The role of family cohesion in the psychological adjustment of non-Hispanic White and Hispanic mothers of children with autism spectrum disorder

Naomi V. Ekas\textsuperscript{a,}\textsuperscript{*}, Christine Ghilain\textsuperscript{b}, Megan Pruitt\textsuperscript{a}, Seniz Celimli\textsuperscript{c}, Anibal Gutierrez\textsuperscript{d}, Michael Alessandri\textsuperscript{b}

\textsuperscript{a} Department of Psychology, Texas Christian University, United States
\textsuperscript{b} Department of Psychology, University of Miami, United States
\textsuperscript{c} Department of Education, University of Miami, United States
\textsuperscript{d} Florida International University, United States

\textbf{ABSTRACT}

The current study utilizes a process-oriented approach to understand both personal and family factors influencing the development of depressive symptoms among non-Hispanic White and Hispanic mothers of children with ASD. Family cohesion was hypothesized to mediate the associations between the personal factors (optimism, benefit finding, social support) and depressive symptoms. Mothers of 117 children with ASD (Hispanic \(n = 73\); non-Hispanic White \(n = 44\)) completed measures of depressive symptoms, family cohesion, social support, optimism, and benefit finding. Results from this study indicate that optimism, benefit finding, and social support are important predictors of positive maternal adjustment. Furthermore, these factors contribute to better family functioning, namely family cohesion. The mediation models containing optimism, benefit finding, partner and family support were significant for both Hispanic and non-Hispanic White mothers, suggesting a similar mediation process for both racial/ethnic groups. However, family cohesion was a significant mediator of the relationship between friend support and depressive symptoms for Hispanic mothers only. The results of this study complement and extend previous research examining family functioning among mothers of children with ASD and have implications for the development of interventions aimed at increasing maternal well-being.

\textcopyright{} 2015 Elsevier Ltd. All rights reserved.

\section{1. Introduction}

Currently, the prevalence of Autism Spectrum Disorder (ASD) is 1 in 68 school-aged children (CDC, 2014). The rise in prevalence rates also implies that an increasing number of parents are being faced with the challenges that accompany the diagnosis of ASD. Indeed, mothers of children with ASD exhibit elevated levels of psychological distress (Estes et al., 2009); however, factors such as social support (Ekas, Lickenbrock, & Whitman, 2010), family functioning (Baker, Seltzer, & Greenberg, 2011), and benefit finding (Samios, Pakenham, & Sofronoff, 2011) help mothers cope with these challenges. Although there is limited research exploring the impact of having a child with ASD among Hispanic mothers, studies suggest

* Corresponding author at: Department of Psychology, Texas Christian University, TCU Box 298920, Fort Worth, TX 76129, USA.
\textit{E-mail address: naomi.ekas@tcu.edu} (N.V. Ekas).

\url{http://dx.doi.org/10.1016/j.rasd.2015.09.002}
\url{1750-9467/$ – see front matter © 2015 Elsevier Ltd. All rights reserved.}
that there are unique differences in this population (e.g., Magana & Smith, 2006), including the ways that Hispanic mothers ameliorate distress. The current study utilizes a process-oriented approach to understand both personal (e.g., optimism, benefit finding) and family (e.g., family cohesion) factors influencing depressive symptoms among non-Hispanic White and Hispanic mothers of children with ASD.

The number of Hispanic children being diagnosed with ASD has increased in recent years (Pedersen et al., 2012). Mandell et al. (2009) reported significant racial/ethnic disparities in the identification of children with ASD. Hispanic children were being diagnosed at a lower rate compared to non-Hispanic White children. Fortunately, this gap in diagnosis is decreasing, as the prevalence of ASD in Hispanics has almost tripled, from 2.7 per 1000 in 2000 to 7.9 per 1000 in 2006 compared to the prevalence of ASD in non-Hispanic Whites which increased from 8.8 per 1000 in 2000 to 15.0 per 1000 in 2006 (Pedersen et al., 2012). Despite the discrepancy, Hispanic children who are diagnosed with ASD show a similar symptom profile (Chaidez, Hansen, & Hertz-Picciotto, 2012). The increased numbers of Hispanic children being diagnosed highlights the need to consider that the experiences of Hispanic mothers may be different from non-Hispanic White mothers.

Mothers of children with ASD experience heightened stress and significant mental health problems (e.g., Estes et al., 2012), above and beyond those of mothers raising a child with other developmental disabilities. Estes et al. (2009) compared mothers of preschool children with ASD to mothers of children diagnosed with a developmental delay and found that mothers of children with ASD exhibited higher levels of parenting stress and general psychological distress. In another study, mothers of children with ASD were compared to a matched group of mothers of children with Down Syndrome and mothers of children with intellectual disabilities (Griffith, Hastings, Nash, & Hill, 2010). Results of the study indicated that mothers of children with ASD reported significantly higher levels of parenting stress than the comparison groups. In addition, levels of maternal depressive symptoms remained elevated over a period of two years (Carter, Martínez-Pedraza, & Gray, 2009). Finally, mothers of children with ASD also reported greater social anxiety compared to mothers of typically developing children (Kuusikko-Gaufin et al., 2013).

Hispanic mothers of children with ASD may be particularly at risk for experiencing psychological distress. In the general population, the rates of depression among Hispanic adults is elevated compared to non-Hispanic White adults, which has been attributed to a lack of access to resources (e.g., medical insurance) possibly due to a lower SES (Dunlop, Song, Lyons, Manheim, & Chang, 2003). Indeed, research examining the well-being of Latina mothers of children with developmental and intellectual disabilities has found elevated levels of depression (Blacher, Shapiro, Lopez, Diaz, & Fusco, 1997). Among Latina mothers of adults with an intellectual disability, rates of depression were also higher compared to non-Latina mothers (Long, Kao, Plante, Seifer, & Lobato, 2015; Magana, Seltzer, & Krauss, 2004). On the other hand, Magana and Smith (2006) compared the depressive symptoms of Latina and non-Latina mothers of children with ASD and found no significant differences. Indeed, they found that Latina mothers reported less anger and fatigue compared to non-Latina mothers (Magana & Smith, 2006). Given these discrepant findings, there is a need for further research that includes the experiences and perspectives of Hispanic mothers of children with ASD. In addition, more research is needed to examine factors that promote more adaptive outcomes among mothers of children with ASD among both Hispanic and non-Hispanic White mothers.

In the past decade or two, researchers have increased their focus on the positive, adaptive functioning of mothers of children with developmental disabilities, including ASD (e.g., Blacher & Baker, 2007; Ekas et al., 2010; Ekas, Timmons, Pruitt, Ghilain, & Alessandrini, 2015; Taunt & Hastings, 2002). This increased interest corresponds to a general increase in studying positive adaptation generated by the field of positive psychology (Seligman & Csikszentmihalyi, 2000). The focus of the positive psychology perspective is to shift focus away from “fixing” negative outcomes to an emphasis on fostering positive adaptation. This growing body of research among mothers of children with ASD has examined a variety of positive constructs, conceptualized as either outcomes or predictors of positive adaptation, including relationship satisfaction (e.g., Ekas et al., 2015), benefit finding and sense making (e.g., Samios, Pakenham, & Sofronoff, 2009), optimism (e.g., Ekas et al., 2010), hope (Faso, Neel-Beavers, & Carlson, 2013), mindfulness and acceptance (Jones, Hastings, Totsika, Keane, & Rhule, 2014), and general positive contributions associated with raising their child (King, Zwaigenbaum, Bates, Baxter, & Rosenbaum, 2012).

