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Parenting Stress among White, Black, American Indian, and Hispanic Mothers

Evidence from a Statewide Sample of New Mothers

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Parenting Stress among White, Black, American Indian, and Hispanic Mothers: Evidence from a Statewide Sample of New Mothers

Parenting stress can have long-term effects on parents and children, but little is known about racial and ethnic differences in parenting stress. Using baseline survey data from a probability sample in the SEED for Oklahoma Kids experiment (N = 2,626), we examine parenting stress among White, Black, American Indian, and Hispanic mothers. This study employs OLS regressions and Blinder-Oaxaca decompositions. Parenting stress scores among Whites and American Indians were on average significantly lower than among Blacks and Hispanics. Regressions indicate that across all four groups, parenting stress is positively associated with maternal depression and negatively associated with social supports. Decomposition results show that racial and ethnic disparities in parenting stress would be decreased significantly if minority mothers had the same levels of depression and social supports as White mothers. Findings call for intervention strategies to reduce depression and strengthen social supports among mothers, especially among racial and ethnic minority mothers.

Key words: *parenting distress, depression, social support, economic resources, decomposition*

Parenting stress is known to have long-term negative impacts on both parents and children. Defined as psychological, emotional, and physical burdens incurred by parenting responsibilities (Abidin, 1995; Belsky, 1984), parenting stress is associated with low self-esteem (Crnic, Greenberg, Robinson, & Ragozin, 1984), low self-efficacy (Jackson & Huang, 2000), and low satisfaction in the parental role (Esdaile & Greenwood, 1995; Koeske & Koeske, 1990), and with heightened risk of depression and anxiety among parents (Williford, Calkins, & Keane, 2007). These negative feelings limit parents' ability to control their own emotions when interacting with their children, leading to ineffective parenting strategies and practice (e.g., harsher discipline) (Deater-Deckard, 2004). At the same time, children are more likely to develop emotional and behavioral problems, and to acquire cognitive and social skills more slowly, when parents suffer from high levels of parenting stress (Deater-Deckard, 2004).

Research suggests that parents from racial and ethnic minority groups experience levels of parenting stress distinct from their White counterparts due to differences in family context and social environment (McLoyd, Cauce, Tekeuchi, & Wilson, 2000). Unfortunately, we know little about parenting stress among racial and ethnic minority groups, as most existing studies use samples consisting predominately of White, middle-class parents (Cardoso, Padilla, & Sampson, 2010; McLoyd et al., 2000).

To expand knowledge of racial and ethnic differences, this study investigates parenting stress among four racial and ethnic groups: Whites, Blacks, American Indians, and Hispanics. Using data collected from a probability sample of mothers of infants selected from Oklahoma birth certificates, we ask the following questions: (a) Do parenting stress levels differ by race and Hispanic origin? (b) If differences exist, what explains racial and ethnic disparities in parenting stress?: To what extent may

disparities be attributed to compositional differences between Whites and three minority groups (group differences in characteristics such as economic resources)?; And to what extent can these differences be explained by disparities in other structural or cultural factors?

Background

Existing theoretical models suggest that differences in family economic resources, maternal and child characteristics, and environmental factors may contribute to racial and ethnic disparities in parenting stress. The family stress model of economic hardship (FSM) attributes increased parenting stress to lower levels of economic resources available to parents (Gupta, 2007; McLoyd, 1990). According to this model, a lack of economic resources (e.g., low income and assets) increases poor parents' risk of experiencing material hardship, which limits their access to goods and services that may facilitate positive parenting and reduce parenting burdens (e.g., babysitters). As a result, low levels of economic resources intensify psychological and emotional distress in general, and parenting stress in particular (Conger et al., 2002; McLoyd, 1990; McLoyd et al., 2000; Mistry, Lowe, Benner, & Chien, 2008). Considering their economic advantages as indicated by higher average income and wealth (DeNavas-Walt, Proctor, & Smith, 2008; Keister, 2000), White parents are less likely to suffer high levels of parenting stress than minority parents.

Parent-child-relationship (P-C-R) theory, another predominant theoretical model, provides a more comprehensive conceptual model than the FSM. P-C-R theory identifies three domains that may affect parenting stress: the parent, child, and parent-child relationship domains. The parent domain of parenting stress is composed of the parent's own self-concept, emotions, and experiences linked to parenting roles, and these are closely associated with parents' own characteristics (e.g. age and education) and physical and psychological functioning (physical and mental health) (Belsky, 1984; Deater-Deckard, 2004). The child domain includes attributes of the child that may exacerbate or reduce parenting stress, such as the child's health conditions, temperament, and behavioral problems. The parent-child relationship domain denotes the quality of parent-child relationship and interaction, such as conflicts or closeness between the parent and child (Belsky, 1984; Deater-Deckard, 2004).

