The Influence of Race and Ethnicity in Psychiatric Emergency Services

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Abstract

The present study examined the distribution of psychiatric diagnoses across black, white, and Hispanic or Latino children and adolescents that presented for psychiatric emergency care at the Duke University Hospital Emergency Department. In concordance with existing literature, it was hypothesized that the distribution of diagnoses would differ significantly among Hispanic or Latino patients and their non-Hispanic or Latino counterparts. Emergency department records from 442 pediatric patients were analyzed. Two sample t-tests were completed to test for significant differences in the proportion of each sample diagnosed with a pre-defined category of mental or behavioral illness. Hispanic or Latino children and adolescents had significantly higher proportions or anxiety and substance use disorders than non-Hispanic or Latino black children and adolescents. Hispanic or Latino children and adolescents also had significantly lower proportions of behavioral and emotional disorders than non-Hispanic or Latino black children and adolescents. These findings may invite more directed research into ethnic differences in care seeking, care provision, and prevalence.

Introduction

Hispanics and Latinos comprise one of the fast-growing racial/ethnic groups in the United States. Based on the Pew Research Center, the number of Hispanics and Latinos residing in the U.S. has increased nearly 900% from 1960 to 2014, from 6.3 million individuals in 1960 to 55.3 million in 2014. Further, nearly 33% of U.S. Hispanics and Latinos are under the age of 18. Although the numbers of Hispanics and Latinos residing in the U.S. continues to rise, there is limited literature on this population's experiences with mental health care. Most existing studies have been community-based epidemiological surveys, which find that Hispanic or Latino children and adolescents may be at an increased risk of developing anxiety and substance abuse disorders (Satcher, 2001). Overall, mental illness is a significant public health issue impacting children and adolescents, with approximately 10% of all children being afflicted by mental illness and/or functional impairment in any given year. However, only about 20% of impacted children and adolescents receive their needed mental health care (Satcher, 2001). Previous studies have shown that rates of access to and utilization of mental health care may be even lower for racial and ethnic minority children and adolescents (Elster et al., 2003).

Existing literature has shown that when lower-income and ethnic minority populations seek mental health care they are more likely to receive care from psychiatric emergency services than mental health specialists or general practitioners (Chow et al., 2003; Hu et al., 1991). The diagnoses assigned in these psychiatric emergency situations have a tremendous impact on the mental health care children and adolescents subsequently receive and likely effect the individual's long-term outcomes; however, the literature base surrounding the type and quality of care racial and ethnic minority children receive in psychiatric emergency services is decidedly limited in scope. Noting the stressors impacting this growing Hispanic or Latino population and

gap in existing literature, this study will analyze emergency department data from a mid-sized city in the Southeastern U.S. to provide insight into the type of care being provided to Hispanic or Latino children and adolescents. It will examine patient discharge data to explore prevalence and patterns of psychiatric diagnosis among children and adolescents of varying racial/ethnic backgrounds, with an emphasis on the Hispanic or Latino population.

Growth in Hispanic or Latino Communities

There were 55.3 million Hispanic or Latino individuals in the U.S. as of 2014, comprising roughly 17.3% of the U.S. population (Stepler & Brown, 2016). Having increased nearly 900% since 1960, the U.S.' Hispanic or Latino population is continuing to expand and disperse across the continental U.S. The U.S. Census Bureau estimates the Hispanic or Latino population will expand to approximately 28.6% of the U.S. population by 2060. It is also the youngest ethnic group in the U.S., with 33% of Hispanics and Latinos in the U.S. being under age 18 (Stepler & Brown, 2016). Numerous diverse countries of origin are represented within the Hispanic or Latino population, but the majority (64%) of Hispanics and Latinos residing in the U.S. trace their origins to Mexico (Stepler & Brown, 2016). Of all U.S. Hispanics and Latinos over the age of 5, 68.4% speak only English at home or speak English "at least very well" (Stepler & Brown, 2016).

While the Hispanic or Latino population has risen dramatically, the economic position of Hispanics and Latinos in the U.S. has not risen correspondingly. Only 14.4% of U.S. Hispanics and Latinos hold a Bachelor's degree or higher, and the median household income for U.S. Hispanics and Latinos is $42,200 (Stepler & Brown, 2016). To offer a comparison, 33.6% of the non-Hispanic or Latino white population has a Bachelor's degree or higher, with the median household income for non-Hispanic or Latino whites being $59,200. The income disparity

becomes more pronounced when examining foreign-born Hispanics and Latinos. Within the foreign-born Hispanic or Latino population, only 10.8% of individuals have earned a Bachelor's degree or higher, and the median household income is $39,000. Given these statistics, it is less than surprising that roughly 25% of the U.S. Hispanic or Latino population is living in poverty, with similar proportions lacking health insurance. This is compared to 10.3% of non-Hispanic or Latino whites living in poverty and 8.2 without health insurance.

Previous research suggests there is a link between growing up under impoverished conditions and developing mental health problems (Murali & Oyebode, 2004). The link between poverty and mental health problems, specifically as it relates to Hispanic or Latino children and adolescents, can be understood through Abraham Maslow's conceptualization of mental health. Maslow defined "mental health" as an individual's ability to function in society and in doing so fulfill his or her basic needs of food, shelter, and survival (Maslow, 1968). This definition illustrates the overlap between psychological and physical wellbeing as well as provides a conceptual framework with which to understand the development of mental health problems in Hispanic or Latino children and adolescents. High rates of poverty among Hispanic or Latino populations across the U.S. would suggest difficulty in fulfilling basic needs, such as food and shelter, and likely contribute to the development of mental health problems in these populations.