With respect to the experiences of Hispanic mothers of children with ASD, there are several studies highlighting positive adaptation. For example, Magana and Smith (2006) showed that Latina mothers of children with ASD reported increased environmental mastery and better overall psychological well-being (consisting of the subscales of purpose in life, environmental mastery, and self-acceptance) compared to non-Latina mothers. Taken together, this research shows that, contrary to popular belief, mothers of children with ASD do experience positivity and can thrive in the face of the unique challenges associated with raising a child with ASD. Although there are a multitude of positive constructs worthy of study, the current study focuses on three dimensions of positive functioning: optimism, benefit finding, and social support.

2. External and internal characteristics affecting maternal adjustment

Several important factors have been identified for helping mothers cope with the stress of raising a child with ASD and generate positive outcomes. Social support is one factor that has received attention by researchers studying mothers of children with ASD (e.g., Smith, Greenberg, & Seltzer, 2012). Social support refers to the perceived or actual assistance that an individual receives from another person or institution and can be in the form of either physical and instrumental assistance or emotional and psychological support (Boyd, 2002). In the current study, we focused on social support received from informal sources (e.g., friends and family) as opposed to formal sources of support (e.g., agencies, community services).
Among the general population, social support has been shown to promote positive outcomes (see Turner & Brown, 2010 for review), though similar effects have been found among mothers of children with ASD as well. Smith et al. (2012) examined mothers of adolescents and adults with ASD and found that a larger social network, defined as the number of persons who were important to them, was associated with improvements in maternal well-being over a period of 18 months. In another study of mothers of children with ASD, Benson (2012) found that qualities of the social network (e.g., size of network) predicted increased perceived social support from friends, family, and significant other that, in turn, predicted lower levels of depressed mood. One study examined the source of social support (e.g., friends, extended family, or spouse/partner) and found that increased spouse/partner support was related to less depressive symptoms for mothers of children with ASD (Ekas et al., 2010). However, in that same study, each source of support was associated with increased positive outcomes, including positive affect and life satisfaction (Ekas et al., 2010). Social support remains a vital factor to consider, as it directly impacts multiple domains of functioning, including parental physical health and cortisol responses in the general population (Lovell, Moss, & Wetherell, 2012).

Although social support plays an important role in promoting positive adaptation for mothers of children with ASD, less is known about these relationships in Hispanic mothers of children with ASD. In general, it is hypothesized that Hispanic mothers may rely more upon informal sources of support (e.g., friends and family members), due to a lack of access and use of formal institutional supports (e.g., Mandell & Novak, 2005; Shapiro & Simonsen, 1994). Thus, social support may be a more powerful predictor of outcomes for Hispanic mothers compared to non-Hispanic White mothers. However, the results are mixed. For example, Cohen, Holloway, Dominguez-Pareto and Kuppermann (2014) found that perceived emotional support from partners and other family members predicted increased family quality of life among both Latino and non-Latino mothers of children with an intellectual disability (ID), including ASD. In addition, a separate study found that partner emotional support predicted increased life satisfaction for Latino and non-Latino mothers of children with an ID, including ASD (Cohen, Holloway, Dominguez-Pareto, & Kuppermann, 2015). However, in the same study, the positive effects of partners’ emotional support on mothers’ sense of parenting efficacy was stronger for Latino mothers (Cohen et al., 2015). The current study explored the moderating effects of ethnicity (Hispanic vs. non-Hispanic White) on the relationship between support received from partner, other family members, and friends on mothers’ ratings of depressive symptoms.

In addition to external factors such as social support, research has examined the personal characteristics of mothers of children with ASD. Optimism refers to the tendency of an individual to expect positive outcomes in life (Scheier & Carver, 1985). Despite research demonstrating that higher levels of optimism are associated with better physical and psychological outcomes in the general population (e.g., Conway, Magai, Springer, & Jones, 2008), little research has examined this characteristic among mothers of children with ASD. The limited studies exploring the role of optimism have found that mothers of children with ASD reported less negative outcomes (e.g., depressive symptoms, stress, and negative affect) and greater positive outcomes (e.g., positive affect, life satisfaction, and psychological well-being) when their levels of optimism were higher (Ekas et al., 2010; Greenberg, Seltzer, Krauss, Chou, & Hong, 2004).

Although raising a child with ASD is a challenging experience, research has begun to focus on the positive experiences and perceptions that mothers may hold. For example, King, Baxter, Rosenbaum, Zwaigenbaum and Bates (2009) found that a majority of mothers of children with ASD felt their child enriched their lives. Benefit finding refers to the ability to find benefits in adverse events or circumstances, and is a cognitive reappraisal coping strategy (Park & Folkman, 1997). In the context of raising a child with ASD, an example of benefit finding could be that the child’s diagnosis has taught the mother to be more patient or has helped the mother become more accepting. Although optimism and benefit finding are both positive constructs, benefit finding is distinct in that it focuses on the individual’s reactions to a specific event, whereas optimism refers to general expectancies. Indeed, studies have shown that optimism and benefit finding are only modestly related (Antoni et al., 2001; Llewellyn et al., 2013), Samios et al. (2009, 2011) have explored this construct among mothers of children with ASD. Specifically, Samios et al. (2009) developed a benefit finding scale for mothers of children with ASD and found that greater benefit finding was associated with greater positive affect. Taken together, optimism and benefit finding may be important characteristics that allow mothers to thrive in the face of the challenges associated with raising a child with ASD.

Hispanic mothers of children with ASD also report positive benefits associated with raising their children (e.g., Magana & Smith, 2006). As previously discussed, Magana and Smith (2006) found that Latina mothers of children with ASD reported greater environmental mastery compared to non-Latina mothers. To our knowledge, there is no research that examines optimism and benefit finding, as defined in this study, among Hispanic mothers of children with ASD. However, there are several studies that examined the positive contributions of raising a child with an ID, excluding ASD (e.g., Blacher & Baker, 2007; Blacher, Begum, Marcoulides, & Baker, 2013). In these studies, mothers were asked to compare the impact of their child on the family to the impact other children have on their family. Areas of impact included the mothers’ mood (i.e., “my child brings out feelings of happiness and pride more”) and parenting efficacy (i.e., “my child makes me feel more confident as a parent”). Although these are not the same construct as optimism or benefit finding, positive impact may be seen as the mothers’ interpreting their situation in a positive manner. Blacher and Baker (2007) found that Latina mothers reported greater positive impact compared to Anglo (non-Latina) mothers. Blacher et al. (2013) found that Latina mothers of children with an ID reported higher levels of positive impact from ages 3–9 compared to non-Latina mothers. Given the paucity of research with Hispanic mothers of children with ASD, there is a critical need for research that examines the relationship between factors such as social support, optimism, and benefit finding and maternal well-being.
3. The role of family functioning

In addition to influencing parental adjustment, raising a child with ASD may also alter the family unit. Children with ASD exhibit deficits in social interactions and communication, which may, in turn, impact family members’ relationships with one another (Floyd & Zmich, 1991; Hartley, Barker, Baker, Seltzer, & Greenberg, 2012). Furthermore, families report feeling socially isolated (e.g., unable to attend parties, unable to go out to eat together, etc.; Norton & Drew, 1994), possibly contributing to the elevated rates of stress and depressive symptoms that are reported among this population (e.g., Davis & Carter, 2008). Therefore, it is important to consider the role of the family environment when studying maternal adjustment. Fortunately, there have been several studies in recent years addressing this pertinent issue (e.g., Altieri & Von Kluge, 2009; Baker et al., 2011; Manning, Wainwright, & Bennett, 2011; Pozo, Sarria, & Brioso, 2014).

