Published in final edited form as:

Womens Health Issues. 2007 ; 17(5): 316–324.

Factors associated with major depression among mothers in Los Angeles

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Abstract

Purpose—The aim of this study was to identify factors associated with major depression among a sample of diverse mothers in Los Angeles while paying special attention to racial and ethnic as well as immigration status differences.

Methods—Using logistic regression models, we examined the association between major depression and race and ethnicity, immigration status, and other key covariates. Major depression was measured using the Comprehensive International Diagnostic Interview Short Form (CIDI-SF). This study was based on 1,856 racially and ethnically diverse mothers who participated in Wave 1 of the Los Angeles Family and Neighborhood Survey (L.A.FANS), which was fielded in 65 census tracts.

Main Findings—After controlling for key covariates, we found that non-Hispanic white mothers had more than 1.67 times the odds of having major depression than Hispanic mothers (95% CI = 0.99, 2.80). In addition, single mothers had elevated rates of major depression compared to married mothers (OR = 1.54, 95% CI = 1.00, 2.37). Mothers with a college degree or higher had significantly lower odds of being depressed compared to mothers without a college degree (OR = .50, 95% CI = 0.29, 0.86) while mothers with only adolescents in the home had significantly higher odds of major depression than mothers with at least one preadolescent child in the home (OR = 1.73, 95% CI = 1.11, 2.70).

Conclusion—Given the links between depressed mothers and child outcomes, our results have important implication for mothers with adolescent children, particular those who are white, single or less educated.

Introduction and Background

Depression among mothers is an important indicator of maternal well-being, particularly because it can have debilitating effects on how well she functions as a whole and in the home. Beyond its effects on the mother, depression has also been shown to have important effects on children's mental health (Luoma et al., 2001; Oyserman, Bybee & Mowbray, 2002; Petterson & Albers, 2001; Spence, Najman & Bor, 2002). For example, studies have found that mothers experiencing depression tend to be less interactive and less nurturing with their children (Cummings & Davies, 1994). Poor mother-child interaction has also been shown to affect

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children's behavior problems (Luoma et al., 2001). The issue that is unclear is what the risk factors for depression, particularly major depression, are for mothers from diverse backgrounds. Much of the research on depression and mothers has typically focused on a specific group of mothers with the primary interest being in detecting significant differences in rates of depression between mothers who differ on only one main factor such as race and ethnicity or income.

For example, numerous studies have examined racial and ethnic disparities in depressive symptoms (Cochran, Brown & McGregor, 1999; Myers et al., 2002) and major depression (Dunlop, Song, Lyons, Manheim & Chang, 2003; Somervell, Leaf, Weissman, Blazer & Bruce, 1989) among women, and more specifically, depressive symptoms among mothers (Heneghan, Silver, Bauman, Westbrook, & Stein, 1998; Herrick, 2002; Howell, Mora, Horowitz, & Leventhal, 2005). However, the results are mixed with most large studies showing Hispanics with higher rates of major depression compared to whites and African Americans and Asians demonstrating lower rates (Blazer, Kessler, McGonagle, & Swartz, 1994; Zhang & Snowden, 1999). Conversely, one recent large study found that whites had significantly higher prevalence of major depression compared to blacks and Hispanics (Riolo, Nguyen, Greden, & King, 2005). Other smaller studies have shown that ethnic minorities, as a group, have higher rates of depressive symptoms compared to whites (see Myers & Hwang, 2004 for a review).

Immigration status complicates these mixed results. Recent studies on immigration suggest that some immigrant groups, such as Hispanic immigrants, may have characteristics that protect them against adverse mental health outcomes. For example, Hispanics have been shown to have lower rates of chronic disease and illness despite limited economic resources (Morales, Lara, Kington, Valdez & Escarce, 2002), a phenomenon known as the "Hispanic Paradox." Researchers suggest that family support systems among Hispanic immigrants may be the reason for this finding and may serve as buffers from poor mental health as well (Morales et al., 2002; Rogler, Cortes & Malgady, 1991). An alternative argument is selection, which suggests that Hispanics with pre-existing depressive symptoms do not migrate into the United States (see for example Goldman, Smith, & Sood, 2006). Results from another study suggest that African and Caribbean immigrant women, like Mexican immigrant women in other studies, have better mental health when they first immigrate into the U.S, but as their time in the U.S. increases, so does the probability for major depression among these women (Miranda, Siddique, Belin & Kohn-Wood, 2005). These researchers suggest that discrimination, poverty, and other social factors are to blame for this increased likelihood of depression among these immigrant women.

