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The Relationship between Parental Efficacy and Depressive Symptoms in a Diverse Sample of Low Income Mothers

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Abstract

We examined the relationship between parental efficacy and depressive symptoms in a diverse sample of low income mothers. The sample consisted of 607 European American, African American, and Hispanic mothers who participated in The Early Steps Project, a multi-site, longitudinal, preventative intervention study. Parental efficacy was found to be significantly associated with depressive symptoms in the entire sample of low income mothers. Ethnicity moderated results, however, such that parental efficacy was significantly associated with depressive symptoms for European American mothers but was not for the African American and Hispanic mothers. Ethnic differences in the various categories of depressive symptoms (i.e., total, somatic, and psychological) were also explored, with the results showing that African American mothers reported higher levels of depressive symptoms than both European American and Hispanic mothers in each of the categories. The theoretical and clinical implications of these results are discussed.

Keywords

Parental efficacy; Depressive symptoms; Low income; Mothers; Ethnicity

Introduction

Maternal depression has been linked to child outcomes both indirectly through compromises in parenting (Goodman 1992) and directly, through both genetics and modeling of passive, critical, and unresponsive behavior (Shaw et al. 2007). First, maternal depression has been associated with dysfunctional parenting such as increased hostility, decreased response to child behavior, and diminished emotional involvement (Cohn et al. 1990; Hammen 2003; Gordon et al. 1989; Weissman et al. 1972), which in turn, has been linked to risk for a variety of child problem behaviors, including depression and conduct problems, as well as social and achievement deficits (Anderson and Hammen 1993; Billings and Moos 1983; Goodman et al. 1993). Second, transmission of risk for child psychopathology may also be transferred from

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depressed parents to offspring via genetics and through modeling of poor emotion regulation strategies (Kovacs and Devlin 1998).

Low levels of parental efficacy have been shown to serve as a risk factor for maternal depression in predominately European American middle class samples (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991). The term "risk" refers to the probability of an undesirable outcome (Masten 1994). Risk factors are conditions or statuses that are statistically related to an increased probability of a negative outcome or adjustment difficulty in the future (Luthar and Cicchetti 2000; Masten 2001; Masten and Garmezy 1985). In the current study, we seek to determine if parental efficacy is a potential risk factor for increased levels of depressive symptoms within low income and ethnic minority mothers by examining the relationship between the variables.

Parental efficacy is a derivative of the concept of self-efficacy which refers to a belief in one's capabilities to organize and execute the course of action required to attain a goal (Bandura 1997). Parental efficacy, a specialized type of self-efficacy, is defined as the extent to which parents believe they can influence the context in which their child is growing (Shumow and Lomax 2002). Thus, if someone is highly efficacious in regards to their parenting skills, they are confident they have the skills needed for effective parenting. The reverse is true for parents with low levels of efficacy. Accordingly, efficacy expectations often determine the amount of effort people will expend and how long they will persist in the face of obstacles and adverse experiences (Bandura 1977). Efficacy expectations can be developed from various sources, such as personal accomplishments, vicarious experience, verbal persuasion, and physiological states, and has been found to regulate human functioning through both cognitive and emotional processes, such as depression (Bandura 2000).

Perceived parenting expectations are significantly related to both parenting practices and child outcomes (Shumow and Lomax 2002; Swick and Hassell 1990; Teti and Gelfand 1991) and play a key role in the adaptation to parenthood (Williams et al. 1987). Specifically, parental efficacy has been consistently shown to have a negative correlation with maternal depressive symptoms (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991). Halpern and McLean (1997) found that mothers who have high parental efficacy beliefs experienced less psychological distress than mothers with low parental efficacy beliefs. In their study, Halpern and McLean examined the degree to which infant and maternal characteristics were related to maternal psychological distress and play competence in 40 mother–infant dyads. Their findings revealed that maternal psychological distress was predicted primarily by maternal self-efficacy.

Context, defined as the interrelated conditions in which something exists or occurs, is highly important in affecting a person's behavior and affect. In the current study, we will examine two important contexts—socioeconomic status and ethnicity—which have often been overlooked in the research on parental efficacy and maternal depression. In the studies (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991) that have examined the relationship between maternal depression and parental efficacy, many of the samples consisted of all European American participants. In addition, studies have relied primarily on middle class parents, with 70–80% of the mothers reporting some college education and many reporting having college or graduate school degrees. In Cutrona and Troutman's (1986) study, 63% of the mothers held a bachelor's degree or had some graduate training. A low income, ethnically diverse population was utilized in the Halpern and McLean (1997) study; however, the findings of the ethnic group differences were not reported in their study. Thus, it is important to see if the results found in the previous studies of the relationship between parental efficacy and maternal depression (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and

Gelfand 1991) hold true within seldom studied populations, such as low income and ethnically diverse mothers.

When studying depressive symptoms within minority groups, it is important to keep in mind there may be differences in the way that ethnic minorities experience and express depressive symptoms. Much of the research on ethnic differences in depressive symptoms has focused on African Americans, and European Americans, finding that African Americans experience more somatic or physical symptoms than European Americans, who are more likely to experience psychological symptoms (Ayalon and Young 2003; Mills et al. 2004; Myers et al. 2002).

