = .36$ (see Table 6). Thus, Hypothesis 2 was supported.

**Hypothesis 3.** To test the hypothesis that Family Conflict would directly predict Depressive Symptoms, a simple regression analysis was performed. The results were significant in the hypothesized direction, $F(1, 66) = 20.01, p = .00; \beta = .48, p = .00, adj. R^2 = .22$ (see Table 6). Thus, Hypothesis 3 was supported.

**Hypotheses 4 and 5.** Family Conflict was hypothesized to mediate the relation between Cultural Value Incongruence and Depressive Symptoms (Hypothesis 4), and the
Table 6

*Summary of Regression Analyses*

<table>
<thead>
<tr>
<th>Model</th>
<th>( B )</th>
<th>( SE )</th>
<th>( \beta )</th>
<th>( t )</th>
<th>( p )</th>
<th>( adj. )</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVI ( \rightarrow ) FC</td>
<td>2.16</td>
<td>0.59</td>
<td>.41</td>
<td>3.65</td>
<td>.00</td>
<td>.16</td>
</tr>
<tr>
<td>CB ( \rightarrow ) FC</td>
<td>2.67</td>
<td>0.43</td>
<td>.61</td>
<td>6.18</td>
<td>.00</td>
<td>.36</td>
</tr>
<tr>
<td>FC ( \rightarrow ) Dep</td>
<td>1.28</td>
<td>0.29</td>
<td>.48</td>
<td>4.47</td>
<td>.00</td>
<td>.22</td>
</tr>
<tr>
<td>CVI ( \rightarrow ) Dep</td>
<td>0.06</td>
<td>1.71</td>
<td>.00</td>
<td>0.04</td>
<td>.97</td>
<td>.02</td>
</tr>
<tr>
<td>CB ( \rightarrow ) Dep</td>
<td>4.13</td>
<td>1.35</td>
<td>.35</td>
<td>3.07</td>
<td>.00</td>
<td>.11</td>
</tr>
<tr>
<td>CB and FC ( \rightarrow ) Dep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB</td>
<td>0.05</td>
<td>0.07</td>
<td>.10</td>
<td>0.71</td>
<td>.48</td>
<td>.01</td>
</tr>
<tr>
<td>FC</td>
<td>1.12</td>
<td>0.36</td>
<td>.42</td>
<td>3.12</td>
<td>.00</td>
<td>.22</td>
</tr>
</tbody>
</table>

*Note.* \( N = 68 \). CVI = Cultural Value Incongruence. CB = Communication Breakdown. FC = Family Conflict. Dep = Depressive Symptoms.
relation between Communication Breakdown and Depressive Symptoms (Hypothesis 5). A series of regression analyses was performed, as follows. The results for the first mediation model are presented first, followed by the results for the second model.

**Tests of mediation model 1: CVI.** To test the first requirement for a mediation effect (Baron & Kenny, 1986), Depressive Symptoms was regressed on Cultural Value Incongruence (Hypothesis 4); these results were nonsignificant, $\beta = .00, p = .97, \text{adj. } R^2 = .02$ (see path c in Fig. 3 and Table 6). This result indicated that the first mediation model was not supported. Moreover, because the first requirement was not fulfilled, subsequent steps for establishing a mediation effect were not tested. Therefore, Hypothesis 4 was not supported.

**Tests of mediation model 2: CB.** Results of the second mediation model (Hypothesis 5) are displayed in Figure 4 and Table 6. First, when Depressive Symptoms was regressed on Communication Breakdown, results were significant, $\beta = .35, p = .00, \text{adj. } R^2 = .11$ (path f). Second, Communication Breakdown was significantly associated with Family Conflict, $\beta = .61, p = .00, \text{adj. } R^2 = .36$ (path d). Third, when Depressive Symptoms was simultaneously regressed on Family Conflict and Communication Breakdown, the relation between Communication Breakdown and Depressive Symptoms (path f') was no longer significant, $\beta = .10, p = .48$. However, Family Conflict (path e) remained a significant predictor of Depressive Symptoms, $\beta = .42, p = .00$. This model was significant, $F(2, 65) = 10.18, p = .00, R^2 = .24, \text{adj. } R^2 = .22$.