Family cohesion is one dimension of family functioning recently investigated in families of children with ASD (Altieri & Von Kluge, 2009; Gau et al., 2012). Family cohesion refers to the emotional bonding that family members have toward one another (Olson, 2011). In addition, family cohesion also includes the amount of time family members spend together and the involvement family members have in each other’s activities, as well as communication among family members. Family cohesion falls along a continuum from enmeshed, where families are overly involved and protective of their children, to disengaged and detached, where families set rigid boundaries and are distant from each other (Altieri & von Kluge, 2009). Olson (2011) suggests that both of these extremes may be detrimental, and that balanced cohesion (i.e., not scoring on the extremes for disengagement or enmeshment) is most beneficial for families. For example, high levels of family enmeshment were associated with increased child aggressiveness, as well as increased internalizing problems, among families of typically developing children (Barber & Buehler, 1996). Family cohesion, on the other hand, was associated with decreased aggression and increased prosocial behaviors among typically developing adolescents (Sijtsema et al., 2013). Family cohesion is also important for parenting behavior. In a study of parents of typically developing children, higher levels of family cohesion were associated with increased nurturing acceptance and less inconsistent discipline (Behnke et al., 2008). The existing body of research shows the importance of family cohesion for both child and parent well-being.

Research with families of children with ASD has reported conflicting results regarding the amount of cohesion present in these families. Altieri and Von Kluge (2009) compared levels of cohesion between families of a child with ASD and a normed sample. They found no significant differences on the disengaged, separated, connected, or enmeshed dimensions. Conversely, Gau et al. (2012) examined family cohesion among mothers of children with and without ASD in Taiwan. Results indicated that mothers of children with ASD reported lower levels of family cohesion compared to the mothers of typically developing children. Higgins, Bailey and Pearce (2005) also reported lower levels of family cohesion among mothers of children with ASD as compared to a normed sample. Because of these discrepancies, it is important for studies to continue to explore cohesion in families raising a child with ASD, particularly since cohesion is related to maternal adjustment.

Researchers in the area of family functioning have begun to recognize and explore the importance of race/ethnicity in family adaptation to stress (McCubbin, McCubbin, Thompson, & Thompson, 1998); however, little is known about the role of race/ethnicity among families of children with ASD (Dyches, Wilder, Sudweeks, Obiakor, & Algozzine, 2004). The concept of familism, or a particularly strong identification and attachment to members of one’s immediate and extended family, has been shown to be an important cultural value for Hispanics (Sabogal et al., 1987). Familism also includes feelings of loyalty, reciprocity, and solidarity among members that promotes family cohesion (Sabogal et al., 1987). The concepts of familism and family cohesion share striking similarities, as both include elements of emotional connections between family members.

Although there is a growing literature describing the role of familism or family cohesion among Hispanic parents of children with disabilities, there is a paucity of research that includes mothers of children with ASD. Familism was associated with lower levels of depressive symptoms among Hispanic mothers of children with an intellectual disability (Blacher et al., 1997). Magana (1999) also found that familism was associated with better well-being among Puerto Rican mothers of adult children with an ID. In a study of Latino families of children with an ID, mothers who reported greater familism beliefs also reported better family quality of life (Cohen et al., 2014). Magana, Schwartz, Rubert and Szapocznik (2006) also examined the role of family cohesion in Hispanic mothers’ attitudes toward co-residence with their child or adult with ASD and found that the theme of family cohesion was important to mothers. As discussed earlier, elevated levels of family enmeshment are related to negative outcomes. Similarly, among Latina mothers of children with an ID, higher levels of familism were related to increased maternal distress (Long et al., 2015). Unfortunately, there is a lack of research that systematically examines the impact of family cohesion on maternal adjustment among Hispanic families of children with ASD. The current study attempted to fill this gap by including Hispanic mothers and examining the mediating role of family cohesion in the relationship between coping mechanisms (internal and external characteristics of the mothers) and maternal adjustment.

Since family cohesion is an important component of family functioning (Olson, 2011), it is essential, from a clinical perspective, to understand how to promote cohesion in families. Social support has consistently predicted family functioning among mothers of children with ASD. Perceptions of increased support to cope with the challenges associated with raising a child with ASD appear to spill-over and impact family functioning. For example, Pozo et al., 2014 found that perceived usefulness of social support predicted higher levels of family quality of life. Manning et al. (2011) found that relying on friends and family was associated with better family adaptability. Similarly, Weiss et al. (2013) reported that family social support was negatively associated with family distress. Families who were identified as low on family cohesion (i.e., disengaged) perceived lower social support from friends and family (Altieri & von Kluge, 2009). Although there is a
relationship between social support and family cohesion, the two constructs are distinct. Family cohesion refers to the emotional closeness members have with each other, whereas social support reflects the degree of instrumental and emotional support received. Therefore, the current study examined the direct impact of perceived social support from multiple sources (e.g., friends, family, and partner) on maternal adjustment as well as the indirect effect through family cohesion.

In addition to external characteristics, maternal qualities such as appraisal styles and coping strategies also impact family functioning. Reframing is one type of appraisal wherein individuals interpret a situation in a more positive light (Folkman & Moskowitz, 2000). Reframing has been associated with more positive family functioning among mothers of children with ASD (Manning et al., 2011). The use of reframing was also associated with increased family cohesion (Altiere & von Kluge, 2009). This appraisal strategy may allow mothers to view their child more positively, which could in turn facilitate more positive feelings of emotional closeness within the family. As previously stated, benefit finding is also a cognitive reappraisal strategy which is similar to reframing in that it focuses on a positive reinterpretation of a situation. The current study examined the extent to which benefit finding impacted family cohesion and maternal adjustment. We hypothesized that increased benefit finding would be associated with greater family cohesion and less depressive symptoms.

Dispositional optimism has also been linked with parenting behaviors and family functioning in the general population. Unfortunately, there are no studies among families of children with ASD that examine the effects of optimism on family functioning. However, in the general population several studies have found a positive association between optimism and aspects of family functioning, such as the parent–child relationship (Jones, Forehand, Brody, & Armistead, 2002), parental warmth (Taylor et al., 2012), and positive parenting (Castro-Schilo et al., 2013). Optimism may provide interpersonal benefits that promote more emotional closeness within the family. Within the context of raising a child with ASD, optimism may also provide mothers with a more positive outlook about their child’s future which allows for greater emotional closeness between family members. In this study we predicted that higher optimism would be associated with greater family cohesion.

