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The Protective Roles of Ethnic Identity, Social Support, and Coping on Depression in Low-Income Parents: A Test of the Adaptation to Poverty-Related Stress Model

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Abstract

Objective: Low-income parents experience higher rates of depression due to their exposure to poverty-related stress. This study tested the Adaptation to Poverty Related Stress (APRS) model's proposed relationships between poverty-related stress, depression, and the protective roles of ethnic identity affirmation (EI), social support, and engagement coping in a racial/ethnically diverse sample of low-income parents. Identifying factors that buffer against stress in low-income parents is significant implications for interventions.

Methods: Path analysis was used to test the APRS model in a sample of 602 parents living at or below 200% of the federal poverty line (50% male, mean age = 32.55 years, *SD* = 8.78). Multigroup path analysis tested moderation by gender and race/ethnicity.

Results: PRS was a direct predictor of higher depressive symptoms and mediation analysis revealed that PRS was indirectly associated with higher depressive symptoms through less social support and less use of engagement coping operating in parallel and sequentially in a three-path mediated sequence. Conversely, EI was only indirectly associated with lower depressive symptoms through greater social support and greater use of engagement coping operating in parallel and sequentially. Moderation by gender and race/ethnicity was not found.

Conclusion: This study confirms the critical role engagement coping plays in low-income parents' adaptation to PRS. Furthermore, EI may be protective against PRS through its' stabilizing effects on social support and engagement coping. However, PRS remained a significant risk factor in the face of multiple protective factors. This study suggests that clinical and preventive interventions targeting depression in low-income parents needs to focus on improving parents' EI, perceived social support and use of engagement coping and also decreasing their PRS.

The Protective Roles of Ethnic Identity, Social Support, and Coping on Depression in Low-Income Parents: A Test of the Adaptation to Poverty-Related Stress Model

Parents have higher rates of depression than their same aged childless peers due in part to the stress associated with parenting's daily demands and challenges (Evenson & Simon, 2005; Nomaguchi & Milkie, 2003). Parenting in the context of poverty or low socioeconomic status is particularly stressful and rates of major depressive disorder and depressive symptoms are highest in parents with low educational attainment or living below the poverty line (Ertel, Rich-Edwards, & Koenen, 2011; Heneghan, Silver, Bauman, Westbrook, & Stein, 1998). Concerning in its own right, parental depression can also have substantial and pervasive negative consequences on a child's social, behavioral, cognitive, and physical development and family functioning (Goodman et al., 2011; Kane & Garber, 2004; Wilson & Durbin, 2010). Identifying factors that buffer against stress and depression in low-income parents may therefore have significant implications for prevention of parent, child, and family dysfunction. This study tests a model of adaptation to poverty-related stress that contains both risk and protective factors and emphasizes resources that can aid parents in coping with poverty-related stress and alleviating distress.

Adaptation to Poverty-related Stress

Poverty may contribute to the development of parental depression through exposure to chronic and uncontrollable stressors associated with economic hardship (Wadsworth, Raviv, Santiago, & Etter, 2011). For instance, financial strain is associated with greater interparental and family conflict, which disrupts family relationships (Conger et al., 2002; Conger & Conger, 2002) and with physical stressors such as substandard housing, exposure to toxins, and crowding (Evans, 2004). According to the Adaptation to Poverty Related Stress (APRS, Wadsworth et al., 2011) model these poverty-related stressors (PRS) have direct effects on and indirectly

contribute to parental depression by constraining parents' ability to cope effectively with stress.

Engagement coping, which consists of primary control coping (problem solving, emotional expression, and emotion regulation) and secondary control coping (acceptance, cognitive restructuring, distraction, and positive thinking) is associated with fewer depressive symptoms in parents experiencing PRS (e.g. Perzow, Bray, & Wadsworth, 2018; Wadsworth et al., 2013). However, individuals living in poverty tend to use fewer engagement coping strategies and more disengagement (i.e. avoidant) coping (Aranda, Castaneda, Lee, & Sobel, 2001; Howerton & Van Gundy, 2009). The APRS posits that the overwhelming nature of these stressors results in under-utilization of typically adaptive (engagement) coping responses and over-utilization of typically maladaptive (avoidant) coping. While avoidant coping can work to immediately alleviate stress and is therefore adaptive in highly stressful, dangerous environments, such strategies are not as effective in situations demanding sustained active engagement such as parenting (Hastings et al., 2005).

Coping Resources

Despite the elevated risks posed by PRS, many low SES parents exhibit positive psychological adaptation and utilization of engagement coping strategies. Little is known about why or how some parents are resilient in the face of PRS. The APRS proposes that the quality and amount of *coping resources*, (i.e., the social and personal characteristics that individuals may draw upon when dealing with stressors) that an individual possesses may buffer psychological functioning by protecting and preserving efficacious coping from corrosive PRS decrements. As yet unexplored in empirical tests of the APRS, two potential coping resources—perceived social support and ethnic identity affirmation —hold great promise as factors that may protect and preserve engagement coping with PRS (Taylor & Stanton, 2007; Thoits, 2011).

