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## Risk, Resilience, and Depressive Symptoms in Low-Income African American Fathers

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### Abstract

**Objective:** Parental depression influences family health but research on low-income African American fathers is limited. The primary goal of the present study was to examine the role of paternal risk factors and resilience resources in predicting depressive symptoms in the year after birth of a child in a sample of African American fathers. We hypothesized that paternal risk factors (low socioeconomic status, perceived stress, negative life events, racism, avoidant coping style) and resources (social support, self-esteem, collective efficacy, approach-oriented coping style) would predict depressive symptoms in fathers at one year post-birth controlling for depressive symptoms at one month post-birth.

**Methods:** African American fathers ( $n = 296$ ) of predominantly low SES from five U.S. regions were interviewed at one and 12 months after birth of a child regarding potential risk factors, resilience resources, and depressive symptoms.

**Results:** Depressive symptoms were low on average. However, hierarchical linear regression analyses revealed that avoidant coping style and experiences of racism predicted more depressive symptoms in fathers nearly a year after the birth of a child controlling for symptoms at one month.

**Conclusions:** How fathers cope with stress and common everyday experiences of racism contributed to depressive symptoms in the year following birth of a child. Interventions that target race-related stressors and decrease avoidant coping may promote better outcomes in this important and understudied population.

## Keywords

African American; fathers; stress; risk; resilience; depression

African American fathers, especially those who are living in or near poverty, are an understudied group but they are stereotyped in the media as uninvolved with their children and unconcerned about their parental role (Bosman, 2008). However, some qualitative and quantitative research shows that African American fathers are more likely to be involved in their children's lives than fathers of other ethnic/racial groups (Jones & Mosher, 2013; Toth & Xu, 1999), even when the relationship with the mother does not last (Danziger & Radin, 1990; Edin & Nelson, 2013; Edin, Tach, & Mincy, 2009; King, 1994). The small body of research on African American fathers has focused more often on effects on child well-being than on African American fathers' own psychological experience (Black, Dubowitz, & Starr, 1999; Carlson & Magnuson, 2011; Coley, 2001; Coley & Chase-Lansdale, 1999; McAdoo, 1993).

The psychological experience of African American fathers is important both in its own right and because of its effects on parenting. The prevalence of elevated depressive symptoms in new fathers is higher than among men in general (Bradley & Slade, 2011; Davé et al., 2010; Garfield et al., 2014) and can act as a barrier to involvement in parenting (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007). In a review of 26 studies on depression in fathers both during a partner's pregnancy and after birth. Wee, Skouteris, Pier, Richardson, and Milgrom (2011) found that the primary predictors of high paternal depressive symptoms were having a partner with elevated depressive symptoms and lower relationship satisfaction. Moreover, fathers' depression is associated with poorer relationship outcomes and psychological adjustment of other family members. For example, children of depressed fathers are more likely to develop internalizing and externalizing problems and to experience conflict with their fathers and exclusion by peers (Kane & Garber, 2004). In a study of African American fathers who were not residing with their children, higher depressive symptoms were related to less self-reported closeness and contact with the child, lower monitoring of the child, and higher father-child conflict (Davis, Caldwell, Clark, & Davis, 2009). Depression in fathers is also related to greater marital conflict (Cummings, Keller, & Davies, 2005) and increased risk of maternal depression (Paulson & Bazemore, 2010). Prior studies have exclusively focused on how fathers' depressive symptoms negatively impact their families but offer little insight into factors that contribute to a father's risk of developing depression after the birth of a child.

The goals of the current longitudinal study were to explore levels of depressive symptoms in a sample of African American fathers and to examine risk factors and resilience resources as predictors of fathers' depressive symptoms in the first year of a child's life, over and above commonly studied factors such as relationship satisfaction and maternal depression.

## Risk Factors for Depressive Symptoms in Fathers

Myers (2009) developed a biopsychosocial model of stressors and risk factors that may be related to mental and physical health disparities in low-income and ethnic minority

populations. Specifically, in this study we have taken into account how psychosocial adversities such as race-related stresses, chronic daily life stress, negative life events, and avoidant coping may influence depression in fathers. Research has demonstrated that these types of risk factors are harmful for health, especially for low-income minority populations (Williams, Jackson, & Anderson, 1997).

Stressors are defined as demands that tax or exceed the resources of the individual (Cohen et al., 1995). The contribution of perceived stress and more objective indicators of stress to depressive symptoms is well documented (Hammen, 2005; Stroud, Davila, & Moyer, 2008). Among fathers of infants and young children, stressors such as objective and subjective indicators of low SES (Bielawska-Batorowicz & Kossakowska-Petrycka, 2006), lower educational attainment (Dudley et al. 2001), living in low-rent housing, unemployment (Deater-Deckard, Pickering, Dunn, & Golding, 1998), and major negative life events (Deater-Deckard et al., 1998) are associated with greater depressive symptoms. Of 1,271 African American men over the age of 18 from the National Survey of American Life (NSAL) (Lincoln, Taylor, Watkins, & Chatters, 2011), men reported more depressive symptoms if they were younger (< 55 years), more impoverished, had fewer than 12 years of education, or were separated from their partners. Although this study did not examine parental status, their findings are important because the African American fathers in the current sample share characteristics of men at risk for depressive symptoms in the NSAL: most fathers in the sample are under age 55, living at or below the poverty line, and of low educational attainment.