In addition, the bootstrapping procedure (Preacher & Hayes, 2004) was performed to assess the indirect effect of Family Conflict on the relation between Communication Breakdown and Depressive Symptoms. As shown in Table 7, because the 95% CI (.97,
Figure 3. Analysis of Mediation Model 1: Cultural Value Incongruence (Hypothesis 4).

Note. The standardized regression coefficient is displayed, with the unstandardized coefficient in parentheses.
Figure 4. Analysis of Mediation Model 2: Communication Breakdown (Hypothesis 5).

A: Direct effect. B: Indirect effect. Note. The standardized regression coefficients are displayed, with the unstandardized coefficients in parentheses. **p < .01.
Table 7

*Bootstrapping Results for the Indirect Effect: Hypothesis 5 (CB)*

<table>
<thead>
<tr>
<th>Indirect effect</th>
<th>Mean indirect effect ($B$)</th>
<th>$SE$ of mean</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB $\rightarrow$ FC $\rightarrow$ Dep</td>
<td>2.98*</td>
<td>1.22</td>
<td>.97, 5.52</td>
</tr>
</tbody>
</table>

*Note.* CVI = Cultural Value Incongruence. FC = Family Conflict. Dep = Depressive Symptoms. *$p < .05$. 

67
5.52) of the estimated mean of indirect effect did not include zero (.97, 5.52), the indirect effect \( B = 2.98 \) was significant \( (p < .05) \). In other words, Family Conflict significantly mediated the relation between Communication Breakdown and Depressive Symptoms, supporting Hypothesis 5.

**Exploratory analyses: Acculturation and enculturation.** Table 5 shows no relation between Acculturation and Enculturation, \( r = -.01, p > .05 \). This result supports the bilinear view of acculturation (e.g., Berry, 1979; Miller, 2010).

As indicated in Table 5, Acculturation was significantly and negatively correlated with Communication Breakdown, \( r = -.24, p = .03 \), and with Depressive Symptoms, \( r = -.27, p = .01 \). Moreover, Enculturation was significantly and negatively correlated only with Communication Breakdown, \( r = -.27, p = .01 \). Neither Acculturation nor Enculturation was significantly associated with Family Conflict \( (rs = -.03 \text{ and } .09, \text{ respectively}; \text{ both } ps > .05) \).

**Post-hoc Power Analyses**

Finally, power analyses were performed post-hoc for the second mediation model. Results showed that the observed power for the simple regression analysis of Communication Breakdown predicting Depressive Symptoms was .82. Moreover, the observed power for the simultaneous regression analysis of Communication Breakdown and Family Conflict predicting Depressive Symptoms was .98. It was concluded that there was strong statistical power to detect the effect of the above statistical models.

**Summary**

The present results indicated that both Cultural Value Incongruence and Communication Breakdown were significant predictors of Family Conflict, and that
Family Conflict was significantly associated with Depressive Symptoms in the predicted direction. Furthermore, Family Conflict significantly and fully mediated the relation between Communication Breakdown and Depressive Symptoms, as predicted. These results supported Hypotheses 1, 2, 3, and 5.

In terms of the exploratory questions, Acculturation and Enculturation scores were not significantly associated, consistent with the bilinear view of acculturation (Berry, 1979; Miller, 2010). Additionally, Acculturation was significantly and negatively correlated with both Communication Breakdown and Depressive Symptoms, in that participants who reported more mainstream acculturation experienced fewer communication difficulties as well as fewer depressive symptoms. Finally, Enculturation was significantly and negatively correlated with Communication Breakdown, such that participants who reported greater Taiwanese enculturation experienced fewer communication difficulties with parents.
Chapter V
Discussion

This study was designed to replicate and extend Hwang et al.’s (2010) research that tested the theory of Acculturative Family Distancing (AFD; Hwang, 2006a) with immigrant families. The theory postulates that the two dimensions of AFD, i.e., cultural value incongruence and communication breakdown, lead to greater family conflict, which in turn contribute to psychological distress. Cultural value incongruence refers to a gap in parents’ and children’s cultural beliefs and values. Communication breakdown refers to communication difficulties between parents and children because of differences in language fluency and communication styles.

