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MENTAL HEALTH CLUSTERS IN CHILDREN BORN TO UNMARRIED PARENTS: EVIDENCE FROM LATENT CLASS MODELING

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Abstract*:* Despite a considerable number of accounts on the emotional health and development of young children in single-parent, divorced, cohabiting families, patterns of emotional well-being that exist among young children living with unmarried parents and which patterns most children of this group exhibit have remained unknown. Further, racial differences and families' social economic status have been empirically documented as influential factors in the disparities of children's health domains over time. Nonetheless, the impacts of these factors on the likelihood of being in a group with an emotional health pattern that is at risk more than the others have yet to be empirically examined. The present study aims to capture the latent mental health patterns among school children raised by unmarried parents. Using latent class analysis, the study analyzes the National Survey of Children's Health (NSCH) 2021 data to determine the number of latent classes and depicts the characteristics of those classes based on parent responses to children's mental health symptoms to the survey. We also examined the associations between these reporting patterns and two factors that substantially contribute to child health disparities race and food sufficiency (representing family SES). After evaluating the goodness of fit and reviewing classification diagnostics, we found five classes named ADHD class, intact class, Anxiety class, Friendship Problems class, and High-Risk class. Using a three-step approach to incorporating covariates into LCA models, we also found some significant correlations between race and food situation and the five classes.

Keywords: Mental Health, Children, Unmarried Parents, Latent Class

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Introduction

Noted the same trend in the Finish population. Cherlin (2021) analyzed three national studies and found the rise of families in the last half century have changed their structure and stability to a great extent. Children living in traditional families, which refer to two-married parent families with a father and a mother raising their biological children have declined from 84% in 1970 to 60% by 2009. Specifically, in 2009, 29 percent of African American children and 58 percent of Hispanic children lived in married parents' households, while 50 and 25% respectively lived in single-mother households (Anderson, 2014). Instead of formally getting married, millennial couples have increasingly engaged in cohabitation. Non-marital births are more frequently seen in single-parent families or cohabiting unions (Andersson et al., 2017). A report by Trends (2016) estimated that the percentage of births in America occurring outside of marriage has risen from 28% in 1990-40% in recent years. Schnor and Jalovaara (2020) nonmarital first childbearing among women with bachelor's degrees. Lamidi (2016) speculated that about 62% of births to never-married women belong to women in a cohabiting situation. However, the author noted that White and Hispanic women have a higher likelihood to have a birth in the context of a cohabiting union than Black women. Consequently, it is not surprising that a plethora of children are reared and raised in alternative family types, such as single-parent families or cohabiting families and the number of these children is still growing. Although children who do not live with their married biological parents have the capabilities to thrive, research consistently demonstrated that they have a higher risk to experience poverty, fewer economic Resources, and cognitive and behavioral challenges than their peers who were raised in married-parent families (Trends, 2016). It is also put forth that though cohabitation leads to a higher likelihood of marriage after the birth of a child, cohabiting unions are less stable than marriages which makes children riskier for adverse outcomes (Manning, 2015; Osborne, 2005). On that account, children's mental health literature needs to direct more attention toward this group of children to support their mental well-being throughout their development. The present study attempts to identify and describe the patterns of mental health existing among young children living with unmarried parents. It examines which patterns most children of this group fall into and seeks to discover the impacts of racial differences and family Socioeconomic Status (SES) on the likelihood of being in a particular mental health group. Young children living with unmarried parents include those living in single-parent families or with a divorced parent and those living in cohabiting families. Studies focusing on these family structures have unveiled how children's mental health is impacted by each family structure (Manning, 2015). This translates to the notion that children living in these types of family households might suffer from at least one psychological problem.