Racism, defined as beliefs, attitudes, institutional arrangements, and acts that denigrate individuals because of race, is also relevant to psychological well-being in African Americans (Clark, Anderson, Clark, & Williams, 1999). In a meta-analysis of 66 studies with 18,140 African Americans participants, perceived racism was associated with psychological distress (Pieterse, Todd, Neville, & Helen, 2012). In a meta-analysis of 134 studies, results also indicated that perceived discrimination was related to adverse mental and physical health outcomes (Pascoe & Smart-Richman, 2009). Similarly, two large studies of African Americans document the association between perceived racism and depression. In a sample of 3,032 adults in the National Survey of Midlife Development in the United States, African Americans were more likely to report everyday discrimination than whites, and perceived discrimination was associated with greater risk of major depressive disorder in both African Americans and Whites (Kessler, Mickelson, & Williams, 1999). In a study of 1,659 African American (14%) and non-Hispanic White (86%) adults from the National Survey of Functional Health, 58% of the African Americans and only 10% of Whites reported experiencing racial discrimination (Ren, Amick, & Williams, 1999), and those who reported more discrimination, regardless of race, reported more depressive symptoms. These studies did not examine the experience of African American fathers specifically.

Dispositional coping styles are another risk factor associated with depressive symptoms in the general population (Carver, Scheier, & Weintraub, 1989). Coping styles are “cognitive and behavioral efforts made to master, tolerate, reduce, or minimize external and internal demands” (Folkman & Lazarus, 1980, p. 223). Avoidant coping is characterized by withdrawing from or denying a stressor (Carver, 2011). In a study of 1,211 adult men and

women followed over 10 years, adults who were high in avoidant coping at study entry reported more chronic and acute stressors four years later, which in turn predicted more depressive symptoms six years later (Holahan, Moos, Holahan, Brennan, & Schutte, 2005). Research on fathers is rare and findings are mixed. Marchand and Hock (2003) found that more avoidant coping behavior was related to higher levels of depressive symptoms in 51 white fathers, as well as more problems in their first grade children. Avoidant coping was not significantly related to depression in 122 Norwegian fathers of infants, however (Skari et al., 2000).

## Protective Factors for Depressive Symptoms in Fathers

Dunkel Schetter and Dolbier (2011) proposed a taxonomy of resilience resources developed for the study of low-income diverse populations and those experiencing chronic stress. Accordingly, we examined four resilience resources in this study that are included in the proposed taxonomy: (1) Self-esteem (an ego-related resource); (2) Social support (an interpersonal/social resource); (3) Collective efficacy (a cultural resource); and (4) Approach-oriented coping (a skill-based resource). Previous research has demonstrated that these resilience resources are adaptive in the presence of high stress in several different populations (Sampson, Raudenbush, & Earls, 1997; Suls & Fletcher, 1985; Twenge & Crocker, 2002; Uchino, 2006).

Resilience resources enable individuals to better manage their lives, persist, and grow in the context of trauma or long-term chronic stress (Dunkel Schetter & Dolbier, 2011). Psychosocial resilience resources such as self-esteem, social support, collective efficacy, and an approach-oriented coping style might serve protective functions in new fathers. Although higher self-esteem is related to lower depressive symptoms in the general population (Sowislo et al., 2013), and African Americans report higher self-esteem than whites (Twenge & Crocker, 2002), to our knowledge no prior studies have examined self-esteem and depressive symptoms among African American fathers.

Social support entails perceived or actual instrumental and/or expressive resources provided by confiding partners, social networks, and the community (Lin, 1986). In two studies of new fathers, greater social support was associated with lower depressive symptoms, but those studies are limited by small sample sizes and lack of racial/ethnic diversity (Bielawska-Batorowicz & Kossakowska-Petrycka, 2006; Castle, Slade, Barranco-Wadlow, & Rogers, 2008). Collective efficacy, defined as social cohesion among neighbors and willingness to intervene for the common good, is another relevant factor because parents of young children may need to draw on community resources during the demanding first year following the birth of child (Sampson, Raudenbush, & Earls, 1997). Collective efficacy was inversely related to major depression in women and men in an ethnically diverse sample (Ahern & Galea, 2011). However, this resource has not been examined in new fathers.

Approach-oriented coping involves efforts to actively address or resolve the stressor (e.g. plan, problem solve) and typically is uncorrelated or modestly correlated with avoidant coping (Carver, 2011). In general, an approach-oriented coping style has been shown to be more adaptive in the long term than avoidant coping with psychological outcomes such as

depression and anxiety (Suls & Fletcher, 1985), although no evidence on African American fathers is published to our knowledge.

In this study, we hypothesized that there would be a significant increase in depressive symptoms from one month to one year after the birth of a child (over 11 months). Furthermore, we hypothesized that fathers who screened above cutoff scores for possible or probable depressive disorders would report more risk factors and fewer resilience resources than fathers who did not. We also hypothesized that lower SES, higher perceived stress, more negative life events, and higher racism measured at one month after the birth of a child (T1) would be significant predictors of depressive symptoms for African American fathers over time after the birth of a child (T3), that is, after controlling for depressive symptoms at T1. Additionally, we hypothesized that perceived social support, self-esteem, and collective efficacy at one month would predict decreased depressive symptoms over time. Finally, in cross sectional analyses at one year after birth, we expected more avoidant coping and less approach-oriented coping to be associated with more depressive symptoms. Little research exists on whether resilience resources modify the relation between risk factors and depressive symptoms in fathers, specifically African American fathers.

