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LOMA LINDA UNIVERSITY
School of Behavioral Health
in conjunction with the
Faculty of Graduate Studies

Family Support: A Buffer for Parenting Stress among Ethnic Minority
Parents of Children with DD

by

Susanna Luu

A Thesis submitted in partial satisfaction of
the requirements for the degree
Doctor of Philosophy in Clinical Psychology

December 2013

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Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree Doctor of Philosophy.

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Louis Jenkins, Chair of Department of Psychology

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ABBREVIATIONS

| | |
|--------|--------------------------------------|
| DD | Developmental Delay |
| ECBI | Eyberg Child Behavior Inventory |
| FIF | Family Information Form |
| VIA | The Vancouver Index of Acculturation |
| PSI-SF | Parenting Stress Index – Short Form |
| FSS | Family Support Scale |
| ANOVA | Analysis of Variance |

ABSTRACT OF THE THESIS

Family Support: A Buffer for Parenting Stress among Ethnic Minority
Parents of Children with DD

by

Susanna Luu

Doctor of Philosophy, Graduate Program in Clinical Psychology
Loma Linda University, December 2013
Dr. Cameron L. Neece, Chairperson

Adapting to a new culture is a stressful experience for some ethnic minorities. Lower acculturation in ethnic minorities is related to high levels of stress. Parents of children with developmental delays (DD) typically experience high levels of stress, particularly parenting stress. Therefore, ethnic minority families of children with development delays may be at risk for especially high levels of parenting stress due to the additive stress of adapting to a new culture. Currently, there is uncertainty within the field about the relationship between acculturation and parenting stress given that studies have found both low and high levels of acculturation to be associated with high levels of parenting stress. Thus, acculturation may ameliorate or exacerbate the parenting stress experienced by minority families of children with DD. In the current study, we explored the impact of acculturation on parents of children with DD as well as investigated family support as a potential moderator of this relationship. Our results indicated that the effect of acculturation on parenting stress depended on the level of family support. More specifically, low levels of acculturation were associated with increased parenting stress and family support did moderate this relationship. Further investigation in other forms of

social support that may help to explain this relationship is the necessary next step in deeper understanding.

CHAPTER ONE

INTRODUCTION

The United States' continued growth in minority populations has stimulated increased interest among researchers regarding the psychological processes involved in adapting to a new culture. The majority of research supports the idea that low acculturation is related to high levels of stress. However, other studies show that low acculturation is related to lower stress levels. Conflicting findings regarding the relationship between acculturation and stress merit further investigation to clarify this association. This is particularly important because acculturation stress may interact with other types of stress placing some groups at particularly high risk. Parents of children with developmental delays (DD) may be one such risk group given the high stress associated with parenting children with DD. Therefore, minority parents of children with DD may be particularly vulnerable given the stress of adapting to a new culture as well as parenting a child with DD.

Acculturation Models

Acculturation is defined as the changes in the cultural patterns of one or more groups that result when individuals from different cultures come into contact (Redfield, Lincoln, & Herzkovitz, 1936). One model developed to explain the progression of acculturation and its association with a number of factors (i.e. psychological wellbeing) is the unidimensional model of acculturation (Gans, 1979; Gordon, 1964). The unidimensional model conceptualizes acculturation as a continuous progression from one's heritage culture (culture from one's origin) to one's mainstream culture (the

majority culture), where an increase in one's mainstream culture corresponds with a decrease in one's heritage culture (Ryder, Alden, & Paulhus, 2000). Unfortunately, the unidimensional model lacks the sophistication to completely capture the variation in acculturation because it bases one's acculturation on a continuum and not on two separate dimensions where one can independently orient toward both their heritage and mainstream cultures.

A more accurate representation of acculturation comes from the multidimensional model of acculturation in which acculturation is conceptualized as a dual process of psychological and cultural change due to contact between two or more cultural groups (Berry, 2005). According to this model, acculturation can be understood in combinations of high and low levels of one's value of developing relationships in the larger society as well as one's value of maintaining one's cultural heritage (Berry, 1980). As depicted in Figure 1, the multidimensional model yields four acculturation strategies; assimilation, integration, marginalization, and separation. The optimal adaptation strategy is highly dependent on one's context and ability to conceptualize culture preferences. Additionally, other factors such as an individual's immigration status (i.e. generation, years in the US, and country of birth) may have an important impact on one's acculturation and create different acculturation experiences for various ethnic minorities. However, previous research has documented that out of these four strategies, integration, characterized by high levels of both heritage culture and mainstream culture, is associated with the lowest levels of acculturative stress (Berry, 2005). Other strategies of acculturation, such as assimilation (low mainstream culture, high larger society relationships), marginalization (low mainstream and heritage culture), and separation (low mainstream culture and high

heritage culture) have been associated with increased acculturative stress (Berry, 2006).