As with the FSM, P-C-R theory suggests that White parents will experience a lower level of parenting stress than minority parents, based upon visible racial and ethnic disparities in parent and child characteristics. On average, Whites enjoy socioeconomic advantages such as education and marital status (Bauman & Graf, 2003), and they are less likely to suffer from depression and other psychological problems (Walsemann, Gee, & Geronimus, 2009). At the same time, White children are often healthier than children of color (Liao et al., 2004).

In contrast to the two theoretical models described above that focus on families, environmental and cultural perspectives incorporate extra-familial factors. For example, parents who live in cultures where parenthood is highly valued and who enjoy social supports from extended family and community members may feel less distress than parents raising children in less supportive cultures (MacPhee, Fritz, & Miller-Heyl, 1996; McLoyd et al., 2000). Racism and discrimination may also affect parenting stress, due to the emotional load from experiencing unfair treatment.

Qualitative studies indicate that racial and ethnic minority parents from family-centered cultures tend to have strong social supports because they live in communities in which extended family networks

are prevalent (Guilamo-Ramos, et al., 2007; McLoyd, 1990; Wilson & Tolson, 1990). Large-scale, population-based studies provide contradictory evidence, instead showing that White parents enjoy more social supports than minority parents, especially instrumental supports (e.g., loaning money in an emergency situation) (Hogan, Eggebeen, & Clogg, 1993; Turney & Kao, 2009). Racial and ethnic minorities are more likely to experience distress related to racial discrimination than Whites (Deitch, et al., 2003), and this may increase feelings of distress in general and parenting stress in particular. Accordingly, empirical questions remain about whether minority parents raise their children in more supportive environments, and whether and how social and cultural environments affect parenting stress.

Existing empirical evidence provides inconsistent results on the existence and direction of racial and ethnic variations in parenting stress. Although bivariate analyses have consistently shown that parenting stress is higher among Blacks than among Whites (Cardoso et al., 2010; Franco, Pottick, & Huang, 2010; Harmon & Perry, 2011; Raphael, Zhang, Liu, & Giardino, 2010), research on other minorities has produced varying results. Some studies find that Whites are less stressed and more satisfied with the parenting role than Hispanics, Mexicans or American Indians (Harmon & Perry, 2011; MacPhee et al., 1996; Raphael et al., 2010), while others indicate no significant differences between racial/ethnic groups (Cardoso et al., 2010; MacPhee et al., 1996; Probst, et al., 2008).

A small number of regression-based studies have report mixed results. Some show that White parents report significantly lower levels of parenting stress than Black and other minority mothers, even when controlling for socioeconomic and demographic variables (Harmon & Perry, 2011; Raphael et al., 2010). One study finds that White mothers' parenting stress levels were significantly higher than for non-White mothers with comparable characteristics (Williford, Calkins, & Keane, 2007).

A few recent studies have investigated whether mechanisms of parenting stress differ across racial and ethnic groups, by running separate regressions by race and ethnicity, or by including interaction terms between race or ethnicity variables and other predictors. For example, Cardoso and colleagues (2010) report similarities between Whites and Blacks, but dissimilarities between these two groups and Mexicans. Specifically, maternal depression and child's poor health condition were significantly associated with elevated parenting stress among Whites and Blacks, but not among Mexican Americans. Based on these findings, the authors concluded that distinct (though unobserved) aspects of Mexican culture may in some way insulate Mexican American mothers from risk factors that exacerbate parenting stress among the other two groups.

Building on existing studies (Belsky, 1984; Cardoso et al., 2010; Franco et al., 2010), the current study investigates disparities in parenting stress among Whites, Blacks, American Indians, and Hispanics. This is one of few studies to include a probability sample of American Indians. Furthermore, this study employs a Blinder-Oaxaca decomposition method. Although a commonly used analytical strategy to investigate group differences (Blinder, 1973; Jann, 2008; Neumark, 1988; Oaxaca, 1973), the Blinder-Oaxaca method has not previously been utilized in studying parenting stress. The decomposition method allows us to estimate the portion of a group difference that is attributable to distinct characteristics by race and ethnicity, and the portion attributable to structural and cultural factors.

Methods

Data and sample

This study uses data collected for the SEED for Oklahoma Kids experiment (SEED OK). SEED OK is a social experiment that tests the policy idea of universal and progressive Child Development Accounts (CDAs) (Marks, Rhodes, & Scheffler, 2008; Nam, Kim, Clancy, Zager, & Sherraden, 2011). SEED OK selected its sample from birth certificate data of all infants born in Oklahoma for two 3-month periods (April through June and August through October, 2007). In this way, the sampling frame of SEED OK is representative of all infants born in the state of Oklahoma. Using a stratified random sampling method, SEED OK oversampled three minority groups—Blacks, American Indians, and Hispanics. After choosing infants from birth certificate data, baseline survey interviews were conducted by telephone. From 7,115 eligible potential respondents, 2,704 caregivers completed the baseline survey, resulting in a response rate of 38%. Out of 2,704 completed interviews, 218 interviews were conducted in Spanish (Marks et al., 2008; Authors, in press).

