Child Mental Health Outcomes and Household Composition

Clarion Jamil Harris

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CHILD MENTAL HEALTH OUTCOMES AND HOUSEHOLD COMPOSITION

by

Clarion Jamil Harris

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts
Major: Sociology

The University of Memphis
May 2022
DEDICATION

I dedicate my thesis to my beloved maternal and paternal grandmothers, Julia Lee Pierson (Big Mama) and Jean Addison McLemore Harris (Mama Jean). To my late Mama Jean, I owe you my passion for learning and my motivation for pursuing a master’s degree. You taught me that knowledge is the key to the world. I admire how hard you worked to obtain your master’s degree and used your passion for teaching others. To my Big Mama, I owe you my knowledge of navigating this world and my work ethic. You taught me that it is not where you start; it’s how you finish. Also, you instilled in my perseverance and the heart to never give up. Still, I admire how hard you work, and I wish to be just like you, still working at the young age of 89. To my role models, I love you dearly.
ACKNOWLEDGEMENTS

I want to express my gratitude to my thesis chair, Dr. Jeni Loftus. She guided me through my research and provided continuous support and a gracious spirit. To the members of my thesis committee, Drs. Wesley James and Joseph Lariscy. I am thankful for being provided with impactful insight into their areas of expertise. I also want to thank all the professors in the Sociology Department of the University of Memphis who provided me with instruction throughout my undergraduate and graduate careers. To the entire department, thank you for the unlimited resources and the opportunities to advance in my research career.
ABSTRACT

In recent years, the number of children diagnosed with mental health issues has grown. The American Academy of Pediatrics recently declared a national emergency in child and adolescent health. Much research has been done to explain this mental health crisis in American youth. This study examines the relationship between household composition and mental illnesses in children. For this study, data from the National Survey of Children’s Health are used. The variables of anxiety, depression, and behavioral problems are used as the dependent variables from this dataset. The independent variable is represented by family structure, and five control variables will be included. The variables controlled are race, gender, number of children in the household, access to healthcare, and income. I found a relationship between household composition and mental health diagnosis in school-aged children. This study found a significant association between children in two-parent (non-married), single-parent, grandparent households and a higher likelihood of a diagnosis of anxiety, depression, and behavioral problems compared to children in two-parent (married) households. This study could potentially lead to the advancement of mental health diagnoses and treatment.
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INTRODUCTION

Over the past few decades, poor mental health has become an epidemic that has changed the dynamics of modern-day times. It is estimated that about fifty percent of all adults will face challenges associated with mental health issues (Center for Disease Control [CDC], 2018). Mental illness is defined as any condition that affects cognition, emotion, and behavior (Manderscheid et al., 2010). As increasing numbers of adults struggle with poor mental health, it creates additional societal problems and worsens the epidemic. According to the World Health Organization (2021), depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease. Poor mental health disorders include anxiety disorders, mood disorders, psychotic disorders, trauma-related disorders, and attention-deficit disorders.

Poor mental health is not just a concern for adults. Current rates of children being diagnosed with mental illnesses are also alarmingly high. According to the CDC, 7.1% of children aged 3-17 have been diagnosed with anxiety, and 3.2% of children in the same age group have been diagnosed with depression (Data and Statistics on Children's Mental Health, 2020). The American Academy of Pediatrics recently declared a national emergency in child and adolescent health (AAP, 2021). Also, it is estimated that 9.4% of children ages 2-17 years have been diagnosed with Attention Deficit-Hyperactivity Disorder (ADHD), and 7.4% of children 3-17 have been diagnosed with behavior problems. Childhood diagnoses of mental health issues can follow an individual throughout the course of their lives and negatively impact an individual's quality of life (Fergusson and Woodward 2002). According to WHO, half of all mental health issues
start by age 14. An individual's quality of life is based on development in the early stages of life. It can be dramatically affected by a childhood diagnosis of mental illness. Existing literature on the effects of household composition and mental illnesses in children is missing.

This study aims to introduce new ideas about family dynamics and how they contribute to children being diagnosed with a mental illness. This study will seek to address the following research questions: 1) Are children who live in two-parent married households less likely to be diagnosed with anxiety than in other household arrangements? 2) Are children who live in two-parent married households less likely to be diagnosed with depression than in other household arrangements? 3) Are children who live in two-parent married households less likely to be diagnosed with behavioral problems than in other household arrangements? I will also examine whether the relationship between living in a two-parent household and diagnosis of mental health problems in children is moderated by income, gender, access to healthcare, number of children in the household, and race.