The connection between poverty and mental illness was supported in an empirical literature review, where it was found that children living in poverty are 2.7 times more likely to develop mental health problems, such as conduct and behavioral disorders, than children living above the poverty line (Lipman & Boyle, 2008). Additionally, research suggests that living in lower-income neighborhoods may have a negative impact on mental health, independent of individual socioeconomic status (Lund et al., 2014). Thus, community-level stressors related to

poverty, such as limited access to safe recreation and higher levels of perceived neighborhood danger, may negatively impact the mental health of Hispanic or Latino children and adolescents regardless of individual family income. Given the well-established link between poverty and mental health, it is imperative to consider the mental health of children and adolescents in communities across the U.S.

Mental Health in Hispanic Communities

As the number of Hispanics and Latinos residing in the U.S. has continued to rise, there has been as corresponding rise in the number of Hispanic or Latino individuals presenting for mental health services (Samoff et al., 2014). This rise has called further attention to the psychological well-being of Hispanic or Latino children and adolescents and precipitated several needs assessments and epidemiological studies. One such needs assessment is the Surgeon General's supplemental report on mental health (2001). This report was among the first of its kind and outlined the effect of culture, race and ethnicity on mental health in America. Most notably, the report included a number of epidemiological studies that showed a higher prevalence of symptoms of psychological distress in Hispanic or Latino children and adolescents as compared to their non-Hispanic or Latino counterparts.

These findings built on a seminal 1992 study by Roberts and Sobhan, which measured the prevalence of anxiety symptoms in Hispanic or Latino adolescents with cross-culturally validated measures. After controlling for age, gender, perceived health, and socio-economic status, Roberts and Sobhan (1992) found that Mexican American adolescents exhibited more anxious and depressive symptoms than white, non-Hispanic or Latino adolescents. Another seminal study (Glover et al., 1999) sought to add to Roberts and Sobhan's findings by studying students at a Texas high school. Glover and colleagues measured the prevalence of anxiety

symptoms in Hispanic or Latino adolescents with cross-culturally validated measures and found that Hispanic or Latino students in a Texas middle school were more likely to exhibit anxiety-related problem behaviors than non-Hispanic or Latino students. Glover suggested that this could be a result of "either higher risk for anxiety symptomatology or a culturally related bias in the reporting of such symptoms" (Glover et al., 1999). Numerous recent studies have recreated these findings with community-based epidemiological surveys, but few studies have examined if these trends remain in clinical settings.

The cumulative effects of elevated levels of anxiety and depressive symptoms may present themselves in a variety of different ways. Auerbach (2007) suggested that adolescents with higher levels of anxiety and emotional regulation deficits were more likely to engage in "risky" behaviors as a maladaptive coping strategy. Thus, it might follow that Hispanic or Latino children and adolescents are more likely to engage in risky behaviors than their non-Hispanic or Latino peers because of the higher prevalence of anxious and depressive symptoms reported in Latino populations. This was first posited by an influential 1995 study, which found that Latino students engaged in more risk-taking behaviors (operationalized as substance use, self-violent behaviors, sexual risk behaviors, and acts of violence) than their non-Hispanic or Latino peers (Brindis, 1995). This is also illustrated in the Surgeon General's supplemental report on mental health (2001), where several epidemiological studies showed Hispanic or Latino children and adolescents were more likely to engage in risky behaviors than their non-Hispanic or Latino peers. This finding is not to say that Hispanic or Latino children and adolescents are inherently different in their experience of stressors than non-Hispanic or Latino peers, which leads them to develop specific mental health problems. Rather, this finding is to illustrate how Hispanic or

Latino children and adolescents may be more likely to be exposed to risk factors that increase the likelihood of developing a mental health problem.

Similarly, several researchers have shown an association between Hispanic or Latino adolescents and self-harming behavior. As presented in the formative Brindis (1995) study, Hispanic or Latino students are more likely to engage in self-violent behaviors than non-Hispanic or Latino peers. Correspondingly, a more recent national survey of high school students found that adolescent-aged Hispanic or Latino individuals reported more suicidal ideation and specific suicidal attempts than their non-Hispanic or Latino peers (Satcher, 2001). This was reflected in a community-specific survey as well, which found that 14.7% of Hispanic or Latino high school students had previously planned how to kill themselves—notably higher than the 10.7% of white counterparts (Samoff et al., 2014). These findings highlight a concerning rate of depression and suicidal ideation within Hispanic or Latino communities specifically.

The well-documented disparity in the mental health of Hispanic or Latino communities has prompted many studies aimed at explaining and theorizing the reasons behind the mental health disparity. One such theory is that the social contexts that accompany being an immigrant in America, such as language barriers and racial discrimination, negatively impact mental health. The process of adapting to these contexts and adjusting to life in a non-native country is known as acculturation (Koneru et al., 2007).

Acculturation and its Impact on Mental Health.

Understanding acculturation and its impact on mental health is imperative in comprehending the mental health problems impacting Hispanic or Latino individuals. “Acculturation” has been defined in different ways across the existing literature. For the purpose of this paper, acculturation can be considered the dual process of cultural and psychological

change that occurs as Hispanic or Latino individuals navigate the culturally dissimilar, majority-white culture in the U.S. Some researchers have found that acculturation can be associated with positive mental health outcomes, as Hispanics and Latinos reconcile cultural difference and assimilate, thereby adapting to American culture while preserving aspects of their native cultural identity (Koneru et al., 2007). However, empirical literature also suggests that the stress that accompanies acculturation may have significant negative impacts on mental health, specifically on Hispanic or Latino immigrants to the U.S. An empirical study conducted by Koneru and colleagues (2007) found that acculturation and its accompanying stressors are associated with increased mental health problems among immigrants to the U.S., such as substance abuse and anxiety-related problems.