This study uses data from birth certificates and a baseline survey. The birth certificate data provide basic demographic information (e.g., race and age of birth parents) recorded at or shortly after an infant's birth. The baseline survey data were collected through telephone interviews before SEED OK randomly assigned study participants to the treatment or control groups. The baseline survey was conducted from Fall 2007 through Spring 2008 when SEED OK children were younger than one year. The baseline survey data contain rich information on infants, respondents, and households.

Among 2,704 study participants, the study excluded 26 Asians from the analysis sample because its number was too small for separate analyses. Our sample included only mothers and excluded six study participants who were fathers, grandparents, or siblings of the infants. We dropped 46 cases with missing values: 24 cases due to missing information on the dependent variable and 22 cases for missing information on the independent variables. Exceptions were the household income, financial assets, and number of children variables: we created missing information indicators for these variables to prevent a sizeable loss of cases. The final analysis sample consisted of 2,626 cases (1,214 Whites, 461 Blacks, 515 American Indians, and 436 Hispanics).

Measures

The dependent variable is a parenting stress scale that was created from four questions. These questions asked mothers' level of agreement (*strongly agree, agree, disagree, or strongly disagree*) with the following statements: "In my role as a parent, I often find that I have too little time for myself"; "I feel overwhelmed with the responsibilities of being a parent"; "I am happy with my role as a parent"; and "As a parent, I enjoy the time I spend with my child." The first two questions were modified from Abidin's Parenting Stress Index (Abidin, 1990; Morrison, Zaslow, & Dion, 1998) and the last two were from the Parental Stress Scale (Berry & Jones, 1995). In creating the parenting stress scale for this study, we reverse-coded the first two questions so that higher scores indicated more severe levels of parenting stress. Then, we summed the four values into one scale. The parenting stress scale ranges from 0 to 12 where a higher score indicates more severe levels of stress ($a = .71$).

The race and Hispanic origin variable was created using the birth certificate data. This variable was generated based on the National Center for Health Statistics' Vital Statistics protocol (Buescher, Gizlice, & Jones-Vessey, 2005; Marks et al., 2008). If the mother was identified as Hispanic, the infant was classified as Hispanic. When the mother's Hispanic origin information was missing and the father was reported as Hispanic, the infant was categorized as Hispanic. However, none of the SEED OK sample was identified as Hispanic based on the father's information. Non-Hispanic infants were categorized into Whites, Blacks, and American Indians based on the mother's race. Accordingly, this variable consists of four groups (Whites, Blacks, American Indians, and Hispanics) and is identical to that of the mother, who completed the survey. This variable was also used to create a weight variable that accounts for oversampling of members of minority groups and non-response bias (Marks et al., 2008).

This study includes economic resources, mother's and child's characteristics, and an environmental factor. All of the variables were created using the baseline survey data, aside from mother's nativity. First, economic resource variables include household income, a continuous variable defined as "total pre-tax household income in the previous 12 months." Two types of assets ownership variables are included: home and financial assets. Homeownership is a dichotomous variable (1 = *homeowner*, 0 = *non-owners*). The financial asset ownership variable indicates whether the household is reported to own one or more types of the following assets: certificates of deposits (CDs), treasury bills, or corporate bonds; savings bonds; retirement accounts; other stocks or mutual funds; savings at home or with a trusted friend or family member; or other types of savings. Access to the credit market is measured with an indicator of having a major credit card. As described above, this study creates missing information indicators for income and financial assets (1 = *no valid information on household income or financial asset*, 0 = *valid information*).

Maternal characteristics include age, education, marital status, employment status, nativity, physical health, and depression symptom scale. Mother's age is a continuous variable, using study participant's age. Education is a four-category variable, composed of (a) less than a high school diploma, (b) high school graduation or equivalent (e.g., GED), (c) some college education, and (d) Bachelor's Degree (BA) or more. The marital status variable consists of three categories: (a) married, (b) separated, divorced, or widowed, and (c) never married. Employment status is dichotomous (1 = *worked for pay or business in the previous week*, 0 = *otherwise*), and maternal health status is also measured dichotomously (1 = *fair or poor health*, 0 = *excellent, very good, or good health*). Nativity is created using information on mother's birth place reported in birth certificates (1 = *born in the United States or its territories*, 0 = *otherwise*). The depression symptom scale is a composite measure, created with four questions selected from the Center for Epidemiological Studies-Depression Scale. These questions asked how much of the time during the previous 30 days mothers had felt depressed, lonely, sad, or had crying spells (1 = *none of the time* to 4 = *all of the time*). We assigned '1' to those who answered "most of the time" or "all the time" and '0' to "none of the time" or "some of the time" for each variable. Then, we summed answers to the four variables to create a depression scale. The depression score ranges from 0 to 4, in which higher scores indicate more severe symptoms of depression ($\alpha = .82$).

