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Moderating parenting stress in ethnic minority parents of children with developmental delays

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ABSTRACT

Objective: We explored the relationship between acculturation and parenting stress among parents of children with developmental delays (DD) and investigated family support as a potential moderator.

Methods: Participants included 99 parents of young children with DD. Standardized measures were used to evaluate the variables of interest and a multiple linear regression analysis was employed to test the moderation effect.

Results: Our results indicated that the relationship between acculturation and parenting stress depended on the level of family support. More specifically, low levels of acculturation were associated with increased parenting stress at high levels of family support but not low levels of family support.

Conclusions: Minority parents of children with DDs may be at risk for especially high levels of parenting stress due to the additive stress of adapting to a new culture and parenting a child with special needs. Implications for intervention and future research are discussed.

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acculturation; family support;
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The United States' continued growth in minority populations has stimulated increased interest regarding the psychological processes involved in adapting to a new culture. The majority of research supports the idea that low acculturation to the mainstream culture is related to high levels of stress. However, other studies show that low acculturation to the mainstream culture 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 acculturative 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 typically associated with parenting these children. Children with DD include children who do not meet their developmental milestones at expected times. Delays may be observed in one or more areas of development including cognition, language, motor, social-emotional, or adaptive behaviour development ('Information About Developmental Delays,' 2013). Research indicates that parents of children with DD experience high levels of stress primarily as a result of behaviour problems that are commonly comorbid with the DD (Baker, Blacher, Crnic, & Edelbrock, 2002; Neece, 2014). Therefore, ethnic 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. Stress from multiple areas of functioning can have an additive effect (Eisenhower, Baker, & Blacher, 2005; Oelofsen & Richardson, 2006), place parents at risk for clinical levels of stress and mental health issues (Olsson & Hwang, 2001).

Acculturation and parenting stress

Acculturation refers to the process of cultural and psychological change which results from a meeting of cultures (Sam & Berry, 2010). At times, cultural and psychological change can affect social-emotional functioning and parenting in ethnic minority parents (Ramirez, 2012). Thus, acculturation may impact one's parenting stress during transition to a new country. Parenting stress has been found to be elevated in minority parents who have the challenge of adapting to a new culture (Fung & Lau, 2010). Using the Parental Stress Index (PSI), Fung and Lau (2010) found that Chinese immigrant parents had significantly higher stress scores compared to the normative sample. Similar ethnic differences have been observed with Latino parents (Eisenhower & Blacher, 2006), particularly Mexican-American parents (Sewell, 2004), compared to parents in Caucasian families. Conversely, lower levels of acculturation have also been found to be associated with lower levels of parenting stress (Altschul & Lee, 2011; Lee, Altschul, Shair, & Taylor, 2011). In a study looking at Hispanic parents compared to Anglo American parents, Altschul and Lee (2011) found that low acculturation was associated with higher psychological well-being among ethnic minority parents. Thus, presently the direction of the association between acculturation and parenting stress is unclear.

Parental stress in parents of children with DD

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; Neece, Green, & Baker, 2012). Children with DD include deficits in intellectual disability, autism spectrum disorders, communication disorders, motor disorders, and a variation of these symptoms (American Psychiatric Association, 2013). Often, challenges that children with DD face are child behaviour problems which go hand in hand with parenting stress. High levels of parenting stress are a concern because they have been associated with parental depression (Olsson & Hwang, 2001), marital dissatisfaction (Eisenhower et al., 2005), and substandard physical health (Oelofsen & Richardson, 2006) in parents of children with DD. Although many studies indicate that an increase in parenting stress is due to child behaviour problems that often co-occur with a child's DD (Baker et al., 2003; Davis & Neece, 2017; Neece et al., 2012; Rusby, Jones, Crowley, & Smolkowski, 2013), acculturation may be another factor which contributes to the increased stress observed among parents of children with DD, placing ethnic minority parents of children with DD at particularly high risk for elevated levels of stress. Given the high levels of stress experienced by ethnic minority parents of children with DD (Cleveland, 1999; Eisenhower & Blacher, 2006), studies are needed to identify factors that may ameliorate the high levels of stress experienced by these parents. Family support has been shown to buffer stress among minority parents of typically developing children (Choi, 1997; Finch & Vega, 2003), making it a logical factor that may buffer the parenting stress experienced by parents of children with DD.