Other factors have also been examined that function as explanatory variables for depressive symptoms and major depression among mothers, such as income (Scarinci, Beech, Naumann, Kovach, Pugh & Fapohunda, 2002), marital status (Davies, Avison & McAlpine, 1997; Earle, Smith, Harris & Longino, 1998; Gazmararian, James & Lepkowski, 1995; Scarinci, Beech, Naumann, Kovach, Pugh & Fapohunda, 2002), and education (Dunlop et al., 2003; Heneghan, Silver, Bauman, Westbrook & Stein, 1998; Scarinci et al., 2002). These studies have shown that lower levels of income and education, and single marital status are linked with higher levels of depressive symptoms as well as major depression. An important explanatory variable often left out of the equation is body weight. Previous studies have shown a link between body weight and depressive symptoms (Istvan, Zavela & Weidner, 1992; Jorm et al., 2003; Carpenter, Hasin, Allison & Faith, 2000; Roberts, Deleger, Strawbridge & Kaplan, 2003). Using longitudinal data, Roberts and his colleagues showed that obesity was predictive of major depression.

Limited research has been completed on the age composition of children and its association with depression among mothers. Previous studies on mothers from specific child age groups,

such as infants, have shown high prevalence of depression (Cummings and Davies, 1994; Field, 1998; Heneghan et al., 1998; Luoma et al., 2001; Petterson & Albers, 2001). However, it is unclear whether having children in one age group versus another age group places mothers at higher risk for depression. This study provides unique insight into the associations that may exist between major depression in mothers and age composition of children in the home.

Despite the growing body of research on major depression among mothers, there are still gaps in our knowledge about its overall level of prevalence, key predictors, and about disparities by characteristics such as race and ethnicity and immigration status. The primary reason for these gaps is that large population-based social surveys rarely include valid and accurate depression screeners which allow for rigorous study of risk factors for depression. Even when these screeners have been included, these surveys often do not include sufficiently large samples of certain groups of interest, such as Hispanics and/or immigrants

This study sought to address some of the gaps described above. Specifically, we aimed to answer two primary questions: 1) Given the racial and ethnic diversity of mothers in Los Angeles, do we find racial and ethnic disparities and/or immigration status disparities in major depression? and 2) When controlling for race and ethnicity and immigration status, do we find differences in major depression by other key covariates (e.g., economic resources, marital status, education, body weight, number of children, and child age composition)? To answer these questions, we use data from the Los Angeles Family and Neighborhood Survey (L.A.FANS).

Method

Study Design

This study was based on data from Wave 1 of L.A.FANS, which was fielded in a sample of 65 census tracts throughout Los Angeles County in 2000–2001. L.A.FANS is based on a stratified multistage, clustered sampling design (see Sastry, Ghosh-Dastidar, Adams, & Pebley, 2006 for more detail). In the first step of the sample design, census tracts in Los Angeles County were divided into three strata based on the percent of the tract's population in poverty in 1997: very poor (those in the top 10 percent of the tract poverty distribution), poor (tracts in the 60–89th percentiles of the distribution), and non-poor (tracts in the bottom 60 percent of the distribution). Tracts within each strata were sampled with probabilities proportional to the population size of the tract, and to achieve an oversampling of poor families, 20 tracts were sampled in both the poor and very poor strata and 25 tracts were sampled in the non-poor stratum, yielding a total of 65 tracts. Next, census blocks were sampled within each tract with probabilities proportional to the block population size, and all dwelling units in sampled blocks were listed. Fifty households were sampled within each block and screened, and approximately 40–50 households were interviewed in each tract, for a total sample size of 3,090 households. Households with children were oversampled; as a result, they comprise 70 percent of the sample, compared to 35 percent in Los Angeles County as a whole.

L.A.FANS collected extensive information on a variety of topics including household socioeconomic status and mental health status of mothers in the households. The response rate among mothers selected for the survey was 89 percent.^a Of the mothers who completed the survey, just over 94 percent had all of the necessary data for the analysis conducted in this study (N = 1,873). Given the small number of Native American mothers in the sample (n=17), they were dropped from the analysis. Therefore, the results shown in the subsequent sections are based on 1,856 mothers.