Child-related characteristics include gender, age, health condition, and number of children in the household. Infant's gender is dichotomous (1 = *male*, 0 = *female*) while age is continuous (the number of months between birth and the baseline survey date). As in the case of mother's health, infant's

health is dichotomous (1 = *fair or poor health*, 0 = *excellent, very good, or good health*). The number of children in the household variable has four categories (1, 2, 3 or more, and missing information).

This study has one environmental variable: a social support scale. This scale is a composite measure created using four questions that were modified from emotional and instrumental support questions used in Ceballos & McLoyd (2002). These questions asked respondents (a) how often they talked to or visited relatives; (b) how often they talked to or visited close friends; (c) how easy it was for them to find someone to take care of their children; and (d) how easy it was to find someone to run errands. We summed the values of these four questions, with higher scores indicating higher levels of social supports available ($\alpha = .82$).

Analytical strategies

This study first runs bivariate analyses: mean parenting stress score by race and Hispanic origin. Next, we run four separate OLS regressions by race and Hispanic origin to test whether and how mechanisms of parenting stress differ across four groups. In regressions, we use log of household income (not actual dollar amount of household income) and include mother's age squared (in addition to age) because relationships between parenting stress and these variables may not be linear (Deater-Deckard, 2004).

In addition, we employ a Blinder-Oaxaca decomposition method, a statistical approach commonly used to investigate group differences. This method separates group differentials caused by discrepancies in characteristics (the explained part, considered as differentials in an outcome measure attributed to compositional differences in independent variables) from differentials caused by structural factors (the unexplained part, often considered as differentials caused by structural disadvantages, discrimination, or unobserved cultural characteristics and measured with differences in coefficients across groups) (Blinder, 1973; Jann, 2008; Oaxaca, 1973).

The logic of the standard Blinder-Oaxaca decomposition is expressed as follows:

$$\bar{Y}_w - \bar{Y}_M = \beta_w \bar{X}_w - \beta_M \bar{X}_M = \beta_w [\bar{X}_w - \bar{X}_M] + \bar{X}_M [\beta_w - \beta_M] = \beta_M [\bar{X}_w - \bar{X}_M] + \bar{X}_w [\beta_w - \beta_M] \quad (1)$$

where \bar{Y}_G indicates the mean value of the dependent variable (parenting stress) for group G ($_w$ denotes Whites while $_M$ refers to a minority group, such as Blacks, American Indians, or Hispanics); β_G is a vector of coefficients estimated for group G ; and \bar{X}_G represents a vector of mean values of independent variables for group G .

According to Equation (1), a mean difference in an outcome measure between Whites and a minority group ($\bar{Y}_w - \bar{Y}_M$) is equivalent to the expected value of the outcome measure of the latter subtracted from that of the former ($\beta_w \bar{X}_w - \beta_M \bar{X}_M$). The mean difference can be decomposed into the portion of difference attributable to mean characteristic differentials between the groups ($\beta_w [\bar{X}_w - \bar{X}_M]$ or $\beta_M [\bar{X}_w - \bar{X}_M]$) and the part due to difference in the coefficients ($\bar{X}_M [\beta_w - \beta_M]$ or $\bar{X}_w [\beta_w - \beta_M]$) if we can assume there is no unobserved variable bias (Blinder, 1973; Jann, 2008; Oaxaca, 1973).

The coefficient vector of β_w can be further decomposed into β^* (the effect of an independent variable in the absence of structural or cultural advantages or disadvantages, non-discriminatory coefficient vector) and δ_w (structural or cultural advantages experienced by Whites) while β_M can be separated into β^* and δ_M (structural or cultural disadvantages experienced by members of a minority group). Accordingly, the decomposition formulae in Equation (1) can be generalized into the sum of the explained part (E) and the unexplained part (U) as follows:

$$\begin{aligned} \mathbf{E} &= \beta^* (\bar{X}_w - \bar{X}_M) \\ \mathbf{U} &= (\beta_w - \beta^*) \bar{X}_w + (\beta_M - \beta^*) \bar{X}_M = \delta_w * \bar{X}_w + \delta_M * \bar{X}_M \end{aligned} \quad (2)$$

As shown in Equation (2), the unexplained part is composed of the differential caused by Whites' advantages ($\delta_w * \bar{X}_w$) and the differential due to minority group members' disadvantages ($\delta_M * \bar{X}_M$). A decomposition based on Equation (2) needs to estimate the non-discriminatory coefficient vector (β^*), which is unknown. Among various approaches to estimating the non-discriminatory coefficient vector, we use the coefficients estimated in a regression from a pooled sample of both groups (Whites and a minority group) (Jann, 2008; Neumark, 1988).

Every analysis in this paper uses weighted data using a weight variable. The weight variable was generated in consideration of oversampling of minority group members and non-response bias (Marks et al., 2008).