Social Support

Social support (i.e. psychological and material resources provided by members of one's social network that improve one's ability to manage stress (Cohen, 2004)) is associated with lower levels of depressive symptoms in parents (Benson, 2012; Leahy-Warren, McCarthy, & Corcoran, 2011). It is theorized that social support facilitates the use of effective coping strategies, thereby directly and indirectly decreasing the risk for psychopathology (Cohen, 2004; Thoits, 2011). Furthermore, recent studies have found support for engagement coping as a mediator of the relationship between perceived social support and depressive symptoms (e.g.,Greenglass & Fiksenbaum, 2009; Gutiérrez-Zotes et al., 2015; Holland & Holahan, 2003). However, the stress created by poverty also disrupts interpersonal and family relationships, which can lead to lower amounts of social support (Schulz et al., 2006) and in turn higher rates of depression, particularly for mothers (Gjesfjeld, Greeno, Kim, & Anderson, 2010; Schulz et al., 2006). Additionally the lower amounts of social support due to interpersonal stress in turn can result in use of less effective coping strategies and ultimately to higher rates of depression. (Dunkley, Sanislow, Grilo, & McGlashan, 2006). Thus research suggests that for low-income parents, social support directly mediates the relationship between PRS and depression and sequentially mediates this relationship through its negative influence on coping responses.

Ethnic Identity Affirmation

Similarly, research and theory focusing on resilience and positive adaptation in ethnic-racial minorities has identified ethnic identity affirmation (EI, i.e. positive beliefs and attitudes about one's ethnic group) as stress-buffering protective factor against depression. (Spencer, Dupree, & Hartmann, 1997; Tajfel, 1974). While most research has focused on EI in the context of discrimination and acculturative stress (e.g. Torres & Ong, 2010; Walker, Wingate, Obasi, &

Joiner, 2008), EI has also been found to be protective in the context of other chronic stressors such as family stress (Williams, Aiyer, Durkee, & Tolan, 2013). Findings are somewhat mixed about EI's benefits in the face of economic hardship, with studies showing EI is protective for Black and possibly White parents but not necessarily for Latino parents (Hurwich-Reiss, Rienks, Wadsworth, & Markman, 2015; Umaña-Taylor, Updegraff, & Gonzales-Backen, 2011).

The psychological mechanisms of the protective effects of EI are still not clear. Social identity theory (Tajfel, 1974) and the phenomenological variant of ecological systems theory (PVEST; Spencer et al., 1997) suggest strong EI promotes positive psychological adjustment by increasing social support and utilization of effective coping strategies. According to social identity theory, EI increases feelings of connectedness to members of one's ethnic group including family and friends, which promotes feelings of perceived social support (Thibeault, Stein, & Nelson-Gray, 2017; Umaña-Taylor et al., 2011). In accordance with social identity theory, researchers have found that a strong EI is related to greater sense of social connectedness (Kenyon & Carter, 2011; Ong, Phinney, & Dennis, 2006; Schneider & Ward, 2003; Yip, Gee, & Takeuchi, 2008). In addition, social support has been shown to mediate the relationship between EI and psychological adjustment in individuals from multiple ethnic-racial groups (e.g. Roberts & Burleson, 2013; Schneider & Ward, 2003).

According to PVEST, a strong EI serves as a resource for effectively coping with seemingly overwhelming sources of stress. A small body of research suggests that ethnic identity is linked to engagement coping, such as problem solving and positive thinking among ethnic-racial minority adolescents (Mcmahon & Watts, 2002; Seaton, Upton, Gilbert, & Volpe, 2014; Yoo & Lee, 2005) but studies exploring mediation have found that engagement coping does not mediate the relationship between EI and psychological adaptation (Umaña-Taylor, Vargas-

Chanes, Garcia, & Gonzales-Backen, 2008). Little is known about how these mechanisms operate in adults and specifically parents experiencing PRS. Therefore, this study examined whether social support and coping mediate the relationship between EI and depression in the face of PRS for low-income parents.

Potential Moderators: Gender and Race/Ethnicity

Gender and race/ethnicity were expected to moderate the relationship between PRS and depression. Gender disparities in rates of depression have been well documented (Kessler et al., 2012), though the cause of the disparity is not fully understood. Gender differences in the associations between chronic stress, coping, and social support is one possibility (Nolen-Hoeksema, 2001; Piccinelli & Wilkinson, 2000). Women are more likely to report experiencing chronic stress and using ruminative coping, both of which are linked to higher rates of depression in women (Nolen-Hoeksema, Larson, & Grayson, 1999) Furthermore, lack of social support is more strongly related to depression for women experiencing stress than men (Dalgard et al., 2006; Kendler, Myers, & Prescott, 2005). Given the gender differences found in associations among coping, social support, and depression, gender will be explored as a moderator.

Previous studies testing the APRS model have consistently failed to reveal differences in the relationship between PRS, coping and depression in parents from different ethnic-racial backgrounds (Wadsworth, Raviv, et al., 2011; Wadsworth et al., 2013). However these studies used a binary White / non-White distinction and so may have underestimated differences among specific ethnic/racial minority groups. Furthermore, White adults report significantly lower levels of EI than all racial/ethnic minority groups (e.g. Feitosa, Lacerenza, Joseph, & Salas, 2016). Thus, it is conceivable that the protective effects of EI may differ between White, Black and Latino parents; race/ethnicity was therefore explored as a moderator.

The present study

The current study tests the APRS model by exploring how the coping resources of social support and EI are related to engagement coping and depression in the face of PRS in a racial/ethnically diverse sample of low-income parents. As can be seen in Figure 1, PRS was predicted to inhibit social support and engagement coping and increase depressive symptoms. Conversely, EI was predicted to prompt greater social support and engagement coping and decrease depressive symptoms. Social support and engagement coping were predicted to mediate the relationships between PRS and depressive symptoms and EI and depressive symptoms. Additionally, PRS-diminished social support was predicted to encourage less engagement coping, leading to greater depressive symptoms, and the greater amounts of social support activated by EI were predicted to encourage use of more engagement coping, thereby decreasing depressive symptoms. Lastly, we examined whether these associations differ in mothers and fathers and among White, Black, and Latino parents.