Literature Review

Effects of Alternative Family Structures on Children's Mental Health. A large body of past research related to divorce has confirmed that parental divorce has a negative effect on children's well-being and mental health. Auersperg et al. (2019) conducted a meta-analysis of a total of 117 documents from 1990-2018 to examine the long-term impact of divorce on children's mental health. The study analyzed the impact of divorce over a long period of time, not just when it occurred, and concluded that divorce had a significant relationship with the prevalence of depression, anxiety, distress, and suicide in children in the long run. In addition, the results showed that divorce was significantly related to children's smoking, alcohol, and drug use. Their findings align with Demir-Dagdas et al. (2018) work in which children raised in divorced families experience more depression and anxiety, becoming parents at an early age or showing a high divorce rate. In addition to divorced families, various

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types of family structures are emerging, including remarried families, unmarried families, single-parent families, and same-sex parents. In European countries, single-parent families account for 35% of all families (Bergström et al., 2021). In America in 2008, this type of family was reported to be approximately 30%. US Census Bureau (2012). It has been well-established that changes in family structure are exerting an influence on children's well-being and mental health in many ways including emotional and economic instability, which leads to negative effects on children's mental health (Auersperg et al., 2019). According to a study by Perales et al. (2017), children from single-parent, blended, and step-families have a higher prevalence of mental disorders than children living in traditional families with two parents. Using data from Fragile Families, Walldfogel et al. (2010) conducted a comparative analysis of the mental health of children raised in single-mother and cohabiting families and children raised in married-couple households. The data was collected from 5,000 children born between 1998 and 2000, of whom about 3,700 came from single-mother families. According to the data analysis, children raised in traditional families were found to be emotionally and cognitively healthier and experience fewer behavioral problems than children growing up in single mothers or cohabiting families. Brown (2004) conducted a study with children who grew up in four types of family structures; two biological married parent's families, two-biological-parent cohabiting families, married stepfamilies, and singlemother families, to investigate the effects of these family structures on children's well-being. The results indicated that children living in two biological parents cohabiting families experience worse outcomes than children living with two biological married parents. Also, in the case of children aged 6-11 years, economic and parental resources have been found to weaken this difference. However, for adolescents aged 12-17 years old, parental cohabitation was found to be negatively related to their well-being regardless of the level of such resources. Recently, Faulconer et al. (2022) have also compared behavior problems in children growing up in various family structures in the UK. Their findings line up with those of Brown (2004). Specifically, children living with a stepmother and biological cohabitating parents show more externalizing behavior problems than children living with married biological parents (Faulconer et al., 2022). Racial/Ethnic Disparities in Children's Mental Health Inspection of the literature on racial differences in children's mental health suggests that there are patterns of psychological disorders and behavioral problems among racial/ethnic minority children and adolescents (Latzman et al., 2011; McLaughlin et al., 2007). The findings of Latzman et al. (2011) revealed moderate effects of a child's race (White or Black) on anxietyrelated symptoms, but not depression among schoolaged children. Literature on racial/ethnic minority children provides evidence that African American and Hispanic children, regardless of immigration background, show a higher likelihood of having behavioral and psychological issues than their European American peers. Kistner et al. (2003) posited that a higher level of depression was reported by African American schoolboys than their European American peers, whereas comparable levels of depression were found among White and Black schoolgirls. McLaughlin et al. (2007) postulated that a greater prevalence of depression, anxiety, and reputational aggression was reported among Hispanic girls more than other racial/ethnic groups. Additionally, they also found that the greatest levels of overtly aggressive behavior and also greater levels of physiologic anxiety and disordered eating were found among black men. Furthermore, using a sample of 3,294 high school students in a large, urban school district, Emslie et al. (1990) articulated that Hispanic girls score the highest on symptoms of depression, while white boys had the lowest scores. Girls from racial minority groups and behind in school reported greater levels of depression (Emslie et al., 1990). A body of research has discovered the risk factors that contribute to the poor quality of low-income among Hispanic and African American children's mental wellbeing. Indeed, there is a