Selecting the ideal acculturation strategy may be especially important for individuals who experience high levels of stress related to other areas of their life, such as parenting. Here, stress from acculturation and parenting may have a cumulative effect, impacting parents more adversely than the independent effect of either type of stress.

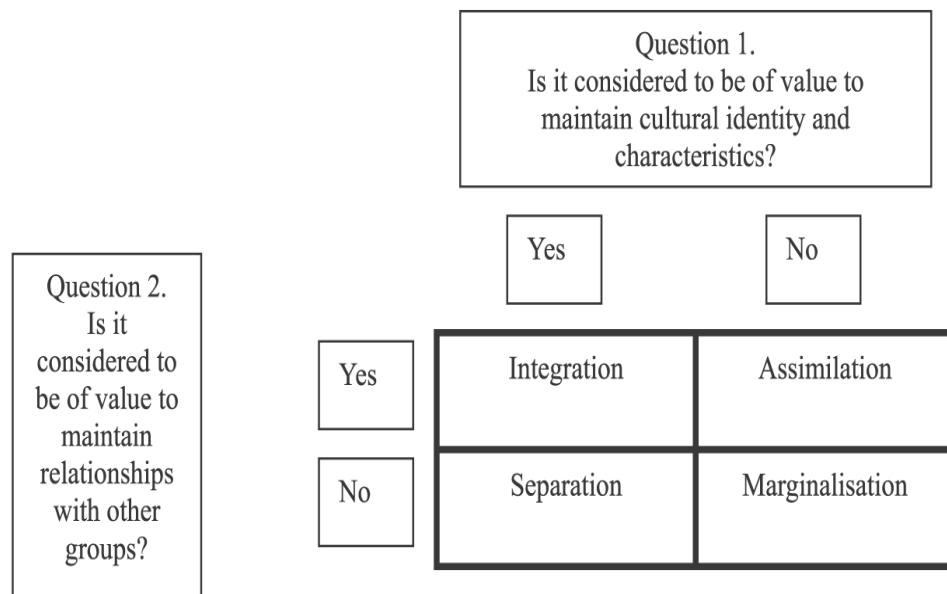


Figure 1. Berry's (2005) acculturation model with four acculturation strategies.

Acculturation and Parenting Stress

Acculturation may impact one's parenting experience, particularly with respect to parenting stress. Parenting stress has been found to be elevated in minority parents who may have more difficulty adapting to a new culture (Fung & Lau, 2010). A study by Cleveland (1999) found heightened levels of parenting stress in Mexican American families compared to Anglo families, suggesting that less acculturated minority parents may have more parenting stress than Anglo-Americans. Similarly, among Latino parents

living in the United States, less acculturated parents had higher levels of stress (Eisenhower & Blacher, 2006). Moreover, Eisenhower and Blacher (2006) found that mothers with greater acculturation were more likely to be working outside the home, which may have ameliorated their parenting stress. Thus, cultural factors appear to be important moderators of the relationship between acculturation and parenting stress. Conversely, other studies have found that less acculturation may be associated with lower levels of parenting stress. Altschul and Lee (2011) found that low acculturation was associated with higher psychological well-being. Thus, presently the relationship between acculturation and parenting stress is unclear.

Family Support: A Possible Protective Factor

One possible explanation that may clarify the relationship between acculturation and parenting stress are contextual factors, specifically social support. For instance, some studies have found that the family component of social support may buffer negative physical health outcomes associated with acculturative stress among ethnic minority individuals (Choi, 1997; Finch & Vega, 2003). These studies focused on Mexican Americans (Finch & Vega, 2003) and Korean Americans (Choi, 1997) to show how increasing social support can significantly improve one's overall health and decrease depression. Out of the various sources of social support, Finch and Vega (2003) and Choi (1997) emphasized that family support appears to be the vital component of social support that moderates stress.

Moreover, in terms of parenting, family support was found to be a protective factor that may buffer the adverse effects of high parental stress (Bromley, Hare, Davison, & Emerson, 2004). Previous findings indicate that a supportive family

environment buffers the elevated levels of parenting stress experienced by minority parents (Hassall, Rose, & McDonald, 2005). Furthermore, family support may moderate the relationship between acculturation and parenting stress in minority families (Contreras et al., 1999). Contreras and colleagues (1999) found that family support moderated the positive relationship between acculturation and parenting stress such that Latina mothers with low acculturation had the least amount of stress in the presence of high family support, while Latina mothers with high acculturation experienced more parenting stress in the absence of family support.