Ayalon and Young (2003) found that European and African American outpatient clients differed on nearly 50% of the items on the Beck depression inventory (BDI; Beck et al. 1996). Specifically, African American patients reported more somatic items, such as sleep disturbance, loss of appetite, loss of libido, weight changes, and sense of punishment than did European Americans who reported more cognitive items such as pessimism, dissatisfactions, self-blame, and suicidal ideation. Racial group differences were not significantly attenuated once demographic variables were taken into consideration.

The research related to ethnic differences in the depressive symptoms of Hispanics is both limited and conflicting. Some studies find that non-acculturated Hispanic American women endorse more positive affect depressive symptoms than somatic depressive symptoms (Nguyen et al. 2007) while other studies report that less acculturated Hispanic men and women exhibit higher levels of depressive symptoms because of low levels of positive affect (Ramos 2005; Iwata et al. 2002). These findings are in contrast to other studies which have found that Hispanic adolescents have a greater tendency to express distress somatically, (Kolody et al. 1986) possibly differentiating less between physical illness and psychological distress (Angel and Thoits 1987; Guarnaccia et al. 1989). Due to the great variability of depressive symptom categories across both gender and age groups among Hispanic Americans, it is important to explore the depressive symptomatology of low income Hispanic mothers in order to see how depressive symptoms are presented in that specific subsample of Hispanic Americans. Thus, in light of the previous research regarding ethnic differences in depressive symptoms, we decided to examine whether parental efficacy affects both somatic and psychological depressive symptoms comparably or differently across ethnic groups.

The first major goal of the current study is to examine how the contextual factors which have been neglected in the past research, socioeconomic status and ethnicity, influence the relationship between parental efficacy and maternal depression. With respect to this goal, we want to determine if parental efficacy is associated with maternal depression in a low income sample of African American, European American, and Hispanic mothers. Second, we also want to examine if somatic and psychological depressive symptoms vary across European American, African American, and Hispanic mothers and also how parental efficacy may be differentially related to depressive symptom categories across ethnic groups.

In terms of hypotheses, first we expect to find a negative association between parental efficacy and depressive symptoms across the entire sample. Second, we expect this association to be qualified by ethnicity, with stronger negative associations for European American versus African American and Hispanic mothers. Third, regarding symptoms of depression, based on past research (Ayalon and Young 2003; Myers et al. 2002; Skarupski et al. 2005), we expect that African Americans will endorse higher levels of somatic symptoms than European Americans, while European Americans will endorse higher levels of psychological symptoms than African Americans. Since the past research on ethnic differences in depressive symptoms has primarily focused on African Americans and European Americans, the types of depressive symptoms that the Hispanic mothers will present cannot be predicted and, thus, will be

exploratory in nature. Finally, we expect parental efficacy will be significantly associated with somatic symptoms for African Americans, but will not be significantly associated with psychological symptoms for African Americans. Likewise, we expect parental efficacy will be significantly associated with psychological symptoms for European Americans but will not be significantly associated with somatic symptoms for European Americans.

Methods

Participants

The sample consisted of 607 mothers who participated in The Early Steps Project, a multi-site, longitudinal, preventative intervention focusing on reducing the early emergence of aggressive and withdrawn behavior in young children. Participants in this study were recruited from women, infants, and children (WIC) program waiting centers in Charlottesville, Virginia, Pittsburgh, Pennsylvania, and Eugene, Oregon. Researchers approached families waiting in the WIC center for appointments and asked them to participate in the study if they had a child aged 21–33 months old. Parents were screened based on three categories of risk factors for child behavioral problems related to their socioeconomic status, family, and child. Specifically, in order to meet criteria for the socioeconomic risk factor the families had to have a total income that was within the range of eligibility for WIC services (the income level varies based on family size) and also have less than or equal to 2 years of post-secondary education. In order to meet criteria for the parental risk factor the families had to endorse at least one of the following factors: moderate level of depression; moderate level of stress related to child's behavior; use of drugs, alcohol, or mental health services within the past year; or teen child birth. In order to meet criteria for the child risk factor the families had to endorse at least one of the following factors: twelve or more problems checked on a child behavior checklist; high intensity score on child behavior checklist; or a low score on adult-child relationship scale. Mothers who met inclusion criteria of having at least 2 out of the 3 risk factors received a phone call inviting them to engage in the larger study. Seven hundred and thirty-one of the mothers meeting eligibility criteria agreed to participate further in the study. The entire sample includes mothers of European American, African American, Asian American, Native Americans, Hispanic, and biracial descent.

In the current analyses, we examined a sample which consisted of 607 mothers of 2-year-old children (353 European Americans, 189 African Americans, and 65 Hispanics). The mean age of the mothers was 26 years (SD = 5.93) with a range of 16–46. About 41% of the mothers had their first child when they were less than 19 years of age. The mean level of the mothers' educational attainment was a high school degree. The mean gross family income was $10,000–14,999 per year. About 64% of the families reported living at or below the federal poverty level which varies by the size of the household and ranged from $14,680 to 18,810 for families of sizes three to four people, respectively, when the participants were sampled in 2003 (US Census Bureau 2004).