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consensus among researchers that poor quality of mental health care service, disadvantaged socioeconomic backgrounds, low school funding, chronic levels of neighborhood violence, and other negative life events that are uncontrollable account for mental health disparities between non-Hispanic white youth and youth of color (Alegria et al., 2010; Glassgow et al., 2019). On the other hand, there is evidence that research studies investigating racial differences in prevalent rates of depression are equivocal. While ethnic/racial minority youth were found to have elevated rates of depression in studies by Moon and Rao (2010); Van Voorhees et al. (2008), other studies found higher rates among nonHispanic White youth (Saluja et al., 2004). To make the picture more complex, abundant research has also revealed that after controlling for socioeconomic indicators, the effect of race on the prevalence of depression or mental disorders disappears (Doi et al., 2001; Rushton et al., 2002). Nevertheless, it was still vastly agreed that youth of color are at a higher risk of chronic mental disorders in adulthood relative to their White counterparts (Chatterji et al., 2009; Kann et al., 2014). This translates to the importance of considering the influence of race when examining the mental health of children from different racial groups, especially those living with unmarried parents. The aforementioned evidence renders the basis for the study hypothesis in which children of color living with unmarried parents may be more likely to fall into an at-risk mental health group than their White counterparts.

Effects of SES on Children's Mental Health

The impact of low SES on children's mental health is important to consider since studies have shown that children in single-parent and unmarried parents' households are more likely to experience poverty (Chetty et al., 2016; DeNavas-Walt et al., 2013; Brown et al., 2015). A longitudinal study by Lee and Zhang (2022) examined the effects of poverty on mental health and found that children who experienced relative poverty, meaning those whose families' income was less than half of the country's median, experienced significant levels of socio-emotional issues as compared to those living in absolute poverty or not living in poverty. Further, these issues became worse as the age of the children increased, meaning persistent life in poverty exacerbated mental distress. These findings highlight the adverse effects of low SES on mental health experienced by children who grow up in families with limited means. In their study, Lee and Zhang (2022) discuss how for children living in poverty, awareness of their own quality of life can have a bigger impact on mental health than the actual lack of resources. Lee (2022) investigated the long-term effects of poverty on socio-emotional outcomes among Japanese children. Similar to previous findings, this study found that children living in households with lower family income households may experience lower physical and emotional well-being, self-esteem, and satisfaction with personal relationships and school. Additionally, children living in poverty reported significantly higher levels of mental health problems than parents (adults) surveyed in the same study. Lee (2022) study showed how children experience socio-emotional well-being as a result of poverty different from adults as well as the adverse effects that lesser living conditions have on mental health. A systematic review of the literature was conducted to investigate the effects of socioeconomic inequalities on mental health problems in children (Reiss, 2013). Findings from this review revealed that of various SES indicators examined, low household income and low parental education had more adverse effects on children's mental health problems than parent unemployment or low occupational status. Additionally, children who received social welfare resources were twice as likely to experience mental health issues as the general population (Reiss, 2013; Spady et al., 2001). In short, the literature supports that children from low-income households have higher tendencies to be affected emotionally and experience mental health issues over time. Thanks to the established literature on the effects of cohabitation, and

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single-parent family structure on the physical and mental well-being of children, we can see that low family income partially accounts for the poor quality of mental well-being of this child population. This is because single-parent households generally earn less than two-parent households (Brown, 2004; Brown et al., 2016), which paves them to diminished access to quality preventive care, health insurance, and mental health services (Bramlett and Blumberg, 2007). Children in cohabiting parent families, as noted by Brown et al. (2016) have fewer economic resources. Williams (2012) articulated that they are more likely to have no health insurance and 56% of them rely on public health insurance compared to 19% of children living in traditional families. The established literature drives this study hypothesis in which children living with unmarried parents and experiencing poverty may be more likely to fall into a mental health group that is at risk than those from higher SES. Despite a considerable number of accounts on the emotional health and development of young children in single-parent, divorced, cohabiting families mentioned above, patterns of emotional well-being that exist among young children living with unmarried parents and which patterns most children of this group exhibit have remained unknown. The majority of the studies insofar attempted to provide a comprehensive understanding of the impacts of a variety of family structures on children's mental health as well as protective factors, negative influences of racial/ethnic disparities (Kann et al., 2014), and family SES (Lee, 2022) on the emotional and physical health of both children and parents. Nevertheless, the lack of empirical research that captured the latent mental health patterns among young children living with unmarried parents and which patterns most children of this group exhibit prevents teachers, school administrators, and policymakers from effectively preparing appropriate resources and services that help the children, particularly those of minority races to thrive in an academic context. The absence of knowledge about mental health patterns of young children of unmarried parents and the influence of family SES and racial differences on these existing patterns might lead to inaccurate group categorization, failure to identify the substantial issues young children of unmarried parents have, and reduction of effectiveness of counseling for this group of children in schools. Further, racial differences and families' social economic status have been empirically documented as influential factors in the disparities of children's health domains over time (Kann et al., 2014; Lee, 2022). Nonetheless, the profound impacts of these factors on the likelihood of being in a group with an emotional health pattern that is at risk more than the others have yet to be empirically examined.