In this study, the theory was tested with a specific immigrant population, i.e., adult Taiwanese parachute kids. Parachute kids are individuals who immigrated to North America during childhood or adolescence unaccompanied by parents. Although Hwang’s (2006a) theory was based on the assumption that Asian parents and children immigrate together as a family unit, it was reasoned that the theory might equally apply to parachute kids, whose parents remained in Asia, because technological advances have made it possible for families separated by great physical distance to maintain close contact. In other words, parachute kids and parents may still disagree about cultural values and experience difficulties in communication despite their geographical separation.

In addition, two other more general cultural constructs, acculturation and enculturation, were included in the study. Correlations between these variables and the study variables were performed for exploratory purposes.
The following chapter reviews the findings and discusses theoretical and clinical implications, as well as limitations of the study. Directions for future research are also provided.

**Theoretical Implications**

**Communication breakdown.** The hypothesized model was supported with respect to communication breakdown. That is, the present participants’ report of family conflict fully mediated the association between their perceived intergenerational communication breakdown and depressive symptoms. In other words, these adult parachute kids’ depressive symptoms could be fully explained by family conflict, which was due to difficulties communicating with parents.

These results are consistent with findings that intergenerational conflict is a strong predictor of depressive symptoms among Chinese Americans (e.g., Zhou et al., 2003) and provide partial support for the theory of AFD (Hwang 2006a). For example, Fang and Wark (1998) extensively discussed the influence of communication barriers on family dynamics. Many second-generation Chinese Americans or individuals who immigrate at an early age tend to have difficulties interpreting their parents’ verbal and nonverbal behaviors, and vice versa. Consequently, conflict can arise between generations when certain behaviors are misinterpreted. Additionally, the association between family conflict and psychological maladjustment has been well documented in the literature on Asian Americans (e.g., Lee et al., 2005; 2009).

Another important implication is that AFD, specifically the dimension of communication breakdown, is applicable to an immigrant population that is not traditional, i.e., families that move overseas together and remain in the host country as a
Indeed, technology has made it possible for families in Asia and immigrant children to stay connected despite their great distance. This trend was also evidenced by the present participants’ report that they frequently (once or twice a week) use Skype or another instant messaging program to communicate with parents. Notably, a comparison of the mean level of family conflict in the current sample \((M = 13.57, SD = 4.42)\) to that reported in Hwang et al.’s (2010) previous AFD study with adolescents \((M = 13.56, SD = 3.95)\) suggests that family conflict is equally relevant for adult parachute kids and their parents. This result further supports the applicability of AFD theory to this population.

**Cultural value incongruence.** As predicted, cultural value incongruence was significantly predictive of family conflict, consistent with the AFD literature (Hwang & Wood, 2009; Hwang et al., 2010). Contrary to previous AFD research (Hwang & Wood, 2009; Hwang et al., 2010), however, the direct effect between cultural value incongruence and depressive symptoms was not significant; therefore, the hypothesized model of family conflict mediating the relation between perceived cultural value incongruence and depressive symptoms was not supported.

There are several factors that may explain the lack of association between cultural value incongruence and depressive symptoms. First, although many authors noted that parent-child differences in values may be associated with psychological maladjustment (e.g., Farver et al., 2002; Park et al., 2009), some evidence suggests that value differences are only predictive of children’s negative mental health outcomes when parents, particularly fathers, are strongly oriented toward Chinese culture (Costigan & Dokis, 2006). One assumption in the present study was that the parents of parachute kids’ have
no reason to orient themselves toward U.S. or Canadian values, because they are not immigrants. However, the present results showed that the parents of most participants (57.4%) had some level of familiarity with western values, either directly or indirectly. Moreover, Ying (2001) provided preliminary support for the hypothesis that native values and affiliation may serve as a “transference object for one’s caretaker” that provides immigrants with a sense of attachment and a source of psychological resource in an unfamiliar cultural environment (p. 413). For this reason, it is possible that compared with immigrant parents in North America, non-immigrants (like the parents of parachute kids) who are familiar with western society may be less insistent about their children maintaining traditional Taiwanese values. In other words, if the parents of adult parachute kids are flexible in terms of values, then the adult children’s perceived differences in values may not be related to depressive symptoms. Furthermore, it was reasoned that parents of parachute kids send their children to U.S. because there is a certain level of investment in U.S. culture, which can also contributes to parents’ flexibility in terms of values.

It is also likely that because the participants were adults differences in values are not as salient for them, as they may have been in Hwang et al.’s (2010) study with adolescents. If replication of the present study shows that parents’ orientation toward traditional values does not play a role in adult parachute kids’ psychological adjustment, this result would mean that communication breakdown, rather than value differences, is more salient for this immigrant population.