Procedure

Researchers approached mothers at the WIC center and asked them if they would like to complete a packet of questionnaires for a study on "the terrible twos." The mothers who agreed to participate were paid $10 to fill out screening questionnaires focused specifically on parental depression, parenting stress, child behavior problems and adult–child relationship. After a large sample of mothers was surveyed (N = 1,666), the mothers that were eligible for the study (N = 879) were contacted by telephone and invited to participate further in the study. A research team would then meet the mothers that agreed to participate (N = 731) at their house for 3-hour home visit which consisted of parents completing additional written questionnaires and

engaging in a series of observational tasks with their 2-year-old child. Parents were reimbursed $100 for engaging in the 3-hour home visit.

The research teams were comprised of 2–3 staff members: a lead examiner, videographer, and babysitter if non-target children were present in the home during the visit. All of the members of the research team underwent training prior to beginning the home visits to learn the protocol. In addition, all of the lead examiners held a bachelors degree and took part in a formalized certification process, which required the approval of both a local and a site-wide Assessment Coordinator and also regular performance evaluations every 3 months.

Measures

Center for Epidemiological Studies-Depression—(Radloff 1977)—The Center for Epidemiological Studies-Depression (CES-D) is a 20-item measure of depressive symptoms with scoring based upon the American Psychiatric Association Diagnostic and Statistical Manual (DSM-IV). Parents rated on a 4-point scale of how frequently an event occurred during the last 2 weeks ("I felt that everything I did was an effort"). Factor based scores include depressive affect, somatic symptoms, positive affect, and interpersonal relationships. The author reported acceptable internal consistency reliability across groups with varying levels of depressive symptoms (Cronbach's alpha = .85 in a general sample and .90 in a clinical sample) as well as construct validity evidence. The tests of internal consistency of the CES-D for the current sample were acceptable (see Table 1).

Parenting Sense of Competency Scale—(Gibaud-Wallston and Wandersman 1978; as cited in Johnston and Mash 1989)—The parenting sense of competency scale (PSOC) is 16-item measure of parental competence that includes two subscales: Efficacy and Satisfaction. The 7-item Efficacy subscale, which assesses parents' perceptions of the degree to which they have acquired the skills and understanding to be a good parent, was utilized in the current study. Participants rated items on a 6-point scale, with response options ranging from strongly agree to strongly disagree. Johnston and Mash (1989) provided construct validation for the PSOC and found the Efficacy subscale possessed sufficient internal consistency reliability, with an obtained Cronbach's alpha of .76. The tests of internal consistency of the Efficacy subscale for the current sample were acceptable (see Table 1).

Analyses

Several methods were utilized to analyze the data for the current study. An ANOVA was conducted to ascertain the overall differences between the African American, European American, and Hispanic participants across the depressive symptom categories and parental efficacy. Following this analysis, several hierarchical regressions were conducted in order to determine the influence of parental efficacy on depression. The regressions were conducted using the "enter" method in SPSS. Three predictor variables were entered in two blocks of the regression. Per capita income and education were entered into the first block of the regression in order to control for the effect of these variables on the relationship between parental efficacy and depression. Parental efficacy was entered in the second block of the regression and the individual depressive symptoms categories served as the outcome variables in each of the different regressions.

The somatic and psychological depressive symptom scores were calculated based on the items from the factor analysis conducted by the original author of the CES-D (Radloff 1977). The somatic depressive symptoms include items relating to behaviors such as the appetite and sleeping behavior of the subject, while the psychological depressive symptoms include items from the depressive affect factor, such as sadness, depressed mood, and loneliness. Confirmatory factor analyses were conducted on both the somatic, $\chi^2 = 117.20$, $df = 27$, Tucker–

Lewis index (TLI) = .88, comparative fit index (CFI) = .93, and psychological, $\chi^2 = 234.80$, *df* = = 27, TLI = .85, CFI = .91, depressive symptom categories and both showed adequate fit for the current sample.

Results

Before addressing the hypotheses of this study, we examined whether the two variables of interest, parental efficacy and maternal depression, were independent constructs. First, an exploratory factor analysis using principal factors extraction with varimax rotation was performed on the 7-items from the Efficacy subscale of the PSOC and the 20-items from the CES-D for the entire sample of 607 African American, European American, and Latino mothers. This analysis yielded three factors that accounted for 41% of the variance. Factor 1 included all of the items from the CES-D except two items related to positive affect ("Felt just as good as others" and "Hopeful about future"). Factor 2 included all of the items from the Efficacy subscale of the PSOC. Factor 3 included four items from the CES-D that were related to positive affect. Communality values were generally low. With a cutoff of .35 for inclusion of a variable in interpretation of a factor, all 27-items loaded onto at least one of the three factors. Two variables in the solution, "Happy" and "Enjoyed life," both from the CES-D measure, were complex, loading on to both factors 1 and 3. Factors 1 and 3 were moderately correlated with each other ($r = .33$), while factor 2 had very low correlations with factor 1 ($r = -.07$) and 3 ($r = -.09$). Due to the significant overlap in items and correlations between factors 1 and 3 (both from the CES-D), we decided to combine the factors for the analyses in the current study. While future studies should explore the differences in the fit of CES-D across diverse groups, we wanted to be consistent with the previous studies (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991) and examine depression in the traditional sense (i.e., using the original depressive symptom scores developed in Radloff 1977) in order to make the results of the current study relatable to the previous research.