Dr. John Berry originally conceptualized the elevated levels of anxiety and distress that accompany acculturation as "acculturative distress" (2005). He stated that acculturating individuals must yield and assimilate to the dominant culture in order to resolve the cultural conflicts associated with immigration. A relevant example may be the cultural and cognitive conflict that Hispanic or Latino immigrants face as they navigate the shift in gender roles from their home country to the U.S. Many Latin American countries have rigid gender roles that promote patriarchal culture, whereas the U.S. is often viewed as promoting more independence and fluidity in gender roles. This cultural conflict may be amplified if the patriarch is unable to find a job and the female becomes the main breadwinner, as is often the case immediately following immigration (Rees et al., 2015). The experience of acculturative distress may follow, if immigrants encounter these elevated levels of cultural conflict surrounding gender role and experience elevated levels of anxiety and distress. Although stress normally connotes a negative experience, acculturative distress may range from adaptive and positive (e.g., responding to

elevated anxiety by adapting to American gender roles while maintaining trust and effective communication in the home) to maladaptive and negative (Berry, 2005). Maladaptive acculturative distress is characterized by marked difficulty adapting to novel cultural practices and has been associated with elevated levels of internalized distress and anxiety disorders in Hispanic or Latino immigrant children and adolescents (Polo & López, 2009).

Generally speaking, there is a dearth of research linking maladaptive acculturative distress and specific mental health outcomes. However, the limited literature has found associations between acculturation and mental health problems, such as depression, suicidality, and substance use (Mikolajczyk et al., 2007; Lipsicas & Mäkinen, 2010; Goldbach et al., 2015). While there is no diagnosis associated with acculturative distress, it is likely that its associated conditions would lead Hispanic or Latino individuals in the U.S. to seek mental health care.

Psychiatric Emergency Services

Despite the well-documented mental health problems facing Hispanic or Latino populations, Hispanic or Latino individuals in the U.S. have lower mental health service utilization rates than their non-Hispanic or Latino peers (Bridges et al., 2012). The reasons for this disparity may vary from individual or country of origin, but the most common barriers to service utilization are cost, lack of insurance, and language. A 2012 study of US-residing Hispanics and Latinos by Bridges and colleagues found that 59% of Hispanics and Latinos endorsed “cost” as a barrier to them seeking mental health services, followed by lack of health insurance (35%) and limited English proficiency (31%). Given the structural barriers facing Hispanic or Latino immigrants, hospital emergency departments might serve as the only option for some Hispanic or Latino individuals to receive medical care. Hispanic or Latino families often seek medical services from EDs because of their inability to refuse service: hospitals that

receive payments from Medicare are legally obligated to provide an appropriate medical screening examination, regardless of citizenship, legal status, or ability to pay. Additionally, the availability of medical translators in most hospital emergency departments makes medical care more accessible to Hispanic or Latino individuals, who may have varying levels of English proficiency. Despite these factors, there is a limited literature base on the experience of Hispanic or Latino children and adolescents seeking emergency psychiatric services—a mode of care that is marked by fast-paced interactions and has a high possibility of being influenced by provider biases. Further, the diagnoses assigned in psychiatric emergency services may have serious implications for the follow-up treatment Hispanic or Latino children and adolescents can access.

Present Study

Given the mental health problems facing Hispanic or Latino communities listed above and the illustrated barriers that may prompt Hispanic or Latino individuals to seek psychiatric care from hospital emergency departments, it is important to examine the mental health diagnoses commonly assigned in hospital emergency departments. Hospital emergency department data has the potential to provide unique data from populations that may not otherwise have access to care. Examining diagnostic patterns may also provide insight into the type and quality of care being provided to Hispanics and Latinos. Through a comparative analysis of the diagnoses assigned to Hispanic or Latino and non-Hispanic or Latino children and adolescents, information can be gathered on the differential experiences of mental health problems and care for Hispanic or Latino children and adolescents. Thus, the present study compared diagnostic data across ethnic groups (Hispanic or Latino, non-Hispanic or Latino white, and non-Hispanic or Latino black) from an emergency department in a mid-sized city in the southeastern U.S. Non-Hispanic or Latino black and white populations were separated because of group differences in

commonly diagnosed disorders, common modes of seeking care, and “minority status” (Chow et al., 2003). It sought to determine if specific diagnoses are being assigned to Hispanic or Latino children and adolescent at proportions higher than their non-Hispanic or Latino counterparts. Given the preceding literature, it is hypothesized that the Hispanic or Latino sample would have higher proportions of anxiety and substance use diagnoses than the non-Hispanic or Latino samples. By comparing the proportions of pre-determined categories of diagnoses between and within each racial and ethnic group, the present study will add novel data to the existing literature base. It will also discuss next steps and implications of the data while posing questions to ask providers that may add contextual information to the presented diagnostic patterns.

Methods

Study Design

A 1-year retrospective review of the discharge records of the Duke University Hospital Emergency Department (ED) was conducted to examine psychiatric diagnostic rates for all patients age 18 and younger. The Duke University Hospital Emergency Department is located in Durham, NC and provides immediate care to more than 80,000 individuals yearly (Duke Health). International Classification of Diseases, Tenth Revision, Clinical Modification (World Health Organization, 2015) diagnostic codes, which codify diagnoses for the purposes of administration and reimbursement, were compared between Hispanic or Latino and non-Hispanic or Latino children and adolescents to determine if specific diagnoses were being assigned to the Hispanic or Latino population at rates higher than non-Hispanic or Latino peers. The study was as an honors thesis for an undergraduate degree in psychology and global health from Duke University. Ethical approval was granted from the Duke Health Institutional Review Board. The Duke Health administration allowed access to the de-identified medical records.

Study Population and Sample Selection

The de-identified dataset included all children and adolescents (ages ≥ 18) that had presented in the Duke University Hospital ED for consultation in 2015 and were assigned a psychiatric primary diagnosis (N=442). The dataset did not include patients with non-psychiatric diagnoses or those that were not diagnosed. Patients that were identified as “Hispanic or Latino” were considered the population of interest, whereas those who were classified as “Not Hispanic or Latino” served as a location-matched comparison population.