BACKGROUND

Household Composition

Research suggests that household composition can have a powerful and long-lasting effect on children. Children in step, single mother, or grandparent-only families are more likely to have worse physical and mental health than children who live in two-parent biological families (Amato 2000, Bramlett and Blumberg 2007, Moilanen and Rantakallio 1988). Several possibilities can explain this difference.
Children raised in households with one parent compared to children raised in households with two parents face different issues relating to emotional support. It stands to reason that two-parent households are more likely to be able to provide more emotional support. An absent father increases the mother's social, emotional, and financial stresses (Weinraub & Wolf, 1983). "In addition to the known positive associations between father involvement and child development outcomes, fathers have been found to play an important role in supporting mothers and attending to their mental health needs" (Garfield & Isacco, 2009:286). The father provides not only support for the child but also for the mother. When that is lacking, it increases the workload on the mother, making it extremely difficult to provide emotional support to the child.

Communication between the mother and father is also vital to the child's success. A healthy relationship can help provide social support for each parent, relieving stress. A father who can effectively communicate with the child's mother will have better access to information about the child and, therefore, a greater understanding of the child, which, in turn, may increase his selflessness towards the child (Flouri, 2006). Positive communication between the parents is essential to the child's well-being even if there are two parents in the household. Single-parent households face difficulties with social support when making decisions for the child, disciplining, and building a rapport with the child (Tran & McInnis-Dittrich, 2000). The stress on the mother affects her overall health and makes the task of taking care of the child much harder. "Mother's mental health has been identified as an important factor that may influence children's psychological well-being" (Miranda et al., 2013: 52).
According to the Kids Count Foundation, children living in households headed by grandparents are at a higher risk of experiencing mental health issues. Previous literature on the mental health outcomes of children living in these households is limited. Most of the literature is focused on the effects that caretaking has on the grandparent. Grandparents become primary caretakers for their grandchild/children for various reasons, including substance abuse, incarceration, or the death of the child's parent. These traumatic events can be stressful for the child and make the transition into a grandparent household extremely difficult. "Not only can the family trauma exacerbate the problems of adjustment to the parenting role, but the grandchildren coming from these troubled situations often have emotional and behavioral problems that make them more challenging to parent (Hayslip et al., 1998; Kennedy & Keeney, 1987)" (Bowers & Myers, 1999). Limited income in grandparent households has been found to correlate with the health outcomes of children (Ziol-Guest & Dunifon, 2014). Age also contributes to these types of households because grandparents have reported having difficulty maintaining the functions related to caring for the child. These difficulties could result in problems with consistent healthcare and participation in school activities for the child.

Research has shown that when a father provides financial support for the child, it decreases the household stressors and, therefore, decreases the child's odds of developing a mental illness (Flouri, 2006). Two-parent households also often share financial responsibilities. When one parent has to take on that role alone, it causes an extreme amount of stress to the parent, which affects the child. "The average income for a single mother with children is one-third the income for married couples with children across all racial and ethnic lines" (Tran & McInnis-Dittrich, 2000:123). Bramlett and Blumberg
(2007) show that when you control for income, the differences in mental health in children between single parent or grandparent-only households and households where two biological parents present decreases. This suggests that one of the primary reasons children in households with two biological parents do not have worse mental health is financial.

**Income**

Children who live in single-parent or grandparent-headed households are more likely to be living in low-income households. Previous research has demonstrated that much of the differences we see in adverse childhood outcomes from the household structure are due to differences in the financial situation of those households (McLanahan 1985; Thomson, Hanson, and McLanahan 1994).

Low-income children are at increased risk of developing mental health problems (McLeod and Shanahan 2003, Costello et al. 1996). Children raised in low-income households experience a lack of financial stability, which affects their overall well-being. "Poorer socioeconomic conditions (SEC) are associated with worse mental health outcomes" (Rutherford et al., 2019: 2). Low-income children are at a disadvantage compared to children raised in a household with a higher income; it has been shown that these children experience higher levels of conduct problems, behavior problems, depression, and low levels of self-confidence compared to other children (McLeod & Shanahan,1993).

Children raised in low-income households are subjected to food insecurities which can cause them extreme emotional distress. Research has shown that food insecurities are more likely in households with children versus households with no
children (Huang et al., 2010). When children do not have access to adequate foods, it causes them to worry about their next meal rather than age-related concerns. Instead of children being focused on things like homework or leisure activities, they are worried about being hungry, which can affect their growth. When a child does not have access to food, it severely affects the well-being of all aspects of their life. It has been determined that food insecurity can be a direct predictor of poor physical, social, and mental well-being and quality of life (Huang et al., 2010).

Along with food insecurities, the lack of proper housing also plays a role in children developing mental health issues. "Lack of secure housing may mean that a child must reside in a home that is unsafe or unsanitary or that otherwise does not meet basic shelter needs, or it may mean putting the child at imminent risk of being without shelter" (Warren & Font 2015:10). Housing insecurities can affect the child's ability to bathe, sleep or eat. Furthermore, it can affect their ability to do things related to school. Just like food insecurities, households could have access to housing. However, it might not be affordable, or it might not meet the primary living conditions. Housing insecurities affect the parents by causing extreme stress and fear. The common fear associated with housing insecurities is the family being reported to Child Protective Services (CPS). A household's inability to have housing is related to the risk of child neglect, maltreatment risk, and physical neglect (Warren & Font 2015). When a parent cannot provide safe and comfortable housing for a child, it can push the parent to make bad decisions in desperation. "Multiple studies suggest that a link between economic hardship and parenting behaviors is explained by maternal depression, stress or other psychological symptoms" (Warren & Font 2015:2).
Health Insurance