Family support: a possible protective factor

Support systems, specifically social support, have been shown to buffer the maladaptive effects of acculturative stress (Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Lee, Koeske, & Sales, 2004) such that individuals with higher levels of social support are less likely to report mental health symptoms with increasing levels of acculturative stress (Lee et al., 2004). More specifically, family support as well as peer support has been found to moderate the relationship between acculturative stress and depression and anxiety symptoms such that these types of support buffer the effects of high acculturative stress on anxiety symptoms and depressive symptoms (Crockett et al., 2007).

Social support has also been found to buffer the negative consequences of parenting stress. Of the various sources of social support, family support specifically has been associated with reduced stress (Bromley, Hare, Davison, & Emerson, 2004; Choi, 1997; Finch & Vega, 2003), especially among minority parents (Hassall, Rose, & McDonald, 2005) as well as parents of children with DD (Snowdon, Cameron,

& Dunham, 1993). Fagan, Bernd, and Whiteman (2007) examined a sample of teenage fathers and found that social support, specifically from the youth's parents, ameliorated the impact of the teen father's stress on his involvement with the baby. Conversely, low levels of family support have been linked to increased likelihood of psychological distress in parents of children with autism spectrum disorders (Bromley et al., 2004). Furthermore, findings indicate that it is the perceived helpfulness of family supports, rather than the range of supports, that account for the buffering effects (Hassall et al., 2005). Studies examining the mechanisms through which family support protects against parental stress indicate that parental locus of control may mediate this relationship (Hassall et al., 2005). Additionally, parental social support was found to increase parents' capacity to parent effectively and serve as a mechanism to buffer emotional problems from parenting a child with a disability (Armstrong et al., 2005). Thus, family support appears to be especially critical in buffering both acculturative and parenting stress.

Family support may also moderate the relationship between acculturation and parenting stress in minority families (Contreras, López, Rivera-Mosquera, Raymond-Smith, & Rothstein, 1999; Goodman & Silverstein, 2002). Contreras, López, et al. (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. Similarly, grandparent support was found to be negatively associated with parenting stress in Latina mothers, but positively associated with stress in African American families where acculturation was higher (Greenfield, 2011). Family support is emphasized in collectivistic cultures and, therefore, this cultural value may serve as a protective factor for some parents with lower acculturation in reducing parental stress (Triandis, 2001). The current study builds on previous research by investigating how family support may impact the relationship between acculturation and parenting stress among families of young children with DD.

Current study

The current study investigated the following research questions and associated hypotheses. First, is parent acculturation significantly associated with parenting stress? We hypothesized that this relationship would be negative in that lower acculturation would be associated with higher levels of parenting stress. Second, does family support moderate the relationship between acculturation and parenting stress? Similar to Contreras, López, et al. (1999), we hypothesized that acculturation and parenting stress would be positively associated in the presence of high family support and negatively associated at low levels of family support.

Method

Participants

The current study used data from the Mindfulness Awareness for Parenting Stress (MAPS) Project, with parents of children ages 2.5–5 years old who had DD. Subjects were primarily recruited through the Inland Empire Regional Center, a government agency that provides services for persons with developmental disabilities. In California, practically all families with young children with DD 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. Recruitment was conducted in two phases. Phase one of the project was conducted between 2012 and 2013 ($N = 34$) and phase two was conducted between 2013 and 2014 ($N = 65$).

