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Exploratory Data Analysis on Race & Doctor Visits

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Mini Project

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Professor Gittner

PHE 3150: Applied Analytical Techniques

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Abstract

Our study will look at the race of a child and if they have had a visit with their primary care-provider within the last 12 months. We obtained our information from the National Survey of Children's health. The data set sample is 42,777 children aged 1-17 and the data set includes 831 variables. this data is from the year 2020, Between June 2020 and January 2021. Even though the data sets include a plethora of information on factors affecting children, we specifically are looking at if the children are part of the majority (white) or if they are a minority, and a yearly doctor visit. Doctor visit are essential for children at least once a year because they asses their physical and emotional needs, support their growth and development, and overall make sure everything is okay in the child's life. Minority children are more likely to have a language barrier, experience implicit bias and not have the correct insurance, all factors that affect visiting the doctor. While at the doctor minority children are also less likely to be screened for disorders such as mental illnesses. Other variables that we will include are the sex of the child and if they have experienced a negative experience (outside the doctor office), due to their race. The research question for our study is Does the race of a child have an impact on whether they see their primary-care giver at least once a year. The main variables of the study are race (SC_RACE_R) and doctor visit in 12 months (S4Q01). We choose this variables as well as the alternative variables because we believe that the race of a child somewhat affects their amount of doctor visits.

Introduction

It is imperative for individuals under 18 to see their primary care giver once year, but this is not the case for all children. The purpose of this study is to see if the race of a child impacts the amount of doctor visits they receive once a year. The race of a child can highly impact the language they speak, their daily habits, their access and much more. The data for this study was collected from the National Survey of Children's health whose research focuses on children's overall well-being. It seems at first that research does not fully support the idea that race affects doctor visits. The percentage of children receiving care yearly was 86% of Latino children, 87% of black children and 90% of African American children (Guerrero AD, Chen J, Inkelas M, Rodriguez HP, Ortega AN). Even though the percentages seem significant, what is not included in this information are children. "We also excluded 4526 children, of which 35% were whites, 17% blacks, 45% Latinos, and 7% of other race, who did not have a doctor's visit in the last 12 months (Guerrero AD, Chen J, Inkelas M, Rodriguez HP, Ortega AN)." The reason that these children are not receiving care are very significant and the children who did not receive care should not have been excluded from this information.

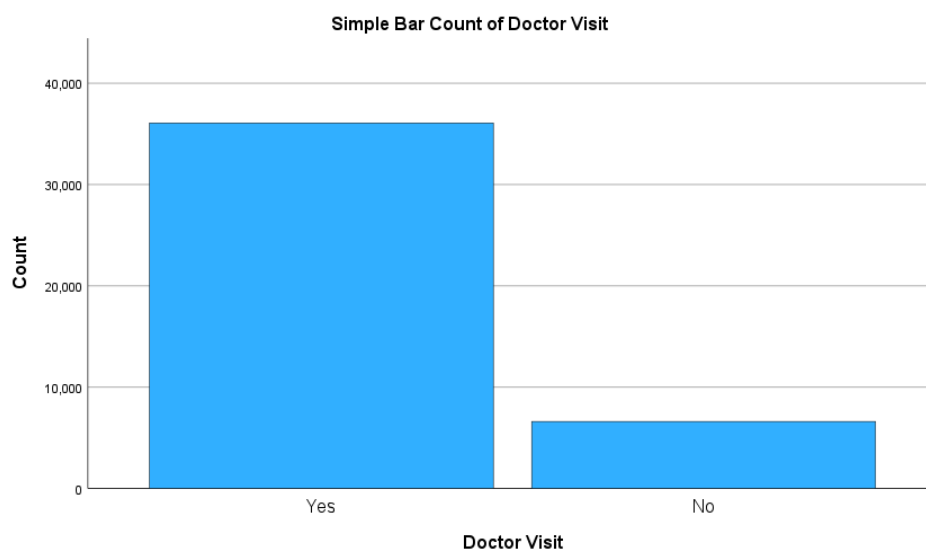
Elements such as implicit bias also relate to race and a child frequency and quality of seeing their primary healthcare provider. Implicit bias is the automatic and sometimes unintentional judgment towards minorities based on historical, institutional, and social harms. "Research in clinical settings has demonstrated that African American children receive less counseling during well child visits (Hambidge SJ, Emsermann CB, Federico S, Steiner JF)." The two main variables of this study are race and amount of doctor visits in a year. Secondary elements include sex, if the child was mistreated or judged unfairly due to their racial group, and age.