^aSee Sastry & Pebley (2003) for details about rates and patterns of non-response in L.A.FANS.

Data Collection Procedures

L.A. FANS included both in-person interviews and a survey of neighborhoods (see Sastry et al., 2006). In-person interviews were conducted by trained data collectors. Computer Assisted Personal Interviewers (CAPI) was used to conduct these interviews. Data collectors were trained to use the CAPI and on each of the measures included in the interview protocol (see Peterson et al., 2003). Interviews were conducted Spanish or English depending on the participant's preference. Only Spanish speaking data collectors were permitted to administer the Spanish questionnaire and assessments.

Sample

Four race and ethnic groups were represented in the data. Unweighted descriptive statistics for the analysis sample are reported in Table 1. The largest group was Hispanics (62 percent), followed by non-Hispanic whites^b (21 percent); Eight percent of mothers were non-Hispanic blacks^c and eight percent were Asian and Pacific Islanders.

Measures

Major Depression—The dependent variable of interest was an indicator of whether a mother had major depression. L.A.FANS screened for major depression using the Comprehensive International Diagnostic Interview short form (CIDI-SF), an international protocol adopted by the World Health Organization (Kessler, Andrews, Mroczek, Ustun & Wittchen, 1998). This instrument screens for a major depressive episode during the 12-month period preceding the interview and estimates the probability that a respondent had major depression based on the Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV) criteria for a major depressive episode (Wang & Patten, 2002). The CIDI-SF is a valid and reliable diagnostic interview and has been shown to have 93 percent classification accuracy for major depressive disorders (Kessler et al., 1998).

Individuals could meet the criteria for major depression by either responding “yes” to all the stem questions about dysphoric mood (i.e., sadness or anxiety) or responding “yes” to questions about anhedonia (i.e., an inability to experience joy).^d Dysphoric or anhedonic symptoms should have lasted for two weeks for most of the day and should have occurred almost every day during the period to meet requirements for classification (Kessler et al., 1998).

The CIDI-SF screener only identifies individuals who have a high probability of being classified with major depression (see Kessler et al., 1998). Neither the severity nor the duration of major depression was assessed in this study. Probability rates were calculated based on participant responses and criteria described above. The CIDI-SF scoring algorithm indicates that probability scores equal to or greater than 0.55 classifies a respondent as being likely to have major depression.^e Thus, probability scores were dichotomized to indicate whether a woman has major depression (e.g., has a probability score greater than or equal to 0.55) or not.

Immigration Status—We examined three immigration status categories for mothers in the sample: undocumented immigrant, documented or legal immigrant (including naturalized citizens), and non-immigrant (native born). Immigration status was coded as a categorical variable with documented immigrant mothers as the reference group and undocumented and non-immigrant mothers were modeled using two separate dummy variables.

^bWe refer to non-Hispanic whites as “whites.”

^cWe refer to non-Hispanic blacks as “blacks.”

^dWhile the CIDI-SF was designed to classify individuals by probabilities for major depression, it does not distinguish between major depressive episodes that are a result of bipolar or psychotic disorders.

^eDue to the nature of the scoring algorithm, only seven distinct scores appeared in the L.A.FANS data. Specifically, 83% of mothers had a score of 0, <1% a score of 0.06, 2% a score of 0.24, 2% a score of 0.55, 3% a score of 0.81, 8% a score of 0.89, and 2% a score of 0.91.

Economic Resources—Total family income and total family assets were used as covariates. Total family income includes income for all members of the nuclear family from all sources (including earnings, public assistance, and income from assets). Total family assets include savings accounts, property, and business investments, as well as ownership of stocks and bonds. By including a measure of assets, we account for total resources available to mothers, which is an important and often ignored component of economic status. Missing information for income and assets was imputed as part of a separate study (Bitler & Peterson, 2005) that drew on the extremely detailed information for household income and assets in L.A.FANS and included unfolding brackets to identify a successively narrower range for each variable when a respondent was unable or unwilling to provide a specific dollar value.^f Income and assets were included as log-transformed continuous variables in our models to account for skewness in these measures.