## Method

### Community Child Health Network

Funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the Community Child Health Network (CCHN) is a multi-site network dedicated to understanding racial/ethnic health disparities in low-income minority groups. CCHN is composed of five sites (Baltimore, MD, Washington, D.C., Los Angeles, CA, Lake County, IL, and eastern North Carolina) that together used community-based participatory research methods (CBPR) to examine risk and resilience in low-income mothers and fathers of new infants from one month to 24 months after the child's birth, and allostatic load in the mothers. The sites represent rural (eastern North Carolina), urban (Baltimore, D.C., Los Angeles), and suburban environments (Lake County). For details on the network and CBPR see Ramey et al. (2014). The current study uses data from interviews administered at 1 month (T1) and 12 months (T3) after the child's birth.

### Participants

Of the 2,510 mothers in the study cohort, a total of 2,305 were in a relationship with the father, or indicated that the baby's father would be involved with the baby. Of these 2,305 mothers, 83% ( $n = 1,923$ ) gave study staff permission to contact the father. Nearly two-thirds of the fathers whom we approached if their partners permitted us to invite them enrolled in the study and completed the T1 interview at one month after birth ( $n = 1179$ ; 61%). Of those fathers, 522 were African American. Maternal characteristics related to father recruitment and retention included mothers being older, married to their baby's father, cohabiting with the baby's father, more educated, higher income, living in the same location for at least six months, being less exposed to interpersonal violence, and higher reported relationship satisfaction (Schafer et al., under review).

The final sample for the present study was 306 African American fathers who completed both the T1 and T3 assessments. Independent samples t-tests on psychological and demographic variables for fathers who completed the T3 ( $n = 306$ ) assessment versus those who completed T1 but did not complete T3 ( $n = 216$ ) demonstrated only one significant difference: fathers with one year (T3) data had significantly more perceived stress ( $M = 11.97$ ,  $SD = 6.70$ ) than fathers who dropped out ( $M = 10.16$ ,  $SD = 5.80$ ), ( $t(520) = 3.207$ ,  $p < .001$ ).

Regarding whether this was a man's first child, 48.5% were first-time fathers while 51.5% had children already. Independent samples t-tests on psychological and demographic variables for first-time fathers versus fathers who had children showed that first-time fathers had significantly higher income ( $M = 16510$ ,  $SD = 19359$ ) than fathers with children ( $M = 11301$ ,  $SD = 13002$ ,  $t(253) = 2.733$ ,  $p < .01$ ), significantly less negative life events ( $M = 3.51$ ,  $SD = 3.13$ ;  $M = 4.46$ ,  $SD = 3.71$ ,  $t(301) = -2.41$ ,  $p < .05$ ), and marginally significant lower impact of negative life events ( $M = 2.11$ ,  $SD = .63$ ;  $M = 2.26$ ,  $SD = .61$ ,  $t(295) = -1.92$ ,  $p = .06$ ).

Table 1 presents descriptive data. Based on predetermined enrollment targets derived from population estimates, African American fathers were recruited mainly from three of the five sites: Baltimore, Washington, D.C., and North Carolina. One month after the birth of the child, 35% of the fathers were not married to or cohabiting with their baby's mother, 41% were cohabiting with the mother but were not married to her, and 24% were both married and cohabiting with their baby's mother. At one year following birth of the child, the percentages were very similar. Over 50% of the fathers lived at or below 200% of the Federal Poverty Line (FPL), and three-quarters had a high school degree or less education. Slightly more than half were working either full- or part-time.

## Procedure

Mothers were recruited in the hospital following the birth of their child except in the NC site, where they were recruited at a prenatal clinic. Fathers were invited to participate if mothers gave permission to contact them. Informed consent was obtained from participants and they were interviewed in their homes or occasionally another convenient location by a team of trained staff drawn from the community and partnered academic institutions. Fathers were followed at the same intervals as mothers, every six months for two years and data from one month and 12 months is included here.

## Measures

### Risk factors

**Perceived stress.:** The 10-item Perceived Stress Scale (PSS) measures the degree to which an individual appraises life as stressful (Cohen & Williamson, 1988). Administered at T1, responses range from 0 (*never*) to 4 (*very often*). Because of potential confounding item overlap with the depressive symptoms measure, two scale items were deleted: (felt that you were on top of things; difficulties were piling up so high that you could not overcome them). The overlapping EPDS item is "things have been getting on top of me." The measure retained reasonably strong internal consistency ( $\alpha = .78$ ).

**Life events.:** Administered at T1, the 24-item Life Events Checklist was adapted from prior studies (Dominguez et al., 2005). Participants indicated whether they had experienced specific life events (e.g., recent move, death of a loved one) in the year prior to the birth of their child and these were summed into a Life Events Count score.

**Racism.:** The 10-item Everyday Discrimination Scale (Williams et al., 1997) measures chronic and routine experiences of unfair treatment (e.g., being treated with less courtesy than others, being followed in stores). Participants indicate how often they have experienced the events on a scale from 1 (*almost every day*) to 6 (*never*) and items are reverse coded. Participants who indicated that experiences of racism occurred (*less than once a year*) and (*never*) were coded as never having experienced that form of everyday racism. Participants then are asked to attribute the experiences to factors such as age and national origin. Higher scores indicate more frequent experiences of discrimination. The scale had good internal consistency reliability in this sample (Cronbach's  $\alpha = .77$ ) and the larger CCHN cohort of African American men (Cronbach's  $\alpha = .89$ ). This instrument was administered at T1 and was scored to include only experiences of discrimination that were attributed to race. Racism frequency (how often people reported experiences of racism) and racism count (number of different experiences they had) were highly correlated ( $r = .89$ ); as a result, only racism frequency was included in analyses.