There is a growing body of research linking family functioning to parental adjustment in families of children with ASD. Baker et al. (2011) examined family adaptability and depressive symptoms among mothers of adolescents with autism. Higher levels of family adaptability, defined as the ability of a family to change in the face of stress, were associated with lower levels of maternal depressive symptoms across a three year period. Pozo et al., 2014 reported that higher levels of family quality of life were associated with increased psychological well-being among mothers and fathers of children with ASD. Although studies have examined differences in family cohesion between families with and without a child with ASD, there have been no studies examining the effect of family cohesion on maternal adjustment. Given the importance of other aspects of family functioning (e.g., adaptability and quality of life) the current study focuses on family cohesion to examine whether the emotional climate of the family (e.g., feelings of closeness and open communication) can also impact maternal adjustment. We predicted that increased family cohesion, which includes feelings of connectedness and emotional closeness among family members, would protect against maternal maladjustment.

4. Research questions and hypotheses

The overarching aim of the current study was to examine the relationships between maternal characteristics (internal and external), family cohesion, and maternal adjustment, with the ultimate goal of determining whether the relationships are the same for Hispanic and non-Hispanic White mothers. More specifically, moderated mediation was used to determine whether race/ethnicity moderated the association between maternal characteristics and adjustment as mediated by family cohesion. First, based on previous research with mothers of children with ASD (e.g., Ekas et al., 2010; Samios et al., 2009), we hypothesized that optimism, benefit finding, and social support would be associated with lower levels of depressive symptomatology. We expected that this relationship would be similar for Hispanic and non-Hispanic White mothers, given the available research highlighting the positive contributions that Hispanic mothers of children with an ID report (e.g., Magana, 1999). We also hypothesized that this relationship would be mediated by family cohesion. Specifically, we expected that higher levels of optimism, benefit finding, and social support would be associated with greater family cohesion and would, in turn, predict lower levels of depressive symptomatology. Support for this hypothesis can be drawn from studies showing associations between positive constructs (i.e., optimism, benefit finding, and social support) and dimensions of family functioning related to cohesion in a variety of parenting populations, including mothers of children with ASD (e.g., Taylor et al., 2012; Weiss et al., 2013). Moreover, studies have also found positive associations between family functioning and outcomes in mothers of children with ASD (e.g., Baker et al., 2011). Although we expected the direction of effects to be similar for both Hispanic and non-Hispanic White mothers, we hypothesized that the effects would be stronger for Hispanic mothers due to the cultural importance of familism amongst Hispanic families (Magana, 1999).

5. Method

5.1. Participants

Participants consisted of 117 mothers who were part of a larger study examining parental well-being in families of children with ASD. Mothers included in the present study had at least one child between the age of 2 and 10 years who had
been diagnosed with ASD and were self-identified as Hispanic (n = 73) or non-Hispanic White (n = 44). Mothers and their children were currently receiving, or had received, services from a large regional autism center. In order to be a registered client of the center and eligible for services, diagnostic records confirming diagnosis were required. Mothers also confirmed this diagnosis prior to study enrollment. Therefore, all children had a formal diagnosis of ASD. The majority of mothers were married (Hispanic 76.7%; non-Hispanic White 84.1%), and the remaining were divorced (Hispanic 11.4%; non-Hispanic White 9.6%), single (Hispanic 4.5%; non-Hispanic White 6.8%) or separated (Hispanic 6.8%). Mothers were predominantly middle class, with 75.3% of Hispanic families and 88.6% of non-Hispanic White families earning over $40,000 per year and the remaining earning less than $40,000 per year. Most mothers had completed some college (Hispanic 26.0%; non-Hispanic White 22.7%), received a college degree (Hispanic 43.8%; non-Hispanic White 29.5%) or postgraduate degree (Hispanic 21.9%; non-Hispanic White 45.5%), while a smaller percentage had a vocational (Hispanic 4.1%; non-Hispanic White 2.3%) or high school degree (Hispanic 4.1%; non-Hispanic White 0%). Mothers ranged in age from 20 to 55 (Hispanic M = 37.60, SD = 5.94; non-Hispanic White M = 39.86, SD = 6.37). Children ranged in age from 2.6 to 10.8 years (Hispanic M = 6.49, SD = 2.38; non-Hispanic White M = 6.75, SD = 2.28), and were predominantly male (Hispanic 82.2%; non-Hispanic White 84.1%). There were no significant differences between racial/ethnic groups on any demographic variables measured. Eleven mothers did not complete measures pertaining to spouse/partner support; therefore, the sample size for those analyses consisted of 106 mothers (Hispanic n = 75; non-Hispanic White n = 41).

5.2. Procedure

Participants were recruited with the assistance of a regional autism center located in a large, metropolitan area that provides families of any child with a diagnosis of ASD with resources and support services as well as training and public education/awareness. Recruitment flyers were sent out via weekly email blasts to families that received services from the center. Mothers who expressed interest in the study were sent an informational letter explaining the study and a questionnaire packet, which included an informed consent, to complete and mail back. At the time of expressing interest all mothers were asked whether they could fluently read English. Only mothers who confirmed that they did were sent the letter and questionnaire. The response rate for this study was approximately 50% of those who initially expressed interest in the study. Mothers received a certificate for a free movie ticket and popcorn at a local movie chain upon completion. This study received institutional approval and complied with all ethical guidelines.

5.3. Measures

Depressive symptoms

Maternal depressive symptoms were assessed using the Center for Epidemiological Studies Depression Inventory (CES-D; Devins et al., 1988; Radloff, 1977). The CES-D is a 20-item self-report questionnaire designed to assess depressive symptoms in adults. Mothers were asked to indicate how frequently they experienced various symptoms during the previous week, using a 4-point Likert-type scale (0 = rarely or none of the time to 4 = most or all of the time). Positively worded items were reverse coded so that a high score indicated greater overall depressive symptomatology. Previous studies have reported high internal consistency, adequate test-retest reliability, and good criterion and discriminant validity (Devins et al., 1988; Radloff, 1977). Cronbach’s α for the current study was .89, indicating high internal consistency.

Family cohesion

Family cohesion was assessed using the cohesion subscale from the Family Adaptability and Cohesion Evaluation Scales IV (Olsen, 2011). The family cohesion subscale consists of seven items. All items are answered using a 5-point Likert-type scale (1 = does not describe our family to 5 = very well describes our family). Sample questions include “family members are involved in each others lives” and “family members feel very close to each other.” Higher scores indicate greater family cohesion. The FACES IV scales have demonstrated adequate reliability and validity. In addition, the scale has been used in Hispanic samples with good reliability (e.g., Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012). Cronbach’s α for the current study was .84.