Current Study

The present study takes a person-centered approach to explore different patterns of mental health of young children of unmarried parents. We used a large representative sample of young children across America to help us obtain patterns that could be generalizable to a sizeable population. We adopted Latent Class Analysis (LCA) to depict the latent classes of young children's mental health based on parent reports of their children's mental health symptoms and identify the patterns most children of this group exhibit. In addition, we examined the associations between these reporting patterns and two factors that substantially contribute to child health disparities race and food sufficiency (representing SES status). Given that underrepresented races (Chatterji et al., 2009) and low family SES (Lee, 2022; Lee and Zhang, 2022) have long been recognized as significant antecedents of low mental health, we hypothesized that children of racial minority backgrounds and those experiencing food insufficiency will be more likely to end up in the group that is at high risk regarding their mental health status. To sum up, our main objectives were (1) To examine different reporting patterns of mental health of young children living with unmarried parents and (2) To investigate if some social variables could predict those patterns.

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Materials

We used the National Survey of Children's Health (NSCH) 2021 data set for this study as it provided rich information on multiple intersecting aspects of children's lives (i.e., physical and emotional health, child's parents, neighborhood, etc.). It is the largest national annual household survey completed by a parent or guardian, either in online or paper and pencil form. It includes but is not limited to information on children's physical and mental health, healthcare needs, their families, and their communities. This data set is a publicly available data set funded and directed by the Health Resources and Services Administration (HRSA) Maternal and Child Health Bureau (MCHB).

Methods

The cross-sectional sample included 3025 young children across America. Approximately 52% of the children were male while 48% were female. Approximately 77% of the children were white, 5.7% were African American, 7.5% were Asian, American Indian and native Hawaiian made up 3.2%. The ages of the children in the sample ranged from 5-17 years. The average age was 9.6 (SD = 4.3). Parents in the sample reported fair to excellent mental health statuses. The respondents varied in terms of their marital status (75% married, 5.7% not married but living with a partner, 5.2% never married, and 7.5% divorced). 62% reported no difficulty in covering basics (e.g., food, housing) while approximately 10% often found it difficult to cover basics. 15.2% of parents completed high school education or lower. We adopted a person-centered approach Latent Class Analysis (LCA) first introduced by Lazarsfeld (1950) to identify the number and describe the characteristics of emotional health patterns among young children of unmarried parents and the associations between these patterns and other related variables or covariates. LCA uses the pattern of scores respondents have on indicators to calculate their probability of being in groups and assign respondents to groups (Muthén and Muthén, 2000). LCA was chosen for statistical analysis in this study due to its assumption that latent classes are present and elucidate patterns of observed scores across cases. The variables used as indicators of mental health patterns of children living with unmarried parents included anxiety (1 = yes, 2 = no), depression (1 = yes, 2 = no), autism (1 = yes, 2 = no), ADHD (1 = yes, 2 = no), difficulty making/keeping friends (1 = no difficulty, 2 = a little difficulty, 3 = a lot of difficulties), mental health professional treatment (1 = Yes, 2 = No, but this child needed to see a mental health professional, 3 = No, this child did not need to see a mental health professional), emotions concentration behavior medication (1 = yes, 2 = no). We used the race and food situation of the household as predictors of the identified patterns. Before the main analyses were carried out, the percentage of missing values of each indicator was examined. All variables showed percentages of missing values of less than one percent and were handled by multiple imputations. Latent class analysis was conducted using R software with POLCA for the R package (Linzer and Lewis, 2011) to examine different children's emotional health patterns based on the aforementioned indicators. LCA explores latent subgroups of respondents showing qualitatively different patterns and allows models with different numbers of underlying subgroups to be compared. We started with a one-class model and then explored models with one additional class at a time. We compared the models based on goodness-of-fit statistics. We kept running models adding one additional class at a time until we attained the best model. Like other researchers, we had to rely on various combinations of statistical criteria before coming up with a final class model. The goodness of fit statistics includes the Bayesian Information Criteria the most reported fit statistics BIC; (Killian et al., 2019). Lower values on the BIC are indicative of a better fit. Other Information Criteria (IC) were also investigated, including the Conditional Akaike Information Criterion (CAIC), Adjusted Bayesian Information Criterion (ABIC), and