Measures

Data for the present study was extracted from standardized Maestro Care patient visit reports, which include age, gender, race, ethnicity and provider-assigned International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnostic codes. Maestro Care is Duke Health's electronic medical records system and is protected under HIPAA. Maestro reports were obtained for every patient under the age of 18 with a primary discharge diagnosis of a "mental, behavioral and neurodevelopmental disorder," as defined by ICD-10-CM codes. The following variables were included in the analysis:

- **Age**: Date of birth is included in each patient's electronic medical record. The Maestro system utilizes this to determine the exact age at the time of each interaction with the Duke Health system.
- **Sex:** Patients are asked to report their biological sex at the time they first interface with the Duke Health system.
- **Race**: Patients are asked to report their race at the time they first interface with the Duke Health system. The present sample included the following racial categorizations: 2+ Races, American Indian, Asian, Black, White, and Other or Not Reported
- **Ethnicity**: Patients are asked whether they are "Hispanic or Latino" or "Not Hispanic or Latino" at the time they first interact with the Duke Health system.
- **ICD-10-CM diagnostic codes**: ICD-10-CM codes served as the main inclusion criteria for the present study. To be included in the analysis, patients had to be assigned a primary ICD-10-CM diagnostic code that corresponded a "mental, behavioral and neurodevelopmental disorder" at the time of treatment. The ICD-10-CM diagnostic codes that granted inclusion range from F01-F99 and are shown in table 1.

Table 1:

ICD-10-CM Diagnostic Codes	Corresponding Diagnostic Groups
F01-F09	Mental disorders due to known physiological conditions
F10-F19	Mental and behavioral disorders due to psychoactive substance use
F20-F29	Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
F30-F39	Mood [affective] disorders
F40-F49	Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
F50-F59	Behavioral syndromes associated with physiological disturbances and physical factors
F60-F69	Disorders of adult personality and behavior
F70-F79	Intellectual disabilities
F80-F89	Pervasive and specific developmental disorders
F90-98	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence
F99	Unspecified mental disorder

Data Analysis

The data analysis plan was approved by the Duke Health Institutional Review Board and developed in conjunction with the project's aims. The project aimed to provide descriptive data and offer rudimentary comparisons between racial and ethnic groups. Maestro Care reports were downloaded and analyzed in MS-Excel. MS-Excel statistical functions were used to analyze sample demographics, such as mean age and gender composition. The data was sorted by race and ethnicity, then a member of the research team reviewed the electronic visit report and designated the appropriate diagnostic grouping. The proportion of each diagnostic category within the sorted race and ethnicity samples was calculated using MS-Excel functions. Two sample t-tests were completed to test for significant differences between racial and ethnic groups. IBM SPSS was used to compare the observed proportion of each diagnostic group between racial and ethnic groups. The tests were conducted to determine difference in proportions of diagnoses between Hispanics and Latinos and Non-Hispanic or Latino whites, Hispanics and Latinos and

Non-Hispanic or Latino blacks, and non-Hispanics or Latino whites and Non-Hispanic or Latino blacks.

Results

A total of 442 pediatric patients presented to the Duke University Hospital ED with a primary diagnosis of a "mental, behavioral and neurodevelopmental disorder" and were included in the Maestro Care dataset. The average age for patients was 14.5 years. The sample comprised slightly more females then males ($n = 237$; 53.6%).

Sample Demographics

Race data was reported for 94.7% (419/442) of patients in the dataset. The population race composition can be seen in figure 1. The largest proportion of the population was black ($n = 237$; 53.6%). Following black children and adolescents, white was the second most common racial classification ($n = 138$; 31.25). "Other or Not Reported" race was the third most common within the sample ($n = 51$; 11.5%). Asian was among the least represented demographic group ($n = 10$; 2.3%), along with "2+ Races" ($n = 9$; 2.0%).

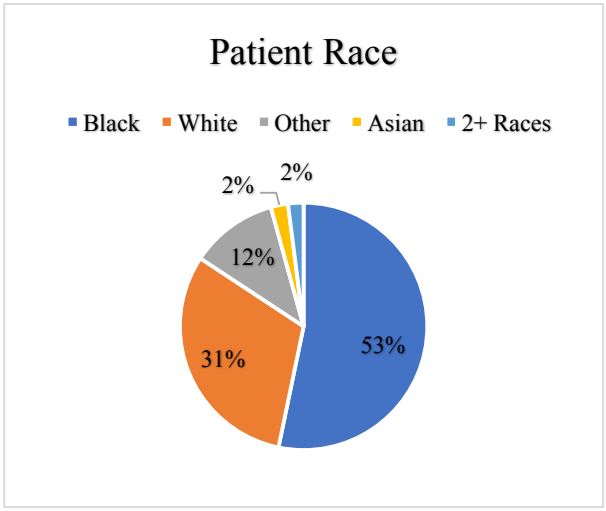

Figure 1

Hispanic or Latino Children and Adolescents

7.47% of the sample was designated as "Hispanic or Latino" ($n = 33$). The majority of "Hispanic or Latino" patients had been classified as "Other" race ($n = 25$; 75.8%). The remainder had been designated as white ($n = 3$), black ($n = 2$), Asian ($n = 2$), or 2+ Races ($n = 1$). Among the "Hispanic or Latino" patients, the average age was 14.68 years. The

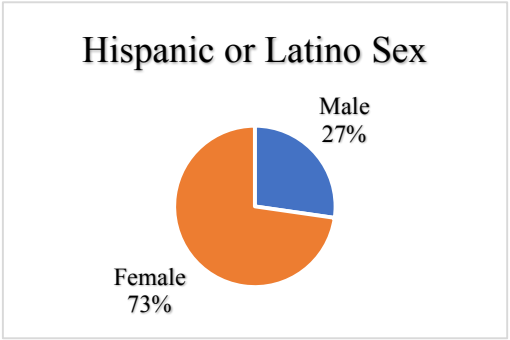

Figure 2

"Hispanic or Latino" sample was majority female, with 72.7% of patients being female (*n* =24). The gender composition of the Hispanic or Latino sample can be seen in figure 2.