We have run supplementary regressions to check the robustness of our findings. First, we use a race and Hispanic origin variable collected in the baseline survey data, instead of one based on birth certificate data. Second, we run a model that includes a low-birth-weight indicator, using information in the birth certificate data ($1 = \text{birth weight less than 2,500 grams}$). Third, this study tests a model that includes number of adults in the household, to see whether mothers living with a greater number of adults experience less parenting stress than those living with fewer adults. Last, we include a continuous measure of hours worked by the mother during the past week (log form) in place of mother's employment status. These supplementary analyses produce substantively identical results to those reported in this paper.

Results

Table 1 reports sample characteristics by race and Hispanic origin. As shown in Table 1, Whites have economic, social, and environmental advantages over other groups. Average household income for Whites was about twice that for other groups, and ownership rates of home and financial assets were significantly higher for Whites than for other groups. Among minority groups, American Indians are better off economically than other groups. Mother's characteristics also differed between Whites and minority groups: White mothers were more likely to be college-educated and married, and on average they had a lower depression score than other mothers. It is noteworthy that social support scores were on average highest among Whites and lowest among Hispanics.

Table 1. Sample Characteristics by Race and Hispanic Origin

	Whites	Blacks	American Indians	Hispanic
Economic Resources				
Household Income \$ (M) **	48,388	19,867	28,451	21,882
Household Income, Missing (%) **	2.06	2.52	3.25	8.35
Home Ownership (%) **	49.58	17.22	31.52	26.49
Financial Asset Ownership (%) **	63.38	40.90	44.76	30.11
Financial Asset, Missing (%) *	1.61	2.08	2.91	4.01
Credit Card Ownership (%) **	48.48	25.34	28.63	26.78
Mother's Characteristics				
Age (M) **	26.38	25.15	24.72	25.62
Education (%) **				
Less than High School Diploma	16.09	22.66	28.02	53.66
High School Diploma	33.19	42.24	37.36	29.15
Some College	26.61	24.32	26.36	11.86
Bachelor's Degree or More	24.11	10.77	8.26	5.33
Marital Status (%) **				
Married	69.33	24.62	54.49	54.76
Widowed, Divorced, or Separated	6.82	5.46	8.75	7.67
Never Married	23.84	69.92	36.76	37.57
Native-born (%) **	99.09	95.79	99.28	39.55
Employed (%) **	47.78	52.96	42.24	33.99
Poor or Fair Health (%) **	5.99	6.96	5.59	15.65
Depression Score (M) **	0.083	0.20	0.11	0.09
Child-related Characteristics				
Male (%)	52.66	53.05	54.27	55.98
Months after Birth (M) **	4.88	5.01	4.72	5.25
Poor or Fair Health (%) **	1.21	3.73	1.18	4.38
Number of Kids (%) **				
1 Child	37.9	29.55	34.66	24.60
2 Children	33.97	33.20	32.88	32.46
3 or More Children	27.21	36.16	31.11	39.48
Missing	0.91	1.09	1.35	3.47
Environmental Factor				
Social Support (M) **	13.05	12.61	12.69	11.13
Unweighted Sample Size	1,214	461	515	436

Note: (M) indicates mean and (%) denotes percentage. For statistical tests of group differences, we use Pearson's χ^2 for categorical variables and adjusted Wald tests for continuous variables.

* $p < 0.05$; ** $p < 0.01$

Table 2 compares parenting stress levels by race and Hispanic origin. The mean parenting stress score was lowest among Whites (2.80), followed by American Indians (2.92), Blacks (3.17), and Hispanics (3.44). Adjusted Wald tests showed that mean parenting stress scores among Whites and American Indians were significantly lower than Blacks and Hispanics. A difference between Hispanic and Black mothers is also statistically significant.

Table 2. Parenting Stress by Race and Hispanic Origin

	Whites	Blacks	American Indians	Hispanics
Mean	2.80	3.17	2.92	3.44
(Standard Deviation)	(1.38)	(1.64)	(1.49)	(1.64)
Unweighted Sample Size	1,214	461	515	436

Note: Differences are significant ($p < 0.05$) between White and Blacks, Whites and Hispanics, Blacks and American Indians, Blacks and Hispanics, and American Indians and Hispanics.