One possible explanation for these findings is the collectivistic culture adopted by less acculturated participants. Family support is emphasized in collectivistic cultures and may be a protective factor for parents with lower acculturation in reducing parental stress. For example, family support from grandparents was found to be negatively associated with parenting stress in Latina mothers, but in African American families the same relationship was found to be positively associated (Greenfield, 2011). Although Greenfield's (2011) explanation emphasizes possible ethnic or racial differences in association between Latina and Black mothers, another explanation may be due to acculturation differences between African American and Latina mothers. Based on Greenfield's (2011) findings, family support may be an important component in collectivistic cultures and may ameliorate parenting stress for less acculturated mothers. Findings from Contreras and colleagues (1999) and Greenfield (2011) suggest that family support moderates the association between acculturation and stress. The current study builds on previous research by investigating how family support may impact the

relationship between acculturation and particular types of stress, specifically parenting stress.

Parental Stress in Parents of Children with Development Delays

Parents of children with DD are a population that is particularly vulnerable to experience high levels of parenting stress (Baker et al., 2003; Blacher & McIntyre, 2006; Bromley et al., 2004; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001). High levels of parenting stress are a concern because they have been associated with parental depression (Olsson & Hwang, 2001), marital dissatisfaction (Eisenhower, Baker, & Blacher, 2005), and substandard physical health (Oelofsen & Richardson, 2006) in parents of children with DD. Although some have suggested that an increase in parenting stress is due to child behavior problems that often co-occur with a child's DD (Baker et al., 2003), acculturation may be another factor which contributes to the increased stress among parents of children with DD, placing ethnic minority parents of children with DD at particularly high risk for high levels of stress

Unfortunately, limited to no research has examined the relationship between acculturation and parenting stress among parents of children with DD. Research has documented a difference in parental stress between ethnic minority parents and Anglo American parents in typically developing children (Greenfield, 2011) as well as ethnic minority (i.e. Latino American) and Anglo American parents of children with DD (Cleveland, 1999). However, additional studies are needed to identify factors that may ameliorate the high levels of stress experienced by these parents. Given that family support has been shown to buffer stress among minority parents (Finch & Vega, 2003;

Choi, 1997), it would be advantageous to study the relationships between family support, acculturation, and parenting stress among parents of children with DD.

Current Study

In this study we examined differences in parenting stress between Anglo American and ethnic minority parents of children with DD. We hypothesized that minority parents will report more parenting stress compared to Anglo American parents given that the combination of acculturation stress and parenting stress for minority parents of children with DD may produce especially high stress levels. Additionally, we investigated the relationship between acculturation and parenting stress, and hypothesized that lower levels of acculturation would be associated with higher levels of parenting stress among parents of children with DD. Further, we tested differences in parenting stress as a function of the four acculturation strategies (assimilation, marginalization, separation and integration). We hypothesized that parents in the “integration” group would report the lowest levels of parenting stress compared to the three other groups. Finally, we investigated family support as a moderator of the association between acculturation and parenting stress for parents of children with DD, and we hypothesized that family support will significantly moderate this relationship.

CHAPTER TWO

METHOD

The current study used data from the Mindful Awareness for Parenting Stress (MAPS) Project, which included parents of children ages 2.5 to 5 years old who had DD. This project was a pilot study examining the efficacy of Mindfulness-Based Stress Reduction (Kabat-Zinn et al., 1992) in reducing parental stress and improving child behavior problems among families of children with DD. Data for all research questions was collected at the first pre-treatment assessment.

Participants

Subjects were primarily recruited through the Inland Empire Regional Center, a government agency that provides and purchases diagnostic and intervention services for persons with developmental disabilities. In California, practically all families with young children with developmental delays register for services with one of a network of Regional Centers. Families who met the inclusion criteria were selected by the Regional Center's computer databases and received a letter and brochure informing them of the study. Additionally, some families were recruited through the local newspaper, local elementary schools, and the local Autism Society.