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Consistent Akaike Information Criterion (CAIC). Like BIC, smaller values of ICs also indicate a better fit. Vuong-Lo-Mendell-Rubin test indicates whether a model with k classes or k-1 classes should be retained (Nylund et al., 2007). Besides evaluating the goodness of fit indices, researchers need to review classification diagnostics (Weller et al., 2020) though they are not used for deciding the best fitting model. Entropy is the diagnostic statistic that indicates how precisely the model identifies classes. While Weller et al. (2020) highlighted that an entropy value above 8 is acceptable, Asparouhov and Muthén (2012) argued that an entropy value of 6 or higher is a relatively good class separation. We aimed at an entropy value that is close to or above 8 in this study. To assess how underrepresented races and food insufficiency influence the likelihood of being in one class more than the other, we adopted the three-step approach suggested by Muthén and Muthén (2000). This approach requires researchers to first identify latent classes, then assign individuals to the identified classes. The last step is to estimate the association between latent classes and covariates considering the measurement error in the class assignment. This approach was employed in our study.

Results

Identify Latent Classes of Emotional Health

Results from the LCA suggested classes of mental health existed among young children of unmarried parents in the United States. Table 1 presents LCA results for different class models. As shown in Table 1, the five-class model had the lowest BIC. Though the BIC is considered the most reliable fit criterion in LCA to select the final model, we also calculated and inspected other fit indices. Other fit criteria supported the retainment of the five-class model. Table 3 for covariance between variables. It is important to note that the five-class model had an adequate entropy value which is .79, approximately the cutoff of .80. Though the six-class model has higher entropy, it has a higher BIC value and VLMR test indicates it is not a better model than the five-class model. The five classes named Friendship Problems class (class 3), ADHD class (class 5), High-Risk class (class 1), Anxiety class (class 2), and Intact class (class 4), which were based on most likely class membership highlighted the most critical issues that respondents in each class experience. In addition to the fit criteria, we chose a five-class model based on conceptual clarity. The characteristics of each of these five classes make themselves distinct from each other which will be explained in detail below. Subsuming any of these classes may increase the complexity of a class and make it harder to distinguish between the classes. Figure 1 shows a graphic representation of the five-class model. Figure 1 also illustrates the characteristics of the five classes based on responses to the seven indicators. A majority of children in the sample (76%) were in the intact class. This class is considered healthy and experienced no psychological issues. A small percentage of the sample (7%) were in the Anxiety class, which, with the exception of autism, ADHD, emotional medication, and making friends difficulty, had a tendency to have anxiety and depression given that the level of depression reported in this class was higher than that in the ADHD class and Friendship Problems class. Notice that in this class, 79% were reported to have anxiety, 42% were reported to have depression and 55% were said to have mental health treatment. Next, 6.7% of the sample belonged to the High-Risk class.