Informal social support

Informal social support was examined for the following relationships: family (not including partner), friends, and partner (Whalen & Lachman, 2000). Informal support refers to support received from sources that are not part of organizations or agencies that provide help to the mother (e.g., doctor, therapy provider, etc.). Mothers answered questions using a 4-point Likert-type scale (1 = a lot to 4 = not at all). Informal social support was assessed using 4 items that were similar for family, friends, and partner. Sample items include “How much do your friends really care about you?” and “How much can you rely on them for help if you have a serious problem.” The partner support scale contained 2 additional items, such as “How much does he appreciate you?” Items were reverse coded so that a higher scores indicates high support, and a separate score was computed for each source of support (family, friends, partner). Good internal consistency has been found in previous studies of mothers of children with ASD (Ekas et al., 2010). Internal consistencies in the current study were .83 for family support, .89 for friend support, and .94 for partner support.
Optimism

The Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994) was designed to measure generalized optimism. The LOT-R contains 10 items asking mothers to indicate their agreement using a 5-point Likert-type scale (1 = I disagree a lot to 5 = I agree a lot). Only six items are scored, with the remaining four used as filler items. Sample items include “In uncertain times, I usually expect the best” and “Overall, I expect more good things to happen to me than bad.” A high score indicates greater optimism. Adequate internal consistency and validity has been established (Scheier et al., 1994). Cronbach’s $\alpha$ in the current study was .77.

Benefit finding

The benefit finding scale was used to measure the degree to which mothers’ perceive that positive contributions were made to their lives because of their child’s disability. The original scale was developed and validated on women diagnosed with breast cancer (Carver & Antoni, 2004), though the instructions were modified for this study population. Our modifications were minor and replaced “Having had breast cancer” with “Having a child with autism.” This scale has been previously modified and validated for use with caregivers of cancer patients (Kim, Schulz, & Carver, 2007). The scale consists of 17 items asking mothers to indicate their agreement using a 5-point Likert-type scale (1 = not at all to 5 = extremely). Sample items include “Has led me to be more accepting of things,” “Has taught me to be patient,” and “Has helped me become more focused on priorities, with a deeper sense of purpose in life.” Higher scores indicate greater levels of benefit finding. Internal consistency in the current study was .92. The constructs of benefit finding and optimism have been found to show good discriminant validity (e.g., Antoni et al., 2001; Llewellyn et al., 2013).

Analytic plan

The current study tested a series of moderated mediation models (Preacher, Rucker, & Hayes, 2007). Each of the models allowed us to test whether a mediation effect existed, and whether the effect differed by ethnicity (Hispanic vs. non-Hispanic White). Our hypothesized model, shown in Fig. 1a, consisted of the effect of an independent variable ($X$) on a dependent variable ($Y$) transmitted by a mediator ($M$). The $X \rightarrow Y$ and $X \rightarrow M$ relationships were hypothesized to depend upon the

Fig. 1. (a) Conceptual diagram of the moderated mediation models. $X =$ optimism, benefit finding, friend support, spouse/partner support, family support; $M =$ family cohesion; $W =$ ethnicity; $Y =$ depressive symptoms. (b) Statistical diagram of the moderated mediation models. $X =$ optimism, benefit finding, friend support, spouse/partner support, family support; $M =$ family cohesion; $W =$ ethnicity; $XW =$ ethnicity $\times$ optimism, ethnicity $\times$ benefit finding, ethnicity $\times$ friend support, ethnicity $\times$ spouse/partner support, ethnicity $\times$ family support; $Y =$ depressive symptoms.
moderator (W. Preacher et al., 2007). Fig. 1b shows the statistical model and includes the subscripts that will be referenced in the results. Each of the models was tested separately using the Process macro in SPSS 19 (Hayes, 2013) with a specification of 10,000 bootstraps. Participants who were not in a committed relationship were excluded from analyses involving spouse/partner support (n = 11 excluded).

6. Results

6.1. Covariate analyses

To determine whether potential covariates needed to be included in analyses, we first examined relationships between demographics (maternal age, maternal education, household income, marital status, child gender, child age, and time since diagnosis) and the variables of interest, including maternal ethnicity, in the moderated mediation models. Maternal education was significantly associated with depressive symptoms, F(4,112) = 3.67, p < .01, though mothers with an advanced college degree (M = 9.45, SD = 7.29) reported significantly less depressive symptoms than mothers with a college degree (M = 14.88, SD = 11.17), mothers who attended some college classes (M = 14.48, SD = 8.01), and mothers with a vocational education (M = 23.00, SD = 9.70). Mothers with a vocational education reported significantly higher depressive symptoms than mothers with a high school education (M = 8.67, SD = 9.02). No other significant associations were found. Therefore, in the moderated mediation models maternal education was included as a covariate.

Descriptive statistics, correlations, and ethnicity differences

Descriptive statistics for all variables of interest for each group are reported in Table 1. A total of 40 mothers reported scores greater than or equal to 16 on the CES-D, indicating clinical levels of depressive symptoms in 34% of our sample (Radloff, 1977). A one-way analysis of variance (ANOVA) examined ethnic differences on each of the variables of interest (see Table 1). Hispanic mothers reported significantly higher levels of benefit finding as compared to non-Hispanic White mothers. In contrast, non-Hispanic White mothers reported higher levels of social support from friends.

We also examined the correlation among variables of interest in the study for Hispanic and non-Hispanic White mothers separately and found many significant correlations between study variables (see Table 2). There were several similarities in the direction and strength of the correlations between variables for Hispanic and non-Hispanic White mothers. Elevated depressive symptoms were associated with lower levels of optimism, friend support, family support, and family cohesion for both groups. Higher levels of family cohesion were associated with greater optimism, benefit finding, family support, and spouse/partner support. Finally, greater spouse/partner support was associated with higher friend support. None of the correlations indicated multicollinearity between variables (i.e., no correlations >.70).

We also found a considerable number of differences in the strength of correlations between variables for Hispanic and non-Hispanic White mothers. Among non-Hispanic White mothers, optimism was positively associated with benefit finding and family support (non-Hispanic White r = .53, Hispanic r = .11; z = 2.44, p < .01). Benefit finding was positively associated with family support among non-Hispanic White mothers but not Hispanic mothers (non-Hispanic White r = .56, Hispanic r = .10; z = 2.71, p < .01). Depressive symptoms were negatively associated with spouse/partner support for non-Hispanic White mothers only (non-Hispanic White r = -.57, Hispanic r = -.17; z = -2.31, p < .05). We also found several associations that were significant only for Hispanic mothers. For example, family cohesion was positively associated with friend support (non-Hispanic White r = .13, Hispanic r = -.47; z = -1.84, p < .05). Optimism was also positively associated with friend support. Overall, the correlations show that there were both similarities and differences between ethnic groups in the associations

Table 1

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Hispanic mean (SD)</th>
<th>non-Hispanic White mean (SD)</th>
<th>F(df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimism</td>
<td>22.72 (4.53)</td>
<td>22.22 (5.77)</td>
<td>.26 (1114)</td>
</tr>
<tr>
<td>Benefit finding</td>
<td>69.15 (11.97)</td>
<td>64.23 (13.60)</td>
<td>4.19 (1115)*</td>
</tr>
<tr>
<td>Friend support</td>
<td>12.40 (3.17)</td>
<td>13.59 (2.65)</td>
<td>4.39 (1115)*</td>
</tr>
<tr>
<td>Spouse/partner support</td>
<td>20.06 (5.02)</td>
<td>21.00 (4.48)</td>
<td>.95 (1104)</td>
</tr>
<tr>
<td>Family support</td>
<td>13.26 (2.83)</td>
<td>13.27 (2.44)</td>
<td>.00 (1115)</td>
</tr>
<tr>
<td>Mediator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family cohesion</td>
<td>26.60 (5.71)</td>
<td>28.36 (5.42)</td>
<td>2.71 (1115)</td>
</tr>
<tr>
<td>Outcome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>13.45 (9.18)</td>
<td>12.52 (10.42)</td>
<td>.25 (1115)</td>
</tr>
</tbody>
</table>

* p < .05.
between study variables. Therefore, we proceed with testing models to examine whether ethnic differences also existed in the hypothesized meditational processes.