Criteria for inclusion in the study were: (1) Having a child ages 2.5 to 5, (2) child was determined by Regional Center (or by an independent assessment) to have a developmental delay or disability, (3) parent reported more than 10 child behavior problems (the recommended cutoff score for screening children for treatment of conduct problems) on the Eyberg Child Behavior Inventory (ECBI; Robinson, Eyberg, & Ross,

1980), (4) parent was not receiving any form of psychological or behavioral treatment at the time of referral (e.g. counseling, parent training, parent support group, etc.), (5) parent agreed to participate in the intervention (this requirement will be determined based on whether the parent signs the consent form), and (6) parent spoke and understood English. Exclusion criteria included parents of children with debilitating physical disabilities or severe intellectual impairments that prevented the child from participating in the assessment tasks described in the protocol (e.g. child is not ambulatory). In order to be included, parents also must have completed all intake measures and attended the intake assessment before the beginning of the first intervention session. Of the ninety-five families that were screened for the study, 63 were determined to be eligible, and 51 parents enrolled in the study originally. Common reasons for ineligibility include the children being too old, parents receiving psychological services at the time phone screen was conducted, and language limitations. Five parents completed the initial assessments but dropped out of the study before the intervention began leaving a final sample of 46 parents.

Table 1 depicted the demographics of the sample. Out of the 46 participants the majority of the children (69.8%) were boys and the mean age of the children is 3.3 ($SD = .97$) years. In terms of ethnicity, the breakdown was 37.2% Anglo American, 41.9% Non-White Latino American, 9.3% Asian American, 4.7% African American, and 7.0% were classified as “Other.” Thus, 65.9% of the sample ($N=29$) were classified as “minority” parents (Asian American, African America, Non-White Latino American/Latino, and “Other”) and 34.1% as nonminority ($N=15$). Of the 46 participating parents, the majority of parents were mothers (82.2%) and married (67.4%). The mean age of the participating

parents was 34.80 years ($SD = 8.79$). The range of annual family income was from \$0 to greater than \$95,000 (53.5% of households reported an annual income of greater than \$50,000), and parents had completed an average of about 2 years of college ($M_{\text{years}} = 14.47$, $SD_{\text{years}} = 2.64$).

Table 1

Descriptive Statistics for Participants

| | <i>N</i> | % |
|--|--------------|-------|
| Total Participants | 46 | |
| Parent's Age $M(SD)$ | 34.80 (8.79) | |
| Parents Gender | | |
| Male | 8 | 17.8% |
| Female | 37 | 82.2% |
| Ethnicity | | |
| Asian American | 4 | 9.3% |
| Anglo American | 16 | 37.2% |
| Non-White Latino American | 18 | 41.9% |
| African American | 2 | 4.7% |
| Other | 3 | 7.0% |
| Minorities | 13 | 29.5% |
| Non-Minorities | 31 | 70.5% |
| Marital status | | |
| Single | 17 | 33.6% |
| Married/partner | 29 | 67.4% |
| Family Income | | |
| > 50,000 | 23 | 53.5% |
| < 50,000 | 20 | 46.5% |
| Child Sex | | |
| Female | 13 | 30.2% |
| Male | 30 | 69.8% |
| Parent Average Years in School $M(SD)$ | 14.47(2.64) | |

Procedures

Interested parents either contacted the MAPS project by phone, returned a postcard requesting the PI to contact them, or submitted their information on the MAPS website. If the family met eligibility criteria for the study, an appointment for an intake laboratory assessment was scheduled. Prior to the initial laboratory assessment, a packet of questionnaires was mailed to parents to complete before coming into the lab. Only the parents participating in the study completed the packet. At the initial assessment, parents were given an informed consent form that the researchers reviewed with the parent. Demographic information was collected after the consent was obtained. Parents also participated in a play assessment and were assigned to a treatment group that was a part of the larger study. The present investigation used data from the intake assessment.

Measures

Ethnicity of Parent and Child

Ethnicity identification of parent and child was gathered from the Family Information Form, a demographic interview administered at the intake assessment.

Family Information Form (FIF)

The Family Information Form is a survey of general information and family history. Social Economic Status and geographic region of origin was obtained from the FIF.

Vancouver Index of Acculturation (Ryder et al., 2000)

The Vancouver Index of Acculturation(VIA) was a widely used acculturation scale that measures acculturation based on the bidimensional model of acculturation. The measure has two subscales, one for Mainstream and one for Heritage culture. Both subscales have been found to have good reliability and validity among minority groups living in the U.S., with a Cronbach's alpha of .80 for the heritage culture subscale and a Cronbach's alpha of .90 for the mainstream subscale (Ryder et al., 2000). There are 20 items addressing the valence of cultural values and activities in a broad sense, each of which is rated on a 9-point Likert scale. The ten even questions assess cultural values and activities associated with one's Heritage culture where the other ten odd questions address Mainstream culture. The measure was initially developed to address Asian/Indian acculturation, but was modified for use with various ethnic groups (Huynh, Howell, & Benet-Martínez, 2009; Ryder et al., 2000) including Non-White Latino Americans, African Americans, Asian Americans, and others (Refer to Appendix A for measure). Additionally, the VIA has been found to have good convergent validity with other similar measures (i.e. General Ethnicity Questionnaire –Abridged and Stephenson Multigroup Acculturation Scale). The current sample exhibited a Cronbach's alpha of .92 for the Heritage scale and .90 for the Mainstream scale.