Health insurance is an essential resource needed to improve the health and well-being of a child. According to the United States Census Bureau, in 2020, 4.3 million children under the age of 19 - 5.6% of all children did not have health insurance for the entire year. Health insurance is linked to better physical and mental health outcomes (Barker et al., 2020). Uninsured children are more likely to be diagnosed with mental health issues such as ADHD based on prior research conducted by the National Institutes of Health. Increased disparities in healthcare coverage have been observed to be prevalent in low-income households. Also, minority populations are more likely to be uninsured. Prior literature has shown that household composition is correlated with children being insured. According to Lave et al. (1998), households with two earners had more accessible access to employer-based health insurance and more generous insurance options than one earner.

Differences in the level of care in healthcare for children have been associated with the different insurance options. Children with private insurance have historically received better access to care when compared to public insurance. Private health coverage was also positively related to having at least one adult who works for a large firm, which was correlated with standard, full-time employment (Barker et al., 2020). Children living in single-parent households are uninsured at an increased rate compared to children who live in two-parent households. "Children of single mothers, compared with children living with two parents, were as likely to have had no physician visit in the past year; were slightly more likely to have no usual source of health care; and were more likely to have an unmet health care need (Heck & Parker, 2002).
**Number of Children in Household**

The research on the effects of the number of children in the household on the child's mental health has been sparse and mixed. While Vogt Yuan (2009) found no direct effects of the number of siblings on mental health, they found that the number of children in the household interacts with feelings towards those siblings. Fewer siblings with more robust connections between siblings lead to better mental health. While studying children with Autism Spectrum Disorder, Montes (2018) found that children with older siblings had significantly lower levels of depression, anxiety, and behavioral problems. Although parents of one child have better opportunities to focus on the health and well-being of the child, research has shown that children who live in only child households are more susceptible of "over-protected parenting". This parenting style is used as a form of psychological control that puts emotional strain on the child (Khadaroo & MacCallum, 2021). Similarly prior research has found that children in only child households did not exhibit a significant difference in social and interpersonal skills compared to children in households with siblings but found differences observed in development, educational performance, and behavioral problems (Wikle et al., 2019).

Meanwhile, historical research has shown that children do not benefit from having siblings. According to Downey & Condron (2004), children with siblings experience Resource Dilution, and states that "Dilution proponents suggest that on average, children do not benefit from having siblings because siblings dilute rather than provide resources". This has been shown to affect children's educational attainment, but when only children were observed, they sometimes performed worse than children with siblings. Although substantial research has been done on sibling relationships and educational attainment,
there is not much research on mental health diagnoses. Much of the prior literature emphasizes children's social connection from having siblings. Having siblings increases a child's ability to learn communication skills and convey feelings and emotions (Downey & Condron, 2004). This effect was studied by Polit and Falbo (1987). They found that only children fail to learn critical developmental lessons and have issues socializing with their peers. Despite this evidence, updated research shows that single-parent households with one child had better outcomes after traumatic events than children in single-parent households with siblings (Falbo, 2012).

**Race**

Existing literature focuses on the relationship between race and childhood mental health diagnosis has produced ambiguous interpretations. Prior literature has shown that race is a contributing factor in diagnosing mental illness in children. Non-Hispanic white children are less likely to suffer from mental illness than all other groups (Sen, 2004). After controlling for income, however, children who are African American, Native American, or Hispanic are less likely to have reported mental health disorders (Samaan, 1998). The prevalence of depression among African American teens has varied in previous research; some studies have found higher rates of depression, while others have found lower rates of depression among African American teenagers (Nancy et al., 2001). These literature variations could result from some of the studies considering that additional risk factors are associated with race and mental health diagnoses.

Historically, several factors have been associated with race and behavior problems in non-white children. In a study conducted by Roche et al. (2007), a sample of low-income African American and Latino children ages 10 to 14 years was analyzed.
This study found that children with uninvolved parents who lived in dangerous neighborhoods were more likely to experience depression and behavioral problems. Hispanic children were more likely than White children to experience internalizing behaviors, and White children were more likely than African American children to experience significant internalizing symptoms (Hunt et al. 2017).

African American children and, more specifically, African American males have historically had higher diagnoses of behavioral problems. According to Schwartz and Feisthamel (2009), the disproportionately high rate of externalizing behavior among African American children could be attributed to racial diagnosis biases, resulting in misdiagnosis of oppositional defiant disorders or conduct disorders. Disparities by race not only contribute to the diagnoses of mental health issues but it contributes to the treatment that the children receive. Research has shown that Black, Latino and Asian children are less likely to receive adequate mental health treatment than other races (Nguyen et al., 2018, Sen 2004). This also is related to the access to specialized care that can help diagnose mental health issues and referrals to management care. When household composition is analyzed, minority children are less likely to live in two-parent households. An essential component of diagnosing mental health issues is access to specialized care. Minority youth are less likely to be referred to a specialized healthcare provider (Holm-Hansen, 2006).