The current study used intake data from a larger intervention study which had the following criteria for study entry: (1) Having a child ages 2.5–5, (2) child was determined by Regional

Center (or by an independent assessment) to have a DD or disability, (3) parent reported more than 10 child behaviour problems (the recommended cut-off score for screening children for treatment of conduct problems) on the Eyberg Child Behavior Inventory (Robinson, Eyberg, & Ross, 1980), (4) parent was not receiving any form of psychological or behavioural treatment at the time of referral (e.g. counselling, 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 (Phase one only). Exclusion criteria included parents of children with debilitating physical disabilities or severe intellectual impairments that prevented the child from participating in a parent–child interaction task that was a part of the larger laboratory assessment protocol.

Families were screened for the study ($N = 226$) and 172 were determined to be eligible, and 134 parents enrolled in the study. Common reasons for ineligibility include the children being too old, parents receiving psychological services at the time phone screen was conducted, and non-English speaking parents. Ten parents completed the initial assessments but dropped out of the study before the intervention began and 25 parents were excluded from the sample due to incomplete measures, leaving a final sample of 99 parents.

Of the 99 participants, the majority of the children were boys (70.1%) and the mean age of the children was 4.1 ($SD = 1.44$) years. In terms of ethnicity, 28.6% of the children were Caucasian, 51% Non-White Latino American, 2% Asian American, 2% African American, and 16% were classified as 'Other.' Thus, 71.4% of the sample was classified as 'minority' parents (Asian American, African American, Non-White Latino American/Latino, and 'Other') and 28.6% as non-minority. Of the 99 participating parents, the majority of parents was mothers (88.8%) and married (68.4%). The mean age of the participating parents was 36.32 years ($SD = 8.14$). The range of annual family income was from \$0 to greater than \$95,000 (45.9% of households reported an annual income of greater than \$50,000), and parents had completed an average of about 2 years of college ($M_{\text{years}} = 14.46$, $SD_{\text{years}} = 2.84$). There were no significant cohort differences based on gender, salary, education level, and age in terms of study variables of interest that would bias or skew results.

Procedures

Interested parents contacted the project by phone, returned a postcard requesting the PI to contact them, or submitted their information on the project 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. 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. The present investigation used data from the intake assessment.

Measures

Demographic Data. Demographic data were collected during an interview with the participating parent.

Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000). The VIA is a widely used acculturation scale that measures acculturation based on the bidimensional model of acculturation (Ryder et al., 2000). The 20-item 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. (Ryder et al., 2000). Cronbach's alpha for the current sample was .92 for the Heritage scale and .90 for the Mainstream scale.

Parenting Stress Index – Short Form (PSI-SF; Abidin, 1997). 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 that are combined into a Total Stress score (Abidin, 1997). A validity index with a cut-off score of 10 or less was used to determine to if data were interpretable or if parents were answering in a way that made them look more favourably.

The Parental Distress subscale, the independent variable, measures the extent to which the parent is experiencing stress in his or her role as a parent independent of child behaviour issues. Reliability for the Parental Distress subscale in our sample was $\alpha = .91$. Parents completed the PSI-SF prior to attending the intake assessment.

Family Support Scale (FSS; Hanley, Tassé, Aman, & Pace, 1998). An 18-item measure that evaluates familial and social supports. Items responses are on a 5-point Likert scale ranging from ‘Not at all Helpful’ (1) to ‘Extremely Helpful’ (5). Subscales include 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. Good internal consistency was found with a Cronbach’s $\alpha = .90$.

Results

The distributions of the data were examined for normality, adherence to statistical assumptions, and the presence of outliers. There were no data points that were more than three standard deviations above or below the mean. Demographic variables that were significantly correlated ($p < .05$) with both the independent and dependent variables were considered as covariates in analyses. Possible covariates included child gender and child’s developmental diagnosis as well as age, marital status, education of the participating parent, and family income. However, none of the demographic variables were significantly correlated with both the independent variables and the dependent variables and, thus, no covariates were included in the analyses.