Data Description

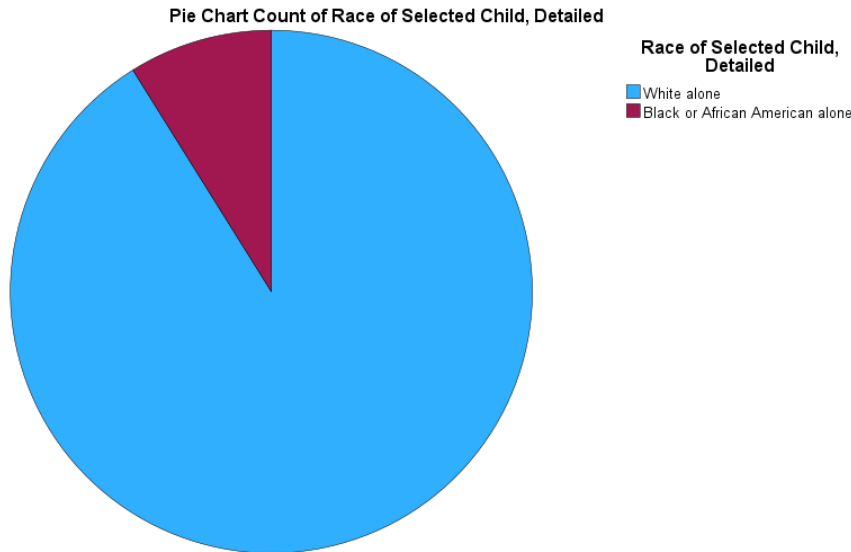
As previously mentioned, we chose a dataset configured by the National Survey of Children's Health. This codebook is for child and family health measures, national performance and outcome measures, and subgroups. This dataset consists of 831 variables, and we chose five to look at. All of our variables are categorized as nominal data and the survey size was 42,777 children and parents. Our data focuses on the children solely, but there are variables which include parent data as well.

Our data was already converted into an SPSS so there was not much cleaning necessary. For each element we created either a bar chart or pie chart to see what the missing variables were. Once we found the missing variables which included numbers such as 90, 94, 98 & 99 we marked them as missing and corrected the data. We put a lot of effort into finding a data set and it definitely paid off in this process.

Exploratory Data Analysis:

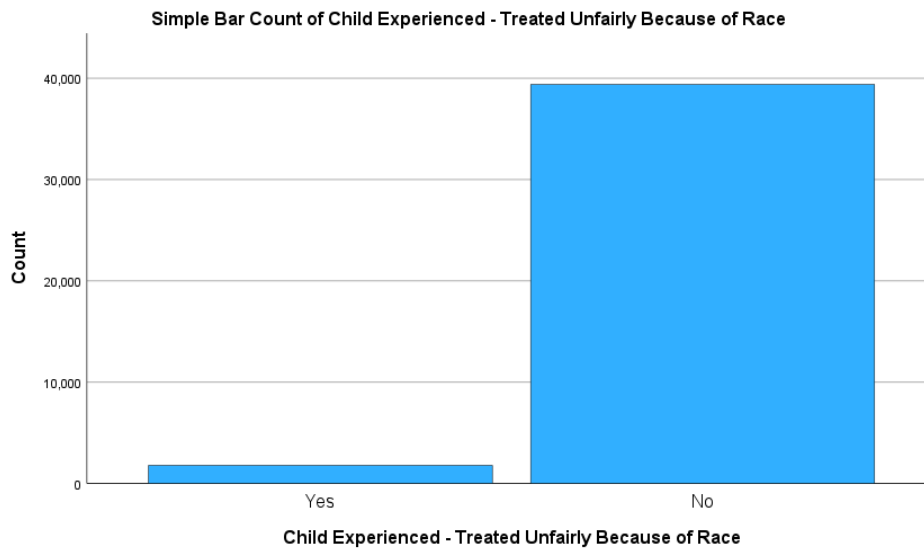


Since all of our variables were nominal data types, we utilized bar charts and pie charts to visualize our data. This is the variable S4Q01 – Doctor visits in the past 12 months. It was cleaned by marking 90 (not in universe), 95 (logical skip), 98 (suppressed for confidentiality), and 99 (no valid response) as missing data. It simply shows the answers ‘yes’ and ‘no’. This is our primary variable.