**Gender**

Research suggests that household composition affects boys and girls differently. For instance, Krein and Beller (1998) found that both boys and girls have lower
educational attainment when they live in a household with a single mother than when they live in a household with two parents. However, the effect was more significant for boys than for girls. Manning and Lamb (2003) find that boys are more likely to have problems in school living in single-parent and cohabiting households.

While you would not expect that the gender of the child would affect the household composition, Morgan, Lye, and Condran (1988) find that parents of a daughter are more likely to divorce than parents of a son. They argue that fathers are more invested in sons and spend more time actively parenting sons. This added time in parenting adds to marital stability. However, in a study of 16 European countries, Canada, and the United States, Diekmann and Schmidheiny (2004) find that sons do not contribute to marital stability. Thus their parents are no less likely to divorce.

Existing literature on the gender differences between mental health diagnoses has shown that girls are at greater risk of developing a mental illness. Depression and anxiety are twice as common among girls as among boys (Hankin et al. 1998). How mental health manifests itself for boys and girls is also different. Females are more likely to be diagnosed with internalizing problems such as anxiety and depression. In contrast, males are more likely to be diagnosed with externalizing problems such as behavioral problems (Kessler 2003). The differences observed in gender have been thought to be the cause of gender expectations in infancy (Masfety et al., 2021). Commonly, males are taught to exhibit a tough exterior, and females are prepared to exhibit non-aggressive behavior. Each gender role has its own presumed characteristics associated with it, and when a child does not possess those characteristics, it puts them at an increased rate of experiencing mental health problems (Landstedt, Asplund, and Gådin 2009). Gender
roles assigned to females discourage them from showing signs of anger and frustration so that more females might experience internalizing problems. The gender roles assigned to them make it acceptable for them to display these feelings expressed as behavioral problems. This can be a reason for the significant difference between gender and mental health issues.

METHODS

Data

The data used in this study come from the National Survey of Children’s Health (NSCH) 2019-2018. The NSCH is directed by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), and conducted by the U.S Census Bureau. The survey is conducted annually and is completed by mail-in and online surveys. Households were chosen randomly by the Census Bureau’s Master File (MAF) (Census Bureau, 2019). This system is comprised of household information from various national databases that include the Internal Revenue Service (IRS), Medicare Enrollment Database (MEDB), Indian Health Service (HIS), and Selective Service System (SSS).

Based on the information received from the various databases, there were 40 million addresses linked to households with children. From that, it was narrowed down to 184,000 households. NSCH collected information for children 0-17 years old. The completed dataset contained 59,963 participants. Parents or caregivers in the household were asked various questions pertaining to the selected child’s mental, physical, emotional, and behavioral well-being. The survey questions were categorized by age and certain questions were asked to children in certain age ranges. The three categories were
0-5 years, 6-11 years, and 12-17 years old. In this study, we restrict the analyses to children ages 10 years old to 17 years old. This specific age range was selected because older children were more likely to receive a diagnosis. When analyzed, there were significantly lower rates of diagnosis among children aged 4 years to 8 years old. This narrowed down the participants to 31,533 which is 53.3% of all the participants in the study.

**Dependent Variables**

The dependent variables that are used to represent mental illness are behavioral problems, anxiety, and depression. Respondents were asked a series of questions with the responses of “Yes” or “No”. Respondents were asked, “Has a doctor or other health care provider EVER told you that this child has Anxiety Problems?” For depression, parents were asked “Has a doctor or other health care provider EVER told you that this child has Depression?” and for behavioral problems parents were asked “Has a doctor, other health care provider or educator EVER told you that this child has… Behavioral or Conduct Problems?” The question about behavioral problems provides the respondent with additional information that includes educators are teachers and school nurses as examples for healthcare providers and educators. For this research, the variables for depression, anxiety and behavioral problems were recoded to “Currently Diagnosed” and “Not Currently Diagnosed”.

**Independent Variable**

The independent variable for household composition is represented by the variable family structure. The component of this variable is 1= Two Parent, currently married, 2= Two Parent, not currently married, 3= Single Parent (Mother or Father), 4=
Grandparent Household and 5= Other. For the variable family structure, participants were asked about the relationship between the adults living in the household and the selected child and their marital status. Parents were characterized by if they were biological, adoptive or step-parents. Also, the survey questions for the sex of the caregivers were used to determine the structure of households. In this variable, two parent married and non-married also included same-sex couples. Two parent (married) households are the omitted category in the analyses.