It is possible that the methodology, including the nature of the sample, may have contributed to the nonsignificant relation between cultural value incongruence and
depressive symptoms. Cultural value incongruence is one dimension of AFD (Hwang 2006a, 2006b) but to date it has only been tested as an indicator of AFD using adolescents (Hwang et al., 2010) and undergraduate students (Hwang & Wood, 2009). Thus, more research is needed to test the construct validity of the AFD scale for this population.

Having adequate statistical power to detect significant differences is largely related to sample size. One might expect that because the current sample was relatively small, a Type II error occurred. That is, there may have been insufficient statistical power to detect significance in the association between cultural value incongruence and depressive symptoms. However, the significant finding for communication breakdown and its strong post-hoc power, along with the almost zero association between the two variables, suggest that an increase in sample size may not have meaningfully changed the results. In other words, the aspect of AFD that is not predictive of depressive symptoms is likely to be cultural value incongruence, rather than communication breakdown.

**Acculturation and enculturation.** An exploratory aspect of the present study was its examination of how acculturation and enculturation are associated with the two dimensions of AFD. The exploratory results showed that participants who reported relatively more Taiwanese enculturation tended to report fewer communication difficulties with their parents. This finding is consistent with AFD theory (Hwang, 2006a), which states that immigrant children’s proficiency in their native language and familiarity with the communication style of the country of origin can have a substantial impact on their ability to communicate with parents.
Participants’ reported levels of acculturation were positively associated with communication breakdown; however, this association was in the opposite direction of what was expected. Previous research indicated that among immigrants greater English proficiency was associated with acculturation (e.g., Kuo & Roysircar, 2004); therefore, it was reasoned that highly acculturated parachute kids would have more difficulty communicating with their parents in Taiwan. However, the present results showed that participants who saw themselves as highly acculturated reported relatively fewer communication difficulties with parents. This finding, along with the negative association between enculturation and communication breakdown, suggests that there might be an interaction effect of acculturation and enculturation on communication difficulty with parents. In other words, acculturation and enculturation may need to be considered jointly in relation to familial issues. This interpretation is consistent with the literature in this area, which has shown that acculturation and enculturation are distinct. That is, a person’s acculturation toward mainstream society, on the one hand, and his or her orientation toward the heritage culture, on the other hand, are parallel processes (e.g., Berry 1979; Miller 2010; Yoon et al., 2011). Benet-Martinez, Leu, Lee, and Morris (2002), for example, found that highly bicultural Chinese-American adults who perceived the U.S. and Chinese cultures as compatible responded in a more culturally congruent way than did those who were less integrated when exposed to visual stimuli that were representations of Chinese culture. The bicultural identity process is further supported by the orthogonal relation of acculturation and enculturation in the current sample ($r = -.01$, $p = .47$).
Notably, the average enculturation level reported by participants was higher than that of acculturation. This result means that, although the present participants tended to be well versed in both cultures, they nonetheless identified more with the values, beliefs, and behaviors consistent with their heritage culture. This result echoes a previous finding (Ying, 2001) that parachute kids tend to orient strongly toward their native culture due to the absence of regular parental contact during immigration. The difference between the mean score of acculturation level and that of enculturation level may also be due to the age when parachute kids immigrate; individuals who immigrate during childhood or after adolescence may present differently in terms of acculturation and enculturation.

In contrast, participants’ levels of acculturation and enculturation were not significantly associated with perceived value differences with parents. Perhaps measurement issues contributed to this nonsignificant finding. Many authors (e.g., Kim et al., 2001; Szapocznik et al., 1978) suggested that acculturation processes are domain specific. Acculturation and enculturation in the current study were conceptualized in terms of language use, food choice, ethnic identity, and cultural knowledge. On the other hand, the measure for cultural value incongruence targeted parent-child disagreement in school/work balance, dating, social life, approach to family, and so on. It is likely that all of the above issues are salient for adult parachute kids but are distinct aspects of acculturation processes; for this reason, neither acculturation nor enculturation associated with cultural value incongruence in the current study.