However, the transition from unidimensional to multidimensional acculturation has created inconsistent and unreliable measures in the past (Koneru, Weisman de Mamani, Flynn & Betancourt, 2007). Fortunately, recent popularity for measures associated with the multi-dimensional model of acculturation, have been tested for good validity and reliability (Huynh, Howell, & Benet-Martinez, 2004). In particular, the

Vancouver Index of Acculturation (VIA) represents the bidimensional model and has been compared to other similar measures (i.e. General Ethnicity Questionnaire –Abridged and Stephenson Multigroup Acculturation Scale) and multiple ethnic minority groups (i.e. Asian Americans and non-White Latino Americans) (Huynh, Howell, & Benet-Martinez, 2004). The item wording and measure content in the VIA can be related across many different ethnic minorities, which has given this measure preference over other acculturation measures.

Parenting Stress Index – Short Form (Abidin, 1997)

The Parenting Stress Index – Short Form (PSI-SF) was used to assess parenting stress. The PSI-SF contains 36 items that are rated on a 5-point Likert scale ranging from “Strongly Agree” (1) to “Strongly Disagree” (5) and contains three subscales, Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child, which are combined into a Total Stress score (Abidin, 1995). The PSI-SF also includes a validity index which measures the extent to which the parent is answering in a way that he/she thinks will make them look best. A score of 10 or less on this index suggests responding in a defensive manner and indicates that caution should be used in interpreting any of the scores. One participant had a defensive responding score less than 10 at the intake assessment and this score was removed from the present analyses.

We used the Parental Distress subscale, which measures the extent to which the parent is experiencing stress in his or her role as a parent. This subscale was chosen because it assesses parental stress independent of child behavior issues, which were also a key outcome variable of the current investigation. Reliability for Parental Distress with

our sample was $\alpha=.91$. Parents completed the PSI-SF prior to attending the intake assessment and again in the second assessment.

Family Support Scale (Hanley, Tassé, Aman, & Pace, 1998)

This is an 18-item measure that measures familial and social supports. Items include a 5-point Likert scale ranging from “Not at all Helpful” (1) to “Extremely Helpful” (5). The measure includes several subscales assessing support in informal kinship, social organizations, formal kinship, nuclear family, specialized professional services, and generic professional services. The total support score was used for the purpose of this study to capture all five factors, which had good internal consistency, Cronbach’s $\alpha = .90$.

Data Analytic Plan

The distribution of the data was examined for normality, adherence to assumptions, and the presence of outliers. Data points that were more than 3 standard deviations above or below the mean were set to 3 standard deviations from the mean. Demographic covariates were determined by first correlating the demographic variable with the independent variable(s) (e.g. acculturation and family support). If demographic variables significantly correlated ($p < .05$) with independent variables, they were then correlated with dependent variables. Significantly correlated demographic variables ($p < .05$) with both the independent and dependent variables were used in the regression models. The demographic variables analyzed as possible covariates had potential relationships with both acculturation and parenting stress include child gender and child’s

developmental diagnosis. Additionally age, marital status, and education of the participating parent and socioeconomic status (i.e. family income) of the family were examined.

To test for group differences in parenting stress among minority and non-minority parents, independent-samples t-tests were conducted. Toward the second aim, a Pearson's correlation was conducted to determine the association between acculturation and parenting stress. To further examine the relationship between stress and acculturation, differences in parenting stress among the four acculturation strategies (assimilation, integration, marginalization, separation) (Berry, 1980) was tested with an independent samples t-test. Acculturation strategies were determined by partitioning the heritage culture and mainstream culture scale into high/low levels using a median split. Participants was classified as one of Berry's (1980) four acculturation strategies, assimilation (high mainstream/low heritage), integration (high mainstream/high heritage), marginalization (low mainstream/high heritage), and separation (low mainstream/low heritage). Integration was compared to the rest of acculturation strategies.