**Avoidant coping.:** Administered at T3, the avoidant coping subscale was scored using ten items from the Brief COPE (Carver, 1997) with two items representing each of five dimensions: self-distraction, denial, substance use, behavioral disengagement, and self-blame. Participants were instructed to report how they generally cope when faced with stressful situations using a response scale ranging from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*). In this study, the internal consistency reliability was  $\alpha = .57$ .

### Resilience Resources

**Social support.:** Administered at T1, the 19-item Medical Outcomes Study Social Support Survey (Sherbourne & Stewart, 1991) assesses perceived social support from family and friends including emotional, informational, tangible, and affectionate support as well as positive social interactions. Responses range from 1 (*none of the time*) to 5 (*all of the time*). The instrument had strong internal consistency in the present study (Cronbach's  $\alpha = .95$ ).

**Self-esteem.—**Administered at T1, the 10-item Rosenberg Self-esteem Scale (Rosenberg, 1965) asks participants to what extent they agree with statements about themselves. Responses range from 1 (*strongly agree*) to 4 (*strongly disagree*). The scale had acceptable internal consistency reliability in this study (Cronbach's  $\alpha = .76$ ).

**Collective efficacy.—**Administered at T1, the 10-item scale to measure collective efficacy, (Sampson, Raudenbush, & Earls, 1997) measures the extent to which social cohesion is perceived to exist among neighbors. Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) and the scale exhibited lower internal consistency reliability in this sample (Cronbach's  $\alpha = .67$ ) than in the larger CCHN cohort of all fathers (Cronbach's  $\alpha = .86$ ).

**Approach-oriented coping.:** To assess approach-oriented coping, twelve items from the Brief COPE (Carver, 1997), were administered at T3 (six subscales of two items each on active coping, seeking emotional support, seeking instrumental support, positive reframing, planning, and acceptance). The instructions and responses were identical to those for avoidant coping. This measure exhibited acceptable internal consistency reliability in this sample (Cronbach's  $\alpha = .74$ ).

**Depressive Symptoms**—Administered at T1 and T3, Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987) includes 10 items assessing how often the respondent has experienced depressive symptoms over the last 7 days. Responses range from 1 (*no, not at all*) to 4 (*yes, quite a lot*). Originally developed to measure maternal postpartum depressive symptoms, the EPDS is also a valid and reliable measure in fathers (Cronbach's  $\alpha = .81$ ; Matthey et al., 2001). Higher scores indicate greater depressive symptoms. Alpha coefficients at both times in this sample were comparable (T1  $\alpha = .79$ ; T3  $\alpha = .78$ ). Because the EPDS scores were not normally distributed, a log transformation was also conducted on depressive symptoms; these analyses are not included in the final paper because there was no difference in statistical significance or magnitude of the relationship.

### Demographics

**Socioeconomic status.:** Self-reported years of education and per capita household income adjusted for cost of living in the site or region, here referred to as household income, were used as indicators of socioeconomic status (SES). Of note, the variability in SES in this sample is curtailed by study design to emphasize those of lower SES.

**Relationship Status.:** At T1 and T3, fathers indicated whether or not they were married to their baby's mother and cohabited with their baby's mother. We created a dichotomous variable to indicate married and/or cohabiting versus not married or cohabiting. There were five fathers who were married but not cohabiting, but due to the small sample size, their data were not used in analyses.

**Covariates**—In order to control for factors potentially explaining hypothesized effects we controlled two variables. One item from the Dyadic Adjustment Scale (Spanier, 1976) administered at T3, was used to control for relationship satisfaction: "Taking all things considered, how satisfied with you are your relationship right now?" Responses range from 1 (very satisfied) to 5 (very dissatisfied), higher scores indicate lower relationship satisfaction. We calculated whether a father was a first-time father from available data and scored it as no/yes. Previous research suggests that relationship satisfaction and marital quality predict paternal depression (Kouros, Papp, Goetze-Morey, & Cummings, 2014).

Fathers in Baltimore reported significantly fewer years of education, significantly less depressive symptoms at T3, significantly fewer experiences of racism, significantly less collective efficacy, and significantly more approach-oriented coping than fathers in the other sites combined. There were no significant differences in age, household income, perceived stress, life event count, avoidant coping, self-esteem, social support, and depressive symptoms at T1. Therefore, Baltimore vs other sites is controlled in analyses.

## Data Analysis Plan

First, we calculated descriptive statistics and correlations as well as a paired-samples t-test to determine whether depressive symptoms changed significantly from T1 to T3. Next, independent samples t-tests were conducted on study variables to test for significant differences between fathers who met the cutoff for possible or probable clinical depression ( $EPDS > 9$ ) and fathers who were non-symptomatic ( $EPDS \leq 9$ ; Areias, Kumar, Barros, & Figueiredo, 1996).

Hierarchical linear regression analyses were performed to determine whether risk factors and resilience resources were related to depressive symptoms at T3, controlling for T1 depressive symptoms. In all models, T3 depressive symptoms was the dependent variable and T1 depressive symptoms were entered in Step 1. Sites (Baltimore vs other sites combined), relationship satisfaction, parity status (first-time fathers vs. not first-time fathers), and relationship status (cohabiting and/or married vs neither) were entered in Step 2 as covariates. In Model 1, Step 3 included all the risk and resilience variables. In Model 2, Step 3 included the four risk variables and in Model 3, Step 3 included the four resilience variables. We tested the interactions of demographic variables with risk factors and resilience resources prior to including any demographic variables as covariates.