Control Variables

The control variables for this analysis are race, gender, number of children in the household, household income level, and whether the child has health insurance. Race is represented by the variable for race that is comprised of 7 race/ethnicity groups. Respondents were asked “What is the child’s race?” and asked to select the following responses: “White”, “Black or African American”, “American Indian or Alaska Native”, “Asian Indian”, “Chinese”, “Filipino”, “Japanese”, “Korean”, “Vietnamese”, “Other Asian”, “Native Hawaiian”, “Guamanian or Chamorro”, “Samoan”, and “Other Pacific Islander”. In the year 2018, respondents were given the option of selecting “Some other race” but not in the year 2019. Also, respondents were able to select more than one response.

From these questions, the responses for the variable for race are 1= “Hispanic”, 2= “White, non- Hispanic”, 3= “Black, non- Hispanic”, 4= “Asian, non- Hispanic” and 5= “American Indian or Alaska Native, non- Hispanic”, 6= “Native Hawaiian and other Pacific Islander, non- Hispanic” and “Multi-Race, non- Hispanic”. For this study, the
variables were recoded to 1= “Hispanic”, 2= “White, non-Hispanic”, 3= “Black, non-Hispanic” and 4= “Other, non-Hispanic”. Non-Hispanic white is the reference category.

For gender, the variable that is represented by using the variable for sex of the selected child. Respondents were asked “What is the sex of the child?” and given two responses “Male” or “Female”. Comprised from this question, the responses for the variable are 1= “Male and 2= “Female”. Male is the omitted category.

Income in this study is represented by the variable income level of the household that the child lives in. For this variable, respondents were asked a series of “Yes” or “No” questions. The questions asked were “Wages, salary, commissions, bonuses, or tips for all jobs”, “Social security or railroad retirement; retirement, survivor, or disability pensions?”,”Supplemental security income (SSI); any public assistance or welfare payments from the state or local welfare office?” and “Any other sources of income regularly received such as Veterans’ (VA) payments, unemployment compensation, child support, or alimony?” The respondents were also asked these series of questions that provided responses of “Yes”, “No” and “Loss”. The questions asked were “Self-employment income from own nonfarm businesses or farm business, including proprietorships and partnerships?”, and “Interest, dividends, net rental income, royalty income, or income from estates and trusts?”. If the response “Yes” was selected by the respondent, then they were asked “Think about your total combined family income INTHE LAST CALENDAR YEAR for all members of the family. What is that amount before taxes? Include money from jobs, child support, social security, retirement income, unemployment payments, public assistance, and so forth. Also, include income from
interest, dividends, net income from business, farm, or rent, and any other money income received.” and given a blank to manually fill in the amount.

From these questions, the NSCH constructed a variable situating a household in relationship to the Federal Poverty Limit (FPL): responses provided for the variable were 0= “0-99% FPL”, 2= “100%-199% FPL”, 3= “200%-399% FPL”, and 4= ”400% FPL or above”. Federal Poverty Level is defined as a measure used by the Department of Health and Human Services (HHS), to determine eligibility for government programs such as Medicaid, Marketplace health insurance or Children’s Health Insurance Program (CHIP) insurance (Healthcare.gov 2021). The higher percentage of FPL indicates increased income and lower chances of qualifying for government programs. 400% FPL or above is the omitted category.

To represent number of children in household, the variable that is used is “Number of children in household”. This variable was formulated by asking the respondents “How many children 0-17 years old usually live or stay at this address?”. The respondents were given a blank box and asked to fill in the number. The responses for this variable were 1= “1”, 2= “2”, 3= “3” and 4= “4 or more”. One child in the household is the omitted category.

For the control variable for health insurance, the variable that is used is current health insurance status. For this variable, three questions were asked to comprise responses. The first question asked was “Has the child been covered by a health insurance plan in the last 12 months?”. The second question asked was “Is the child covered by insurance at the time of the survey?”. The last question asked was regarding the type of insurance plan the child was covered under. The responses for this variable
are 1= “Insured at the time of survey” and 2= “Not insured/Indian HS/ religious health share”. For this study, this variable was recoded to 1= “Child had insurance at the time of the survey or was covered sometime in the 12 mo. prior to the survey” and 2= “Child did not insurance at the time of the survey or was not covered sometime in the 12 mo. prior to the survey”. Having health insurance is the omitted category.

To analyze this data, I use RStudio to examine the effect household structure has on the mental health of children ages 10-17. I use bivariate and multivariate logistic regressions. Results are presented as odds ratios.
**RESULTS**