Marital Status—Mothers were classified as single, cohabitating, or as married. Marital status was dummy-coded with married as the reference group and cohabitating and single coded as dummy variables.

Education—Education was dichotomized with mother with less than a college degree^g = 0 and those with a college degree or higher = 1. Preliminary analyses explored the use of three education groups (e.g., mothers with less than a high school degree, mothers with a high school degree and some college, and mothers with a college degree or higher). Since mothers with less than a high school degree and mothers with a high school degree and some college had similar rates of depression, these categories were collapsed for the final analysis.

Body weight—The relationship between mother's body weight and major depression was assessed using the body mass index (BMI) to classify women as overweight or obese (BMI > 25) or not,^h according to standards established by the National Heart, Lung and Blood Institute (1998). We did not distinguish underweight mothers from those of normal weight after preliminary analyses showed similar rates of depression in these two groups. Body weight was dichotomized with normal and underweight mothers as the reference group.

Child Age Composition—Detailed information was collected in L.A.FANS on the number of children that were born to the mother, as well as the children's individual ages. We examined a number of different ways to represent the age composition of children in a household. First, we included a continuous variable for the number of children in our regression models. We also examined the age composition of the children based on developmental age groups that distinguished among infants (less than one year of age), preschoolers (ages 1–5 years), elementary school-age children (ages 6–8 years), middle school-age children (ages 9–12 years), pre-adolescents (ages 13–14 years), and adolescents (ages 15–17 years). We conducted a preliminary analysis to simplify the large number of combinations that were possible given these age groupings, as well as to provide information on the number of children in each group and their effects on the mother's probability of major depression.

The results of this analysis revealed several interesting findings. First, the only group that had statistically significant higher probability of being classified with major depression was mothers who only had adolescent-age children. These women had a substantially higher likelihood of having major depression when compared to all other mothers, with an odds ratio of 1.72 (95% CI: 1.19, 2.48). There were no significant differences in probability of being classified as depressed between mothers who had an infant or did not only have adolescents,

^fEight-nine cases of family income and 382 cases of assets were imputed.

^gLess than a college degree includes mothers with some college education, but not completion of a degree.

^hThe body mass index is defined as weight in kilograms divided by the squared value of height in meters.

based on the ages of their children. These results led to the coding of this variable into three groups: mothers with at least one infant (<1), mothers with only adolescents (ages 15 – 17) and mothers with at least one pre-adolescent child and no infants. These groups are mutually exclusive and exhaustive.

Thus, three exclusive child age composition categories were created: at least one infant; at least one pre-adolescent; and adolescent-only, and child age composition was coded using dummy variables with mothers with at least one pre-adolescent as the reference group.

Analysis

Our analysis examined major depression among mothers using a binary indicator of major depression as the dependent variable of interest. The primary goal of our analysis was to identify predictors of major depression among mothers in the L.A.FANS data.

In our modeling approach, we used logistic regression models which appropriately controlled for the sampling design used in the L.A.FANS study. Specifically, three aspects of the L.A. FANS design must be accounted for when analyzing the data: stratification of tracts by poverty level, clustering of women within tracts, and use of sampling weights equal to the inverse probability that a woman was sampled for the study. Controlling for the clustering of women within neighborhoods ensured that our regression models had unbiased standard error estimates. Controlling for the stratification and use of the sampling weights in the regression models ensured that our inferences would be generalizable to the population from which these women were sampled (i.e., all neighborhoods and households in Los Angeles County). The SVY command in STATA was used to control for these three factors in our logistic regression models.

Our analysis proceeded in two steps. First, we examined differences in the probability of major depression by race and ethnicity, immigration status, income and asset categories, marital status, education, weight, and child age composition in bivariate models. Rao-Scott chi-squared statistics were calculated to test for statistically significant differences across all groups while adjusting for the stratification and clustering of the sample design and incorporating sample weights (Lee & Forthofer, 2006).

Next, we estimated multivariable logistic regression models of the probability of major depression to determine which demographic variables were significantly associated with the probability of depression among mothers in the L.A.FANS data. We report the results from both the unadjusted and adjusted models for race and ethnicity and immigration status in order to examine the effects of key demographic variables on the probability of depression after controlling for race and ethnicity and immigration status. For each set of models, all two-way interaction terms were fitted and significance was assessed at the 0.05 level. All logistic regression models appropriately controlled for stratification, clustering, and sampling weights.