Primary Diagnosis

The most commonly diagnosed ICD-10-CM diagnostic codes were F90-F98: behavioral and emotional disorders with onset usually occurring in childhood and adolescence (28.3%), F30-F39: mood [affective] disorders (26.2%), and F40-F49: anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders (25.8%). The general distributions by ethnic group can be seen in figure 3.

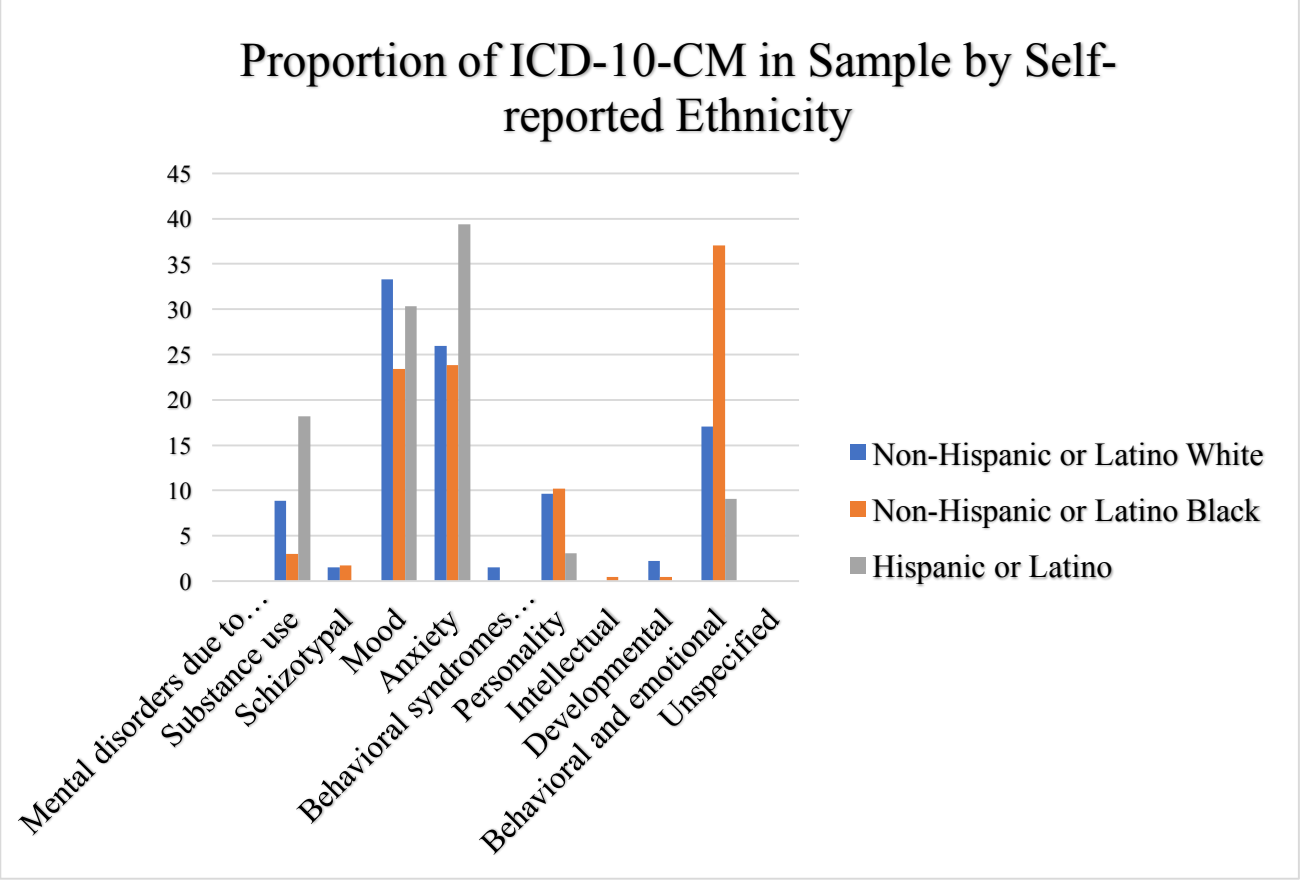

Figure 3

There were significant differences in the proportion of select diagnostic categories between ethnic groups. These differences can be seen below in figure 4. Hispanic or Latino children and adolescents had a significantly higher proportion of F10-F19: "mental and behavioral disorders due to psychoactive substance use" diagnoses than non-Hispanic or Latino black children and adolescents ($p = 0.0001$). The Hispanic or Latino sample also had a significantly higher proportion of F40-F49: "anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders" diagnoses than the non-Hispanic or Latino black sample ($p = 0.05$). Conversely, the Hispanic or Latino sample had significantly lower proportion of F90-98: "behavioral and emotional disorders with onset usually occurring in childhood and adolescence" diagnoses than the non-Hispanic or Latino black sample ($p = 0.001$).