A multiple linear regression was conducted to investigate whether family support moderated the association between acculturation and parenting stress. As such, the mainstream culture acculturation subscale of the VIA, the total support subscale of the FSS, and an interaction term between acculturation and family support were included as predictors. The parental distress score of the PSI-SF was the dependent variable. Although findings indicated that acculturation alone did not exclusively predict parenting stress ($b = -.76, p = .400$); a significant main effect for family support demonstrated that higher levels of family support were associated with lower levels of stress. Results are presented in Table 1. Furthermore, findings support a significant interaction between acculturation and parental stress changed as a function of family support ($f^2 = .10$). This relationship is depicted in Figure 1. Parents with lower levels of acculturation and high family support had lower levels of parental stress compared to parents in families with low support. Conversely, for parents with high acculturation with high family support reported high parenting stress among parents with high than when compared to families with low family support.

Discussion

The current study investigated whether parent acculturation was significantly associated with parenting stress and whether family supported moderated this relationship. Our findings indicated that

Table 1. Results from family support moderation.

	<i>B</i>	β	<i>t</i>	<i>Sig</i>	95% C.I. (<i>b</i>)
(Constant)	37.83	–	44.67	.000	[36.15, 39.51]
Family support	–3.34	–.48	–3.00	.003	[–5.54, –1.13]
Acculturation	–0.76	–.08	–0.85	.400	[–2.56, 1.03]
Acculturation \times family support	–3.14	–.46	–2.89	.005	[–5.29, –0.98]

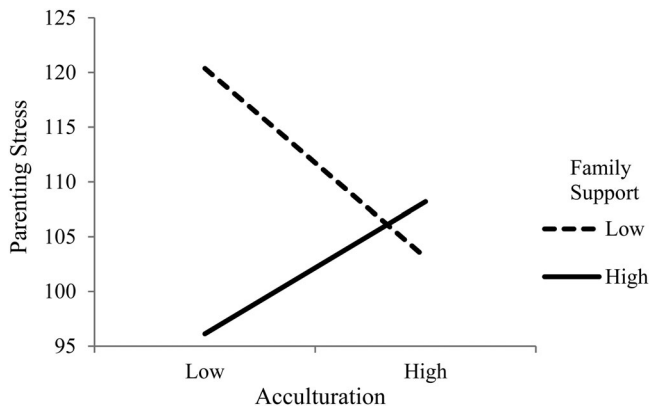


Figure 1. Moderating effects of family support on acculturation and parenting stress.

Note: Parenting stress is presented on a z-scale.

acculturation alone was not significantly associated with parenting stress while family support was negatively associated with parental stress. However, one must be cautious in interpreting these main effects given the interaction between family support and acculturation in predicting parenting stress. Results indicated that low levels of acculturation to mainstream culture were associated with low levels of stress in the presence of high family support, while the same families with low levels of acculturation were at risk for high levels of stress when family support was low.

Family involvement in parenting is common and expected in many collectivistic cultures, such as with Latino families, which was the largest ethnic minority group in our sample. Therefore, the presence of high family support may be viewed more positively among parents who are accustomed to family involvement in their parenting role. Past literature has suggested that ethnic minority parents have less psychological distress with the presence of social support (Thompson & Peebles-Wilkins, 1992; Wilcox, 1981). Young Latino parents with a grandmother or caregiving family member have suggested that parents experience diminished stress levels and positive parent-child interactions (Contreras, Mangelsdorf, Rhodes, Diener, & Brunson, 1999). However, this literature suggest that family support is beneficial for adolescent parents. Our results suggest that the benefits of family support reducing parenting stress extend to older parents and are not exclusive to young ethnic minority parents. One explanation for this is that parenting stress may be more dependent on cultural factors that are broadly captured by one's acculturation levels. In a confirmatory analysis of perceived perceptions of social support among minority parents, it was found that the most impactful factor for psychological well-being was perceived social strain of social support (Gee & Rhodes, 2008). Perhaps parents with cultural beliefs which align with a collectivistic background believe that they have less social strain; therefore, perceive family support as a helpful resource to their parenting.