Regression analyses utilized only complete cases, but descriptive statistics used all available data; sample size varies slightly for some analyses. The Full Information Maximum Likelihood procedure, with 40 multiple imputations was also conducted to predict values for the missing data ( $n = 216$ ) on study variables. Analytic results were the same and reported findings use the unimputed data.

## Results

### Descriptive Findings

Descriptive statistics for risk and resilience variables are presented below. On average, fathers reported perceived stress as occurring “rarely” ( $M = 9.84$ ,  $SD = 5.38$ ). Fathers reported nearly four negative life events in the past year ( $M = 3.92$ ,  $SD = 3.29$ ) that were rated on average as “somewhat negative or undesirable.” Approximately three types of everyday discrimination experiences were reported on average ( $M = 2.79$ ,  $SD = 3.15$ ), with the most common experiences being “people act as if they are better than you” and “people act as if they think you are not smart.” Over half of the sample of fathers ( $n = 166$ ) reported at least one experience of everyday racism in their everyday life. These experiences occurred on average “less than once a year” or a “few times a year” ( $M = 5.61$ ,  $SD = 7.68$ ). On average, fathers were relatively low in avoidant coping style (i.e. “I haven’t been doing this at all” to “I’ve been doing this a little bit;  $M = 18.92$ ,  $SD = 4.96$ ), and fathers reported perceiving social support fairly often or very often ( $M = 85.34$ ,  $SD = 17.24$ ), and fairly high self-esteem ( $M = 26.42$ ,  $SD = 3.09$ ). In contrast, they were neutral to only slightly in agreement concerning the collective efficacy of their neighborhoods ( $M = 33.17$ ,  $SD = 6.31$ ). In general, fathers were high in an approach-oriented coping style (i.e., “I’ve been doing this a medium amount” to “I’ve been doing this a lot”;  $M = 37.41$ ,  $SD = 6.31$ ). Finally, these fathers reported low mean levels of depressive symptoms overall at both T1 ( $M = 4.15$ ,  $SD =$

4.26) and T3 ( $M = 3.88$ ,  $SD = 4.02$ ). At both T1 and T3, 11% of the sample was above cutoffs for probable or possible depression and 89% of the sample was under the clinically suggestive cutoff of 9 on the EPDS.

There was no significant difference between mean depressive symptoms at T1 and T3 ( $t(305) = 1.13$ ,  $p = .26$ ). There was substantial range and variability in depressive symptoms, with 11% of the sample possibly or probably depressed (EPDS = 9 to 12, or > 12 respectively) at each time point. Very few fathers screened high at both time points; only one father had possible depression at both T1 and T3, and six fathers had probable depression at T1 and T3).

### Correlations among Study Variables

Depressive symptoms at T1 and T3 were moderately correlated ( $r = .50$ ;  $p < .001$ ). Perceived stress at T1 was correlated significantly with depressive symptoms at both T1 ( $r = .68$ ) and T3 ( $r = .41$ ), both  $p < .001$ . Number of life events, racism (count and frequency), and avoidant coping style were positively correlated with depressive symptoms at both T1 and T3 ( $r = .15$  to  $r = .47$ , all  $p$ 's  $< .05$ ). Social support, self-esteem, and collective efficacy were negatively correlated with T1 and T3 depressive symptoms ( $r = -.13$  to  $r = -.48$ , all  $p$ 's  $< .05$ ). In addition, the predictor variables were significantly inter-correlated ( $r = .13$  to  $r = .36$ , all  $p$ 's  $< .05$ ). Household income was significantly, though weakly, correlated with depressive symptoms at T1 ( $r = -.11$ ,  $p < .05$ ) and was not significantly correlated with T3 symptoms. Neither approach-oriented coping nor years of education were significantly correlated with depressive symptoms. (A full correlation matrix is available from authors.)

### Differences between Depressed Fathers and Non-Depressed Fathers at T1 in Risk and Resilience

As shown in Table 2, independent samples t-tests showed that fathers with subthreshold EPDS scores at T1 reported significantly lower perceived stress, fewer negative life events, less frequent experiences of racism, higher self-esteem, more social support, and less avoidant coping than fathers who had EPDS scores suggestive of clinical depression. Mean differences between depression groups on these variables were identical at T3 (results not shown and available from authors). At both time points, there were no significant differences by depression group in household income, years of education, collective efficacy, or approach-oriented coping.

### Risk and Resilience Predicting Depressive Symptoms at T3

Initial analyses were conducted to examine whether demographic variables (marital and cohabitation status, and age) and the hypothesized predictors interacted in prediction of depressive symptoms. Analyses revealed no significant interaction effects.

Table 3 depicts Model 1 results for the full set of risk and resilience variables predicting T3 depressive symptoms after controlling for T1 depressive symptoms, site, relationship status, father parity status, and relationship satisfaction, ( $R^2 = .13$ ,  $F(10, 226) = 5.04$ ,  $p < .001$ ). Avoidant coping was the only significant individual predictor. Reporting higher avoidant coping scores was significantly associated with greater depressive symptoms.

The full set of risk variables explained a significant amount of variance in T3 depressive symptoms after controlling for T1 depressive symptoms, site, relationship status, first-time father, and relationship satisfaction, ( $R^2 = .12$ ,  $F(6,236) = 8.09$ ,  $p < .001$ ). Avoidant coping was the only significant individual predictor ( $\beta = .31$ ,  $p < .001$ ,  $r_{a(b,c)}^2 = .08$ ). Racism was a marginally significant predictor ( $\beta = .10$ ,  $p = .10$ ,  $r_{a(b,c)}^2 < .01$ ). Reporting higher avoidant coping scores and more frequent experiences of racism were significantly associated with greater depressive symptoms at T3.