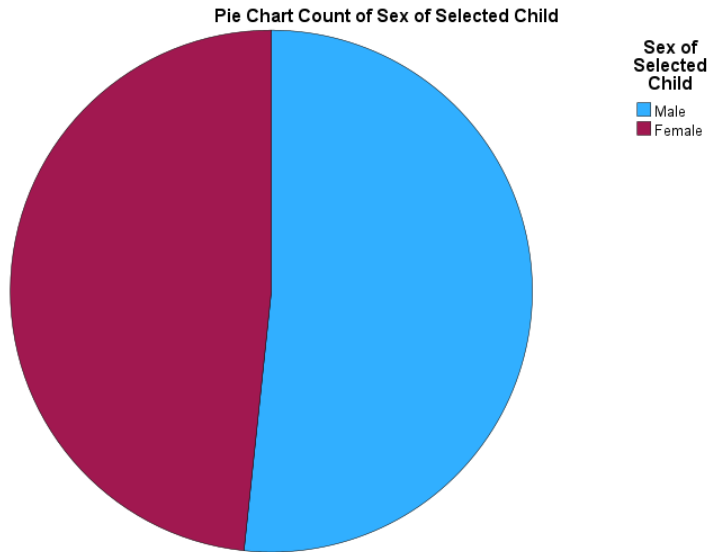


This is our second primary variable – SC_RACE_R. It is our race variable. It has been cleaned to exclude value labels 90 (not in universe), 95 (logical skip), and 98 (suppressed for confidentiality). Furthermore, the data was cleaned to additionally exclude value labels 3-7, which indicated other races (American Indian or Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, and 2 or more

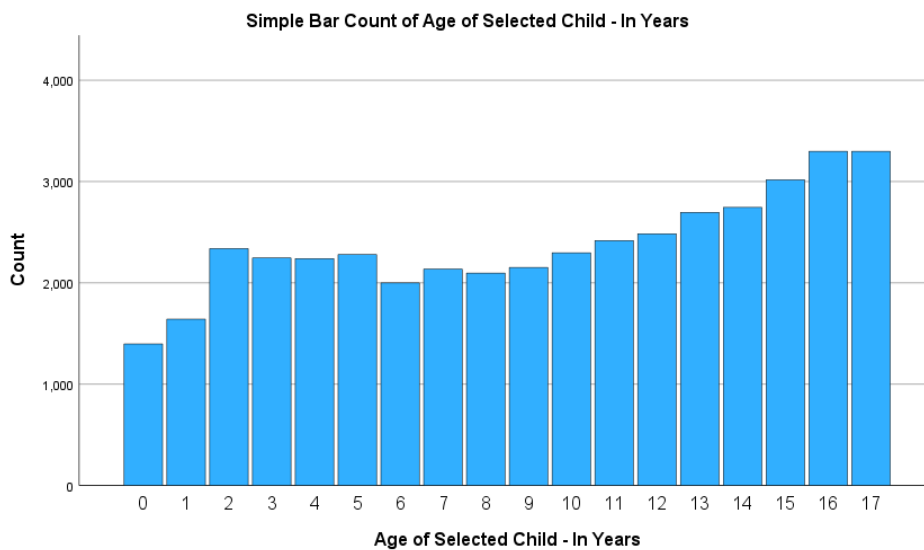
racess). The only two value labels shown are white alone and black or African American alone.



This is our first secondary variable – ACE10. This variable denotes the number of children in the survey who have been treated unfairly due to their race. It has been cleaned to show value labels 1 and 2, or yes and no. Value labels 90-99 were marked as missing because they are not answers (not in universe, logical skip, suppressed for confidentiality, and no valid response.)



This is our 2nd secondary variable – SC_SEX. This variable is a demographic marker that has been cleaned to remove missing data. Value labels 90-99 have been marked as missing data (not in universe, logical skip, suppressed for confidentiality, and no valid response) and only female and male are shown.



This is our final secondary variable – SC_AGE_YEARS. This bar chart shows the count of ages 0-17. It has been cleaned to exclude missing value labels 90-99 (not in universe, logical skip, suppressed for confidentiality, and no valid response.)

References

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