Methods

Participants

The sample consisted of 602 adults nested within 301 couples from low-income, two-parent families that were enrolled in the Fatherhood, Relationship and Marriage Education project (FRAME; Wadsworth et al., 2011). Baseline data were used in the current study. Enrolled couples were married or cohabiting for at least 6 months, caring for at least one child together, and had an income at or below 200% of the federal poverty level.

Participants were equally male and female (50%) and were on average 32.55 years old (SD=8.78; range: 18-74). They identified as Caucasian/White (34.8%), African American/Black (27.8%), Hispanic/Latino (22.8%), Native American (5.3%), and Biracial/Multiracial/Other

(11%). The average family income was $22,745 (SD=$15,815; range: $0–72,000), 52.6 % of participants were employed, and on average has completed high school (M= 12.67, SD=2.37). Most participants were married (63.3%) and the average length of their relationship was 6.7 years (SD=5.5). Participants mostly lived in blended families (64.9 %).

Procedure

Couples were recruited from the Denver metropolitan area via flyers, newspaper advertisements, media interviews, community organizations and direct contact in community settings. Interested couples were screened for income at or below 200% of the federal poverty line, involvement in an ongoing committed relationship that included co-habitation for 6 months or more, and co-parenting at least one child younger than age 18. Participants were excluded if they had prior experiences with the intervention material, could not read or write fluently in English, or indicated that they were interested in participating in one of the three intervention groups (couples' group, women's group or men's group). Couples who agreed to participate met with trained research assistants to provide informed consent; each member of the couple then independently completed pre-assessment questionnaires. Pre-assessment procedures took 1 to 2 hours to complete. Couples were then block randomized into one of four groups and those selected for interventions began attending within two weeks of completing the pre-assessment. All procedures were approved by the University of Denver Institutional Review Board (IRB protocol: 471720–4, Fatherhood, Relationship, and Marriage Education project).

Measures

Demographics. Parents reported demographic information including age, gender, race/ethnicity, income, education level, employment status, marital status, and family composition. Income-to-needs ratio (INR) was calculated by dividing families' reported annual

income by the appropriate poverty threshold based on average household size.

Economic Hardship. Economic strain was measured using the Economic Hardship Questionnaire (EHQ; Lempers, Clark-Lempers, & Simons, 1989). The EHQ is an 11-item measure that assesses how often participants have made changes or adjustments in order to make ends meet in the preceding 6 months. Participants rate items on a 4-point scale (1=never happened to 4=happened very often). The sum of participant's responses was used in analysis. Higher scores indicate families who frequently postponed meeting basic needs in order pay the bills. The measure demonstrated good reliability (α=0.85).

Family Stress. Family life stress was measured using a modified Family Inventory of Life Events and Changes (FILE; McCubbin, Patterson & Wilson, 1980). The FILE assesses a participant's experience of family-oriented stressful life events and changes in the previous year. The modified version of the FILE consisted of 33 yes-or-no items representing five different domains: stress due to family relationships; job-related stress; stress due to separation, illness, death, or pregnancy; financial stress; and legal repercussions. All items are summed to create an overall family stress score. The measure demonstrated good reliability in this sample (α = 0.81). The EHQ and FILE scores were standardized and averaged to create an overall poverty-related stress variable. Scores from the EHQ and FILE were moderately correlated (r = .40).

Engagement Coping. Primary and secondary engagement control coping were measured using the Responses to Stress Questionnaire-Financial Problems (RSQ; Connor-Smith et al., 2000). The RSQ is a 57-item measure that assesses how a participant copes with and responds automatically to financial worries. Participants rate items on a 4-point scale (1 = not at all true to 4 = very true), factor scores are computed as the ratio of responses on a single factor to the total responses on the entire measure. The scale produces three effortful coping factors: primary

control engagement, secondary control engagement and disengagement coping. An engagement composite was created by averaging primary and secondary control engagement coping based on their inter-correlation (r = .41). The scales demonstrated adequate reliability (αs=0.77).

Social Support. Social support was measured using The Interpersonal Support Evaluation List—Short Version (ISEL-12; Cohen & Hoberman, 1983; Cohen, Mermelstein, Kamarck, & Hoberman, 1985). ISEL-12 is a 12-item self-report scale that assesses perceived availability of support social. The 12 items fall into three subscales: perceived availability of appraisal (advice or guidance), belonging (empathy, acceptance, concern), and tangible (help or assistance, such as material or financial aid) social support. Participants rate on 4-point scale (1=definitely false to 4=definitely true) the extent to which the different types of social support are available in their lives. All items across the three subscales were summed to create a total social support score. The measure demonstrated good reliability (α=0.83).

Ethnic Identity Affirmation. Ethnic identity was measured using The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). The MEIM is a 20-item measure assessing two aspects of ethnic identity: exploration, which is the extent to which participants have expended efforts to learn about their ethnic heritage and affirmation and belonging, which are the extent to which participants have committed and achieved a secure and confident sense of his or her ethnicity. In completing the MEIM, participants respond to items on a 4-point scale (1=strongly agree to 4=strongly disagree). Only the MEIM affirmation and belonging subscale score was used in the data analyses. The measure demonstrated good reliability (α = 0.86).