The full set of resilience variables did not account for significant variance in T3 depressive symptoms after controlling for T1 depressive symptoms, site, relationship satisfaction, first-time father, and relationship status ( $R^2 < .01$ ,  $F(4, 239) = .54$ ,  $p = .70$ ). Moreover, none of the individual resilience variables were significant predictors.

Table 4 shows the final, parsimonious model with nonsignificant predictors removed. In the pared model, depressive symptoms at T1 accounts for 25% of variance with racism, and avoidant coping accounting for 11% of the variance.

## Discussion

This is one of the first studies to examine depressive symptoms in fathers during the year after birth of a child, which includes the postpartum period, and it is the only study with a fairly large community sample of low-income African American fathers recruited from five parts of the United States including urban and rural sites. In contrast, most studies of paternal depression have been done in countries other than the U.S. or with homogenous, small, and higher income U.S. samples. The longitudinal design provided the opportunity to examine the issue of risk and resilience early in the first year after the birth of a child — a vulnerable time period for families adjusting to a new baby – and with implications for later paternal mental health. The community participatory methodology helped to identify risk and resilience resources for study, improved selection of measures, and increased our ability to recruit and retain this vulnerable population. This study also explored numerous risk factors whereas previous studies focused mainly on maternal depression and poor relationship satisfaction.

We found mixed support for our hypotheses. Avoidant coping style was a significant predictor of depressive symptoms at T3 when controlling for depressive symptoms at baseline. Racism at one month after a child's birth was also significant predictor of depressive symptoms at one year after the birth of the child, after controlling for depressive symptoms one month after birth. None of the other risk factors or resilience resources predicted depressive symptoms one year after the birth after controlling for one month depressive symptoms and other covariates. Of note, all of the resilience resources we studied were significantly, inversely correlated with depressive symptoms cross-sectionally (at each assessment) in the directions expected.

Avoidant coping style was related to depressive symptoms despite lower internal consistency reliability for that measure. Nonetheless, the measure of avoidant coping style is generally considered to be a fairly stable individual difference (Carver, Scheier, & Weintraub, 1989)

and the significant relationship between avoidant coping and depressive symptoms in this study conforms to existing cross-sectional findings linking avoidant coping and greater depressive symptoms (West, Donovan, & Roemer, 2010). Although causality cannot be inferred, these results suggest that avoidant coping may not be the best way to deal with situations that many fathers face during infancy, such as caring for a crying baby. More active forms of coping such as problem solving and seeking support are probably better alternatives for these fathers, although it is important to note that approach-oriented coping was not a significant predictor of fewer depressive symptoms. Coping skills interventions designed to increase approach-oriented coping strategies and decrease avoidant coping strategies have been shown to increase quality of life and decrease stress in people with HIV (Chesney et al., 2003) and in caregivers of people with terminal illness (McMillan et al., 2006). Such interventions may be worth exploring for low income fathers generally.

In addition, men who reported more frequent everyday experiences of racism one month after the birth of their child reported more depressive symptoms nearly one year later, controlling for baseline depressive symptoms. Racism was not a significant predictor when entered into the model with all other risk factors and resilience factors, and it was only a marginally significant predictor in the model with all the risk factors and covariates were entered into the equation. However, racism was significant at  $p < .05$  in our parsimonious model. Past research has demonstrated the pernicious effects of racism on adverse mental and physical health outcomes in many populations (Jackson et al., 1995; Schmitt, Branscombe, Postmes, & Garcia, 2014; Watkins et al., 2006; Williams & Mohammed, 2009). These effects have been attributed in part to feelings of helplessness and hopelessness that accompany being a target of racism (Clark, Anderson, Clark, & Williams 1999). Our results extend previous research by demonstrating that racism is an important risk factor for depression among African American fathers of infants. In the larger study cohort, Dunkel Schetter et al. (2013) reported higher rates of racism in Black fathers in comparison to Latino or White fathers.

Guerin (2005) identified several types of common everyday racist actions (i.e., distrust, name-calling, rudeness, jokes/teasing, being ignored), as well as possible individual interventions for each type of discrimination. However, these interventions may not be available to individuals whose life circumstances constrain their choices with regard to educational and employment opportunities. In a meta-analysis of 134 studies, Pascoe and Smart-Richman (2009) found that perceived discrimination was related to depressive symptoms and other mental and physical health outcomes. Moreover, they point out that in a few studies active coping buffered the relationship between discrimination and health while passive coping augmented the relationship. Of note, we did some analyses on interactions of risk and resource variables that yielded no significant findings (results not shown). Nonetheless, interventions may help African American fathers learn strategies for coping with stress and particularly those that reduce the impact of racism on their mental health and well-being may be worth consideration.