Table 3. OLS Regression Results by Race and Hispanic Origin

	Whites	Blacks	American Indians	Hispanics
Economic Resources				
Log Household Income	-0.05 (0.04)	0.00 (0.08)	-0.04 (0.07)	-0.05 (0.08)
Income, Missing	-0.52 (0.49)	0.32 (0.90)	-0.65 (0.78)	-0.30 (0.78)
Home Ownership	-0.06 (0.11)	-0.03 (0.25)	0.03 (0.18)	-0.19 (0.21)
Financial Asset Ownership	0.12 (0.10)	0.22 (0.19)	-0.16 (0.16)	-0.13 (0.18)
Financial Asset, Missing	-0.07 (0.29)	0.09 (0.38)	0.38 (0.28)	-0.58 (0.47)
Credit Card	-0.07 (0.10)	0.26 (0.19)	0.05 (0.16)	0.17 (0.21)
Mother's Characteristics				
Age	-0.01 (0.07)	-0.06 (0.13)	0.05 (0.11)	-0.30 (0.12)*
Age squared	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.01 (0.00)*
High School Diploma	0.06 (0.14)	0.02 (0.25)	0.15 (0.20)	-0.28 (0.20)
Some College	0.30 (0.16)	0.11 (0.26)	-0.20 (0.20)	-0.35 (0.31)
BA or More	0.74 (0.18)**	-0.07 (0.38)	-0.17 (0.29)	-0.08 (0.39)
Widowed, Divorced, or Separated	0.27 (0.20)	0.70 (0.38)	-0.05 (0.26)	0.21 (0.30)
Never Married	0.05 (0.12)	0.21 (0.26)	0.10 (0.18)	-0.09 (0.20)
Employed	-0.07 (0.09)	-0.09 (0.19)	-0.02 (0.14)	0.04 (0.18)
Poor or Fair Health	0.05 (0.25)	0.03 (0.27)	-0.12 (0.29)	0.09 (0.24)
Native	-0.50 (0.36)	-0.67 (0.41)	0.39 (0.67)	-0.22 (0.19)
Depression Score	0.66 (0.12)**	0.36 (0.14)**	0.45 (0.15)**	0.45 (0.15)**
Child-Related Characteristics				
Male	-0.04 (0.08)	0.11 (0.18)	0.28 (0.14)*	-0.03 (0.16)
Months after Birth	-0.02 (0.03)	-0.14 (0.07)*	-0.03 (0.05)	-0.04 (0.06)
Poor or Fair Health	0.44 (0.31)	0.44 (0.43)	0.31 (0.94)	0.67 (0.47)
2 Children	0.30 (0.10)**	0.16 (0.23)	0.12 (0.18)	-0.10 (0.20)
3 or More Children	0.26 (0.11)*	0.50 (0.26)	0.19 (0.19)	0.39(0.23)
Missing, # of Children	0.00 (0.86)	-0.32 (0.75)	0.34 (0.51)	1.38 (0.46)**
Environmental Factors				
Social Support	-0.12 (0.02)**	-0.18 (0.04)**	-0.11 (0.03)**	-0.06 (0.03)
Constant	5.10 (1.06)**	6.69 (2.06)**	3.04 (1.89)	8.86 (1.78)**
Observations	1,214	461	515	436
R-squared	0.12	0.18	0.12	0.16

Note: Standard errors in parentheses.

* $p < 0.05$, ** $p < 0.01$

Table 3 presents OLS regression results for each group. R^2 statistics indicate that the analysis model of this study explains 12% - 18% of the variation in parenting stress among the four groups. Table 3 shows similarities and differences across the four racial and ethnic groups. For all groups, mother's depression has a significantly positive coefficient. At the same time, social support is negatively associated with parenting stress in all four groups. Although the coefficient of social support among Hispanics is not statistically significant at the 0.05 level, the t-statistic is -1.96, resulting in p-value of 0.05. It is of interest that mother's education has significantly positive associations with parenting stress only among Whites. Adjusted Wald-test results indicate that differences in the coefficients of BA degree or more significantly differ between Whites and all three minority groups. In addition, age has significant associations with parenting stress only among Hispanics and the coefficients of age and its squares are significantly different from those for Whites.

Table 4 presents decomposition results between Whites and three minority groups. We compare Whites to other groups because Whites have the lowest average parenting stress level. As described in the Methods section, we have conducted decomposition analyses using the OLS regression model reported above. The first three rows in Table 3 report results from simple decompositions, which estimate the total effects of compositional differences on racial and ethnic disparities in parenting stress (the explained portion) and the overall effects of structural factors (the unexplained portion). The lower rows present detailed decomposition results that show the portion of group differential attributed to each variable in the regression model.

Simple decomposition results show that compositional differences explain a significant portion of group differences in parenting stress between Whites and Blacks, and between Whites and Hispanics. About 41% of the group difference between Whites and Blacks is explained (0.15/0.37), as is 63% of the difference between Whites and Hispanics. An unexplained proportion comprises 59% of group difference between Whites and Blacks and 38% between Whites and Hispanics. Although the portions of group differences due to structural or cultural factors (portions unexplained by compositional differences) are substantial, they are not significantly different from zero, due to large standard errors as reported in Table 4. Decomposition between Whites and American Indians shows that neither the explained nor the unexplained portions differ significantly from zero. These results are not surprising, considering the small, non-significant difference in parenting stress between the two groups.

The lower panel of Table 4 presents results from detailed decomposition analyses. It is of special interest that explained portions by different levels of social supports are significantly different from zero for Whites and all three minority groups: Different levels of social supports explain 14% of group difference in parenting stress between Whites and Blacks and more than 30% of the difference between Whites and the other two minority groups.