In order to confirm that parental efficacy and depression were independent constructs and appropriate for use in the current sample, a confirmatory factor analyses was conducted. Thus, two models were developed and tested for adequacy of fit in the current sample. The first model included one latent variable that was composed of all of the 27 observed variables from both the CES-D and the Efficacy subscale of the PSOC. The second model included two latent variables, one for parental efficacy and another for depression, and seven observed efficacy variables and the 20 observed depression variables which were associated with each of their respective latent variables. The results showed that for the first model $\chi^2 = 1{,}662.21$, $df = 324$, RMSEA = .083, and for the second model $\chi^2 = 987.07$, $df = 323$, RMSEA = .058. The $\Delta\chi^2 = 675.13$ and $\Delta df = 1$ are significant at the $p < .001$, which indicates that the second model, in which parental efficacy and depression are independent constructs fits the data better than the first model, in which they are the same construct. Thus, based on both the exploratory factor analyses and the confirmatory factor analysis, we determined that parental efficacy is an appropriate construct for the current sample independent of depression.

We also took our analyses of parental efficacy as an independent construct a step further by examining the predictive validity of parental efficacy over and above other parenting concepts such as maternal depression. Using the total child behavior score from the child behavior checklist (Achenbach and Edelbrock 1991), a measure that was filled out by the mothers in the current sample during their home visit, as an outcome variable, we conducted a hierarchical regression using the "enter" method in which maternal depression was entered in the first block and parental efficacy was entered in the second block. The results showed that parental efficacy was a significant predictor of child behavior outcomes over and above maternal depression, $F(2, 588) = 12.54$, $p < .01$, $R^2 = .04$, $\Delta R^2 = .02$, indicating that parental efficacy adds to the variance in child outcomes predicted by other parenting variables such as maternal depression.

Group Effects

Analyses of group differences were conducted for the overall level of depressive symptoms, psychological depressive symptoms, somatic depressive symptoms, and parental efficacy (see Tables 2, 3). A one-way ANOVA revealed that there were significant between group differences for all of the variables except parental efficacy, F (2, 604) = 3.11, p = .05. In regard to specific ethnic differences, African Americans and European Americans significantly differed on all the depressive symptom categories. Also, African Americans reported significantly higher scores than Hispanic mothers for the total and somatic depressive symptom categories. The Hispanic (M = 7.80, SD = 5.74) and European American (M = 9.36, SD = 5.43) mothers, however, only showed a significant difference with regard to their somatic symptoms, $p < .05$.

Regressions

A series of regressions were performed in order to test the hypotheses in the current study. The results of the regression in the whole sample of mothers show that when education and per capita income are controlled for in the first step of the regression, the regression involving parental efficacy as a predictor of total depressive symptoms is significant, F (3, 603) = 4.13, $p < .01$, $R^2 = .01$, $\Delta R^2 = .02$.

In order to examine ethnicity as a context for the relationship between parental efficacy and maternal depression, hierarchical regressions were run on each of the individual samples of the ethnic groups for each of the categories of depressive symptoms (i.e., total, somatic, and psychological) with parental efficacy as the predictor (see Table 4).

In the sample that was limited to European Americans, two of the regressions were significant. After controlling for both education and per capita income in the first step of the regression, parental efficacy was found to be a significant predictor of total depressive symptoms, F (3, 344) = 3.43; $p < .05$, and psychological depressive symptoms, F (3, 344) = 3.68; $p < .05$. The overall regression that examined the association between parental efficacy and somatic depressive symptoms was not significant, F (3, 344) = 1.97; $p > .05$. However, the regression coefficient for parental efficacy was significant, $\beta = -.12$; $p < .05$.

In contrast, in the sample that was limited to African Americans, none of the regressions were significant. Thus, after controlling for education and per capita income in the first step of the regressions, parental efficacy was not significantly associated with the level of total depressive symptoms, F (3, 185) = 1.44; $p > .05$; psychological depressive symptoms, F (3, 185) = 1.37; $p > .05$; or somatic depressive symptoms for African Americans, F (3, 185) = 1.14; $p > .05$.

Similar to the results of the African Americans, in the sample that was limited to the Hispanic mothers, none of the regressions were significant. Thus, after controlling for education and per capita income in the first step of the regressions, parental efficacy was not significantly associated with the level total depressive symptoms, F (3, 61) = 2.00; $p > .05$; psychological depressive symptoms, F (3, 61) = 2.71; $p > .05$; or somatic depressive symptoms F (3, 61) = .56; $p > .05$. Although the overall regressions were not significant, parent efficacy had significant regression coefficients in the equations predicting total depressive symptoms, $\beta = -.30$; $p < .05$, and psychological symptoms for Hispanic mothers, $\beta = -.34$; $p < .05$.

Discussion

In the current study, we examined the relationship between parental efficacy and depressive symptoms in a low income sample of ethnically diverse mothers. In addition to finding the anticipated association between parental efficacy and total maternal depressive symptoms

across the entire sample, the results of the current study also point to differential effects for parental efficacy in the prediction of depressive symptoms across ethnic groups.

Consistent with previous research which found a significant relationship between parental efficacy and maternal depression (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991), the results of the current study support the hypothesis that parental efficacy is associated with the total level of depressive symptoms in a low income sample of mothers. After controlling for education and per capita income, parental efficacy was significantly associated with the CES-D total score of the whole sample of low income mothers.