Table 1: Summary of model fit indices (N = 3025)

	BIC	ABIC	CAIC	Log likelihood	VLMR p-value	Entropy
1 class	1852	18492.0	18529.6	-9224.2	<.001	_____

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|					
2 classes	1519	15127.5	15206.9	-7517.8	.002	.85
3 classes	1499	14898.2	15019.4	-7378.9	.015	.73
4 classes	1487	14744.4	14907.2	-7277.9	.007	.76
5 classes	1484	14684.3	14889.0	-7223.6	.006	.79
6 classes	1487	14678.3	14924.8	-7196.5	.071	.81

Note: BIC= Baysean Information Criterion; ABIC = Adjusted nformation Conditional Bayesian I Criterion; CAIC = Akaike Information Criterion; VLMR = Vuong- Lo-Mendell-Rubin test

Table 2: Results of Multinomial Logistic Regression (N = 3025)

Anxiety Intact as reference class		ADHD OR[95% CI]		Friendship Prob OR[95% CI]	High Risk OR[95% CI]
	OR[95% CI]				
Races 1.32 (1.06-1.64)*		1.27 (1.01-1.61)		1.14 (0.96-1.37)	1.43 (1.11-1.83)**
Food situation	.796 (.794-.801)	.369	(.360-.398)	1.09 (0.38-3.13)	1.19 (1.14-1.29)**

** p≤.001, * p≤.05; CI = Confidence Interval, OR = Odds Ratio
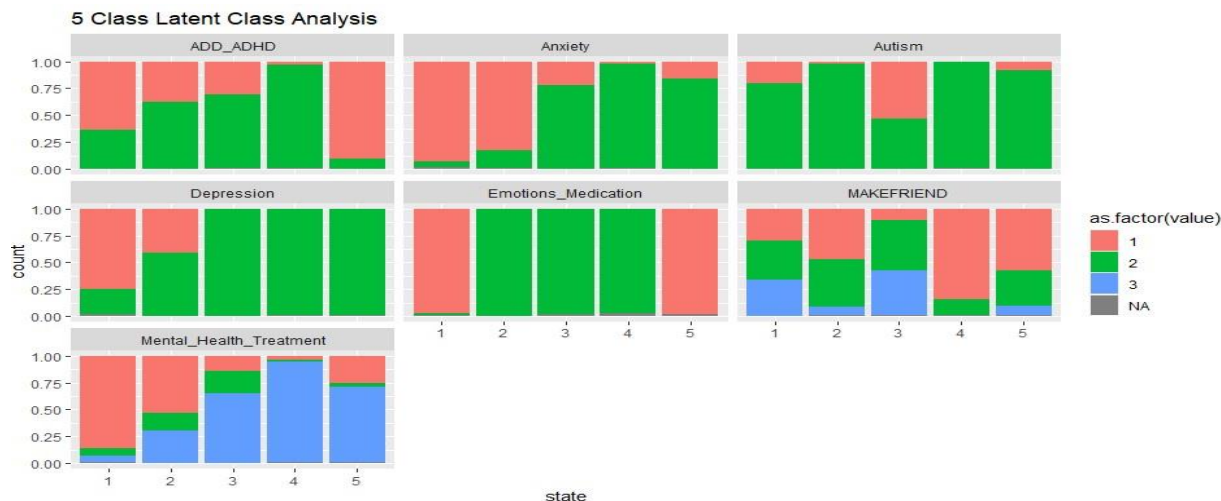
Fig. 1: Graphical display of profile probabilities by class

They showed high probabilities of depression, anxiety, ADHD, mental health treatment, emotional medication taking, difficulty making/keeping friends, yet low on autism. Approximately 6% of the sample fell into the Friendship Problem class. The only problem children in this class experienced was difficulty in making and keeping friends. Specifically, 63% were reported to have a little difficulty making or keeping friends and 32% experienced a lot of difficulty. They however did not experience depression, autism, ADHD, anxiety, mental health treatment, or emotional medication taking. The smallest class that took up only 4% of the sample was the ADHD class, which with the exception of depression, autism, making friend difficulty, and mental health treatment, had a tendency to have ADHD and take emotional medication. Notice that in this class, 98% were reported to have ADHD, and 79% were said to have emotional medication. Table 4 for all details mentioned above. Correlations between Race and Food Situation Covariates and Identified Classes Findings from the

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multinomial logistic regression test indicated class membership is differentially related to being an underrepresented race and experiencing food insufficiency. Table 2 for more details. As shown, for example, compared to children in the Intact class, children coming from racial minority backgrounds are more likely to be in the Anxiety class, OR = 1.32, p = .04, 95% CI [.1.06, .1.64] as well as the high-risk class, OR = 1.43, p = .00, 95% CI [1.11, 1.83]. In addition, children who experience food insufficiency are more likely to fall into the high-risk class, OR = 1.19, p = .00, 95% CI [1.14, 1.29] than the Intact class.