Depression. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report scale that measures depressive symptoms. Participants rate on a 4-point scale (0=rarely to 3=most or all of the time) how often they have felt or behaved a certain

way in the past week. A sum score was used in analyses. A score greater than 16 is considered clinically at risk. The measure demonstrated good reliability in the current sample ($\alpha = 0.83$).

Covariates. Participant INR, highest parental education level and parental employment status were included as covariates in analysis. The education level of each mother and father ranged from 1 (1st grade or less) to 23 (Advanced degree). For each dyad, mother and father's education levels were compared and the highest education level was found. The employment status of each mother and father was determined based on their responses to whether they were presently employed (0= unemployed; 1 = employed). For each dyad, these were combined into a categorical variable (1 = both parents unemployed, 2 = one parent is employed, 3 = both parents are employed).

Analysis Plan

Tests of non-independence were conducted to determine the level of interdependence between mothers and fathers on study variables, given that mothers and fathers were nested in distinguishable dyads. Following the recommendations of Kenny, Kashy, & Cook (2006) partial Pearson's correlations of mothers and father's PRS and EI controlling for covariates (i.e. INR, highest parental education level, and parental employment status), their social support controlling for PRS, EI, and covariates, their coping controlling for PRS, EI, social support, and covariates; and their depressive symptoms scores controlling for PRS, EI, social support, coping and covariates were estimated. The effect sizes of the correlations were small and mostly non-significant ($r_{PRS} = 0.19$; $r_{Ethnic\ Identity} = 0.12$; $r_{Social\ Support} = 0.15$; $r_{Coping} = 0.06$; $r_{Depression} = 0.06$) suggesting independence of variables and that each participant could be treated as an individual. A path analysis using the maximum likelihood estimation with robust standard errors procedures tested the hypothesized model which controlled for partner's report of each study variable as

recommended (Kenny et al., 2006). Overall goodness of fit of the models was assessed in five ways: The chi-square statistic, root mean square error of approximation (RMSEA), comparative fit index (CFI), Tucker Lewis Index (TLI) and standardized root mean square residual (SRMR). The statistical significance of the indirect effects of mediated pathways was tested using the Sobel test (1982) as well as by using 95% bias–corrected bootstrap confidence intervals based on 10,000 bootstrap samples (Preacher, Rucker, & Hayes, 2007). All study variables were regressed on the covariates that they were correlated with at $p < .01$. All analysis was conducted in Mplus version 7.4 (Muthén & Muthén, 1989-2015).

To test for gender and race/ethnicity as possible moderators, separate models were estimated for mothers and fathers and for White, Black, and Latino parents. Then two models were run for each moderation analysis. For gender moderation analysis, the model was estimated with paths free to vary according to gender and then second model was estimated with paths constrained to be equal across groups. Similarly, for race/ethnicity moderation analysis, the model was estimated with paths free to vary according to ethnic-racial group and then a second model was estimated with paths constrained to be equal across the three racial-ethnic groups, The Satorra-Bentler Chi-square difference test was used to determine whether the relations among the variables in the models differed according to gender and race/ethnicity respectively.

Results

Descriptive Statistics and Correlational Analysis

Table 1 contains means, standard deviations and correlations among covariates and study variables for the whole sample. T-tests examined differences between mothers and fathers. As shown in Table 2, on average mothers were younger, were less likely to be employed, and had higher levels of education than fathers. Additionally, mothers reported higher levels of PRS,

lower proportional use of engagement coping, and more depressive symptoms; a greater proportion of women than men met the clinical cut-off for depression.

One-way analyses of variance were run to test whether there were significant differences between White, Black, and Latino parents (Table 2). There were significant differences in age [F (2, 517)=11.98, p<.001], INR [F (2, 515) = 4.55, p<.05], educational level [F (2, 513) = 13.71, p<.001], partner's education level [F (2, 512) = 10.23, p<. 001], EI [F (2, 457) = 20.93, p<.001] and coping [F (2, 513) = 8.48, p<.001]. Tukey post-hoc analysis revealed that Black parents had higher levels of EI than Latino and White parents who did not differ from each other. Additionally, Black parents had higher levels of coping than White parents.

Structural Equation Models

Direct Effects. Path analysis was conducted to test core hypotheses of the APRS involving PRS, EI, coping, social support and depressive symptoms in low-income parents controlling for family poverty, highest parental education level and parental employment. The hypothesized model demonstrated excellent fit: χ^2 (39) =35.93, p=.61, RMSEA < 0.001, CFI = 1.00, TLI > 1.00, and SRMR = .02. As shown in Figure 1, PRS was positively associated with depressive symptoms as predicted; however, there was no significant association between EI and depressive symptoms. Additionally, PRS was negatively associated with and EI was positively associated with social support and coping. PRS and EI were similarly related with lower and greater social support (β = -0.14, and β = 0.19, respectively) and coping (β = -0.12, and β = 0.11, respectively), although links with coping are not as large as links with social support, especially for EI. Lastly, social support had a strong positive association with coping (β = 0.33) and both social support (β = -0.29) and coping (β = - 0.46) had strong negative associations with depressive symptoms. Coping had the strongest relationship with depressive symptoms.