Finally, the associations among acculturation, enculturation, and depressive symptoms were inconsistent. Highly acculturated participants reported significantly fewer depressive symptoms, which was consistent with previous research (e.g., Hwang &
Ting, 2008; Kuo & Roysircar, 2004; Ruzek, Nguyen, & Herzog, 2011). Although other factors may need to be taken into account, these results tentatively suggest that adult parachute kids, including those who remain in North America on a student visa, need to acculturate linguistically and behaviorally in order to function optimally in the mainstream culture.

On the other hand, the association between enculturation and depressive symptoms was nonsignificant, which is consistent with the results reported by Iwamoto and Liu (2010) with Asian Americans and Asian-American international students, but contradicts the results of a meta-analysis on the relation between ethnic identity and well-being (Smith & Silva, 2011). Of note, well being in this meta-analysis was defined broadly and included symptoms of depression. These mixed results may be due to how enculturation was measured in the various studies as well as variability in the nature of the samples. More research is needed to clarify the associations among acculturation, enculturation, and depressive symptoms in adult Taiwanese parachute kids.

**Clinical Implications**

Taken together, the present results suggest that counselors should address intergenerational conflict as a potentially more effective way of reducing psychological distress than focusing on the parent-child gap in communication difficulties. This implication seems to be particularly important when a client’s parents are not residents of North America. For example, counselors might want to discuss with adult parachute kids the strategies that have or have not been effective for de-escalating conflict in their families of origin. Some participants in the study reported that they would hang up on parents during an argument, and others stated that they would use various ways to resolve
conflict. Because parachute kids and parents do not live in the same geographical location, it is easier to avoid managing their conflict in the moment, which may worsen the effect of the conflict over time. Thus, discussing the consequences of avoidant responses might motivate clients to formulate other strategies for handling intergenerational conflict.

It is also important for counselors to discuss the nature of family conflict with their clients. The questionnaire assessing family conflict in the current study included questions like “How often do your family members make too many demands on you?” and “How often do your family members criticize you?” Other authors (Yeh & Bedford, 2004) noted that Taiwanese children often use reframing to manage conflict with parents. Perhaps counselors can use this technique to help clients see the family conflict from a different perspective, empathize with parents, externalize the problem (i.e., due to culture, not personality), and therefore reduce clients’ depressive symptoms resulted from family conflict. For example, some adults may believe that their parents criticize them because they have adopted some western mannerisms of communication. It is possible that being criticized for adopting a western communication style triggers resentment related to being sent overseas unaccompanied at a young age (Hsieh, 2007). Therefore, it may be helpful for counselors to help their clients process what it was like for them to be criticized by parents and the possible meaning behind the criticism.

Counselors should also take into account a client’s orientation toward his or her mainstream and heritage culture. The present results suggest that individuals who are high acculturation and enculturation may be less likely to experience communication difficulties with their parents. As suggested by Benet-Martinez et al. (2002), how
confident individuals generally feel in maneuvering two cultures and the degree to which they perceive the two cultures as compatible are associated with the ability to respond in a culturally congruent manner. Martinez et al. proposed a convenient one-item questionnaire to assess an individual’s level of bicultural integration. For clients who report a poorly integrated bicultural identity, it seems worthwhile to ask if they encounter additional difficulties in communication with parents due to a constant shifting of cultural framework. Because it is psychologically taxing for a person to shift from one cultural framing to another, some clients may perceive communication with parents to be difficult. Therefore, for clients who present with family communication difficulties, discussing the similarities and differences in the host and heritage cultures might help increase the integration of identities, which can hopefully reduce communication difficulties. Prior research (Chen, Benet-Martinez, & Bond, 2008), as well as the present results, suggest an integration of identities is likely to be a psychologically protective factor.

With respect to perceived differences in parent-child values, counselors can focus discussions around how adult parachute kids’ values compare to those of their parents and how immigrating at a young age without parents may have contributed to these differences. These discussions can foster clients’ insights and empathy for parents, setting the stage for action. Counseling can then focus on identifying strategies that may be effective for negotiating differences with parents, so disagreement in values does not lead to conflict.

Notably absent from the above discussion is family interventions, because (a) there is little research on culturally appropriate interventions for Taiwanese families living in North America and (b) parachute kids’ parents are not North American residents.
However, Ying (1999) found that an 8-week parenting program for a sample of 15 Chinese immigrant parents was effective. The program was largely psychoeducational, focusing on conflict reduction and improvement of family relationships. Perhaps a similar program can be developed in Taiwan for parents whose children live in North America. The goal would be to provide these parents with information before they send children overseas and to offer strategies for managing conflict that may arise over time due to acculturation.