Also consistent with previous research (Cutrona and Troutman 1986; Teti and Gelfand 1991), we found that parental efficacy was significantly associated with both the total level of depressive symptoms and the psychological depressive symptoms for the European American sample of mothers. After controlling for education level and per capita income, the regression that looked at parental efficacy as a predictor of somatic depressive symptoms was not significant. These findings may indicate that psychological symptoms are better indicators of the overall presentation of depression in European American mothers than somatic symptoms. In contrast, parental efficacy failed to show a significant relationship with all of the depressive symptom categories in African American mothers after controlling for both education and per capita income. Thus, our hypothesis that parental efficacy would significantly influence somatic symptoms in African Americans was not supported by the data.

The results for the sample of Hispanic mothers are less clear. The overall results of the current models for the Hispanic mothers were similar to the findings for the African American mothers. However, the specific effect of parental efficacy was significantly associated with the total and psychological depressive symptoms for the Hispanic mothers. Moreover, the literature on Hispanic mothers with regard to the relationship between parental efficacy and depressive symptoms is sparse. More research is needed in order to parse out the relationship among parental efficacy, depressive symptoms, and socioeconomic status among Hispanic mothers. Thus, the results of the current study with regard to the Hispanic sample of mothers should be interpreted with caution.

Similar to previous research (Ayalon and Young 2003; Brown et al. 1996; Iwata et al. 2002; Mills et al. 2004), the results of the current study support the hypothesis that African American mothers are more likely to report somatic symptoms than European American mothers. The African American mothers in this sample were also more likely to report higher levels of psychological symptoms as well when compared to European American mothers, however, and reported higher levels of depressive symptoms in general when compared to both the European American and Hispanic mothers. Although several studies have shown that African American women are more likely to report higher levels of somatic depressive symptoms than European American women (Ayalon and Young 2003; Brown et al. 1996; Iwata et al. 2002; Mills et al. 2004), there are also a few other studies that have found that African Americans are also more likely to report higher levels of psychological depressive symptoms as well (Myers et al. 2002).

Due to the ethnic differences found in the level of depressive symptoms, the lack of an association between parental efficacy and depression among the African American mothers is of particular interest. Based on the previous research (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991) it is assumed that higher levels of depressive symptoms should be associated with lower levels of parental efficacy. However, in the current study, the African American mothers had significantly higher levels of depressive symptoms than the European American and Hispanic mothers and there was not a significant difference between the levels of parental efficacy that each ethnic group endorsed. There was also no

significant association between parental efficacy and depression in the African American mothers. Thus, it is possible that African American mothers in this sample have developed adaptive strategies, such as the establishment of extended families and social role flexibility (Harrison et al. 1990), that protect their sense of parental efficacy from being affected by their depressed mood.

Overall, the results of the current study suggest that although parental efficacy may be predictive of depressive symptoms in European American mothers, it is not predictive of depressive symptoms in African American mothers and the findings are less clear in Hispanic mothers. Thus, there may be other contextual factors that influence the depressive symptoms in African American and Hispanic mothers besides parental efficacy.

Although not the primary focus of the current study, the results of the exploratory and confirmatory factor analyses conducted in the current study also have significant implications for the future research. Although several studies have shown that parental efficacy is significantly related to both parenting practices and child outcomes (Shumow and Lomax 2002; Swick and Hassell 1990; Teti and Gelfand 1991), few studies have shown that parental efficacy is a valid construct independent of other variables related to parenting. In 1997, the prominent self-efficacy researcher, Albert Bandura, recognized the existence of parental efficacy as a construct and outlined several ways in which it affects both parents and children, such as emotional adjustment, parent-child relationship, and child behavior problems. He did not, however, specify how parental efficacy differs from related concepts. A few researchers have taken steps to develop parental efficacy as an independent construct. For instance, Wells-Parker et al. (1990) found that parental efficacy was factorially distinct from other measures of self-efficacy related to one's occupation, economy, and marriage in a diverse sample of women. Recent studies have also shown that the concept of parental efficacy is statistically different from related parenting concepts such as parenting acceptance and parental coping strategies (Coleman and Karraker 2003). The results of the current study add to the field by showing that parental efficacy is both factorially distinct from a measure that is closely related to parenting outcomes, maternal depression, and also adds to the variance in child behavior outcomes explained by maternal depression. More research is needed in order to provide further insights as to how parental efficacy differs from other parenting constructs, such as self-efficacy.

The present study has several limitations that must be addressed. First, all of the data used in the analyses for the current study comes from self-report measures, which raises the potential for bias due to the subjective nature of the data. In the future multiple methods of data collection should be utilized to lessen the chance of bias.

Second, several of the previous studies (Ayalon and Young 2003; Myers et al. 2002) which found ethnic differences in the experience of somatic and psychological depressive symptoms utilized the BDI as a measure of depressive symptoms instead of the CES-D. All of the questions on the BDI were designed to fit into either the somatic or psychological category, whereas specific questions from the CES-D fit into the categories of somatic and psychological but were not designed to address those symptom areas. The CES-D was chosen for data collection by the Early Steps Project prior to the conceptualization of the current project. The discrepancy between the ethnic differences in somatic and psychological symptoms found in the current study and the ethnic differences found in previous studies may be attributed to the variance in the use of instruments of measurement.

Third, the results of the current study should be interpreted with caution due to the measure used to assess parental efficacy. The ethnicity of the participants in the samples was omitted from past reports of the PSOC scale's reliability (Johnston and Mash 1989; Ohan et al.

