ABSTRACT

THE ASSOCIATIONS OF SOCIOECONOMIC FACTORS ON CHILDREN'S

HEALTH INSURANCE STATUS BASED ON PARENTS' HEALTH CARE

COVERAGE

By

Nadia Jose

May 2015

The objective of this study was to examine the associations of socioeconomic factors on young children's health insurance status based on their parent's health care coverage. Variables considered were educational attainment, annual household's income, citizenship status, and race.

Secondary data analysis was performed using a subset of data (excluding 65 years olds) from the 2011-2012 California Health Interview Survey (CHIS). Chi Square and One-way ANOVA tests were conducted through the use of SPSS. Results demonstrated a highly significant relationship between income and employer-based insurance, in addition to educational attainment and employer-based insurance. Income is interpreted in terms of federal poverty level due to the important use of this measure during the determination of eligibility for public health care program, such as Medi-Cal. Health care is transforming and additional initiatives need to take place to reduce the number of uninsured children and to improve the overall health status of children.

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COVERAGE

A PROJECT REPORT

Presented to the Department of Health Care Administration

California State University, Long Beach

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Health Care Administration

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May 2015

UMI Number: 1586511

UMI®
Dissertation Publishing

UMI 1586511

ProQuest®

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

CDPH	California Department of Public Health
CHIS	California Health Interview Survey
CSHCN	Children with Special Health Care Needs
DHCS	Department of Health Care Services
FPL	Family Poverty Level
RDD	Random-Digit Dial
SPSS	Statistical Package Social Science

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

The number of uninsured children has indisputably declined ever since the enactment of the Children's Health Insurance Program (CHIP) in 1997. However, the number of children lacking health insurance remains substantial and of concern. According to the U.S. Census Bureau (2015), the number of uninsured children in 2011 was 9.4% (7 million) and 8.9% (6.6 million) in 2012. Uninsured rates for this population vary by taxonomies, such as income level, age, race and ethnicity, and immigration status (De Navas-Walt, Proctor, & Smith, 2013). Unfortunately, it is found that vulnerable groups of children, including those from low-income families of immigrant households, whose parents have limited education, and children with special health care needs (CSHCN) of similar backgrounds, lack adequate health coverage (Hernandez & Kimbro, 2013; Javier, Huffman, Mendoza, &Wise, 2010; Seiber, 2014).

Addressing this issue is important because children need access to comprehensive affordable health care for their overall wellbeing. Unmet health care needs can lead to children having difficulties in key developmental aspects: physically, emotionally, socially and academically. Health care unmet needs include untreated asthma, diabetes, or obesity. In conjunction to the aforementioned, vulnerable and disadvantaged children in poverty and of minority groups, have worse access to health care and hence, experience delay in their development in contrast to their healthier peers of White origin.

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Notably, uninsured children are anticipated to perform lower academically than their insured counterparts. Conversely, enrolling children in health coverage has been significantly associated with improved academic performance (Children's Defense Fund, 2013).

To be fair, it is essential to recognize the positive outcomes derived from the previous efforts designed towards increasing health care coverage for children. The percentage of uninsured children decreased from 14.8% to 8.9%, ever since CHIP was implemented in 1997. According to the Children's Defense Fund (2013), during 2011 and 2012, 441,000 children gained health care coverage. And in FY2012, a type of public health coverage, either Medicaid or CHIP, covered more than 44 million children under the age of 19. Furthermore, it is expected that the Affordable Care Act (ACA) will decrease the number of uninsured by 40% (2.64 million of total uninsured in 2012) and provide access to 95% of eligible children under 19 years old by upholding and strengthening Medicaid and CHIP, along with creating new avenues for parents to attain health coverage.

However, before the mentioned improvements can be achieved, it is essential to acquire an understanding of the key traits of uninsured children, including the fundamentals of why children remain uninsured, the disparities among this group, and the many challenges that families have to overcome in an attempt to obtain health care coverage. Moreover, the causes and repercussions associated with unstable health insurance among families and the effects on children's health care must be considered.