Results

The results of our analysis are presented in Tables 2 and 3. In Table 2, we show the weighted distribution of major depression in the sample by key demographic variables. Rao-Scott chi-squared tests are also reported to identify significant differences in major depression across groups. In Table 3, shows results from the logistic regression models.

The results in Table 2 indicate that 15 percent of mothers in our sample met the classification for major depression. White and black mothers had the highest levels of major depression (18 percent and 20 percent, respectively), while 14 percent of Hispanic mothers were depressed and only 7 percent of Asian and Pacific Islander mothers had major depression. A Rao-Scott

chi-squared test indicated these racial and ethnic differences were statistically significant with $p < .05$.

Our results also showed that 16 percent of non-immigrants mothers had major depression compared to 14 percent and 12 percent of documented and undocumented immigrant mothers, respectively. According to the Rao-Scott chi-squared test, these differences were not statistically significant.

There were no significant differences in rates of major depression in the upper and lower 50th percentile brackets for log income. In contrast, there was a significant association between log assets and major depression ($X^2 = 4.40$, $p < .05$) when we compared mothers in the upper 50th percentile versus mothers in the lower 50th percentile. Seventeen percent of mothers in the lower 50th percentile were depressed compared to 12 percent in the upper 50th percentile.ⁱ

Results from the Rao-Scott chi-squared test indicated that differences in major depression among married mothers, cohabitating mothers, and single mothers was statistically significant ($X^2 = 6.95$, $p < .05$), with 12 percent of married mothers classified as depressed compared with 16 and 19 percent of cohabitating and single mothers.

Sixteen percent of mothers with less than a college degree were depressed and eight percent of mothers with at least a college education had major depression. These differences were also statistically significant ($X^2 = 13.32$, $p < .001$).

Finally, based on the Rao-Scott chi-squared test, there was a statistically significant association between body weight and major depression ($X^2 = 5.07$, $p < .05$) and between children's age composition and major depression ($X^2 = 7.03$, $p < .05$). Women who were overweight or obese had higher levels of depression than women of normal or under weight, 16 and 13 percent respectively. Twenty-two percent of mothers with only adolescents in the household were depressed, compared to 13 percent of mothers with at least one pre-adolescent child and 17 percent of mothers with at least one infant.

Table 3 provides results from the multivariate logistic regression models. Model 1 shows that when comparing mothers in our sample, Asian/Pacific Islanders had significantly lower odds ($OR = 0.42$, 95% $CI = 0.24, 0.75$) of being depressed compared to Hispanic mothers. Additionally, black mothers had marginally significant higher odds of having major depression than Hispanic mothers ($OR = 1.55$, 95% $CI = 0.93, 2.58$). Results from the joint test indicated that all three race and ethnicity parameter estimates were jointly significant [$F(3, 60) = 4.49$, $p < .001$]. Furthermore, results from the pairwise statistical tests of covariate estimates indicated that there were statistically significant differences in major depression between Asian/Pacific Islanders, on one hand, and whites and blacks, on the other hand (test results not shown). Immigration status was not significantly associated with major depression in this model.

Model 2 shows the results from the fully adjusted model for major depression, which controlled for all the covariates of interest simultaneously. The results indicate that after controlling for the other key covariates, race remained strongly associated with major depression. Specifically, after adjusting for other covariates, white mothers were now significantly more likely to have major depression compared to Hispanic mothers ($OR = 1.67$, 95% $CI = 0.99, 2.80$). As in Model 1, results from the joint test of race indicate that all three race and ethnicity parameter estimates are jointly significant [$F(3, 60) = 3.24$, $p < .05$]. Results from the pairwise statistical tests

ⁱIn a bivariate logistic regression containing both log assets and log income, the same pattern arose. Higher log assets was significantly associated with lower rates of depression ($OR = 0.96$, 95% $CI = 0.92, 1.00$) while there was no statistically significant relationship between log income and depression.

indicated that race and ethnic group differences in major depression were statistically significant between white and Asian/Pacific Islander mothers as well (test results not shown for pairwise tests).