Mediation. It was predicted that social support and coping would mediate the relationships between both PRS and depressive symptoms and EI and depressive symptoms. The indirect effects and their associated 95% confidence intervals (CI) are shown in Table 3. Mediation analysis confirmed that social support and coping served as mediators between both PRS and higher depressive symptoms and EI and lower depressive symptoms. In addition, the associations between PRS and higher depressive symptoms and EI and lower depressive symptoms were also sequentially mediated through social support and coping. That is, higher PRS was associated with less social support, which was related to less coping, which was associated with more depressive symptoms. We also found that higher EI was associated with greater social support, which was related to greater coping, which was associated with less depressive symptoms. The total indirect effects from PRS to depressive symptoms and EI to depressive symptoms were of similar magnitude but in opposite directions, which resulted in the indirect effects for the total model being close to zero and non-significant. Overall, we found that EI was a protective factor for depressive symptoms through the stabilizing effects on social support and coping in the face of PRS. Unfortunately, PRS remains a significant risk factor because of its direct negative effects on depressive symptoms.

Moderation By Gender and Race/Ethnicity: Multigroup Analysis

Gender was tested as a moderator of these processes using multigroup path analysis. The freely estimated model and constrained models fit the data well (χ^2 (64) =61.67, p =.56, RMSEA < 0.001, CFI = 1.00, TLI >1.00, SRMR = 0.03; χ^2 (73) = 72.37, p=.50, RMSEA = < 0.001, CFI = 1.00, TLI > 1.00, SRMR = 0.04, respectively). The Satorra-Bentler Chi-square difference between the freely estimated model and the constrained model was not significant ($\Delta\chi^2$=10.70, df=9, p<.30), which indicates that the model did not significantly differ for mothers and fathers.

Given no differences between mothers and fathers in these processes, race/ethnicity was tested as a moderator of these processes in the whole sample. The freely estimated and the constrained models fit the data well ($\chi^2(96)=78.03$, $p=.91$, RMSEA< 0.001, CFI = 1.00, TLI >1.00, SRMR = 0.04; $\chi 2$ (114) = 102.70, $p=.77$, RMSEA < 0.001, CFI = 1.00, TLI >1.00, SRMR = 0.05, respectively). The Satorra-Bentler Chi-square difference between the freely estimated and constrained model was not significant ($\Delta \chi^2= 24.77$, df = 18, $p < 0.13$), indicating the regression coefficients of the paths were not different for White, Black, and Latino parents. Multigroup analysis was individually run for each race/ethnicity combination and similar results were found.

Discussion

This study tested the Adaptation to Poverty-Related Stress model by exploring EI and social support as resources for low-SES parents that foster utilization of effective coping responses and thereby promote resiliency in the face of PRS. As with previous research testing the APRS model (Wadsworth, Raviv, et al., 2011; Wadsworth et al., 2013), PRS and engagement coping were directly associated with parental depressive symptoms. Furthermore, PRS constrained the ability to use engagement coping, which was associated with greater depressive symptoms. Nevertheless, utilization of engagement coping had a large negative association with depressive symptoms, confirming the critical role that it plays in low-income parents' adaptation to PRS. Thus, interventions capable of increasing the use of engagement coping may be warranted. Knowing about resources that preserve the ability to utilize engagement coping would greatly facilitate efforts to foster more effective coping. Two promising resources examined here include social support and ethnic identity.

Perceived Social Support

The stress created and exacerbated by low SES and poverty is difficult for individuals to manage alone; social support represents an important coping resource for low-income parents. In this study, parents' perceived social support was directly associated with lower depressive symptoms. Perceived social support was also indirectly associated with lower depressive symptoms via social support's association with increased engagement coping. These mediation findings align with previous research that has found, for example, that engagement coping mediates the relationship between social support and depression for those facing the stress of a cancer diagnosis (e.g, Holland & Holahan, 2003). According to Thoits (2011), the belief that material and psychological resources are available through one's social network may directly affect depression by sustaining a parent's self-esteem and belonging and indirectly affect depression by increasing utilization of engagement coping. For example, knowing that tangible support (e.g., money, childcare) is available when needed reduces the demands of the situation and increases a parents' ability to engage in problem solving (Balaji et al., 2007). Similarly, the availability of advice or guidance can provide increased access to information about how to cope with a situation, the efficacy of different coping strategies, and encouragement to continue using effective coping strategies (DeLongis & Holtzman, 2005; Thoits, 2011).

Further, social support mediated the relationship between PRS and depressive symptoms, in line with previous research findings in low-income parents (e.g. Lee, Lee, & August, 2011). Perhaps low-income parents have social networks that are unable to provide social support because they consist of friends and family who are also experiencing PRS, which limits their resources and results in increased interpersonal conflict. For example, Reid and Taylor (2015) found that for low-income married and co-habiting mothers, the presence of chronic stressors such as neighborhood safety and major life stress were associated with lower amounts of social

support from their family and friends. Further, they found that interpersonal stressors such as relational strain and intimate partner violence were associated with lower amounts of social support from their partners. Additionally, we found that PRS was associated with more depressive symptoms via lowered perceived social support and associated lower levels of engagement coping.