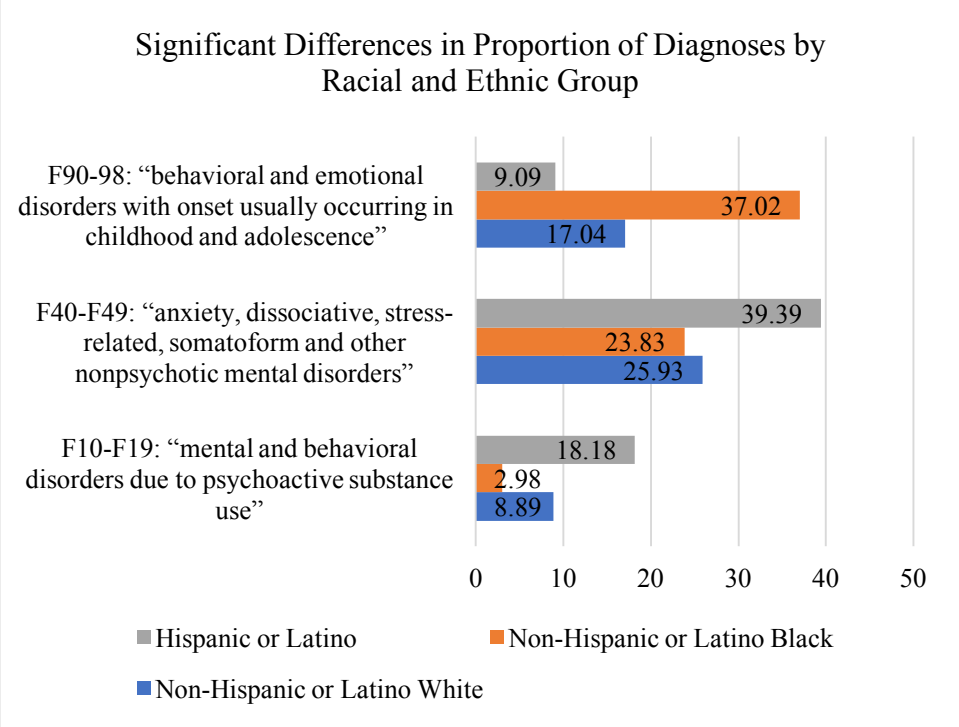

Figure 4

In comparing diagnostic distributions between non-Hispanic or Latino black and white children and adolescents, it was found that non-Hispanic or Latino black children and adolescents had a significantly lower proportion of F30-F39: "mood [affective] disorders" ($p = 0.03$). The non-Hispanic or Latino black sample also had a significantly higher proportion of

F90-98: “behavioral and emotional disorders with onset usually occurring in childhood and adolescence,” diagnoses than the non-Hispanic or Latino white sample ($p = 0.0001$).

There were no significant differences in the proportions of diagnoses with the Hispanic or Latino sample and the non-Hispanic or Latino white sample. There were also no significant differences between the proportion of F20-F29, F30-F39, F50-F59, F60-F69, F70-F79, and F80-F89 diagnoses. In comparing non-Hispanic or Latino whites and blacks, no significant differences were found between proportions of F10-F19, F20-F29, F40-F49, F50-F59, F60-F69, F70-F79, and F80-F89 diagnoses.

Discussion

The present study examined 442 pediatric psychiatric emergency department visit reports from the Duke University Hospital Emergency Department (ED). The racial breakdown of the sample was 53% black, 31% white, 12% other, 2% Asian, and 2% 2+ Races. This differs significantly from the 2015 U.S. Census demographic data for Durham County, which states that 53% of Durham county is white, followed by 38% black, and 5% Asian. Previous research has suggested black individuals receive a disproportionate share of their mental health care in emergency departments (Snowden et al., 2009). The over-representation of black individuals within the present study's sample may lend support to this finding and calls attention to persistent racial disparities in mental health care. Few studies have examined the individual and structural factors that influence the disproportionate use of psychiatric emergency services by black individuals (Snowden et al., 2009). Future research should investigate *why* black individuals often seek psychiatric emergency care: do they have access to adequate primary care? are specialized mental health services available and affordable? do community norms discourage mental health service utilization?

When analyzing the sample's ethnic makeup, it was found that 7.47% of the patients had been designated as "Hispanic or Latino" ethnicity. The July 2014 census estimate approximated that 13.4% of the Durham population was "Hispanic or Latino." Thus, the designated ethnicity of children presenting for psychiatric services at the Duke Hospital Emergency Department does not match the ethnic profile of the surrounding community. Given the comparatively low rates of health insurance within Durham's Latino community, hospital emergency departments, which are unable to refuse services because of lack of insurance, may serve as the only option for some Hispanic or Latino individuals to receive medical care. Thus, the present study may call attention

to a lower-than-expected use of psychiatric emergency services by Hispanic or Latino children and adolescents.

The lower-than-expected proportion of Latinos in the sample could be attributed to many factors. First, it could be an issue of record taking. Electronic medical records are created when the patient first interfaces with the Duke Health system and follow the individual throughout the lifespan. For some individuals, Maestro records are created following the completion of an intake form at a provider's office or after a phone consultation with an appointment scheduler. In these instances, the individual is asked to self-classify their race and ethnicity. However, patient records may also be created when the patient is incapacitated or unable to complete intake forms. In these instances, a healthcare provider may assign the patient's race and ethnicity based solely on appearance. This could contribute to underrepresentation of Hispanics and Latinos within medical records, as some individuals do not match the phenotypical stereotype of their ethnic group. There may also be confusion among patients and providers as to which race and ethnicity to select. Race and ethnicity are closely linked to cultural definitions and distinctions of race. Whereas some individuals of Spanish descent may consider themselves to be Latino, others may classify as non-Latino and Caucasian. This may lead to inconsistent reporting of ethnicity on electronic medical records and intake forms. Further research may be necessary to examine and validate the record-taking practices within the Duke University Hospital Emergency Department.

Alternatively, there could be few to no errors in record taking or demographics within the present sample. If this is the case, there may be structural barriers limiting access to psychiatric emergency care among Durham's Hispanic or Latino population. Previous research has suggested that misunderstandings surrounding legal status and rights to receive health care could contribute to Latinos, especially immigrants, foregoing mental health care because of fear of

legal repercussions. Prior research has also found that cost and language are prohibitive of Hispanic or Latino seeking mental health care (Bridges et al., 2012). Despite the Duke Hospital Emergency Department's inability to refuse care and availability of medical translators, these barriers may keep a significant proportion of Hispanic or Latino individuals from seeking care. There could also be cultural beliefs influencing care seeking for mental health problems. Prior research has suggested Hispanic and Latino families are more likely to mental health seek care from religious and community leaders than more formal sources of care (Rogers, 2010). While more definitive research is necessary, this study's findings may suggest a need for further research on awareness and cultural norms within Hispanic or Latino communities and targeted interventions to increase knowledge and service utilization.