The assessment of family support as a moderator of the relationship between acculturation and parental stress was examined through a hierarchical multiple linear regression. The total score of the PSI-SF was the dependent variable. Step 1 included relevant covariates; Step 2 included the mainstream culture acculturation subscale of the VIA; Step 3 included the total support of the FSS; and Step 4 included the interaction term between acculturation and family support.

CHAPTER THREE

RESULTS

The distributions of primary research variables were examined for normality and the presence of outliers. Tests suggested that the data did not violate the normality assumption (Tabachnick & Fidell, 2009). Data points that were more than three standard deviations above or below the mean of a variable were considered to be outliers. One data point was found to meet criteria for outliers in the mainstream variable and was removed from the analysis. Additionally, no demographic variables listed in Table 1 had a significant relationship ($p < .05$) with one or more of the independent variables *and* one or more of the dependent variables were considered covariates.

In order to test differences in parenting stress between Anglo American ($N = 29$, $M = 106.31$, $SD = 22.97$) and ethnic minority parents ($N=12$, $M = 104.25$, $SD = 23.99$), a one-tailed independent samples t-test was conducted and no significant differences were found in parenting stress between these groups, $t(39) = .275$, $p = .785$. Similarly, the relationship between acculturation and parenting stress was not significant using the mainstream ($r = -.093$, $p = .603$), as well as the heritage culture ($r = .020$, $p = .910$) subscales.

Further analysis assessed for differences in parenting stress as a function of acculturation category. However, the data violated the assumption of ten participants for each category in the one way ANOVA (Fields, 2009). As an alternative, the four acculturation strategies were collapsed into two group and an independent samples t-test was conducted to examine differences in parenting stress between integration and the

other strategies (assimilation, separation, and marginalization), which was also not significant, $t(32) = -.190, p = .851$.

A hierarchical multiple linear regression was conducted to examine family support as a moderator of the relationship between acculturation and parenting stress. Results indicated that family support significantly moderated the relationship between acculturation and stress ($\beta = .569, p < .01$) such that parents with low acculturation and high family support as well as parents with high acculturation and low family support experienced less parenting stress compared to parents who were highly acculturated and had high family support and parents who had low acculturation and less family support. These results are presented in Table 2 and the moderation effect is depicted in Figure 2.

Table 2

Results from Family Support Moderation

| | <i>b</i> | <i>t</i> | <i>Sig</i> | 95.0% C.I. (<i>b</i>) |
|------------------------------|----------|----------|------------|-------------------------|
| (Constant) | 135.70 | 13.77 | .000 | [115.18, 155.19] |
| Family Support | -.93 | .34 | .010 | [-1.62, -0.25] |
| Acculturation | -.85 | 3.85 | .827 | [-8.72, 7.02] |
| AcculturationXFamily Support | 19.27 | 4.25 | .000 | [9.84, 28.68] |