Ethnic Identity Affirmation

Ethnic identity affirmation (EI) is an important culturally adaptive coping resource for ethnic-racial minorities, though our knowledge of its protective mechanisms of action is limited. We found that higher EI was associated with less depressive symptoms through increased social support and greater proportional use of engagement coping. Affirmation to one's ethnic group consists of internalization of the cultural values of that group such as communalism (i.e. importance of human relationships and the interrelatedness of people; Wallace & Constantine, 2005) for African-Americans and familism (i.e. importance of close supportive family relationships and family interdependence; Umaña-Taylor et al., 2011) for Latinos. Consistent with these cultural values, immediate and extended family members, close friends, and trusted community members from their neighborhoods and religious communities are considered primary resources of assistance when experiencing problems (Wallace & Constantine, 2005). Among African-Americans, communalism is associated with greater social and psychological resources, and by extension with lower distress in the face of chronic stress (Utsey, Giesbrecht, Hook, & Stanard, 2008). For Latinos and Whites, familism is directly associated with closeness to family members and social support and these are the mechanisms through which familism leads to well-being (Campos, Ullman, Aguilera, & Schetter, 2014). Additionally, affirmation to one's ethnic group enables one to draw on cultural knowledge and values to determine ways of

coping. Therefore, in addition to providing greater access to social resources and support, which provide opportunities for guidance, advice, and coping assistance, communalism and familism may increase use of engagement coping through provision of role models of successful copers who can be emulated and observed (Thoits, 2011).

The expanded APRS model tested here attests to the importance of reducing poverty and poverty-related stress in addition to bolstering parents' coping abilities, support, and EI affirmation. While mediation analysis revealed that the total indirect effects of the model were close to zero and non-significant suggesting that EI effectively mitigated the effects of PRS on depressive symptoms through social support and coping, PRS still had a significant direct effect on symptoms. This is consistent with longitudinal research in which changes in economic strain predicted changes in parental depression even with coping accounted for (Wadsworth et al., 2013). These findings underscore the pervasive and overwhelming nature of PRS.

Moderators

A strength of this study is the examination of the model in a multiethnic sample of mothers and fathers. This permitted the examination of the degree to which the model applied across gender and race/ethnicity. The model was supported within this diverse sample as neither gender nor race/ethnicity moderated the model. Although theories of gender differences in depression suggested possible differences in the associations of stress, coping and social support among men and women, the present results suggest that the factors that contribute to and protect against depression for low-income mothers and fathers may not differ. Similarly, while EI levels differed among White, Black, and Latino parents, there were no racial/ethnic differences in the protective effects of EI in the face of PRS or the mechanisms through which EI provides protection. These results suggest that interventions targeting PRS reduction and bolstering social

support, coping, and EI would be appropriate for all mothers and fathers experiencing PRS.

Limitations and Future Directions

Although this study provided strong evidence for the Adaptation to Poverty-related Stress Model, limitations must be noted. First, the analyses were conducted with cross-sectional data, which raises questions regarding directionality of effects. However, these results have very high correspondence with longitudinal and experimental work showing both the pernicious effects of PRS and the protective nature of primary and secondary control coping (Wadsworth et al., 2013). Future research replicating these findings with longitudinal and intervention designs will lend even greater support. Second, composite variables were created for several key constructs in this study, which may obscure effects in analyses. A latent variable approach might better capture the constructs of poverty-related stress and engagement coping; the use of latent variables would be a logical advance to make in future studies. Additionally, the lack of racial/ethnic differences could be due to relatively small sample sizes for each group, limiting our power to detect small effects. Future tests of the APRS should maximize power to detect subgroup differences. Lastly, although the model accounted for almost half the variance of depression, it only accounted for eight percent of the variance in social support and seventeen percent of the variance in engagement coping. Future studies could also examine additional stress responses such as disengagement coping and involuntary stress responses, resources such as coping efficacy, self-esteem, and perceived mastery, and cultural values such as communalism, familism, and religiosity for a fuller understanding of the risk and protective factors to target in interventions for low-income parents.

Implications for Policy and Practice

The Adaptation to Poverty-related Stress Model was developed to identify risk and

resilience processes that are malleable within families. Research has shown that coping skills are teachable to low-income parents facing PRS (Wadsworth, Santiago, et al., 2011). Although evidence suggests that coping is a highly relevant target for prevention with families in poverty, relevant interventions with low-income parents may also benefit from efforts to expand social support networks to enhance sustainability of improvements in engagement coping use. The strong links between increased social support and utilization of engagement coping and lower depressed symptoms confirm that social support is a crucial factor to be targeted in coping interventions. Research has shown that social support enhancement skills are teachable and could therefore be targeted in coping skills interventions for parents (e.g. Kirkham, Schilling, Norelius, & Schinke, 1986). Furthermore, this study suggests that while increasing coping abilities and social support should be the main focus of interventions for low-income parents, EI is another possible target for interventions. However, research on the effectiveness of EI strengthening interventions is mixed (for review see Huey Jr, Tilley, Jones, & Smith). Therefore more research is needed to understand the extent to which EI fosters social support and coping abilities in low-income parents and the mechanisms through which these protective effects are transferred (e.g. promotion of values that are consistent with the parent's racial/ethnic group across culturally tailored strategies). This would provide information about how to target EI-strengthening in service of increasing social support and coping without detracting from it. Overall, interventions that target improving social support and use of engagement coping have the potential to improve the mental health of low-income parents, with positive spillover to their families at large. However, the continued impact of PRS on the mental health of low-income parents even when multiple protective factors are included is a sobering reminder that poverty-reduction policy work must accompany family and individual-level intervention work.