In the total sample, the three most commonly assigned diagnoses were: behavioral and emotional disorders with onset usually occurring in childhood and adolescence (28.3%); mood [affective] disorders (26.2%); and anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders (25.8%). This is mostly reflective of an analysis of national emergency department data, wherein mood disorders are most commonly diagnosed, followed by anxiety disorders and attention and conduct disorders (Heslin & Elixhauser, 2016). Attention and conduct disorders were less diagnosed in the national study; however, that study focused on teenagers and found that diagnosis of attention and conduct disorders decreased with age. Thus, the inclusion of all ages in the present study likely accounts for higher diagnostic rates of attention and conduct disorders. The overall study sample appears generally reflective of nation-wide data regarding emergency psychiatric services.

Although the general sample was similar to national comparison data, the diagnostic distributions differed significantly between Latino and non-Latino populations within the study

sample. There was a significantly lower proportion of "behavioral and emotional disorders with onset usually occurring in childhood and adolescence" diagnoses within the Hispanic or Latino population than in the non-Hispanic or Latino black comparison sample. Included in this diagnostic category are "attention-deficit hyperactivity disorders" and "conduct disorders," among various other conditions. This finding may provide rudimentary comparison data and insight into the experience of behavioral and emotional disorders within Hispanic or Latino communities. There is a limited evidence base on behavioral and emotional disorders within Hispanic or Latino populations nationally. There was also no reported mention of behavioral or emotional disorders in community health surveys with Durham's Hispanic or Latino community (Samoff et al., 2014). However, national surveys on poverty and mental health have found that children living in impoverished conditions are significantly more likely to develop conduct and other behavioral disorders than children and adolescents of higher socioeconomic status (Lipman & Boyle, 2008). Given the economic data on Durham's Hispanic or Latino population, wherein an estimated 36.4% of individuals live beneath the poverty line, there may be an expected elevated risk for developing conduct and other behavioral disorders. The findings of the present study suggest Hispanic or Latino children and adolescents may be less likely to be diagnosed with or seek treatment for these conditions despite previous literature and risk factors that would indicate an increased likelihood of experiencing behavioral and emotional disorders. Alternatively, this finding may suggest Hispanic or Latino families are less likely to seek care for behavioral and emotional disorders than their non-Hispanic or Latino peers. This could be influenced by use of other sources of care or cultural norms surrounding behavioral and emotional problems. Further research is necessary to understand the factors driving this

difference between ethnic groups and determine why these rates lower-than-expected in the Hispanic or Latino population.

It was hypothesized that the Hispanic or Latino sample would be diagnosed with significantly higher proportions of anxiety and substance use disorders than the non-Hispanic or Latino comparison groups. The study was limited, due to sample size, in its ability to claim significant differences between all groups. Thus, no significant difference was found in the proportion of anxiety and substance use disorder diagnoses between the Hispanic or Latino and the non-Hispanic or Latino white sample. However, the larger number of non-Hispanic or Latino black patients increased statistical power and resulted in several significant findings. There was a higher proportion of "mental and behavioral disorders due to psychoactive substance use" in the Hispanic or Latino population than the non-Hispanic or Latino black comparison. This is consistent with previous community and epidemiological studies, which found that Latino children and adolescents were more likely to engage in substance use and other externalizing behaviors (Brindis, 1995; Satcher, 2001). This finding also lends support to a Durham-specific community health survey data, wherein 44% of Latino community members endorsed "addiction to alcohol, drugs, or medications" as the most pressing health problem for their community (Samoff et al., 2014). The significant difference in diagnoses between Hispanic or Latino and non-Hispanic or Latino populations lends a new type of support to higher prevalence rates of substance use disorders in Hispanic or Latino populations. However, these findings should also be taken within the context of their thin-slice judgment ability—the dataset could not provide more in-depth accounts of each visit. Further research should be conducted on the diagnostic validity of this finding.

Hispanic or Latino children and adolescents also had higher proportions of "anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders" diagnoses than non-Hispanic or Latino black children and adolescents. These results lend support to other literature, which finds Latino children and adolescents are at a "higher risk for anxiety symptomology" than their non-Latino peers (Glover et al., 1999). This finding may also confirm the Durham Hispanic or Latino community survey data referenced previously, wherein twelve percent of adult respondents claimed "depression, anxiety, and other mental illnesses" as the most pressing health problem for their community (Samoff et al., 2014). The difference in diagnosis of "anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders" between Hispanic or Latino and non-Latino black children and adolescents should be researched further; however, coupled with more extensive research this finding could lend support for elevated levels of anxiety within the Durham Hispanic or Latino community.

Though further research is needed to conceptualize the influences that attribute to the differences in diagnoses or care seeking, the present study's findings suggest there are factors that result in Latino children and adolescents that present to the emergency department being diagnosed with "mental and behavioral disorders due to psychoactive substance use" and "anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders" at higher proportions than non-Hispanic or Latino counterparts. Further, similar factors may influence lower proportions of "behavioral and emotional disorders with onset usually occurring in childhood and adolescence" diagnoses. These factors could range from differences in care seeking, provider treatment, or prevalence. While further research is necessary to determine these factors, the present study's findings offer an interesting look inside minimally prohibitive mental health care to diverse populations.