Limitations

In terms of limitations, the examination of acculturative family distancing, acculturation, enculturation, and family conflict was informed only from the adult child’s perspective. Many participants reported that their parents had lived in North America for various durations. Because these parents were not sampled, it was unclear how their parents’ exposure to western cultures may have influenced the participants’ own acculturative processes.

With respect to external validity, the study included only adult parachute kids of Taiwanese descent between the ages of 18 to 36. The rationale for restricting the sample was to maximize its homogeneity; however, by doing so, it is not possible to generalize the results to parachute kids from other age groups or to individuals from other Asian countries. Moreover, the sample was not random due to self-selection bias; only those who were particularly interested in the topic may have volunteered to take part in the study.

All measures in the proposed study were self-report. Therefore, the findings only reflected the perceptions of the participants, and social desirability bias may have played
a role in the results. Also related to the use of self-report measures, common method variance was a factor that could have systemically inflated or deflated the correlations among variables, thereby threatening the validity of the conclusions.

Finally, mono-method bias could threaten the validity of results, because the criterion variable, depressive symptoms, was assessed using a single measure. Only one measure was used because this was the first AFD study on adult Taiwanese parachute kids, and previous AFD research (e.g., Hwang et al., 2010) showed that depressive symptoms were strongly associated with acculturative factors and family conflict.

**Future Research**

Results of the present study point to several avenues for future research. First, parents of adult parachute kids should be included to clarify how parents’ varying degrees of familiarity with western cultures may influence children’s acculturative processes, i.e., cultural value incongruence, communication breakdown, acculturation, and enculturation. Inclusion of parents can provide a more complete picture for the effects of acculturative processes on family cohesion in adulthood.

Second, with a large sample, the interaction between enculturation and acculturation in relation to AFD, especially communication breakdown, could be examined to clarify the relations among these variables. Testing the complete model would add to the literature on AFD, because acculturation and enculturation are assumed to be distal acculturative factors that are antecedents of AFD (Hwang, 2006a).

Third, a different bilinear acculturation measure could be used in future research to test the associations among cultural value incongruence, acculturation, enculturation.
The results would help clarify whether the lack of associations in the current study was due to measurement issues.

Fourth, inclusion of other Taiwanese immigrant groups will provide empirical evidence for the uniqueness of adult parachute kids. For example, future AFD studies could compare adult Taiwanese parachute kids and those who immigrated with both parents during adolescence.

Moreover, structural equation modeling could be used to further test the construct validity of AFD on adult parachute kids. Again, SEM with a substantially larger sample is needed used to assess the measurement model and overall model fit. SEM allows for errors to be modeled separately (Frazier et al., 2004); therefore, the results can more accurately reflect the associations among the study variables. Specifically, in the present sample cultural value incongruence did not predict depressive symptoms as implied by AFD theory. Therefore, the subscale of cultural value incongruence should be further examined empirically.

Finally, future researchers might examine other mental health outcomes. Indeed, there are other factors may be relevant to the mental health of adolescent and adult parachute kids, such as anxiety, life satisfaction, and substance use, which have been associated with family conflict due to intergenerational cultural differences (e.g., Crane et al., 2005; Farver et al., 2002). A recent review of the acculturation literature (Suinn, 2010) also suggested that academic performance in relation to acculturation and enculturation is worth examining for young adults.
Conclusion

In conclusion, the present study was designed to replicate and extend Hwang et al.’s (2010) study. Results partially supported the generalizability of AFD theory to adult Taiwanese parachute kids, in that family conflict fully mediated the relation between communication breakdown and depressive symptoms. Although cultural value incongruence was predictive of family conflict and family conflict was predictive of depressive symptoms, the mediation effect of family conflict was not significant for cultural incongruence and depressive symptoms. In addition, acculturation and enculturation were inversely correlated with perceived communication breakdown, and acculturation was inversely associated with depressive symptoms. The association between acculturation and enculturation was not significant.