Table 1

Descriptive Statistics and Correlations among Study Variables and Demographics

	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender (1 = Female)	--											
2. White	.05	--										
3. Black	-.04	--	--									
4. Latino	.01	--	--	--								
5. INR	.00	.16**	-.02	-.02	--							
6. Highest Parental Educational Level	.00	.23**	-.01	-.16**	.41**	--						
7. Parental Employment Status	.00	.06	.07	-.03	.48**	.26**	--					
8. Poverty-Related Stress	.21**	.06	.01	-.09*	.05	.14**	.02	--				
9. Ethnic Identity Affirmation	-.07	-.25**	.24**	-.07	.01	.02	.09*	.04	--			
10. Social Support	-.04	.03	.03	-.06	.07	.06	.09*	-.14**	.19**	--		
11. Engagement Coping	-.10*	-.13**	.12**	-.02	.05	.08	.12**	-.16**	.18**	.38**	--	
12. Depressive Symptoms	.19**	.06	-.06	.03	-.11**	-.11**	-.13**	.29**	-.14**	-.51**	-.61**	--
M	.50	.35	.27	.23	1.03	13.57	2.05	.00	.00	38.50	.22	18.00
SD	.50	.48	.44	.41	.72	2.30	.76	.66	1.00	6.44	.04	11.94
Range	0–1	0–1	0–1	0–1	0–3.98	8–23	1–3	-1.43–1.90	-3.78-1.33	17–48	.11– .31	0–56

Note. $N = 602$. * $p<0.05$; ** $p<0.01$.

Table 2
Means and Standard Deviations of Demographics and Study variables for Mothers and Fathers and by Racial/Ethnic Group

	Fathers M (SD)	Mothers M (SD)	*t*
Age	34.02 (9.05)	31.09 (8.25)	4.14***
Race / Ethnicity			
White	0.32 (0.47)	0.37 (0.48)	-1.31
Black	0.29 (0.45)	0.27 (0.44)	0.43
Latino	0.22 (0.42)	0.26 (0.43)	-0.98
Other	0.05 (0.22)	0.06 (0.23)	-0.37
Relationship Status (1 = Married)	0.64 (0.48)	0.63 (0.48)	0.42
Employment Status	0.63 (0.48)	0.43 (0.50)	5.04***
Education Level	12.46 (2.43)	12.88 (2.29)	-2.14*
Poverty Related Stress	-0.16 (0.78)	0.15 (0.78)	-4.93***
Ethnic Identity	3.13 (0.69)	3.04 (0.68)	1.58
Coping	0.11 (0.77)	-0.10 (0.83)	3.29**
Social Support	38.73 (6.29)	38.28 (6.60)	0.82
Depressive Symptoms	15.71 (10.52)	20.12 (12.80)	-4.53***
Depressive Symptoms (% meet Clinical Cut-off)	0.41 (0.49)	0.56 (0.50)	-3.57***

	White M (SD)	Black M (SD)	Latino M (SD)	*F*
Age[a]	32.68 (8.0)	35.31 (10.30)	30.51 (7.45)	11.98***
Sex (1 = Female)	0.54 (0.50)	0.49 (0.50)	0.53 (0.50)	0.58
Relationship Status (1 = Married)	0.71 (0.46)	0.60 (0.49)	0.66 (0.47)	2.48
INR	1.19 (0.78)	0.98 (0.66)	1.00 (0.70)	4.55*
Employment Status	0.55 (0.50)	0.56 (0.50)	0.49 (0.50)	0.95
Partner's Employment Status	0.56 (0.50)	0.56 (0.50)	0.52 (0.50)	0.39
Education Level[b]	13.29 (2.48)	12.83 (1.97)	12.03 (2.11)	13.71***
Partner's Education Level[b]	13.17 (2.59)	12.76 (2.02)	12.03 (2.28)	10.23***
Poverty Related Stress	0.07 (0.75)	-0.04 (0.80)	-0.09 (0.81)	1.92
Ethnic Identity[a]	2.87 (0.69)	3.34 (0.61)	3.02 (0.68)	20.93***
Coping[c]	-0.16 (0.83)	0.18 (0.77)	-0.01 (0.78)	8.48***
Social Support	38.76 (6.20)	38.83 (6.50)	37.79 (6.44)	1.18
Depressive Symptoms	18.82 (12.84)	16.60 (10.71)	18.06 (11.98)	1.69
Depressive Symptoms – (% meet Clinical Cut-off)	0.49 (.50)	0.46 (0.50)	0.52 (0.50)	0.50

Notes. N = 301 Mothers, N = 301 Fathers. N = 208, White, N = 164 Black, N = 144 Latino.
* p<0.05, ** p<0.01,***p<.001.
[a]Black parents differ from White and Latino parents; [b]Latino parents differ from Black and White parents; [c]Black parents differ from White parents