Strengths and Methodological Limitations

Although there is an expanding literature base on Latino child and adolescent mental health, the present study adds contextual depth by focusing on an emergency department in a mid-sized city. While there have been several community-level needs assessments and state-level mental health reports, little research has been done specifically on the mental health of Latino children and adolescents in mid-sized cities—the majority of research has been focused on larger, metropolitan areas. Place-based research is especially important in this context, as the numbers of Latinos living in non-metropolitan areas continues to rise. Further, the study offers comparison data from an often-understudied data source. The present study was able to examine a sample of Latino and non-Latino children and adolescents at one of Durham's least prohibitive sites for mental health care. This enabled the study to interface with a broader range of patients compared to those who might attend for-pay clinics or participate in university-based surveys. Acknowledging the large barriers of cost and limited insurance in Latino populations, it is important to assess data from various sources to make the most accurate inference on Latino child and adolescent mental health. Despite this, diagnostic data is rarely extracted from emergency department data.

As with every study, there exist limitations with the study methods. First, there are certain implications that accompany emergency department data. While the emergency department is not prohibitive because of cost, the study sample may be limited in that more affluent or insured individuals are more likely to receive mental health care from primary care or specialist providers and thereby may not be represented. Further, individuals often do not seek care from hospital emergency departments until there is an urgent need. Because of this, the analyzed sample may only account for the most serious subset of mental health disorders in Durham. This

could mean that the diagnoses represented in the sample are not an accurate reflection of prevalence or community mental health—rather, they represent a smaller subset of the community. Regardless, they provide an interesting means of examining ethnic variance in mental health care. Further, emergency room data varies in reliability. In the rush of emergency service provision, providers may omit patient demographic data or other relevant components of their chart. This was reflected in the present study's sample, wherein a subset of patients that lacked ethnicity data (n = 26). Though most patients had full electronic records, missing data could have affected the accuracy of the analysis. Further, electronic visit reports are decidedly limited in scope and offer only thin-slice judgment to researchers. Without access to more in-depth provider notes, the research team was left without contextual knowledge of the patients' experiences or specific complaints. This is a limitation, as the data type only lent to comparison of proportions and population frequency data.

Additionally, the statistical power and sophistication of analyses was limited by sample size and data type. Comparisons between racial and ethnic groups were limited, specifically because of the limited number of Hispanic or Latino children and adolescents included in the sample (N = 33). Although some proportions appeared to be significantly different, the small number of Hispanic or Latino children and adolescents limited the study's ability to claim "significance." The sample and data type also limited the type of manipulations that could be run. The study design was such that no manipulation could be undertaken. Further, the Duke Health Institutional Review Board limited access to data, such as income and zip code, because of the possibility of compromised anonymity. While valid, the limited data access prohibited the use of more sophisticated analyses, such as regressions. To address these limitations, future

studies may analyze larger samples or gain more extensive permissions from the institutional review board.

Future Directions and Implications

Through analyzing emergency department data, it was illustrated that Hispanic or Latino children and adolescents are diagnosed with anxiety and substance use-related disorders at proportions higher than their non-Hispanic or Latino peers. This finding may lend support to a growing literature base on anxiety and substance abuse in Hispanic or Latino communities. However, it also may reflect structural issues in diagnosis or record-keeping. Further research should be done to contextualize the findings of the present study. Qualitative interviews may be useful in explaining the discrepancies evidenced between psychiatric emergency care in Latino and non-Latino populations. Sample questions to ask providers and patients are included in table 2 below. These questions may provide insight into providers' experiences delivering mental health care to Hispanic or Latino children and adolescents. Further, qualitative focus groups or interviews with Hispanic or Latino patients may provide a great depth of insight into their experiences and perceptions of the mental health care system. Sample questions for patient focus groups are also included in table 2 below. Qualitative data could begin to complete our understanding of *why* differences are seen in diagnostic patterns.

Table 2:

Questions for Providers	Questions for Patients
• Explain the process of collecting patient ethnicity data and discuss fidelity to the process. • What services are offered to non-English speaking patients, how often are they requested, and how readily available are they? • What do you think might explain less frequent diagnoses of "behavioral and emotional disorders with onset usually occurring in childhood and adolescence" in Latino populations? • What do you think is related to more frequent diagnoses of "mental and behavioral disorders due to psychoactive substance use" and "anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders?"	• What has been your experience completing hospital records, specifically regarding categorizing your ethnicity? • What services are you aware of that benefit Hispanic or Latino patients to the Duke University Hospital? • What is your level of comfortability seeking mental health care and special assistance? • What mental health problems have you witnessed in your community? • What do you think is driving common mental health problems within your community? • How do you perceive life in a non-native country? • How might you cope with the stressors of American life?

Conclusion

There is a growing literature base on psychiatric health disparities. Despite Hispanics or Latinos comprising the U.S.' fastest growing and youngest racial or ethnic group, this population has been largely excluded from clinical research on mental health and treatment seeking. Existing epidemiological studies have sparked awareness of the many stressors experienced by Hispanic or Latino children and adolescents, which include elevated prevalence of anxiety, substance use, and suicidality. Notably, the concept of acculturation and acculturative distress may provide significant insight into the mental health of Hispanic or Latino children and adolescents.

By conducting a retrospective review of emergency department records, the present study has shown that there are significant differences in the proportion of specific diagnoses seen within varying racial and ethnic groups. The sample of Hispanic or Latino children had significantly higher proportions of substance use and anxiety disorder diagnoses than the non-Hispanic or Latino black sample. It also had a significantly lower proportion of behavioral and emotional disorder diagnoses than the non-Hispanic or Latino black sample. In comparing diagnostic distributions between non-Hispanic or Latino black and white children and adolescents, it was found that non-Hispanic or Latino black children and adolescents were diagnosed with significantly lower proportion of mood disorders. The non-Hispanic or Latino black sample also had a significantly higher proportion of behavioral and emotional disorders diagnoses than the non-Hispanic or Latino white sample. The differences in diagnostic distributions might be explained by structural factors surrounding diagnostic practices, actual differences in prevalence, or another unaccounted factor. By contextualizing this data with

further research, we can begin to inform decisions regarding how to better accommodate Latino families in their utilization of psychiatric emergency care.

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