Among maternal characteristics, mother's education plays an important role in racial and ethnic differentials in parenting stress: The portion explained by mothers' college degree is significantly different from zero for all three comparisons. However, the coefficient is positive, suggesting that the observed differences between White mothers and minority mothers in parenting stress would increase if minority mothers completed college at the same rate as White mothers.

Compositional differences in some variables explain differentials between Whites and a certain group only. Levels of maternal depression explain a significant portion of the differential in

parenting stress between Whites and Blacks. If Black mothers' depression score were as low as that of Whites, the differential in parenting stress would decrease by 16% $[(-0.06)/(-0.37)]$.

Compositional differences in nativity are estimated to explain a significant portion of the difference between Whites and Hispanics: If the proportion of natives among Hispanic mothers were as high as among Whites, about one-third of the gap in parenting stress level would disappear $[(-0.21)/(-0.64)]$. Similarly, the smaller percentage of White mothers rearing many children (3 or more) explains a gap in parenting stress between White and Hispanic mothers.

Table 4 also shows the roles of structural or cultural factors (group differences due to distinct impacts of independent variables or unexplained by compositional difference) in explaining differentials in parenting stress. Distinct associations between mother's age and parenting stress are estimated to make a significant difference between Whites and Hispanics: If mother's age has the same impact on parenting stress, a gap in parenting stress would increase between Whites and Hispanics. These results reflect significant differences in coefficient sizes for age variable between the two groups as reported in Table 3. In addition, the different effect of college degree is assessed to decrease group difference between Whites and American Indians. That is to say, if highly educated American Indian mothers (those with BA degrees or more) were to experience higher levels of parenting stress than their counterparts without a high school diploma, as is the case among White mothers, the difference in parenting stress between these American Indian and White mothers would increase.

Table 4. Blinder-Oaxaca Decomposition Results

	Whites vs. Blacks		Whites vs. American Indians		Whites vs. Hispanics	
Overall Difference	-0.37 (0.11) **		-0.13 (0.09)		-0.64 (0.10)**	
<i>Simple Decomposition</i>						
	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained
	-0.15 (0.07)*	-0.22 (0.12)	-0.02 (0.04)	-0.11 (0.08)	-0.40 (0.10)**	-0.24(0.13)
<i>Detailed Decomposition</i>						
Economic Resources						
Log Income	-0.05 (0.04)	-0.51 (0.78)	-0.04 (0.03)	-0.15 (0.76)	-0.08 (0.05)	-0.03 (0.78)
Income, Missing	0.00 (0.00)	-0.02 (0.03)	0.01 (0.01)	0.00 (0.03)	0.03 (0.03)	-0.02 (0.06)
Home Ownership	-0.02 (0.03)	-0.00 (0.05)	-0.01 (0.02)	-0.03 (0.07)	-0.01 (0.02)	0.03 (0.07)
Financial Asset Ownership	0.03 (0.02)	-0.05 (0.09)	0.01 (0.02)	0.14 (0.09)	0.03 (0.03)	0.09 (0.07)
Financial Asset, Missing	0.00 (0.00)	-0.00 (0.01)	-0.00 (0.00)	-0.01 (0.01)	0.00 (0.01)	0.02 (0.02)
Credit Card	-0.01 (0.02)	-0.09 (0.06)	-0.01 (0.02)	-0.04 (0.06)	-0.00 (0.02)	-0.08 (0.07)
Mother's Characteristics						
Age	-0.02 (0.07)	1.27 (3.67)	-0.00 (0.10)	-1.32 (3.29)	-0.04 (0.05)	7.55 (3.46)
Age squared	0.01 (0.07)	-0.79 (1.70)	0.00 (0.09)	0.06 (1.51)	0.03 (0.04)	-3.61 (1.63)
High School Diploma	0.01 (0.01)	0.02 (0.12)	-0.00 (0.01)	-0.03 (0.09)	-0.00 (0.01)	0.10 (0.07)
Some College	0.01 (0.01)	0.05 (0.08)	0.00 (0.01)	0.13 (0.07)	0.02 (0.02)	0.10 (0.05)
BA or More	0.09 (0.03)**	0.08 (0.05)	0.10 (0.03) **	0.09 (0.04)*	0.11 (0.03) **	0.07 (0.04)
Widowed, Divorced, or Separated	0.00 (0.00)	-0.02 (0.02)	-0.00 (0.00)	0.03 (0.03)	-0.00 (0.00)	0.00 (0.03)
Never Married	-0.03 (0.05)	-0.10 (0.19)	-0.01 (0.01)	-0.01 (0.07)	-0.01 (0.01)	0.05 (0.08)
Employed	0.00 (0.00)	0.01 (0.11)	-0.00 (0.00)	-0.02 (0.07)	-0.01 (0.01)	-0.04 (0.07)
Poor or Fair Health	-0.00 (0.00)	0.00 (0.03)	0.00 (0.00)	0.01 (0.02)	-0.00 (0.02)	-0.01 (0.05)
Native	-0.02 (0.01)	0.17 (0.52)	0.00 (0.00)	-0.89 (0.75)	-0.21 (0.10) *	-0.20 (0.35)
Depression Score	-0.07 (0.02)**	0.05 (0.03)	-0.02 (0.02)	0.02 (0.02)	-0.00 (0.01)	0.02 (0.02)
Child-Related Characteristics						
Male	0.00 (0.00)	-0.08 (0.10)	-0.00 (0.00)	-0.17 (0.09)	0.00 (0.00)	-0.00 (0.10)
Months after Birth	0.00 (0.01)	0.57 (0.37)	-0.00 (0.00)	0.07 (0.27)	0.01 (0.01)	0.09 (0.34)
Poor or Fair Health	-0.01 (0.01)	-0.00 (0.02)	0.00 (0.00)	0.00 (0.01)	-0.02 (0.01)	-0.01 (0.02)
2 Children	0.00 (0.01)	0.04 (0.08)	0.00 (0.01)	0.06 (0.07)	0.00 (0.01)	0.13 (0.07)
3 or More Children	-0.03 (0.01)	-0.09 (0.10)	-0.01 (0.01)	0.02 (0.07)	-0.04 (0.02)**	-0.05 (0.10)
Missing, # of Children	0.00 (0.00)	0.00 (0.01)	-0.00 (0.00)	-0.00 (0.01)	-0.02 (0.02)	-0.03 (0.03)
Environmental Factors						
Social Support Score	-0.05 (0.02)*	0.85 (0.58)	-0.04 (0.02)*	-0.11 (0.45)	-0.20 (0.04)	-0.67 (0.40)
Constant		-1.58 (2.31)		2.07 (2.16)		-3.76 (2.07)
Number of Observations	1,675		1,729		1,650	