This literature review offers a wide range of considerations for uninsured children based on the compilation of works from peer-reviewed articles addressing the overall

focus of uninsured children. Sub-topics discussed in this review include: an overview of

uninsured children based on demographic factors, the effects of immigration status for

families, explanations of why children remain uninsured with challenges identified,

trends in family insurance patterns and the lack of, disparities among insurance groups

(insured vs. uninsured) in accessing care, utilization, and mortality risks for uninsured

children.

<div align="center">Overview of Uninsured Children by Demographic Characteristics</div>

Family Income Levels

In general, statistics show that children in poverty were more likely to be

uninsured than children not in poverty (De Navas-Walt et al., 2013). In health care,

income is measured by the federal poverty levels (FPL), provided by the Department of

Health and Human Services (DHHS). Federal poverty levels are used to determine

eligibility for specific public programs including Medicaid and CHIP. According to the

most recent poverty guidelines, a family of four is considered poor if their annual income

is less than $23,850, which sets the FPL benchmark of 100%. On average, most families

were eligible for Medicaid or CHIP coverage if their incomes were equal to or less than

200% of the FPL in 2011; for a family of four to qualify, this meant that their household

income had to be at or below $44,700/year (Centers for Medicare and Medicaid, 2014a).

Income is a major factor for children as it determines the type of insurance

available to them, their use of resources, and ultimately their overall health outcomes.

Prior research has demonstrated the association between family income levels and U.S.

children's health, access, and utilization of health care services. Larson and Halfon

(2010) found that children's health was enriched with an increase in family income for

several different physical outcomes. For example, the percentage of children with obesity, diabetes, and asthma was much greater for those of the lowest incomes (less than 200% of the FPL) as opposed to those with higher incomes (greater than 300% of the FPL). Additionally, in the developmental health domain, precipitous gradients were noted for measures such as behavior/conduct problems and disabilities; those with poor incomes were predicted to have worse health status for said measures than children with higher incomes.

Concerning health care access and utilization, similar disparities are distinguished by family income. Larson and Halfon (2010) also discovered that unmet health care needs inclusive of medical, dental, and prescription needs were reduced with an increase in income. Despite the indication of greater need, lower income children had a smaller chance of being reported as using prescription medication. Further, those of the lower income groups (less than 200% FPL) had a parent who reported difficulty accessing specialist care in comparison to families at the 400% FPL.

Age

Additionally and interestingly enough, there is a variation of uninsured children within age groups; those under age 6 are found to have the lowest uninsured rate in comparison to adolescents, within the ages of 12 to 17 (De Navas-Walt et al., 2013). Investigators have explained that this difference among age groups may be due to the reduced number of visits to health care providers among older children in comparison to their younger counterparts. Moreover, younger children have greater number of recommended routine health maintenance visits appropriate for pre-school aged children

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in addition to state regulations requiring immunizations for children enrolling in day care and beginning school (Crocetti, Ghazarian, Myles, Ogbuoji, & Cheng, 2012).

Race/Ethnicity

    Uninsured children can be furthered characterized by another demographic factor: race and ethnicity. The reported rates for the uninsured classified by race in 2012 were found to be highest for minority groups, 14% of Hispanic children (any race) were uninsured, followed by 9.3% of black children, in contrast to 8.0% of Asian and 6.5% of White children (De Navas-Walt, et al., 2013). In general, research has provided that there are an evident and disproportionate number of uninsured children of Hispanic origin in contrast to other ethnic groups (Berdahl, Friedman, McCormick, & Simpson, 2013; Ozawa & Yeo, 2010). This variation may be further explained by the next classification, which relates to nativity and immigration status.

Effects of Immigration Status: Parent, Child, or Both

    Immigration status is a major barrier for the undocumented population; those children who are immigrants, whose parents are immigrants, or both, face challenges in acquiring health insurance.

    Numerous studies have explored the difficulties experienced by immigrant families in attaining coverage for adults and children. One study (BeLeu, Miranda, Bilikisu, Elewonibi, & Hillemeier, 2014) sought to identify key factors that explain the lack of insurance among children, and examine barriers that may hinder the effectiveness of the ACA in providing insurance coverage to children of immigrant families in the United States Findings indicate that family generational status (first, second, or third) is associated with a number of barriers to health insurance coverage for children. Primary

challenges for children in immigrant families (first and second generation) include awareness of and experience with various health insurance options, perceived costs and benefits of insurance, structural/policy restrictions on eligibility, and a reduced possibility of being employed by a large organization that offers employee insurance coverage (employers with < 50 employees). Overall, lower rates of employer-sponsored health insurance had a major impact on the higher proportion of uninsured among immigrant children. Thus, children with immigrant parents, irrespective of residence in the United States, are more prone to lack insurance as a result of their parents missing employer-sponsored insurance. Furthermore, the findings suggested a higher rate of uninsured Latinos in first generation households, as opposed to second and third generations (BeLeu et al., 2014).