Additionally, model 2 shows that single mothers had significantly higher odds of having major depression compared to married mothers (OR = 1.54, 95% CI = 1.00, 2.37). Mothers who had a college degree or greater were significantly less likely to be depressed than mothers without a college degree (OR = 0.50, 95% CI = 0.29, 0.86). Finally, mothers with only adolescents were significantly more likely to have major depression (OR = 1.73, 95% CI = 1.11, 2.70) than mothers with at least one pre-adolescent child and no infants.^j

Discussion

Understanding predictors of disparities in mental health outcomes among mothers is important because a mother's poor emotional well-being can have negative effects on her functioning and can have lasting negative effects on her children (Cummings & Davies, 1994; Field, 1998; Heneghan et al., 1998; Luoma et al., 2001; Petterson & Albers, 2001). Understanding which women, and ultimately which children, are at risk for major depression is important. Thus, our study aimed to understand mental health disparities as they exist in a sample of Los Angeles mothers who participated in the L.A.FANS. To achieve this goal, we used logistic regression models which appropriately controlled for the complex survey sample design of L.A.FANS. Our analysis focused on drawing inferences about racial and ethnic and immigration status disparities in depression rates among mothers in Los Angeles County as well as on drawing inferences about other key predictors of major depression.

After controlling for race and ethnicity, immigration status, family economic resources, marital status, maternal education, body weight, number of children and child age composition, results from our study indicated that race, marriage, education, and child-age composition were the strongest predictors of major depression in the L.A. FANS sample.

Contrary to previous studies, we found that white mothers had significantly higher odds of being classified with major depression when compared to Hispanic mothers. With the exception of one study (Riolo, Nguyen, Greden & King, 2005), previous studies have shown the opposite, that white women have better mental health outcomes when compared to ethnic minority women (Cochran, Brown & McGregor, 1999; Dunlop, Song, Lyons, Manheim & Chang, 2003; Myers et al., 2002; Somervell, Leaf, Weissman, Blazer & Bruce, 1989; Vega, Kolody, Valle & Hough, 1986). One possible explanation might be that ethnic minority women, such as Hispanic and Asian/Pacific Islanders, have protective factors that white women do not such as large family units, which bring with them high levels of social support.

On the other hand, results from our analysis support previous studies which have shown that single mothers (Davies, Avison & McAlpine, 1997) as well as those who are less educated (Heneghan, Silver, Bauman, Westbrook & Stein, 1998) are at risk for depression compared to their married and highly educated counterparts.

Unlike other studies, our study showed that having children in a specific age group put mothers at higher risk for major depression. Specifically, we found that mothers with only adolescents in the home had significantly higher odds of being depressed compared to mothers with a mix of children other than infants. These results highlight the importance of screening mothers with older children. Numerous studies emphasize the need to screen mothers both during and after

^jMarginally significant results ($p < .10$) were found for immigration status, body weight, and mothers with at least one infant (see Table 3).

pregnancy (for example Georgiopoulos, Bryan, Wollan & Yawn, 2001; Yonkers et al., 2001). However, our results indicate that there may also be a need to screen mothers with adolescents in the home.

Limitations

Our study had a number of limitations. First, our measure of major depression does not rely on a diagnostic interview with a clinician nor does it provide a second rater to confirm the measure on an individual mother. Second, with only 276 depressed mothers in our sample, our analysis lacked sufficient power to detect significant two-way interactions between our key predictors of major depression. Of particular interest would be to detect interactions which may exist between race and ethnicity and immigration status as well as the interactions these variables may have with the other covariates studied in this paper. An analysis which examines these possible interactions is needed and would provide an important contribution to the field. Unfortunately, the L.A.FANS data were not designed with sufficient power to address such an analysis completely. All two way interactions were fit in our analysis and significance was assessed. Only one was found to be significant at the 0.05 level and this interaction was most likely due to small sample sizes and thus was not reported or over interpreted.

When examining the amount of power the study had to detect significant interactions between race and ethnicity and immigration status, we found that we had sufficient power to detect small effect size differences between legal Hispanic immigrant mothers and undocumented or non-immigrant Hispanics and white non-immigrant mothers. However, for the other race and ethnic groups, small sample sizes lead to poor power for detecting significant differences in the effects of immigration status among these groups. If these interactions do exist, caution must be taken when drawing conclusions about the joint effects of ethnicity, immigration status, and the other covariates.