Differences in parenting stress among parents that have lower acculturation to mainstream cultures with low or high family support suggest that there may be cultural differences among ethnic minority families. In a sense, our results support that adapting a North American culture can influence how one perceives parenting stress with family support (McLoyd, Cauce, Takeuchi, & Wilson, 2000). Additionally, when family support is culturally expected but not experienced among parents with lower acculturation, this may lead to even higher levels of parenting stress. Parents with beliefs and practices that are more aligned with an individualistic culture (mainstream culture) may see family support as an intrusion to their parenting efforts. Feelings of less autonomy in their parenting role may increase parenting stress for highly acculturated parents. Interestingly, these results are consistent with those of Contreras, López, et al. (1999) suggesting that social support may help to buffer the negative impact of acculturative stress.

Although our study had strengths which include a unique diverse sample of developmental delays, there were limitations to this study. Limitations for this study include an inability to examine the between-group differences among various ethnic minorities due to the sample size. Given the large geographical span of our data collection, multiple factors contributed to our limited sample size. Some factors that limited our sample size were participant travel capabilities, schedule difficulties, and unavailable materials in preferred written language. Moreover, the study's two-phase design, where the first phase provided measures in English only and the second phase included Spanish and English measures, reduced participation from ethnic minorities with limited English reading abilities.

Future research should continue to investigate the association between acculturation and parenting stress. A possible explanation for conflicting findings regarding this association in the current literature is the presence of moderating factors like family support. It is likely that there are additional moderating factors as well that should be considered such as generational status and immigration status as well as family and cultural beliefs about disability. Additionally, exploring the role of other forms of social support, such as friends, community, and organizational support may help identify additional protective factors. Most importantly, it is critical for future studies examining the relationship between acculturation and parenting stress to include larger diverse samples. All parents in our sample had to speak English, which likely restricted variability in our measure of acculturation, and, given our small sample size we could only compare minority and non-minority parents. Past research has indicated that the relationship between family support and parental stress changes as a function of ethnicity (Greenfield, 2011), further underscoring the need to take a closer examination at these associations between ethnic groups. Further, implications for future studies should include examining the variations in family support and parenting styles across different ethnic groups and to determine if there are significant differences among parents with varying levels of acculturations (Garcia Coll & Magnuson, 1999). Future investigations examining cultural beliefs and family must go beyond only using ethnicity as a grouping variable to consider particular aspects of the culture, adequately measure these, and conduct *within-culture* analyses as previous studies have indicated that parental beliefs about disability as well as parenting practices and their associated child outcomes may vary cross-culturally (Lynch & Hanson, 2004; Walker-Barnes & Mason, 2001).

The results of this study indicate that family support may buffer the negative impacts of acculturative and parenting stress for families of young children with DD. Acclimating to another culture can be challenging, and having the additive stress of simultaneously caring for a child with DD may be especially stressful. However, building family supports may help to buffer the stress these parents experience, ultimately optimizing outcomes for both parents and children with DD.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Susanna Luu, M.A. is a clinical psychology doctoral candidate at Loma Linda University. She has worked with Dr Neece on the Mindful Awareness and Parenting Stress (MAPS) Project for five years and was the lead author on the current study. Her research interests are in developmental psychology, resiliency, and cultural issues within mental health. Her career goals are to continue conducting research on resiliency among families at risk as well as providing evidence-based clinical interventions to high-risk families.

Cameron L. Neece, Ph.D. is a licensed child clinical psychologist and an Associate Professor of Psychology at Loma Linda University. She is the principal investigator on the Mindful Awareness and Parenting Stress (MAPS) Project at Loma Linda University which examines the benefits of Mindfulness-Based Stress Reduction (MBSR) for parents of young children with developmental delays. Dr Neece received her doctorate in clinical psychology from the University of California, Los Angeles in 2011. Her programme of research focuses on the development of child behaviour problems and later

psychopathology in children with developmental disabilities, with a specific focus on family factors that exacerbate risk or promote resilience in children at risk. Dr Neece has maintained an active programme of research while still training, supervising, and providing clinical care to high-risk children and families.

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