2000). Although the samples used in the tests of reliability (Johnston and Mash 1989; Ohan et al. 2000) were described as diverse across socioeconomic levels, it is likely the participants were ethnically homogeneous. Thus, as suggested in a study conducted by Zayas et al. (2005) which examined parenting competency in pregnant and post-partum minority women, it is possible the PSOC may lose validity and reliability when used with an ethnically diverse group of low income women. An instrument developed to be more sensitive in measuring parental efficacy across ethnic minority groups may be needed.

Finally, another limitation of this study is that no casual inferences can be made from the cross-sectional data. Thus, in order to determine if parental efficacy is predictive of the depressive symptom levels among European American mothers as opposed to their level of depressive symptoms predicting their sense of parental efficacy, longitudinal data needs to be examined.

Despite the limitations of the current study, our results show that there are significant ethnic differences in the relationship between parental efficacy and depressive symptoms. For low income European American mothers, how they feel about their parenting skills (parental efficacy) affects their level of depressive symptoms. In contrast, for African American and Hispanic mothers, their feelings about their parenting skills are not associated with their level of depressive symptoms after controlling for their education and income level.

The theoretical implication of this research is that it provides more insight into the concept of parental efficacy. Although previous studies (Cutrona and Troutman 1986; Halpern and McLean 1997; Teti and Gelfand 1991) have depicted parental efficacy as consistently being associated with maternal depression, the results of the current study show that the association is not consistent across all ethnic groups. Thus, whereas it was previously thought that a mother's sense of parental efficacy is susceptible to change based on her affective experience, the results of our study suggest that in some ethnic groups parental efficacy may be resistant to change even in the face of high levels of depressive symptoms.

The clinical implication of this research is that intervention programs focused on increasing parental efficacy may be effective in decreasing the level of depressive symptoms in European American mothers, but not in African American mothers. Thus, creators of intervention programs may need to look for different techniques in order to decrease the level of depressive symptoms in mothers from ethnic minority groups.

As can be seen from previous research (Cutrona and Troutman 1986; Halpern and McLean 1997; Hammen 2003; Herwig et al. 2004; Teti and Gelfand 1991), maternal depression can have major impacts on the behavioral and psychological well being of both the mother and her child. Thus, it is paramount that interventions be developed that target the factors that predict the development of depression among mothers, especially in high risk samples such as low income and ethnically diverse populations. Future research should try to identify the specific contextual factors that influence depression in African American and Hispanic mothers in order to help develop interventions for these populations. In regard to the relationship between parental efficacy and maternal depression, Halpern and McLean (1997) noted that it is possible that self-efficacy or feelings of parenting competence may make a greater impact on the mother–child dyad and concepts like maternal depression with the passage of time. Thus, future research should replicate the current study with parents who have older children and more parenting experience in order to see if that affects the relationship between parental efficacy and depression in both low income and diverse populations of mothers.

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References

Achenbach, TM.; Edelbrock, C. Manual for the child behavior checklist. Burlington, VT: University of Vermont; 1991.

Anderson CA, Hammen CL. Psychosocial outcomes of unipolar depressed, bipolar, medically ill, and normal women: A longitudinal study. Journal of Consulting and Clinical Psychology 1993;61:448–454.10.1037/0022-006X.61.3.448. [PubMed: 8326046]

Angel R, Thoits P. The impact of culture on the cognitive structure of illness. Culture, Medicine and Psychiatry 1987;11:465–494.10.1007/BF00048494.

Ayalon L, Young MA. A comparison of depressive symptoms in African Americans and White Americans. Journal of Cross-Cultural Psychology 2003;34:111–124.10.1177/0022022102239158

Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review 1977;84:191–215. 10.1037/0033-295X.84.2.191. [PubMed: 847061]

Bandura, A. Self-efficacy: The exercise of control. New York, NY: W. H. Freeman; 1997.

Bandura, A. Self-efficacy: The foundation of agency. In: Perrig, WJ.; Grob, A., editors. Control of human behavior, mental processes, and consciousness: Essays in honor of the 60th birthday of August Flammer. Mahwah, NJ: Lawrence Erlbaum Associates; 2000. p. 17-33.

Beck, AT.; Steer, RA.; Brown, GK. Manual for the Beck Depression Inventory-II. San Antonio, TX: Psychological Corporation; 1996.

Billings AG, Moos RH. Comparison of parents with unipolar depression: A controlled 1-year follow-up. Journal of Abnormal Child Psychology 1983;11:483–486.10.1007/BF00917076.

Brown C, Schulberg HC, Madonia MJ. Clinical presentations of major depression by African Americans and Whites in primary medical care practice. Journal of Affective Disorders 1996;41:181–191.10.1016/S0165-0327(96)00085-7. [PubMed: 8988450]

Cohn JF, Campbell SB, Matias R, Hopkins J. Face-to-face interactions of postpartum depressed and nondepressed mother–infant pairs at 2 months. Developmental Psychology 1990;26:15–23.10.1037/0012-1649.26.1.15.

Coleman PK, Karraker KH. Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. Infant Mental Health Journal 2003;24:126–148.10.1002/imhj.10048.