**Descriptive statistics**

<table>
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<th>Table 1 – Description of variables</th>
<th>Percent in sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Diagnosis with Depression</td>
<td>7.35%</td>
</tr>
<tr>
<td>Diagnosis with Anxiety</td>
<td>14.80%</td>
</tr>
<tr>
<td>Diagnosis with Behavioral Problems</td>
<td>7.65%</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Household composition</td>
<td></td>
</tr>
<tr>
<td>Two parent married*</td>
<td>69.74%</td>
</tr>
<tr>
<td>Two parent non-married</td>
<td>5.91%</td>
</tr>
<tr>
<td>Single parent</td>
<td>21.15%</td>
</tr>
<tr>
<td>Grandparent</td>
<td>3.20%</td>
</tr>
<tr>
<td>Income</td>
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<tr>
<td>0-99% FPL</td>
<td>11.09%</td>
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<tr>
<td>100%-199% of FPL</td>
<td>16.28%</td>
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<tr>
<td>200%-399% FPL</td>
<td>30.76%</td>
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<tr>
<td>400% or more of FPL*</td>
<td>41.87%</td>
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<tr>
<td>Number of children in household</td>
<td></td>
</tr>
<tr>
<td>One*</td>
<td>46.55%</td>
</tr>
<tr>
<td>Two</td>
<td>35.88%</td>
</tr>
<tr>
<td>Three or more</td>
<td>17.57%</td>
</tr>
<tr>
<td>Health Insurance</td>
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<tr>
<td>Currently Uninsured</td>
<td>4.97%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
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<tr>
<td>White*</td>
<td>70.15%</td>
</tr>
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<td>Hispanic</td>
<td>11.70%</td>
</tr>
<tr>
<td>Black</td>
<td>6.73%</td>
</tr>
<tr>
<td>Other</td>
<td>11.42%</td>
</tr>
<tr>
<td>Gender</td>
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</tr>
<tr>
<td>Female</td>
<td>47.82%</td>
</tr>
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</table>

The dependent variables in this sample are mostly represented by children without diagnosis of depression, anxiety and behavioral problems. The number of children with depression diagnosis is 7.35%, 14.80% for anxiety diagnosis and 7.65% for behavioral problem diagnosis. Over half of the sample is represented by children in two-parent (married) households with 69.74%. Then followed by children in single parent...
households with 21.15% and the lowest represented group of children being in
grandparent households at 3.20%. For the control variable of income, the most
represented group is 200%-399% FPL (30.76%) and 400% or more FPL (41.87%). Also,
majority of the children (46.55%) in this sample lived in households with only one child
and followed by households with two children (35.88%). A small number of the sample
with 4.97% did not have health insurance. Similar with race, a large number of the
sample is represented by on group. 70.15% of the children in the sample were White.
Lastly, the numbers of children by gender were relatively close. Females represented
47.82% of the sample.
<table>
<thead>
<tr>
<th>Household composition$^a$</th>
<th>Depression Model 1</th>
<th>Depression Model 2</th>
<th>Depression Model 3</th>
<th>Depression Model 4</th>
<th>Depression Model 5</th>
<th>Depression Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two parent non-married</td>
<td>1.49***</td>
<td>1.43***</td>
<td>1.16*</td>
<td>1.19***</td>
<td>1.55***</td>
<td>1.40***</td>
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<tr>
<td>Single parent</td>
<td>1.88***</td>
<td>1.77***</td>
<td>1.40***</td>
<td>1.44*</td>
<td>1.88***</td>
<td>1.72***</td>
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<tr>
<td>Grandparent</td>
<td>2.41***</td>
<td>2.19***</td>
<td>1.57***</td>
<td>1.63***</td>
<td>3.53***</td>
<td>3.19***</td>
</tr>
<tr>
<td>Income$^b$</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>0-99% FPL</td>
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<td></td>
<td></td>
<td>1.31***</td>
<td>1.84***</td>
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<tr>
<td>100%-199% of FPL</td>
<td></td>
<td>1.50***</td>
<td></td>
<td></td>
<td>1.23***</td>
<td>1.49***</td>
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<tr>
<td>200%-399% FPL</td>
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<td>1.13*</td>
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<td>1.05</td>
<td>1.12</td>
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<tr>
<td>Number of children in household$^c$</td>
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<tr>
<td>Two</td>
<td>0.87**</td>
<td></td>
<td>0.92*</td>
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<td>1.14*</td>
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<td>Three or more</td>
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<td>0.85***</td>
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<td>1.29***</td>
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<tr>
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<tr>
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<td>0.58***</td>
<td></td>
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<td>0.60***</td>
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</tr>
<tr>
<td>Race$^e$</td>
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<tr>
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<td>0.65***</td>
<td></td>
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<td>0.79*</td>
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<tr>
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<td></td>
<td>0.96</td>
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</tr>
<tr>
<td>Other</td>
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<td></td>
<td></td>
<td>0.83*</td>
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<td>Gender$^f$</td>
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<td></td>
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</tr>
<tr>
<td>Female</td>
<td>1.61***</td>
<td>1.45***</td>
<td></td>
<td></td>
<td>0.40***</td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Two parent married is the omitted category  
$^b$ 400% of FPL is the omitted category  
$^c$ Only child is the omitted category  
$^d$ Child did not have health insurance in the last twelve months is the omitted category  
$^e$ White, non-Hispanic is the omitted category  
$^f$ Male is the omitted category

Significance codes: *** p<0.001, ** p<0.01, * p<0.05, . p<0.1
**Bivariate Analysis**

The bivariate analysis utilized logistic regression to compare the independent and dependent variables’ relationship. For the dependent variable for depression, household composition showed that children in two-parent (non-married), single parent, and grandparent households had an increased rate of diagnoses than children in two-parent (married) households. The results show that children in two-parent (non-married) were 49% more likely to be diagnosed with depression, while single-parent households increased to 88% and 141% for grandparent households. Model 1 of Table 1 represents these results.