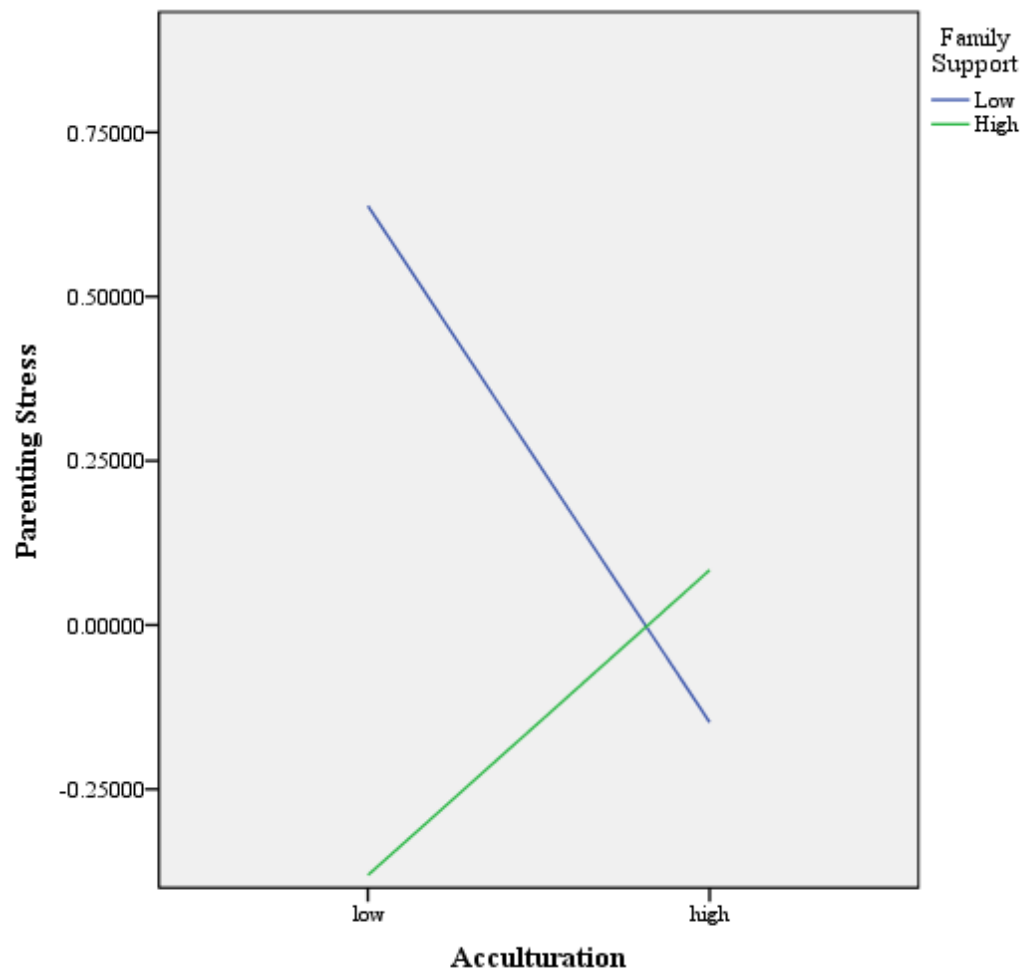


Figure 2. Moderating Effects of Family Support on Acculturation and Parenting Stress.
Note: Parenting stress is presented on a z-scale.

CHAPTER FOUR

DISCUSSION

Ethnically diverse parents of children with DD were asked to report on their experiences in parenting stress, acculturation, and family support. Based on ethnicity and acculturation style, parents were compared according to their parenting stress. We hypothesized that Anglo parents and ethnic minority parents would report different levels of parenting stress; however, our results did not support this claim. Further, our results did not support our hypothesis that parents of various acculturation styles (integration, assimilation, marginalization, and separation) would have different levels of parenting stress. No relationship was found between acculturation and parenting stress. However, our findings supported our hypothesis that family support moderated the relationship between acculturation and parenting stress. That is, parents of children with DD had less parenting stress with less acculturation when family support was present, whereas more parenting stress was higher in the presence more acculturation and more family support.

Our findings indicated that ethnicity and acculturation alone had a minimal effect on parenting stress. Minority and Anglo American parents experienced similar levels of parenting stress levels, which is contrary to findings in several previous studies (Fung & Lau, 2010; Cleveland, 1999; Eisenhower & Blacher, 2006). However, the results must be interpreted with caution. We had a limited sample size which may have limited our power to detect differences. Nevertheless, our results suggest that the absence of main effect differences may be accounted for by the presence of an interaction. Family support was found to significantly moderate the acculturation and parenting stress. Family support may be seen as beneficial in parenting in many collectivistic cultures.

Therefore, the presence of family support is an aid to parents that are accustomed to family as part of their parenting role. However, parents with beliefs and practices that are more aligned with an individualistic culture (mainstream culture) may see family support as an intrusion on their parenting efforts and a limitation to their autonomy. To have little control over parenting increases parenting stress for highly acculturated parents. Further, these results were consistent with those of Contreras and colleagues (1999) suggesting that ethnic minority parents of children with DD experience social support as a moderator.

There were several limitations to our study that should be noted. In the acculturation survey, people who identified themselves as Anglos Americans may not have understood the heritage portion of the questions because their heritage and mainstream culture are similar. Further, we were only using English speaking families and did not screen for generation identification. Speaking in a language other than English and being first generation is a different acculturation experience from a second generation English speaking parent. Perhaps excluding participants who do not speak and read or have a restricted range for English lowered the chance of representing those with a lower range of acculturation. Fluency in English may advance one's acculturation to mainstream culture. A larger sample would also provide us increase power to detect differences in stress as a function of minority status and acculturation if they are present.

Although most of the previously mentioned studies highlight parental stress differences among Anglo and minority populations, there may be some limitations in specifying differences among groups. For instance, dichotomizing ethnicities can overgeneralize and place people into disadvantaged groups that support essentialism

and/or eurocentrism (Jackson, 2011). Even though this study acknowledges that group differences may promote essentialism, significant differences in groups are the first steps to delineating the causes behind those differences. With evidence of group differences, this study can develop into a within-subjects design. Therefore, finding differences for the betterment of a group and further understanding of parental stress in parents of children with developmental delays remained as the main objectives of this study.