Acknowledgements

We would like to acknowledge Narayan Sastry, Co-Director of the L.A. FANS for his guidance, editing and support.

The authors are grateful to the National Institute of Child Health and Human Development (R01HD41486) for its support of this research.

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Table 1
Descriptive Statistics for Analysis Sample (N=1856)

	Unweighted Percent or Mean	Unweighted Standard Deviation
Race and ethnicity		
White non-Hispanic	21%	
Hispanic	62%	
Black non-Hispanic	8%	
Asian/Pacific Islander	8%	
Immigration Status		
Undocumented Immigrant	22%	
Documented Immigrant	40%	
Non-Immigrant	38%	
Economic Resources		
Income (dollars)	52,846	96,240
Assets (dollars)	130,789	528,313
Marital Status		
Married	64%	
Cohabiting	12%	
Single	24%	
Education		
Less than College	83%	
College and Beyond	17%	
Body weight		
Normal (BMI <25)	38%	
Overweight and Obese (BMI ≥ 25)	62%	
Number of Children	2.03	1.08
Child Composition		
At least one infant ^[1]	10%	
At least one preadolescent child ^[2]	82%	
Only adolescents ^[3]	8%	

Notes:

^[1] At least one infant (child under the age of one year) in the household—though household could include one or more children between one and 17 years of age.

^[2] This variable identifies mothers with at least one child between 1 and 14 years of age but with no infants, and can include an adolescent between 15 and 17 years of age.

^[3] This variable identifies mothers with one or more child between 15 and 17 years of age but no children from any other age groups.

Table 2
Distribution of Depression Rates by Key Covariates (N=1856)

	Weighted Percent Depressed
Total	15
Race and ethnicity	
White non-Hispanic	18
Hispanic	14
Black non-Hispanic	20
Asian/Pacific Islander	7
Chi-Squared (3)	14.28*
Immigration Status	
Documented Immigrant	14
Undocumented Immigrant	12
Non Immigrant	16
Chi-Squared (2)	3.09
Log Income	
Lower 50%	15
Top 50%	14
Chi-Squared (1)	0.98
Log Assets	
Lower 50%	17
Top 50%	12
Chi-Squared (1)	4.40*
Marital Status	
Married	12
Cohabiting	16
Single	19
Chi-Squared (2)	6.95*
Education	
Less than College Degree	16
College Degree	8
Chi-Squared (1)	13.32***
Weight	
Normal or Underweight	13
Overweight or Obese	16
Chi-Squared (1)	5.07*
Child Age Composition	
At least one infant	17
At least one preadolescent child/no infants	13
Only Adolescents	22
Chi-Squared (2)	7.03*

Notes:

*
p < .05;

**
p < .01;

p < .001

Table 3
Results from the Logistic Regression Models for Major depression

	Model 1 OR (95% CI)	Model 2 OR (95% CI)
Race and ethnicity		
Non-Hispanic White	1.29 (0.80,2.09)	1.67 (0.99,2.80) *
Black	1.55 (0.93,2.58) [±]	1.43 (0.84,2.43)
Asian/Pacific Islander	.42 (0.24,0.75) **	0.68 (0.37,1.23)
Hispanic	1	1
Immigration Status		
Legal	1	1
Undocumented	.75 (0.50,1.13)	.70 (0.45,1.06) [±]
Non-Immigrant	.93 (0.54,1.59)	.90 (0.52,1.56)
Economic Resources		
Log Income		1.03 (0.95, 1.11)
Log Assets		.98 (0.94,1.03)
Marital Status		
Married		1
Cohabitating		1.29 (0.79,2.10)
Single		1.54 (1.00,2.37) *
Education		
Less than College Degree		1
College Degree		.50 (0.29,0.86) **
Body Weight		
Normal and Underweight		1
Overweight or Obese		1.31 (0.95,1.79) [±]
Children		
At least one infant		1.59 (0.93,2.70) [±]
At least one preadolescent child/no infants		1
Only Adolescents		1.73 (1.11,2.70) *
Number of Children		1.02 (0.88,1.18)
Number of Observations		1856

Notes: Robust standard errors are reported that adjust for clustering of observations by tract and that the regressions are weighted using the sampling weights provided by L.A.FANS.

[±]
p < .10;

*
p < .05;

**
p < .01;

p < .001.