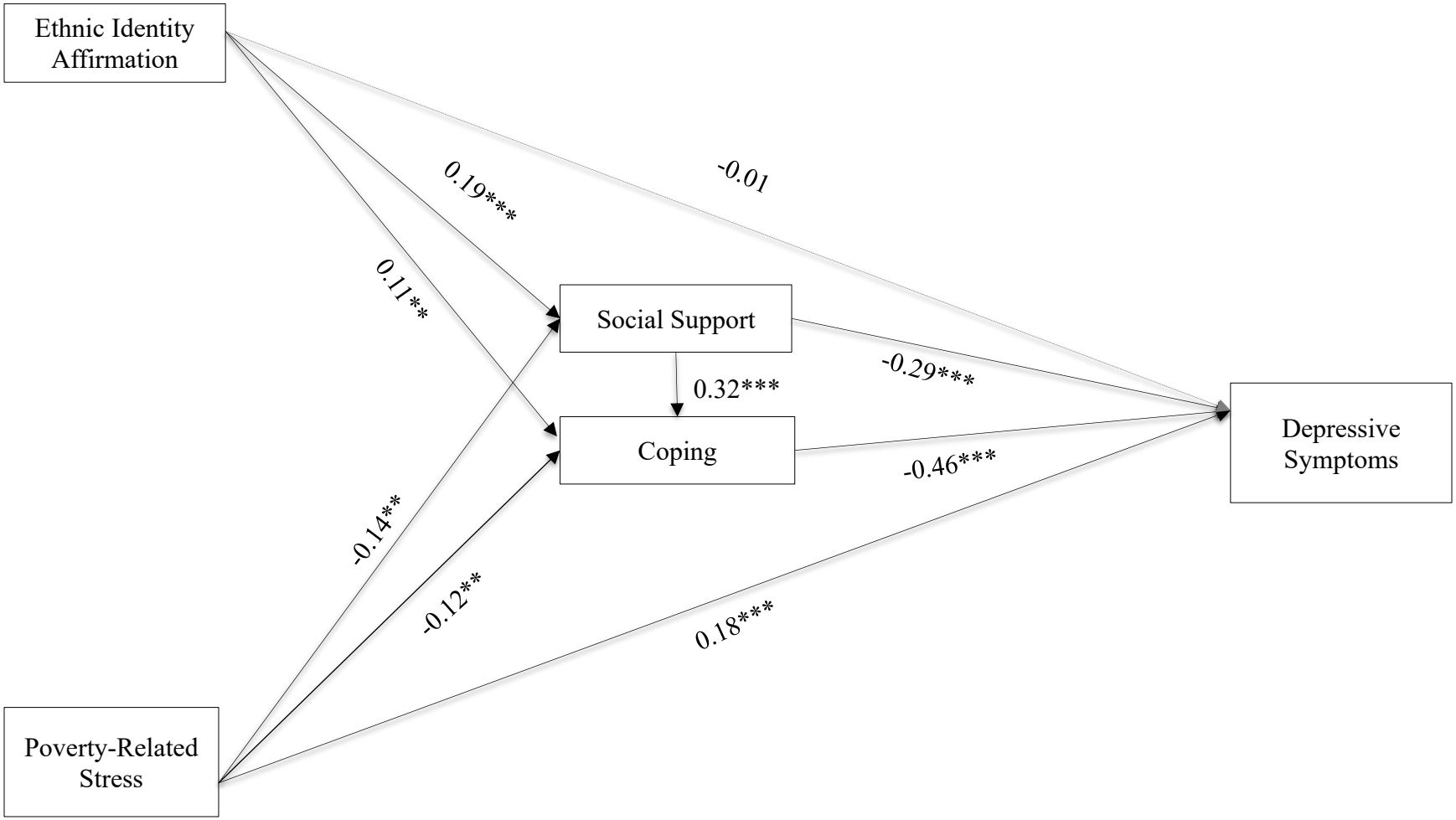

Figure 1. χ^2 (39) =35.93, p = 0.61, RMSEA <0.001, CFI = 1.00, TLI > 1.00, and SRMR = .03. Standardized results are reported. Dashed lines represent the non-significant paths. Covariates included in the model are partner's study variables, INR, highest parental education level and parental employment status. For the purpose of simplicity, covariates are not depicted. Note: *p<0.05, ** p<0.01,***p<.001.

Table 3

Unstandardized and standardized total, direct, indirect, and total indirect effects of poverty-related stress and ethnic identity on depressive symptoms and 95% bootstrap confidence intervals for standardized effects

	B (SE)	β	95% CI (LL, UL)
Direct Effects			
PRS → Dep	3.29***(0.57)	0.18	(0.12, 0.25)
PRS → Social Support	-1.33** (0.41)	-0.14	(-0.22, -0.05)
PRS → Coping	-0.18** (0.05)	-0.12	(-0.18, -0.04)
EI → Dep	-0.11 (0.36)	-0.01	(-0.07, 0.05)
EI → Social Support	1.23***(0.28)	0.19	(0.11, 0.27)
EI → Coping	0.11** (0.04)	0.11	(0.01, 0.16)
Social Support → Coping	0.05***(0.01)	0.32	(0.25, 0.39)
Social Support → Dep	-0.54***(0.07)	-0.29	(-0.37, -0.22)
Coping → Dep	-5.48***(0.40)	-0.46	(-0.52, -0.40)
R^2			
Social Support		0.08	(0.04, 0.13)
Coping		0.17	(0.12, 0.22)
Depression		0.49	(0.43, 0.54)
Indirect Effects			
PRS → Social Support → Dep	0.72**(0.24)	0.04	(0.01, 0.07)
PRS → Coping → Dep	0.98**(0.30)	0.06	(0.02, 0.09)
PRS → Social Support → Coping →Dep	0.36**(0.12)	0.02	(0.01, 0.03)
EI → Social Support → Dep	-0.67***(0.18)	-0.06	(-0.09, -0.03)
EI → Coping → Dep	-0.62**(0.21)	-0.05	(-0.09, -0.02)
EI → Social Support → Coping →Dep	-0.33***(0.09)	-0.03	(-0.04, -0.01)
Total PRS → Dep	2.06***(0.45)	0.12	(0.07, 0.16)
Total EI → Dep	-1.62***(0.33)	-0.14	(-0.19, -0.09)
Total Indirect Effects	**0.44 (0.54)**		
Total Effects	**3.62***(0.83)**		

Notes. PRS = Poverty-Related Stress, EI = Ethnic Identity Affirmation, Dep = Depressive Symptoms. SE = standard error; LL = 95% percentile bootstrap confidence interval lower limit; UL = 95% percentile bootstrap confidence interval upper limit

* $p<0.05$, ** $p<0.01$,*** $p<.001$.

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