This study also adds to the evidence that low SES African Americans fathers do not consistently report high symptoms of depression despite socioeconomic disadvantages and the racism they experience. There was no significant change in depressive symptoms from

T1 to T3 and fathers in this sample reported relatively lower depressive symptoms compared to other African American representative samples (Kessler et al., 1999; Ren et al., 1999), which may have attenuated the magnitude of associations with depressive symptoms. It is possible that fathers willing to participate in the study were somewhat better adjusted on average than the larger population from which they were drawn (Chung, Meldrum, Jones, Brown, & Jones, 2014), although these fathers were higher in perceived stress than those who dropped out by one year. Despite the relatively low rates of depression, two risk factors emerged as potentially potent. However, all of the resilience resources were significantly, inversely correlated with depressive symptoms at each assessment point. In addition, *t*-tests revealed significant differences in social support, self-esteem, and approach-oriented coping between fathers who were possibly or probably depressed and fathers who were not. Yet, these specific resources did not appear to protect against changes in depressive symptoms over time in this study. Multicollinearity does not explain these null findings because the correlations among resilience resources were small to moderate ( $r = .07$  to  $.39$ ), and tolerance values did not indicate redundancy among predictors. The fathers reported on average fairly high social support, self-esteem, and approach-oriented coping and moderate levels of collective efficacy, which may have worked against power to detect effects of resilience resources. Nonetheless, in this sample, the putative risk factors appeared more potent than the resilience resources in predicting depressive symptoms at one year when symptoms at study entry were taken into account.

In addition to having low depressive symptoms on average, the fathers in this sample reported fairly low perceived stress, a finding which differs from results on other African American men (Cohen & Williamson, 1988). Fathers may have been subject to social desirability when responding to interview items, although they reported relatively high numbers of life events and in an attempt to prevent bias, interviews were conducted in the participants' homes usually by same-race interviewers. Another possibility is that these fathers may have had more resources than the population from which they were drawn with which to reduce perceived stress in the face of many life events. Because mothers gave permission for the researchers to contact the fathers, a sampling bias may have occurred toward fathers with a relatively positive relationship with the mother and life circumstances in general (Schafer et al., under review). Fathers' willingness to participate may also reflect greater involvement with their babies.

Baltimore fathers were less educated, but also less depressed at one year after birth and reported fewer experiences of racism, although they did not differ from fathers in other sites on age, income, stress, coping, resources or depressive symptoms at one month. Due to these differences, we entered site as a covariate (Baltimore vs. other sites). CCHN is not sure why Baltimore fathers look a bit different from those in other sites on these variables, but there are a few possibilities. We may have a more or less representative sample in any particular site given slight differences in recruitment methods, or staff and community partners. Another possibility may point to the different natures of the communities studied. To consider this, we explored differences between our one rural, our three urban, and our one suburban community and found no significant differences on this variable. The North Carolina sample was recruited from a prenatal clinic, not after birth in hospital as at the other sites. To examine this, we conducted independent samples *t*-test to explore any

differences in study variables between NC and the others, and found that fathers in the North Carolina site reported only more negative life events and more approach-oriented coping. There were no significant differences on any other variables. Overall, the site differences were not extensive and do not seem to drive our findings.

The period of time after a new child comes into a family by birth is a critical one for families — not only for mothers who have just given birth— but fathers as well. This study is rare in its focus on African American fathers of infants. A recent call for greater emphasis on fathers in maternal child health (Lu et al., 2010) reminds us how little we know about the role of fathers in the family (compared to mothers, that is), and especially about African American fathers whose mental and physical health has been understudied. Future research should also consider how partner relationships between low-income mothers and fathers, and in African American couples, affect mental health during the postpartum period. Furthermore, it is important to explore how a father's stress or resilience resources affect his partner's depressive symptoms and vice versa. Although many of the risk and resilience factors were not predictive of depressive symptoms in fathers, they may ultimately affect an individual father's relationship with the baby's mother and overall functioning of the family. Answering these sorts of questions may give us the opportunity to understand the family as a unit and shed more light on maternal, paternal and child health in important subgroups of the American population.

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- (1) Baltimore, Maryland: Baltimore City Healthy Start and Johns Hopkins University; Community principal investigator (PI): M. Vance; Academic PI: C. S. Minkovitz; Coinvestigators: P. O'Campo and P. Schafer; Project coordinators: N. Sankofa and K. Walton.
- (2) Lake County, Illinois: Lake County Health Department and Community Health Center, and the North Shore University Health System; Community PI: K. Wagenaar; Academic PI: M. Shalowitz; Coinvestigators: E. Adam, G. Duncan\*, A. Schoua-Glusberg, C. McKinney, T. McDade, and C. Simon; Project coordinator: B. Clark-Kauffman.
- (3) Los Angeles, California: Healthy African American Families, Cedars-Sinai Medical Center, and University of California, Los Angeles; Community PI: L. Jones; Academic PI: C. Hobel; Coprincipal investigators: C. Dunkel Schetter and M. C. Lu; Coinvestigator: B. Chung; Project coordinators: F. Jones, D. Serafin, and D. Young.
- (4) North Carolina: East Carolina University, North Carolina Division of Public Health, North Carolina Eastern Baby Love Plus Consortium, and University of North Carolina, Chapel Hill; Community PIs: S. Evans, J. Ruffin, and R. Woolard; Academic PI: J. Thorp; Coinvestigators: J. DeClerque, C. Dolbier, and C. Lorenz; Project coordinators: L. S. Sahadeo and K. Salisbury.
- (5) Washington, DC: Virginia Tech Carilion Research Institute, Virginia Tech, Washington Hospital Center, and Developing Families Center; Community PI: L. Patchen; Academic PI: S. L. Ramey; Academic coprincipal investigator: R. Lanzi; Coinvestigators: L. V. Klerman, M. Miodovnik, C. T. Ramey, and L. Randolph; Project coordinator: N. Timraz; Community coordinator: R. German.
- (6) Data Coordination and Analysis Center (Pennsylvania State University); PI: V. M. Chinchilli; Coinvestigators: R. Belue, G. Brown Faulkner\*, M. Hillemeier, I. Paul, and M. L. Shaffer; Project coordinator: G. Snyder; Biostatisticians: E. Lehman and C. Stetter; Data managers: J. Schmidt, K. Cerullo, and S. Whisler; Programmers: J. Fisher, J. Boyer, and M. Payton.