Model 3 shows that when compared to two-parent (married) households, children in two-parent (non-married) households were 16% more likely to have a diagnosis of anxiety. The results also show that the odds increased to 40% for single-parent households and 57% for grandparent households.

The analysis of diagnoses of behavioral problems and household composition shows a significantly higher rate among children in grandparent households. Model 5 compares two-parent (married) households; grandparent households were 253% more likely to have a diagnosis of behavioral problems. While single-parent households were 88% more likely, they are followed by two-parent (non-married) households with 55%.

**Multivariate Analysis**

**Depression**

The multivariate analysis consisted of a logistic regression to compare the relationship among the independent, dependent, and control variables. Model 2 shows
that when depression and household composition and the five control variables are analyzed, the likelihood of depression for two-parent (non-married), single parent, and grandparent households decreases. While the strength of the relationship between household composition and diagnosis of depression decreased when control variables were included, it was still strong and still statistically significant.

Income in this analysis also showed to be statistically significant. With children in 0-99% FPL households being 67% more likely to have a depression diagnosis, they were followed by 100-199% FPL households with 50% and 200-399% FPL households with a 13% likelihood than children in households with income of 400% FPL and above.

The trend of higher odds of a diagnosis does not continue with the control variable for the number of children in the household. Model 2 shows statistically significant results that children in households with only two children and three or more children had lower odds of being diagnosed with depression. Children in two-child households were 13% less likely to have depression than children in one-child households. The decreased likelihood is also observed in children in households with three or more children at 15%.

The control variable for insurance coverage showed that uninsured children were 37% less likely to be diagnosed with depression than children who had health insurance.

Race was also shown to continue the trend of decreased odds of depression diagnoses. Model 2 shows that Hispanic children were 28% less likely to have a diagnosis of depression. In comparison, black children were 46% less likely, and children of other races had a 33% decreased likelihood than white children.

The fifth and final control variable of gender shows that female children were 61% more likely to have a diagnosis of depression than male children.
Anxiety

Anxiety diagnoses had slightly different results than depression. Model 4 shows that when anxiety and household composition and the five control variables are analyzed, the likelihood of anxiety increases for two-parent (non-married), single-parent, and grandparent households. Two-parent (non-married) odds of an anxiety diagnosis were 19%, single households with 44%, and grandparent households at 63%. Adding the controls strengthens rather than weakens the relationship between household composition and diagnosis with anxiety.

The analysis also showed that income did have a positive effect on anxiety. Children in 0-99% FPL households’ likelihood of anxiety was 31%, 100-199% FPL households were 23%, and 200-399% households’ likelihood was 5%. The category of 200-399% FPL was not statistically significant. Similar to the depression diagnoses, the number of children had a negative effect on the likelihood of having anxiety. Children in two-child households were 8% less likely, and children in three or more households were 15% less likely to receive an anxiety diagnosis. Following a similar trend, children without health insurance were 42% less likely to have a diagnosis of anxiety. Black, Hispanic, and other children also had a decreased likelihood of anxiety. Black children have 59% less likely odds, Hispanic children with 35% less likely odds, and children of other races with 41%. Female children were 45% more likely to have an anxiety diagnosis.

Behavioral Problems

In Model 6, the analysis of behavior problems resulted in all of the variables being statically significant. Controlling for income, number of children in the household,
health insurance, race and gender slightly weakened the effect of household composition on diagnosis of a behavioral problem, but the relationship remained strongly statistically significant. Similar to depression and anxiety, income did have a positive effect on behavior problems. Children in 0-99% FPL households were 87% more likely to have a diagnosis of behavior problems. 100-199% FPL households followed them with 49%. 200-399% FPL was not statistically significant.

Children in two children households were 14% more likely to receive a behavioral problems diagnosis, and children in three or more child households had a 29% higher odds of having a behavior problem diagnosis. Children without health insurance had 40% odds of not being diagnosed with a behavior problem. Race also had an effect on behavior problems. Hispanic children had 21% lower odds of receiving a behavioral problem diagnosis and children of other races had 17% lower odds. Black children were not statistically more or less likely to receive a diagnosis than white children. Female children were 60% less likely to have a behavior problem diagnosis than male children.

**DISCUSSION**

**Interpretations**

Much of the results gathered in this study align with the hypotheses. These results show that children in two-parent (married) households have a decreased likelihood of being diagnosed with anxiety, depression, and behavioral problems. It was also hypothesized that when income, race, number of children in household, gender, and access to healthcare were controlled, it would influence children diagnosed with mental health problems in certain household types. While each of these control variables were statistically significantly related to the mental health dependent variables, their inclusion
in the analyses did little to moderate the effect of household composition on mental health diagnosis in children between the ages of 10 and 17. Interestingly, when the control variables were added there was decrease in the numbers of anxiety diagnosis was observed. This observation is called a “suppression effect” and this effect can give a more clear observation of the effect household composition has on anxiety diagnosis.