Future research incorporating parents’ responses may further illuminate the acculturative processes among adult parachute kids and the effects on intergenerational conflict and mental health. Additionally, a larger sample size will allow for testing the measurement model of AFD, and inclusion of parachute kids from other Asian countries will increase the generalizability of studies on this topic.
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Appendix A
Demographic Questionnaire

1. What is your age? __________________

2. What is your gender? ______________

3. What is your legal status in the U.S.?
   a. permanent resident
   b. U.S. citizen
   c. student visa
   d. work visa
   e. other (please specify ________________)

4. In which state do you reside? ______________

5. If you are working outside the home, what is your occupation? ______________

6. What is the highest level of education you have completed?
   a. Elementary or middle school
   b. High school or equivalent
   c. Vocational/ technical school (2 years)
   d. Some college
   e. Bachelor’s degree
   f. Master’s degree
   g. Professional degree (e.g., MD, JD, etc.)
   h. Other (please specify ________________)

7. If you are currently enrolled in a college or university, what is your class standing?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Graduate student

8. How old were you when you first came to the U.S.? ________________

9. Do you have siblings?
   a. Yes
   b. No
   If yes, how many siblings do you have? ________________
   Did any of your siblings come to the U.S. with you?
   a. Yes
   b. No
10. For how many years, approximately, have you been living in the U.S.?  
______________

11. Has either of your parents ever lived in the U.S.?  
   a. Yes  
   b. No  
   c. Unsure

12. Is either of your parents currently in the U.S.?  
   a. Yes  
   b. No

13. How often do you have contact with your parents?  
   a. Once to twice a week  
   b. Once a week  
   c. Once every two weeks  
   d. Once a month  
   e. Other (please specify ________________)

14. How do you typically contact your parents (e.g., phone, text, Skype, etc.)? Please specify:

15. How often do you travel to Taiwan?  
   a. More than twice a year  
   b. Once a year  
   c. Once every two years  
   d. Other (please specify ________________)

16. What is your marital status?  
   a. Single, never married  
   b. Single, cohabitating  
   c. Married  
   d. Remarried  
   e. Separated  
   f. Divorced  
   g. Widowed

17. Do you have children?  
   a. Yes  
   b. No  
   If yes, how many? ____________

18. If you are married or in a committed relationship, what is the racial/ethnic background of your partner?  
   a. African American/ Black  
   b. Asian/ Asian American/Pacific Islander
c. Latino(a)/ Hispanic
d. Native American
e. Caucasian/ White
f. Biracial/ Multiracial
g. Other (please specify ______________________)

19. If you indicated Asian/Asian American/ Pacific Islander in question 16, is your spouse/ partner Taiwanese?
   a. Yes
   b. No
      If yes, how long ago did he or she come to the U.S.? __________

20. Have you ever been diagnosed with depression?

21. When you experience conflict with your parents, how do you typically manage the situation?

22. How do you maintain cohesiveness with your parents?
Appendix B
Solicitation Email

Greetings!

I am a Taiwanese counseling psychology PhD student at the University at Albany, State University of New York.

I am reaching out to kindly invite you to participate in my study on the experiences of Taiwanese adults who came to the U.S. or Canada during middle school or high school unaccompanied by parents. I am hoping that the results of this study will help (1) clarify how immigration has influenced Taiwanese adults’ experiences living in the U.S. or Canada, and (2) obtain some understanding of how Taiwanese parents and their adult children interact when they are separated by a great physical distance over a long period of time. Results of my study will hopefully inform how various resources and techniques can be used with this unique population.

I realize that your time is valuable, and I would be very grateful if you could spend approximately 20 to 30 minutes to fill out the surveys. By volunteering for the study, you will have an opportunity to win one of the four $100.00 cash prizes.

In order to obtain an adequate sample for my study (at least 230 participants), please forward this email to any friends, acquaintances, classmates, colleagues, or family members who are also Taiwanese adults living in the U.S or Canada.

Your participation is voluntary, and you may choose to withdraw at any point. Also, your responses will be anonymous. If you wish to participate in the cash drawing, you will be asked to provide your name and email address, which will be kept separated from your responses.

If you are at least 18 years of age and willing to take part in the survey, please paste the following URL into your browser: https://www.psychdata.com/s.asp?SID=143449

If you have any questions concerning your rights as a research participant or if you wish to report any concerns about the study, please contact me at hsinhuacathylee@gmail.com or by phone (310-500-5905), or contact my faculty advisor, Dr. Myrna Friedlander, at mfriedlander@uamail.albany.edu. You may also contact the Office of Regulatory Research Compliance at the University at Albany, LCSB 28, 1400 Washington Avenue, Albany, NY 12222 (518-442-9050 or 800-365-9139; email orrc@uamail.albany.edu).