Relative to race and ethnicity outcomes, Hernandez and Kimbro (2013) examined which specific immigrant children from socioeconomically disadvantaged regions of origin whose parents obtained lower education were more likely to have health coverage. Using the Early Childhood Longitudinal Survey-Kindergarten Cohort, the researchers were able to determine that children whose mothers emigrated from the Caribbean or Indochina had higher chances of being insured in comparison to children whose mothers had emigrated from Mexico. There was no statistical difference between children whose mothers originated from Latin America than those from Mexican origin. Also, mothers who acquired citizenship had a positive association with children's coverage (Hernandez & Kimbro, 2013). This may be due to the increased health coverage opportunities for naturalized families, such as obtaining employer sponsored insurance or actually taking

advantage of public health insurance programs available to families of qualifying income (< 200% of the FPL), such as Medicaid and CHIP.

Similar to BeLeu and colleagues (2014), Hernandez and Kimbro (2013) identified that language is a primary factor associated with uninsured rates for children of immigrant families. Those parents who have difficulty assimilating with the American culture, who have trouble learning the primary language, struggle with obtaining health insurance for their families. Latinos have reported being incapable of completing the Medicaid application for their children due to poor English proficiency and thus, results show that those households whose primary language was Spanish, reported higher probabilities of uninsured children.

Seiber (2014) in another study explored the number of uninsured children who live in immigrant households, where the child was born in the United States with at least one parent who immigrated to the United States. In 2010, nearly half (42%) of uninsured children had immigrant parents with two thirds (69%) of the children being U.S. citizens. Further, it is troubling to know that more than a third (39%) of these uninsured children were Medicaid eligible but not enrolled. When comparing the two groups, immigrant families versus. native families, it was found that immigrant families were nearly twice as likely to be uninsured in comparison to native families (citizen children with two native parents) and more commonly skipped Medicaid coverage. This is significant because these results validate how children who live in immigrant families are the group most prone to omit central investment in their health and human capital.

Children with Special Health Care Needs

Another vulnerable group of children affected by immigration status and acculturation barriers, which must be considered, are Children with Special Health Care Needs (CSHCN). Like children without special health care needs (SHCN) living in immigrant families, CSHCN were greatly impacted by immigration status in relation to health care access, utilization, and health status. Javier et al., 2010) compared CSHCN in immigrant and non-immigrant families and discovered disproportions in the areas mentioned above. Certainly those children living in immigrant families were almost twice as likely to be uninsured, lack a usual source of care, report a delay in medical care, and report no visit to the doctor in the past year, along with being perceived in fair or poor health status. Correlated to children without SHCN, barriers to staying healthy for CSHCN were attributed to family socioeconomic status, parent's limited English proficiency, and limited parental education.

Why Children Remain Uninsured

Investigators have also studied why (in general) some children are still uninsured, their characteristics, and more specifically, why do children who qualify for public insurance forego the opportunity.

Salsberry (2003) noted in her literature review, that previous research (as cited in Byck, 2000) has identified key parental differences when comparing the groups of children eligible but uninsured to their privately insured peers. For instance, uninsured children have parents who tend to lack a college education in comparison to those privately insured and thus, are unfamiliar with Medicaid and the State Children's Health Insurance Program (SCHIP). Further, Salsberry highlights (as cited in Kempe et al.,

2000) that parents who had former experience with the insurance application process, rated the enrollment process as troublesome. Building on the relevant literature, this researcher compared the uninsured children to those insured with the objective of understanding why some children remain uninsured.