**Moderated mediation analyses**

Five separate models (see Fig. 1 for hypothesized model) wherein different independent variables (optimism, benefit finding, friend support, spouse/partner support, and family support) were specified and tested. In each model, family cohesion served as the mediator and depressive symptoms were the outcome variable. Ethnicity was hypothesized to serve as a moderator of the direct and indirect effects. Maternal education was specified as a covariate in all models. However, maternal education was not a significant predictor in any of the models and, therefore, is not reported below.

From the moderated mediation model with optimism specified as the independent variable, maternal optimism was indirectly associated with maternal depressive symptoms through its relationship with family cohesion. As shown in Table 3, maternal optimism was positively associated with family cohesion ($a_{1} = .46$), and mothers with higher levels of family cohesion reported lower levels of depressive symptoms ($b = -.34$). A bias-corrected bootstrap confidence interval for the conditional indirect effect did not include zero for both Hispanic ($-.34$ to $-.03$) and non-Hispanic White mothers ($-.40$ to $-.02$). Therefore, the mediated effect was not moderated by ethnicity. The conditional direct effect of optimism on depressive symptoms was significant for both non-Hispanic White (coeff. $= -.81$, SE $= .22$, $p = .00$) and Hispanic (coeff. $= -.99$, SE $= .21$, $p = .00$) mothers.

**Table 3**

Results of moderated mediation models.

<table>
<thead>
<tr>
<th>IV</th>
<th>M (family cohesion)</th>
<th>Y (depressive symptoms)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.</td>
<td>SE</td>
</tr>
<tr>
<td>$X$ (optimism) $a_1$</td>
<td>.46</td>
<td>.14</td>
</tr>
<tr>
<td>$M$ (cohesion) $a_1$</td>
<td>-.15</td>
<td>.20</td>
</tr>
<tr>
<td>$W$ (ethnicity) $a_1$</td>
<td>1.40</td>
<td>4.54</td>
</tr>
<tr>
<td>$X \times W$ $a_3$</td>
<td>.03</td>
<td>.08</td>
</tr>
<tr>
<td>$X$ (benefit) $a_1$</td>
<td>.17</td>
<td>.06</td>
</tr>
<tr>
<td>$M$ (cohesion) $a_1$</td>
<td>-.47</td>
<td>5.17</td>
</tr>
<tr>
<td>$W$ (ethnicity) $a_2$</td>
<td>-.84</td>
<td>4.83</td>
</tr>
<tr>
<td>$X \times W$ $a_3$</td>
<td>.59</td>
<td>.36</td>
</tr>
<tr>
<td>$X$ (friend) $a_1$</td>
<td>.26</td>
<td>.30</td>
</tr>
<tr>
<td>$M$ (cohesion) $a_1$</td>
<td>-.84</td>
<td>4.83</td>
</tr>
<tr>
<td>$W$ (ethnicity) $a_2$</td>
<td>-.84</td>
<td>4.83</td>
</tr>
<tr>
<td>$X \times W$ $a_3$</td>
<td>.59</td>
<td>.36</td>
</tr>
<tr>
<td>$X$ (spouse/partner) $a_1$</td>
<td>.61</td>
<td>.18</td>
</tr>
<tr>
<td>$M$ (cohesion) $a_1$</td>
<td>-.10</td>
<td>.22</td>
</tr>
<tr>
<td>$W$ (ethnicity) $a_1$</td>
<td>1.38</td>
<td>4.62</td>
</tr>
<tr>
<td>$X \times W$ $a_3$</td>
<td>5.33</td>
<td>5.17</td>
</tr>
<tr>
<td>$X$ (family) $a_1$</td>
<td>1.24</td>
<td>.32</td>
</tr>
<tr>
<td>$M$ (cohesion) $a_1$</td>
<td>-.53</td>
<td>.38</td>
</tr>
<tr>
<td>$W$ (ethnicity) $a_2$</td>
<td>-.53</td>
<td>.38</td>
</tr>
<tr>
<td>$X \times W$ $a_3$</td>
<td>5.33</td>
<td>5.17</td>
</tr>
</tbody>
</table>

* $p < .05$.  
** $p < .01$.  
*** $p < .001$.  

Table 2

Correlations between study variables for Hispanic and non-Hispanic White parents. 

<table>
<thead>
<tr>
<th></th>
<th>Hispanic</th>
<th>Non-Hispanic White</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Optimism</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Benefit finding</td>
<td>.18</td>
<td>.41**</td>
</tr>
<tr>
<td>3. Friend support</td>
<td>.23</td>
<td>.11</td>
</tr>
<tr>
<td>4. Spouse/partner support</td>
<td>.01</td>
<td>.29</td>
</tr>
<tr>
<td>5. Family support</td>
<td>.11</td>
<td>.29</td>
</tr>
<tr>
<td>6. Family cohesion</td>
<td>.25</td>
<td>.49</td>
</tr>
<tr>
<td>7. Depressive symptoms</td>
<td>-.57***</td>
<td>-.54***</td>
</tr>
</tbody>
</table>

$^*$ $p < .05$.  
** $p < .01$.  
*** $p < .001$. 

The next model showed that maternal benefit finding was indirectly associated with maternal depressive symptoms through its effect on family cohesion. As shown in Table 3, higher levels of maternal benefit finding predicted greater family cohesion ($a_1 = .17$), and mothers with higher levels of family cohesion reported less depressive symptoms ($b = -.59$). The bootstrapped confidence interval for the conditional indirect effect did not include zero for both non-Hispanic White ($-.24$ to $-.02$) and Hispanic ($-.25$ to $-.04$) mothers. The conditional direct effect of maternal benefit finding on maternal depressive symptoms was non-significant for both non-Hispanic White and Hispanic mothers. Therefore, family cohesion fully mediates the relationship between benefit finding and depressive symptoms for both Hispanic and non-Hispanic White mothers.

Our next model showed an indirect relationship between maternal friend support and maternal depressive symptoms that was moderated by maternal ethnicity. As shown in Table 3, the relationship between friend support and family cohesion was non-significant ($a_1 = .26$); however, greater family cohesion was associated with less depressive symptoms ($b = -.48$). Although the $a_1$ path was non-significant, the bootstrapped confidence interval for the conditional indirect effect did not contain zero for Hispanic mothers ($-.90$ to $-.09$), whereas it did for non-Hispanic White mothers ($-.64$ to $-.12$), suggesting that the mediation effect is only significant for Hispanic mothers. The conditional direct effect of friend support on depressive symptoms was significant for all racial/ethnic groups ($a_1 = -.74$ to $-.06$) mothers. The conditional direct effect of friend support on depressive symptoms was significant for non-Hispanic White mothers (coefficient = $-1.49$, SE = $.49$, $p = .00$) and non-significant for Hispanic (coefficient = $-1.11$, SE = $.34$, $p = .06$) mothers.