Cutrona CE, Troutman BR. Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. Child Development 1986;57:1507–1518.10.2307/1130428. [PubMed: 3802975]

Goodman, S. Understanding the effects of depressed mothers on their children. In: Walker, EF.; Cornblatt, B.; Dworkin, R., editors. Progress in experimental personality and psychopathology research. Vol. 15. New York, NY: Springer; 1992. p. 47-109.

Goodman SH, Brogan E, Lynch ME, Fielding B. Social and emotional competence in children of depressed mothers. Child Development 1993;64:516–531.10.2307/1131266. [PubMed: 8477632]

Gordon D, Burge D, Hammen C, Adrian C, Jaenicke C, Hiroto D. Observations of interactions of depressed women with their children. The American Journal of Psychiatry 1989;146:50–55. [PubMed: 2912250]

Guarnaccia PJ, Angel R, Worobey JL. The factor structure of the CES-D in the Hispanic health and nutrition examination survey: The influences of ethnicity, gender, and language. Social Science and Medicine 1989;29:85–94. 10.1016/0277-9536(89)90131-7. [PubMed: 2740931]

Halpern LF, McLean WE. Hey mom, look at me! Infant Behavior and Development 1997;20:515–529.10.1016/S0163-6383(97)90040-0.

Hammen C. Interpersonal stress and depression in women. Journal of Affective Disorders 2003;74:49–57.10.1016/S0165-0327(02)00430-5. [PubMed: 12646298]

Harrison AO, Wilson MN, Pine CJ, Chan SQ, Buriel R. Family ecologies of ethnic minority children. Child Development 1990;61:347–362.10.2307/1131097.

Herwig JE, Wirtz M, Bengel J. Depression, partnership, social support and parenting: interaction of maternal factors with behavioral problems of the child. Journal of Affective Disorders 2004;80:199–208.10.1016/S0165-0327(03)00112-5. [PubMed: 15207933]

Iwata N, Turner RJ, Lloyd DA. Race/ethnicity and depressive symptoms in community-dwelling young adults: A differential item functioning analysis. Psychiatry Research 2002;110:281–289.10.1016/S0165-1781(02)00102-6. [PubMed: 12127478]

Johnston C, Mash EJ. A measure of parenting satisfaction and efficacy. Journal of Clinical Child Psychology 1989;18:167–175.10.1207/s15374424jccp1802_8.

Kolody B, Vega W, Meinhardt K, Bensussen G. The correspondence of health complaints and depressive symptoms among Anglos and Mexican Americans. The Journal of Nervous and Mental Disease 1986;174:221–228.10.1097/00005053-198604000-00005. [PubMed: 3958703]

Kovacs M, Devlin B. Internalizing disorders in childhood. Journal of Child Psychology and Psychiatry and Allied Disciplines 1998;39:47–63.10.1017/S0021963097001765.

Luthar SS, Cicchetti D. The construct of resilience: Implications for interventions and social policies. Development and Psychopathology 2000;12:857–885.10.1017/S0954579400004156. [PubMed: 11202047]

Masten, AS. Resilience in individual development: Successful adaptation despite risk and adversity. In: Wang, M.; Gordon, E., editors. Risk and resilience in inner city America: Challenges and prospects. Hillsdale, MJ: Erlbaum; 1994. p. 3-25.

Masten AS. Ordinary magic: Resilience process in development. The American Psychologist 2001;56:227–238.10. 1037/0003-066X.56.3.227. [PubMed: 11315249]

Masten, AS.; Garmezy, N. Risk, vulnerability, and protective factors in the developmental psychopathology. In: Lahey, BB.; Kazdin, AE., editors. Advances in clinical child psychology. New York, NY: Plenum; 1985. p. 1-51.

Mills T, Alea N, Cheong J. Differences in the indicators of depressive symptoms among a community sample of African–American and White older adults. Community Mental Health Journal 2004;40:309–331.10.1023/B:COMH.0000035227.57576. 46. [PubMed: 15453084]

Myers HF, Lesser I, Rodriguez N, Bingham-Mira C, Hwang W, Camp C, et al. Ethnic differences in clinical presentation of depression in adult women. Cultural Diversity & Ethnic Minority Psychology 2002;8:138–156.10.1037/1099-9809.8.2.138. [PubMed: 11987591]

Nguyen HT, Clark M, Ruiz RJ. Effects of acculturation on the reporting of depressive symptoms among Hispanic pregnant women. Nursing Research 2007;56:217–223. 10.1097/01.NNR.0000270027.97983.96. [PubMed: 17495578]

Ohan JL, Leung DW, Johnston C. The parenting sense of competency scale: Evidence of a stable factor structure and validity. Canadian Journal of Behavioural Science 2000;32:251–261.10.1037/h0087122.

Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement 1977;1:385–401.10.1177/014662167700100306.

Ramos BM. Acculturation and depression among Puerto Ricans in the mainland. Social Work Research 2005;29:95–105.

Shaw DS, Dishion TJ, Connell A, Wilson MN, Gardner F. Maternal depression as a mediator of intervention in reducing early child problem behavior. Development and Psychopathology. 2007 manuscript submitted for publication.

Shumow L, Lomax R. Parental efficacy: Predictor of parenting behavior and adolescent outcomes. Parenting, Science and Practice 2002;2:127–150.10.1207/S15327922PAR0202_03.