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(8) Steering committee chairs: M. Phillippe (University of Vermont) and E. Fuentes-Afflick\* (University of California—San Francisco School of Medicine).

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**Table 1***Sample Characteristics (n = 306)*

<b>Demographic Variables</b>	<b>Mean (SD) or n (%)</b>	<b>Range</b>
Age	27.80 (6.95)	17 – 58
Per capita Household Income *	\$13821 (\$16,515)	\$0 – 104,690
Federal Poverty Level (FPL)		
<100% FPL	102 (33.3%)	
>100%–200% FPL	65 (21.2%)	
>200% FPL	130 (45.4%)	
Relationship Status at T3		
Married and Cohabiting	78 (25.9%)	
Not Married, Cohabiting	104 (34.6%)	
Not Married and Not Cohabiting	114 (37.9%)	
Site		
Baltimore	99 (32.4%)	
Chicago	18 (5.9%)	
Los Angeles	22 (7.2%)	
North Carolina	81 (26.5%)	
Washington D.C.	86 (28.1%)	
Education		
Less than High School	65 (21.5%)	
High School, GED, Certificate	157 (52%)	
Some college, no 4 year degree	61 (20.2%)	
4 year degree or higher	19 (6.3%)	
Employment		
Working full-time	126 (41.3%)	
Working part-time	44 (14.4%)	
Unemployed	101 (33.1%)	
Other	34 (11.1%)	

Note: N varies because some participants were missing demographic information

\* Adjusted for cost of living

**Table 2**  
Independent Samples T-Tests Comparing Possibly/Probably Depressed (EPDS > 9) and Non-Symptomatic Fathers (EPDS ≤ 9) at T1

	Depressed Fathers		Non-Depressed Fathers		<i>t</i>	<i>df</i>
	Mean ( <i>SD</i> )	<i>n</i>	Mean ( <i>SD</i> )	<i>n</i>		
Household Income	\$12,286 (20,255)	35	\$14,019 (\$16,003)	271	0.58	304
Years of Education	11.77 (1.82)	35	12.45 (2.06)	271	1.87	304
Perceived Stress	16.31 (4.98)	35	8.99 (4.84)	269	-8.39***	302
Life Event Count	7.22 (3.68)	35	3.50 (3.11)	271	-5.74***	304
Frequency of Racism	9.74 (11.19)	35	5.06 (6.94)	267	-2.42 <sup>††</sup> *	38
Social Support	66.62 (21.28)	35	87.78 (15.06)	269	5.70 <sup>††</sup> ***	39
Self-Esteem	22.63 (3.32)	35	26.92 (2.70)	271	7.32***	304
Collective Efficacy	31.31 (7.62)	35	33.41 (6.09)	270	1.57 <sup>††</sup>	40
Approach-oriented Coping	37.12 (6.41)	34	37.45 (6.40)	267	-.29	297
Avoidant Coping	24.15 (6.06)	33	18.27 (4.41)	265	5.40 <sup>††</sup> ***	36

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>††</sup> = equal variance not assumed.

**Table 3**

Risk Factors, Resilience Resources and Covariates Predicting T3 Depressive Symptoms Controlling for T1 Depressive Symptoms

	$R^2$	$\beta$	$r_{a(b,c)}^2$
Step 1	.27***		
T1 EPDS		.52***	.27
Step 2	.04*		
T1 EPDS		.49***	.23
Site		-.15*	.02
Relationship Satisfaction		.12*	.01
Relationship Status		-.08	.01
Step 3	.13***		
T1 EPDS		.24*	.02
Site		-.14*	.02
Relationship Satisfaction		.05	<.01
First Time father		.01	<.01
Relationship Status		-.08	<.01
Household Income		-.01	<.01
Years of Education		.05	<.01
Perceived Stress		.09	<.01
Life Events (Number)		.07	<.01
Avoidant Coping		.34***	.08
Frequency of Racism		.08	<.01
Approach-Oriented Coping		-.04	<.01
Self-Esteem		-.01	<.01
Social Support		-.03	<.01
Collective Efficacy		-.03	<.01
Total $R^2$	.43***		

$p < .05$ ,

\*\*  
 $p < .01$ ,

\*\*\*  
 $p < .001$ , ( $n = 199$ )

$t^2$  = squared semi-partial correlations

**Table 4**

Risk Factors Predicting T3 Depressive Symptoms Controlling for T1 Depressive Symptoms

	$R^2$	$\beta$	$r_{a(b,c)}^2$ <sup>f</sup>
Step 1	.27***		
T1 EPDS		.52***	.27
Step 2	.03*		
T1 EPDS		.49***	.23
Site		-.14*	.02
Relationship Satisfaction		.12*	.01
First Time Father		.02	<.01
Relationship Status		-.08	<.01
Step 3	.11***		
T1 EPDS		.33***	.09
Site		-.13*	.02
Relationship Satisfaction		.07	<.01
First Time Father		.03	<.01
Relationship Status		-.06	<.01
Avoidant Coping		.33***	.09
Frequency of Racism		.13*	.01
Total $R^2$	.41***		

 $p < .05$ ,\*\*  
 $p < .01$ ,\*\*\*  
 $p < .001$ , ( $n = 206$ )<sup>f</sup>  
= squared semi-partial correlations