Several interesting findings emerged for the indirect relationship between spouse/partner support and depressive symptoms. As shown in Table 3, mothers who reported more support from their spouse/partner also experienced more family cohesion ($a_1 = .61$), and mothers with greater family cohesion reported lower levels of depressive symptoms ($b = -.37$). The bootstrapped confidence intervals for the conditional indirect effect did not contain zero for both non-Hispanic White ($-.62$ to $-.02$) and Hispanic ($-.51$ to $-.02$) mothers. The conditional direct effect of spouse/partner support on depressive symptoms was significant for Hispanic White mothers only (coefficient = $-1.11$, SE = $.32$, $p = .00$). Therefore, family cohesion fully mediated the relationship between spouse/partner support and depressive symptoms for Hispanic mothers. However, the effect was only partially mediated for non-Hispanic White mothers.

In our final model, maternal report of family support indirectly influenced maternal depressive symptoms through its effect on family cohesion. As can be seen in Table 3, mothers who reported more family support also experienced more family cohesion ($a_1 = 1.24$), and those with greater family cohesion reported less depressive symptoms ($b = -.43$). Bootstrapped confidence intervals for the conditional indirect effect did not contain zero for both non-Hispanic White ($-1.20$ to $-1.12$) and Hispanic ($-1.74$ to $-.06$) mothers. The conditional direct effect of family support on depressive symptoms was significant for non-Hispanic White mothers only (coefficient = $-1.61$, SE = $.57$, $p = .00$). Therefore, family cohesion fully mediated the relationship between family support and depressive symptoms for Hispanic mothers. However, the effect was only partially mediated for non-Hispanic White mothers.

7. Discussion

The results of this study complement and extend previous research examining family functioning and maternal adjustment among mothers of children with ASD. The primary goals of this study were to examine the mediating role of family cohesion in the relationship between maternal characteristics and maternal adjustment. We were also interested in exploring the role of race/ethnicity as a potential moderator of these mediational relationships. Consistent with previous research, findings from this study indicate that maternal optimism, benefit finding, and social support are important predictors of positive maternal adjustment (e.g., Ekas et al., 2010; Samios et al., 2009). The current study extends previous research by also establishing that these factors are related to better family functioning, namely family cohesion. Similar to previous research, we also found support for our hypotheses concerning the positive role of family functioning in maternal adjustment (e.g., Baker et al., 2011). Finally, we found support for a subset of our hypotheses surrounding the moderating role of race/ethnicity.

Previous research with mothers of children with ASD has shown that optimism (Ekas et al., 2010) and benefit finding (Samios et al., 2009) are maternal characteristics that are associated with better maternal psychological adjustment. In this study, the effects of optimism and benefit finding on maternal depressive symptomatology were mediated by family cohesion for Hispanic and non-Hispanic White mothers. Both optimism and benefit finding can be seen as a way of viewing a situation in a positive light. However, it is important to note that they are distinct concepts with only moderate levels of overlap in this study. Optimistic individuals expect the positive (Scheier & Carver, 1985), whereas individuals high in benefit finding are more readily able to reframe a negative event as having a positive effect (Park & Folkman, 1997). These positive appraisals appear to spill-over into the family domain, leading to more positive interactions and increased emotional bonding (i.e., family cohesion) between family members, ultimately impacting maternal adjustment. For example, mothers who report greater benefit finding may endorse that they are more patient and understanding as a result of their child’s diagnosis. These qualities may occur in interactions with other family members as well as friends outside of the family.

Given the importance that Hispanic mothers of children with disabilities place on familism (e.g., Cohen et al., 2014), we hypothesized that the mediating role of family cohesion would be more salient for Hispanic mothers compared to non-Hispanic White mothers. We found limited support for our hypotheses. Specifically, the mediation models containing optimism and benefit finding were significant for both Hispanic and non-Hispanic White mothers, suggesting the process is similar for both racial/ethnic groups. Although there is no research examining these processes among mothers of children...
with ASD, it is possible that the impact of optimism and benefit finding have positive aspects that are universal across cultures. Regardless of culture, children with ASD present with similar symptoms and behaviors (Chaidez et al., 2012), providing a common ground for these processes to operate. What is not yet known, however, are the antecedents of optimism and benefit finding in each racial/ethnic group. For example, sociodemographic factors, coping strategies, and spirituality may be particularly important factors to study (Danhauer et al., 2013).

In the current study, we also examined the effects of social support on maternal adjustment since the importance of social support in promoting adaptive outcomes has also been established among mothers of children with ASD (e.g., Benson, 2012). We included informal support received from three sources: partner, family (not including partner), and friends. The results were consistent with our hypotheses: greater social support predicted increased family cohesion which, in turn, was associated with lower maternal depressive symptoms. Higher levels of social support are associated with greater life satisfaction, better psychological well-being, and higher optimism among mothers of children with ASD (Ekas et al., 2010). These more positive states of mind may also translate to more overall positivity and emotional bonding within the family system. The results of the models for partner and family support were similar across ethnic groups. However, the mediation model for social support from friends was significant only for Hispanic mothers. An interesting finding is that Hispanic mothers reported lower levels of social support from friends as compared to non-Hispanic White mothers. This was surprising in light of research showing that a majority of Hispanic (Puerto Rican) mothers of children with disabilities report having a female friend outside the family to rely on (Correa, Bonilla, & Reyes-MacPherson, 2011). This same study also found that female relatives, particularly grandmothers and godmothers, were found to be especially important to mothers (Correa et al., 2011). It is possible that the mothers in this study were turning more to family members in place of friends. However, friend support appears to play an important role in the process of maternal adjustment. Although there are lower levels, the support that is present is particularly beneficial for Hispanic mothers. Therefore, future research is needed to better understand, and subsequently address, the discrepancy in reported social support from friends across ethnic groups. Taken together, these findings provide support for incorporating a family systems perspective (McCubbin & Patterson, 1983) to better understand the psychological adjustment of mothers of children with ASD.

Family cohesion is the emotional bond that exists between family members (Olson, 2011) and serves as an explanatory mechanism in the relationship between maternal coping mechanisms and psychological adjustment. The positive psychology movement emphasizes the positive aspects of psychological functioning (Seligman & Csikszentmihalyi, 2000) and this study follows suit by identifying factors that directly promote better family functioning and, in turn, better maternal adjustment. This has direct implications for the development of interventions aimed at helping mothers of children with ASD by explicating the process by which maternal adjustment is impacted. Our study suggests treatments should focus on ways to increase mothers’ levels of optimism, benefit finding, and social support. Strengthening these factors will enhance the family system and promote mothers’ mental health.