Skarupski KA, de Leon CFM, Bienias JL, Barnes LL, Everson-Rose SA, Wilson RS, et al. Black–White differences in depressive symptoms among older adults over time. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences 2005;60:136–142.

Swick KJ, Hassell T. Parental efficacy and the development of social competence in young children. Journal of Instructional Psychology 1990;17:24–32.

Teti DM, Gelfand DM. Behavioral competence among mothers of infants in the first year: The mediational role of maternal self-efficacy. Child Development 1991;62:918–929.10.2307/1131143. [PubMed: 1756667]

US Census Bureau. Income, poverty, and health insurance coverage in the US: 2003 (current population reports, P60-226). Washington, DC: US Government Printing Office; 2004.

Weissman MM, Paykel ES, Klerman GL. The depressed woman as a mother. Social Psychiatry 1972;7:98–108. 10.1007/BF00583985.

Wells-Parker E, Miller DI, Topping JS. Development of control-of-outcome scales and self-efficacy scales for women in four life roles. Journal of Personality Assessment 1990;54:564–575. [PubMed: 2348342]

Williams TM, Joy LA, Travis L, Gotowiec A, Blum-Steele M, Aiken LS, et al. Transition to motherhood: A longitudinal study. Infant Mental Health Journal 1987;8:251–265. 10.1002/1097-0355(198723)8:3<251::AID-IMHJ2280080308> 3.0.CO;2-U.

Zayas LH, Jankowski KRB, McKee MD. Parenting competency across pregnancy and postpartum among urban minority women. Journal of Adult Development 2005;12:53–62.10.1007/s10804-005-1285-2.

Table 1

Tests of internal consistency for the current samples

Group	Cronbach's alpha	
	CESD	Parental efficacy
Whole sample	.89	.74
African Americans	.88	.75
Hispanics	.89	.71
European Americans	.88	.74

Table 2

Analysis of variance for depressive symptoms and parental efficacy

Variable	*df*	*F*	η_p^2	*p*
Dep. symptoms				
Total	2	6.35*	.02	.00
Somatic	2	7.01*	.02	.00
Psychological	2	7.13*	.02	.00
Parental efficacy	2	3.11	.01	.05

* $p < .01$

Table 3

Comparison of means for African American mothers compared to European American mothers and Hispanic mothers

Variable	African Americans (*n* = . 189)	European Americans (*n* = . 353)	Hispanics (*n* = 65)
	M	*M*	*M*
Dep. symptoms			
Total	18.72 (11.31)	15.65** (10.05)	15.14* (11.26)
Somatic	10.49 (9.36)	9.36* (5.43)	7.80** (5.74)
Psychological	7.68 (6.61)	5.69** (5.42)	6.11 (6.00)
Parental efficacy	33.32 (4.62)	32.69 (4.52)	31.74 (4.99)

Standard deviations are in parentheses

* $p < .05$,

** $p < .01$—European American and Hispanic women were compared to African American women

Table 4

Summary of hierarchical regression analyses predicting depressive symptom categories

Variable	*B*			*SE B*			*β*			R^2			ΔR^2		
	T[a]	P[a]	S[a]	T	P	S	T	P	S	T	P	S	T	P	S
Black															
Step 1										.02	.02	.02			
Income	−2.40	−1.29	−1.07	1.20	.69	.63	−.15*	−.14	−.12	–	–	–			
Education	−.39	−.25	.12	.89	.51	.47	−.03	−.04	.01	–	–	–			
Step 2										.02	.02	.02	.00	.00	.00
Income	−2.39	−1.31	−1.05	1.2	.69	.64	−.15*	−.14	−.12	–	–	–			
Education	−.37	−.27	.14	0.90	.52	.47	−.03	−.04	.02	–	–	–			
ParEffic.	.03	−.06	.07	.18	.11	.10	.01	−.04	.05	–	–	–			
Hispanic															
Step 1										.01	.02	.01			
Income	−.60	.06	−.41	2.28	1.21	1.17	−.04	.01	−.05	–	–	–			
Education	−.74	−.57	−.15	1.05	.56	.54	−.09	−.14	−.04	–	–	–			
Step 2										.09	.11	.03	.08†	.09†	.02
Income	−2.06	−.82	−.81	2.03	1.2	1.2	−.12	−.09	−.09	–	–	–			
Education	−1.04	−.75	−.23	1.02	1.54	1.54	−.13	−.18	−.06	–	–	–			
ParEffic.	−.67	−.41	−.18	.30	.16	.16	−.30*	−.34*	−.16	–	–	–			
White															
Step 1										.01	.01	.00			
Income	−1.60	−.80	−.41	.92	.49	.49	−.10	−.09	−.05	–	–	–			
Education	−.44	−.20	−.17	.53	.28	.28	−.05	−.04	−.03	–	–	–			
Step 2										.03	.03	.02	.02	.02	.02
Income	1.52	−.75	−.37	.91	.49	.49	−.09	−.08	−.04	–	–	–			
Education	−.45	−.21	−.18	.53	.28	.28	−.05	−.04	−.03	–	–	–			
ParEffic.	−.27	−.16	−.14	.12	.06	.06	−.12*	−.14*	−.12*	–	–	–			

[a] *T* total depressive symptoms, *P* psychological depressive symptoms, *S* somatic depressive symptoms

* $p < .05$

† Although there are relatively large ΔR^2 values for the Hispanic mothers, the overall regression was not significant