Thank you very much for your help! It is greatly appreciated.
Appendix C
Informed Consent
(on psychdata.com)

**Title of Research Project:** The Relations of Acculturation, Enculturation, and Acculturative Family Distancing to Depressive Symptoms as Mediated by Family Conflict: A Study of Taiwanese Adults.

This is a study on the experiences of Taiwanese adults who came to the U.S. or Canada during middle school or high school unaccompanied by parents. The goals of the study are to (a) clarify how immigration has influenced Taiwanese adults’ experiences living in the U.S. or Canada, and (b) obtain some understanding of how Taiwanese parents and their adult children interact when they are separated by a great physical distance over a long period of time. Results of this study will hopefully inform how various resources and techniques can be used with this unique population.

You will be asked to fill out a survey online and your participation is anonymous. By participating in the study, you will have a chance to win one of the four $100.00 cash prizes. If you wish to participate in the cash drawing, you will be asked to provide your name and E-mail address, which will be kept separated from your responses in order to ensure confidentiality. All information obtained in this study is strictly confidential unless disclosure is required by law. In addition, the Institutional Review Board, the sponsor of the study, and University or government officials responsible for monitoring this study may inspect these records.

Please note that your participation in this project is voluntary. Even after you agree to participate in the research or sign the informed consent form, you may decide to leave the study at any time without penalty or loss of benefits to which you may otherwise have been entitled. Also, you may choose not to answer any questions and may refuse to complete any portions of the survey you do not wish to for any reason. I will retain and analyze the information you have provided up until the point you have left the study unless you request that your data be excluded from any analysis and/or destroyed.

I do not anticipate any risk in your participation other than you may become uncomfortable answering some of the questions. If such situations should arise, please feel free to withdraw from the study and/or seek support and help accordingly. Of note, although you may not receive direct benefit from your participation, others may ultimately benefit from the knowledge obtained from this study.

This project has been approved by the University at Albany Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants. Please note that absolute confidentiality cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.
If you have any questions concerning your rights as a research participant or if you wish to report any concerns about the study, please contact me at hsinhuacathylee@gmail.com or by phone (310-500-5905). You may also contact my faculty advisor, Dr. Myrna Friedlander at mfriedlander@uamail.albany.edu and/or the Office of Regulatory Research Compliance at the University at Albany, LCSB 28, 1400 Washington Avenue, Albany, NY 12222 (518-442-9050 or 800-365-9139; orrc@uamail.albany.edu).

By clicking below, you are (a) indicating that you have read, or been informed of the information about this study; (b) consenting to participate in the study; and, (c) indicating that you are at least 18 years of age.
Appendix D
Flyer

Are you a parachute kid over the age of 18?
University at Albany is conducting a research study on the experiences of Taiwanese Adults who came to the U.S. or Canada as adolescents unaccompanied by parent(s).
You can participate by filling out a brief (20-30 minutes), one-time, online survey using your own computer (see the URL below).
All participants will have the choice of entering into a drawing to receive one of four $100.00 cash prizes!!!

You are eligible to participate if (a) you came to the U.S. or Canada during middle school or high school without your parents, and (b) you are currently over the age of 18. If you would like to find out more about the study, please contact Hsin-Hua Cathy Lee via E-mail at HL573995@albany.edu

URL https://www.psychdata.com/s.asp?SID=143449
URL https://www.psychdata.com/s.asp?SID=143449
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URL https://www.psychdata.com/s.asp?SID=143449
Appendix E
Regression Summary for Prediction of Family Conflict

Table 8

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>adjusted $R^2$</th>
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</thead>
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<td>0.58</td>
<td>.39</td>
<td>3.59</td>
<td>.001</td>
<td>.15</td>
</tr>
<tr>
<td>2. CB</td>
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<td>0.43</td>
<td>.59</td>
<td>6.07</td>
<td>.000</td>
<td>.34</td>
</tr>
</tbody>
</table>

Note. $N = 65$. CVI = Cultural Value Incongruence. CB = Communication Breakdown.

FC = Family Conflict. Gender was covaried in both analyses.