Children in two parents married households were least likely to receive a diagnosis of depression, anxiety or a behavioral disorder. Children in two parent non-married and single parent households were more likely to receive these diagnoses and the numbers of mental health diagnoses for children in grandparent households were much higher when compared to other household types. It was also interesting to find that children who lived in households with more than one child had a decreased likelihood of developing a diagnosis of anxiety and depression, while having an increased likelihood of being diagnosed with a behavioral problem.

Each of the variables that I used as controls to examine their moderating effects on this relationship were also statistically significant. As stated previously in this paper, research has found that social factors such as race significantly effect income levels across all household types (Tran & McInnis-Dittrich, 2000:123; Bramlett & Blumberg, 2007). Evidence has also shown that gender and the number of children within a household influences mental health diagnosis in certain household types (Manning & Lamb 2003; Falbo, 2012). While they did little to moderate the effect between the dependent and independent variables, they do have an effect on a child’s likelihood of receiving a diagnosis of depression, anxiety of a behavior. Historically, females have
been observed to have higher rates of depression and anxiety and lower rates of behavior problems. The same results were observed here.

Interestingly, the effect of the number of children in the household on mental health diagnoses depends on which mental health outcome is being considered. For anxiety and depression, children in households with more children were less likely to be diagnosed. For behavioral problems, these children saw higher odds of being diagnosed. Prior literature has concluded that the lower rates of internalizing behaviors for children is because they use their siblings as a confidant and the reasoning behind higher rates of externalizing behaviors is the cause of depleted resources within the household (Downey & Condron, 2004).

Income has been found to have a negative effect on children’s mental health. These results indicate that children living in households with lower incomes are more likely to have mental health diagnoses. It is also important to recognize that these results significantly differed in the number of diagnoses as household incomes increased. As income went up, the likelihood of a diagnosis went down.

Implications

Although most of the results in this study aligned with previous research, there were unexpected findings. For race, the results showed that minority children had decreased likelihoods of depression, anxiety, and behavioral problem diagnoses. This was not the expected direction of that relationship. However, these results should not be interpreted as minority children experiencing mental health problems less than white children, but that these children have limited access to diagnostic healthcare. This consideration should be made based on prior research that has shown that Hispanic,
Black, and Asian children are less likely to receive adequate mental health treatment and
African American, Native American or Hispanic children being less likely to report
mental health disorders (Nguyen et. al, 201; Sen 2004; Samaan, 1998).

This trend was also observed in whether or not the children had health insurance.
The results showed that children without health insurance had lower odds of being
diagnosed with a mental health problem. This does not mean that children without
insurance have better mental health. It likely means that children without insurance are
less likely to go to a doctor and are therefore less likely to receive a diagnosis, whether or
not they suffer from poor mental health. The decreased number of some children with
mental health diagnoses can be attributed to the difficulty for children to get healthcare
and receive diagnoses.

The data that has been analyzed contributes to prior research because it provides
convincing evidence that household composition does influence mental health diagnoses.
It also shows that when other social issues are accounted for, they also affect the
diagnoses for children in certain household types, but do not erase the effect of household
composition on mental health diagnosis.

Limitations

The limitations of these results need to be discussed. Overall representation of
children in grandparent, single, and two-parent (non-married) households was
significantly smaller than children in two-parent (married) households. This was also
observed in all variables that were analyzed in this dataset. The number of children
diagnosed with mental health problems was significantly smaller than those without these
diagnoses. An important factor in this research is that a reason for these low numbers can
because children facing adversities are under-diagnosed because they do not receive regular routined care. There were significant limitations in representing minority children, children without health insurance, and income in this dataset.

Although the results of this study provide meaningful results regarding mental health diagnoses and household composition, it is vital to recognize that these results may not represent the population. A significant limitation of the data is that the data was collected via mail, which could explain the underrepresentation of specific populations. These results prove that children in these disadvantaged households face many issues, which could explain why so much of this population did not participate in the survey. The specific methodology of how mental health problems could also be attributed to unequal representation of this population of children. Despite the limitations of this data, the results of this study need to be interpreted as valid because they depict social issues that are important to this research.

**CONCLUSION**

This study aims to serve as a guide to future research and be used to explore alternative causes of increased mental health issues in children. This research aimed to find a correlation between mental health diagnoses and household composition. Based on the results of this study, it can be concluded that there is a clear and convincing relationship between these two variables. Another aspect of the study sought to find if specific social issues were controlled for what effect would that have on the outcome. The results of this study have indicated that this also has been proven to be true. The limitations of this study provide a path for future research to focus on different data
collection methods that can be utilized to collect data on mental health issues and their correlation with household composition.
REFERENCES