Future research should continue to investigate the association between acculturation and parenting stress. The majority of literature focused on acculturation and acculturative stress/general stress, which did not exclusively represent parenting stress. Since parenting stress is indirectly linked to child adjustment through parenting behavior, studying parenting stress and acculturation may exhibit support for parenting behavior that may reduce parenting stress and increase child adjustment (Deater-Deckard, 1998). Therefore, further research is needed to support a relationship between acculturation and parenting stress or null findings should be reported. Although we did not find ethnic differences in parental stress, given our limited sample, it is important for future investigations to further examine this question using a large ethnically diverse sample. Additionally, exploring the role of other forms of social support in the relationship between acculturation and parenting support could further identify other sources of resiliency. Other forms of social support, such as friends, community, and organization support, might be pertinent to a parent who does not identify with family support. Nevertheless, results do highlight the importance of social support in buffering parental stress, specifically for ethnic minority parents with lower levels of acculturation. Thus, interventions aimed at enhancing social support may be particularly helpful in reducing

parental stress in particular groups of parents of children with IDD (Hastings, 2003; Cohen & Syme, 1985; Berkman et al., 2003).

Further, special consideration in obtaining a more diverse sample may increase the variation of acculturation strategies. One of our limitations was that all parents in our sample had to speak English, which likely restricted variability in our measure of acculturation. Likewise, reporting the generational status and immigration status helps bring context to our results. Comparing the sample based on generational and immigration status will be an important direction for future research to delineate differences in groups more clearly than acculturation alone. Previous studies have identified different stress experiences between generations (Mena, Padilla & Maldonado, 1987) and immigration status (Golding & Burnam, 1990).

The results of this study indicate that family support is important to resiliency towards the maladaptive effects of acculturation on parenting stress. Acclimating to another culture can be challenging, and having high or low degrees of acculturation determines if family support will ameliorate or exacerbate parenting stress for parents of children with DD. Having the additive stress of acculturating to a new environment and caring for a child with DD is a burden to most parents, but parents with collectivistic roots can significantly decrease their parenting stress with family support. Therefore, family support was a protective factor that may help minority parents through the challenges raising a child with DD. The moderating effect of family support suggest that having less acculturation produces a cumulative effect of acculturative stress and parenting stress without family support to buffer the stress. Raising a child with DD is a

difficult task, however with further research, interventions can support the parenting and acculturation needs of these families.

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APPENDIX A
VANCOUVER INDEX OF ACCULTURATION

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

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

Disagree Agree

1. I often participate in my *heritage* cultural traditions.

1 2 3 4 5 6 7 8 9

2. I often participate in mainstream American cultural traditions.

1 2 3 4 5 6 7 8 9

3. I would be willing to marry a person from my *heritage culture*.

1 2 3 4 5 6 7 8 9

4. I would be willing to marry a white American person.

1 2 3 4 5 6 7 8 9

5. I enjoy social activities with people from the same *heritage culture* as myself.

1 2 3 4 5 6 7 8 9

6. I enjoy social activities with typical American people.

1 2 3 4 5 6 7 8 9

7. I am comfortable interacting with people of the same *heritage culture* as myself.

1 2 3 4 5 6 7 8 9

8. I am comfortable interacting with typical American people.

1 2 3 4 5 6 7 8 9

9. I enjoy entertainment (e.g. movies, music) from my *heritage culture*.

1 2 3 4 5 6 7 8 9

10. I enjoy American entertainment (e.g. movies, music).

1 2 3 4 5 6 7 8 9

11. I often behave in ways that are typical of my *heritage culture*.

1 2 3 4 5 6 7 8 9

12. I often behave in ways that are typically American.

1 2 3 4 5 6 7 8 9

13. It is important for me to maintain or develop the practices of my *heritage culture*.

1 2 3 4 5 6 7 8 9

14. It is important for me to maintain or develop American cultural practices.

1 2 3 4 5 6 7 8 9

15. I believe in the values of my *heritage culture*.

1 2 3 4 5 6 7 8 9

16. I believe in mainstream American values.

1 2 3 4 5 6 7 8 9

17. I enjoy the jokes and humor of my *heritage culture*.

1 2 3 4 5 6 7 8 9

18. I enjoy white American jokes and humor.

1 2 3 4 5 6 7 8 9

19. I am interested in having friends from my *heritage culture*.

1 2 3 4 5 6 7 8 9

20. I am interested in having white American friends.

1 2 3 4 5 6 7 8 9