Discussion

This study used the LCA model to examine mental health patterns among children of unmarried parents in America. More specifically, mental health patterns were studied as they pertained to the following five classes: Intact, anxiety, high risk, friendship problems, and ADHD. On one hand, the vast majority of child participants were in the intact class. This may imply that children living with unmarried parents still have a good chance to experience healthy mental well-being like those living with two married parents. In other words, a parent's marital status does not necessarily exert a disastrous influence on their child's developmental trajectories. On the other hand, the four groups that exhibit concerning mental health patterns are Anxiety, HighRisk, Friendship Problems, and ADHD, and all of them account for 24%. This means more than 20% of children living with unmarried parents face at least one psychological issue. This finding lines up with previous accounts in which children living in single-parent, cohabiting parent households, have a higher risk of experiencing mental health issues (Perales et al., 2017; Walldfogel et al., 2010). It should be noted that the groups that showed an elevated level of anxiety (Anxiety class and High-Risk class) also demonstrated greater depression, which may not be too surprising given (Wadsworth et al., 2001) note that mixed cases of both anxiety and depression are more typical. Despite experiencing anxiety, only 55% of children in the Anxiety class were receiving treatment. This class raises more concern when compared to children in the Friendship Problems class and ADHD class, children in the Anxiety class were reported to have a higher level of depression. This may predicate that unmarried parents underestimate the pernicious effects of these mental health states of the child causing them to overlook the need for treatment for the child. It can also mean that therapy and medication are less accessible among these families. This is perhaps unsurprising, considering the literature shows that children of unmarried parents tend to have more limited financial means than children of married parents (Manning, 2015) resulting in limited access to quality mental health resources. Furthermore, it is plausible that unmarried parents who find themselves under financial pressure work longer hours or irregular schedules, meaning children could be experiencing lessened time spent with their parents. A study by Genadek and Hill (2017) revealed that parents who work long hours are less likely to be involved in their children's lives. The result of lesser hours spent between parent and child could be twofold in terms of how it impacts child anxiety. Firstly, lessened time spent with parents could be a contributor to the child's anxiety itself, or parents who are not spending a lot of time with their children could be less likely to recognize anxiety symptoms in their children and thus seek necessary treatment options (Han and Waldfogel, 2007; Hill et al., 2010). Additionally, our logistic regression analysis demonstrates that low SES is robustly associated with a higher likelihood of being in the High-Risk class than the intact class among children living with unmarried parents. This predicates that children living in nontraditional family forms and being economically disadvantaged have a slim chance to experience healthy mental well-being. Given the fact that 43 % of Hispanic children and 67 % of Black children have been moving in and out of different family structures (Snyder et al., 2019) as they grow up and African American and Hispanic children under 18 continue to face the highest poverty rates (Bureau,