Note: Standard errors in parentheses.

* p<0.05, ** p<0.01

Discussion and Conclusion

The findings of this study show the importance of maternal depression and social supports in explaining racial and ethnic differences in parenting stress. Simple decomposition indicates that compositional differences play important roles in explaining group differences: The proportions explained by overall compositional differences were significantly different from zero between Whites and Blacks and between Whites and Hispanics. Conversely, the proportions left unexplained by compositional differences were not significantly different between Whites and any of the three minority groups. Turning to theoretical conclusions, findings suggest that P-C-R theory and environmental and cultural perspectives explain racial and ethnic differences in parenting stress. Results are not consistent with the hypothesis that lower economic resources explain racial and ethnic gaps in parenting stress.

It may be of particular interest that higher education is significantly and positively associated with parenting stress among White mothers. This positive relationship between education and parenting stress is perhaps explained with increased work-to-home conflicts among highly educated individuals, because they are more likely to hold demanding and non-routine jobs (Schieman, Whitestone, & Van Gundy, 2006). We are, however, unable to test the hypothesis that highly-educated White mothers hold challenging jobs, and their increased work responsibilities lead to greater stress, because the SEED OK data do not include information about mother's occupation, work conditions, and job responsibilities. Neither can we investigate why higher education increased parenting stress only among White mothers. The distinct distribution of college-educated women may explain different patterns of associations between education and parenting stress by race and ethnicity. As shown in Table 1, the majority of White mothers had at least some college education, so educational attainment may not demarcate them from other mothers in their families and communities. By contrast, much smaller percentages of minority mothers had college education, so higher educational attainment may position them well within their families and communities to mobilize resources and supports that reduce parenting stress.

Notwithstanding methodological advances, this study also has some shortcomings. First, we were unable to include a several important factors in analytical models due to data limitations. For example, the SEED OK baseline survey did not collect information on infant's temperament and the mother-child relationship, which are major predictors identified in P-C-R theory. This study cannot consider environmental factors other than social supports, such as experience of racial discrimination and neighborhood living conditions. Second, the sample came entirely from the state of Oklahoma. Accordingly, findings of this study may not be generalized to other states or to the entire United States. Finally, the cross-sectional nature of the data precludes testing of causality.

Findings of this study suggest the need to decrease new mothers' parenting stress by reducing maternal depression and promoting social supports, especially among minority mothers. Strategies may include early depression screenings for new mothers, medical assistance and other types of support for at-risk mothers, and the promotion of social support networking for new mothers (e.g., new-mothers' self-help groups and community outreach programs for new mothers). If it is possible to reduce maternal depression and mobilize social supports among minority mothers, racial and ethnic disparities in parenting stress may decline.

A significantly higher level of parenting stress among Hispanics, in comparison to other groups, suggests a need for special attention to this group. More specifically, higher proportions of non-native mothers, and mothers with a larger number of children, explain gaps in parenting stress between Whites and Hispanics. These findings may provide guidance on strategies for intervention.

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