In order to strengthen the emotional bond of the family, interventions should increase mothers’ optimism, benefit finding, and social support. Studies have shown that applying cognitive-behavior therapy (CBT) techniques such as self-monitoring and cognitive restructuring can increase levels of optimism (Pretzer & Walsh, 2001). Since benefit finding is a cognitive reappraisal, it is possible that these same techniques may generate increased levels of benefit finding. For example, asking individuals to monitor the positive aspects of a situation may lead to reframing their child’s ASD behaviors as positive. For example, comparing their child’s communication abilities to a typically developing child may result in negative, pessimistic thoughts. Asking the mother to think of the positive aspects of their child’s communication skills may result in the mother thinking about how their child has improved or focusing on their communication abilities as opposed to their deficits.

The current study also highlights the need for increasing social support as a target of interventions. Previous research with mothers of children with ASD suggests that there is more to social support than sheer quantity. For example, the quality of support was more important than the quantity of support figures available (Benson, 2012; Smith et al., 2012). Ekas et al. (2010) found that support from friends and partners directly impacted psychological well-being, whereas family support had an indirect effect on maternal well-being. The current study illustrates that partner and family support was indirectly associated with maternal adjustment through family cohesion. Support from friends had a direct relationship with mothers’ depressive symptomatology; however, this support was mediated through family cohesion for Hispanic mothers only. In light of this research, it would be beneficial to teach mothers how to differentiate between individuals who provide support versus those who may be piling additional stress upon them. In addition, mothers need to be able to identify and find support figures that are available and willing to help. The Parent-to-Parent model (e.g., Singer et al., 1999) matches parents of children with disabilities with parent supporters (individuals who also care for children with disabilities), and could easily be adapted for mothers of children with ASD. Finally, it may be equally as important teach friends and family how to be supportive and available to mothers of children with ASD (Weiss et al., 2013).

The race/ethnicity findings in this study raise several important implications for individuals working with mothers of children with ASD. Research has previously found that Hispanic mothers of children with ASD received lower quality of care compared to non-Hispanic White mothers (Magana, Parish, Rose, Timberlake, & Swaine, 2012). For example, Hispanic mothers were more likely to report that their doctor was not sensitive about family values and customs, or that their doctor did not listen carefully (Magana et al., 2012). Our study found social support was an important predictor of outcomes for Hispanic mothers. The medical provider is one important source of support for mothers as they navigate uncharted terrain following the diagnosis of their child. One avenue to ensuring that Hispanic mothers receive high quality support is to train
culturally sensitive service providers. Hispanic mothers may also fail to seek out services for a variety of reasons, including language barriers, lack of access to resources that can direct mothers to the appropriate providers, and fear surrounding their immigration status (Alegria et al., 2007). Magana, Lopez, Aguinaga and Morton (2013) reported that Hispanic mothers of children with ASD were just as likely as non-Hispanic White mothers to learn about ASD from family members. Due to the importance of familism among Hispanic mothers, it may be important to involve members of the extended family in the child’s care.

Limitations and future directions

Although the current study was the first known to examine racial/ethnic differences in the processes underlying maternal adjustment, there are several limitations that warrant discussion. First, mothers in the current study were recruited from a local autism service center. Thus, these mothers may not represent the general population and may be more apt to seek out services for their child. In addition, the mothers in this study were predominantly middle-class and college educated, which limits the generalizability of the results. Indeed, only mothers who identified as being able to fluently read English were included. Future studies should include non-English speaking mothers to increase the generalizability of the findings to other racial/ethnic groups. Second, we only included mothers who identified as Hispanic or non-Hispanic White. Adding additional ethnic/racial groups would allow our results to generalize to the general U.S. population and generate additional ethnic/racial comparisons. Further, within the Hispanic group we did not specify their country of origin (e.g., Mexico, Puerto Rico, Cuba, etc.) or their level of acculturation. Previous research has shown that the importance of familism was similar across national origins (Mexican-, Central-, and Cuban-American) and levels of acculturation (Sabogal et al., 1987). However, based on Census data (U.S. 2008–2012 American Community Survey), we expect that our sample was predominantly Cuban-American (approximately 34%), and residing in a metropolitan area that is predominantly Hispanic (64%). Therefore, the pressures to assimilate to the mainstream non-Hispanic White culture may not be as strong. Indeed, this calls attention to a larger issue in psychological research with respect to the way in ethnicity is defined and measured. Gjerde (2014) argues that our current ways of measuring ethnicity, such as Hispanic vs. non-Hispanic or even delineating by country of origin (e.g., Cuban-American or Mexican-American), create aggregates that fail to capture the diversity that is inherent within each group. Future studies concentrating on ethnicity should also include narrative or qualitative assessments of ethnicity (Gjerde, 2014).

Our study was cross-sectional and relied on quantitative assessments of maternal and family functioning. Longitudinal studies are necessary to determine the directionality of effects and are recommended for meditational analyses (Cole & Maxwell, 2003). For example, alternative models could be tested wherein depressive symptoms mediates the association between optimism and family cohesion. On the other hand, it is also possible that family cohesion could be responsible for an increase in optimism which, in turn, reduces depressive symptoms. Recent studies (e.g., Weiss, Wingsiong & Lunsky, 2014) in the area of ASD have utilized a mixed methods approach wherein qualitative data can help to provide meaning, detail, and give mothers the opportunity to share their experiences in their own words as opposed to completing standardized questionnaires that may not accurately capture their unique experience. In addition, our sample size limited the statistical modeling that we could employ. For example, it is possible that benefit finding and optimism represent a latent construct of positive thinking and the various sources of social support also represent a latent construct of social support. Using a structural regression model, a multi-group mediation model could be tested wherein the latent constructs predict family cohesion which, in turn, predicts depressive symptoms. This approach would reduce the probability of committing Type I error. Moreover, this would allow for the testing of the unique contribution of each predictor. Therefore, future studies with larger sample sizes are essential to be able to accurately examine the unique contributions of these predictors. Finally, this study relied exclusively on maternal report, which means the shared method variance could inflate the associations found. Future studies should include multiple informants.

In general, this study expands upon previous research by examining the mechanisms by which social support, benefit finding, and optimism impact psychological functioning in Hispanic and non-Hispanic White mothers. Although the current study is a necessary and important first step in understanding these processes, there is much more to be studied in this area. For example, following a family systems perspective (Cox & Paley, 1997) future research should include the perspectives of mothers and fathers within the same family. Indeed, in this study we only included mothers’ perceptions of family functioning. Including the views of multiple members of the family would allow for a more robust assessment of family functioning. This study also focused exclusively on the effects of family functioning on maternal functioning. However, one study (Kelly, Garnett, Atwood, & Peterson, 2008) found that levels of family cohesion also affected the child’s ASD symptomatology. Therefore, our model could be expanded to include child functioning as an additional outcome variable. Taken together, the results of this study have implications for the importance of incorporating the mother’s support systems in clinical settings, and for the further development of interventions aimed at increasing maternal well-being. Moreover, our study also highlights the diversity that exists within this population and the importance of cultural sensitivity when working with families (Dyches et al., 2004).

Acknowledgment

We would like to thank the families of the Florida Centers for Autism and Related Disabilities for their time.