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2020) it is of great importance to providing extra resources to support children and parents in low SES nontraditional families as the interaction of these alternative family structures and poverty exerts a detrimental impact on children's development, putting them at a higher risk for experiencing a variety of psychological issues and maladaptive behaviors. Besides SES, our logistic regression analysis also unveils the significant relationship between underrepresented races and a higher likelihood of being in the High-Risk class and Anxiety class among children of unmarried parents. As past research on the mental health of youth of color has documented the elevated rates of psychological issues as well as the limited access to mental health services among this population (Alegria et al., 2010; Glassgow et al., 2019), this finding converges with the established literature. The findings of the substantial effects of both poverty and racial minority backgrounds on the mental health of children living with unmarried parents in this study emphasize the negative impact of the intersectionality of these two factors in the lives of poor racial/ethnic minority children in nontraditional family forms. The High-Risk class comprised less than 10% of child participants. However, a key finding of this class was that these children showed high probabilities for depression, anxiety, ADHD, and difficulty making friends while going under mental health treatment and taking emotional medication. While these findings perhaps are to be expected, they help confirm that for children who fall into this group, additional attention and support are, in fact, needed. This evidence could be used to encourage teachers, caretakers, and guardians to frequently monitor the physical health and psychological states of these children and increase efforts to offer prompt support as needed. While only a small fraction of children comprised the Keeping Friend as a problem class, most children who were in this class were not experiencing anxiety, depression, ADHD, or autism, nor were they receiving emotional medication. Notably, about a quarter were receiving mental health treatment and another 17% needed mental health treatment but were not receiving it. These results perhaps highlight how mental health treatment can intervene in the presence of socio-emotional problems among children and how lack of treatment impacts their social adjustment (Birmaher et al., 1996). Furthermore, among the small fraction of children who belonged to the ADHD class, making friends was not a prevalent issue despite a large percentage of children having a tendency to ADHD. This suggests there is not always a direct pattern between the presence of mental health problems and difficulty socializing when treatment or medication is accessible given the majority of children in this class were receiving medication. Therefore, the ability to make friends may not have been a problem in situations where access to medication and treatment was not a barrier. Implications Addressing students' mental health needs in school, according to Borntrager and Lyon (2015), has been prioritized due to the significant relationship between students' mental health and their academic achievement. Knowledge about mental health patterns of young children living with unmarried parents and the influence of family SES and racial differences on these patterns might augment school-based mental health services (i.e., group counseling) through more accurate group categorization, better identification of the substantial issue children from this group face and helps to distribute resources across schools effectively. Further, the findings of this study encourage researchers in the field, clinical psychologists, to contemplate and examine treatments or interventions that work effectively for children in the identified groups, particularly the group that experiences high risks. Being aware of the percentage of young children falling into these five groups of emotional health patterns enables schools, policymakers, and administrators to effectively prepare resources, interventions, plans and ameliorate services, particularly counseling services that help these students to thrive in their educational processes. There are a few limitations in this study that are worth noting. The study did not separate children born to unmarried parents and children living with divorced parents to

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examine the differential effects of these statuses. Children born outside of marriage might experience family contexts and perceive family functioning differently from children of divorced parents which results in nuances of the emotional well-being of these children. Future studies might consider filling in this gap to provide a more comprehensive understanding of the emotional health of these special populations. Additionally, due to high missing values percentages, the study failed to include other important indicators such as the likelihood of being bullied and bullying, showing concerns and affection, resilience, and ability to regulate emotions, which research shows to play critical roles in determining children's mental health statuses (Armitage, 2021; Hu et al., 2014). Furthermore, it should be noted that we named the classes in this study based on the most outstanding feature of each class. Nevertheless, due to the complex nature of the classes identified in LCA, the name of the class given which was based on the indicators with the highest probabilities, might not fully reflect all the characteristics of the classes. For instance, although the children in the Anxiety group scored highest on the anxiety indicator, they also scored fairly high on the no-difficulty in making friends indicator (.55) and on the mental health treatment indicator (.55). The High-Risk group though experienced an array of mental problems (depression, anxiety, ADHD, etc.,) scored low on autism. Moreover, the study used cross-sectional data which might hinder how these mental health patterns may change or how stable the patterns are over time. Thus, a replication of this study using longitudinal data would unveil the fluctuation or stability of these patterns. It is worth noting that the year 2021 was the time that COVID-19 hit every corner of the globe and gave rise to mental health issues. The items used to measure mental health issues in the data did not capture the effect of this unique context on participants' responses which could be an important confounder that should be taken into account when analyzing the data.

Conclusion

More than 20% of children living with unmarried parents face at least one psychological issue. Among them, seven percent are members of the group that is of particular concern as they exhibit a variety of psychological issues despite going under mental health treatment and taking emotional medication. Our logistic regression analysis demonstrates that low SES and racial minority backgrounds robustly predict the higher likelihood of being in the group that has anxiety as well as the group that is at high risk of various psychological problems.

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