Salsberry (2003) conducted a study that served as a foundation for many to follow. She found that despite meeting the minimum eligibility requirement of being at the 150% FPL at the time (2003), 60% of uninsured children in her study were eligible but uninsured. Challenges of why parents opt out of applying include difficulties with their own health; parents in uninsured group reported worse health condition than parents in covered by private insurance. Additionally, almost a third of the uninsured group reported working full time (66%) and over 71% were single parents. These results imply that limited time and energy after work may negatively influence the parents' ability to enroll in public health programs.

Furthermore, parents continue to perceive the enrollment process as being problematic (Salsberry, 2003). In a much later study piloted almost a decade later by DeVoe et al. (2012), systematic barriers were identified by parents attempting to gain public health coverage. Parents expressed confusion about insurance eligibility and enrollment, difficulties obtaining public coverage and/or services, limited provider availability, and frustrations with non-covered services and/or coverage gaps (DeVoe et al., 2012).

On top of overcoming system barriers associated with enrollment, parents experienced a mutual and widespread theme: stigma. DeVoe et al. (2012) provided further insight as to why families who qualify for public insurance chose to decline the

opportunities. To access care, parents felt they needed to take action that reinforced a stereotype, accepted an offensive label, were vulnerable to discrimination, and/or required personal compromise (DeVoe et.al, 2012).

Moreover, the landmark study by Salsberry (2003) underscored that uninsured children (21%) were found to have the poorest health condition as observed by their parents in comparison to those insured by Medicaid (18%), or private insurance (4%), hence indicating a necessity for coverage. Constructing the way for subsequent findings (Berdahl et al., 2013), Salsberry argued that the lack of access among the uninsured is prominent, with this group less probable to have well childcare or to see a provider when ill. Parents also noted cost as being of one of the causes why children were not seen when sick.

<u>Health Insurance Gaps for Children and the Effects of Family Dynamics</u>

Salsberry (2003) additionally recognized a pattern of unstable insurance, with almost a third of children being uninsured during the interview conducted as part of her study or within the year. Concurring with former findings, Salsberry notes (as cited by Berman, Bondy, Lexotte, Stone, & Byrns, 1999; Schoen & DesRoches, 2000) that having unstable insurance (insurance gaps) is problematic and can lead to worse health effects and increased risk of poorer health.

Due to the aforementioned, unstable insurance is a main topic of concern, which has been examined by various studies. According to Buchmueller, Orzol, and Shore-Sheppard (2014, p.109) "there is a statistically and economically significant relationship between insurance coverage stability and access to care." Their findings suggest that children who have part-year insurance, either public or private, are more probable to visit

a physician at least once as opposed to children who are uninsured for a full year. However, these children with partial coverage have less of chance of attaining a physician's visit than those with full-year coverage. Buchmueller et al., argue that insurance gaps occur due to fundamental features of the U.S. health care system and that the ACA will cause a rise in the frequency of shifts among various types of insurance. Lastly, it is established that children experience insurance gaps due to family dynamics, such as increases in household incomes or family size.

DeVoe, Tillotson, and Wallace (2012) piloted several cross sectional studies using data from the 2002-2006 National Medicare Expenditure Panel Survey (NMEPS) to focus on the effect of family insurance patterns and the effect of children's insurance coverage and access of health care services. In one study DeVoe et al. (2012) attempted to examine if there was a relationship between household income and extended coverage gaps among U.S. children with one insured parent at the very minimum. Researchers found that children of the weakest income groups (< 125% FPL) did not have meaningful odds of experiencing gaps greater than 6 months. Most importantly, this study discovered that children with continuously insured parents of middle-income families were most susceptible at enduring insurance gaps greater than 6 months, in contrast to the lower and higher income families. These findings indicate that middle-income families are in a tough situation; disadvantage due to middle class wages not being low enough to qualify for public programs, nor high enough to purchase private insurance.

In contrast, the preceding study was conducted with the assumption that at least one parent was insured. However that is not always, the case. Insurance coverage for

parents varies, and in turn, affects the health access for children. In an earlier study,

DeVoe, Tillotson, and Wallace (2010) found that insured children with uninsured parents

(in a family with two parents, both uninsured) had greater chances of an insurance gap

(odds ratio [OR] = 2.45; 95% confidence interval [CI], 2.02-2.97), no usual source of

care (OR = 1.31, 95% CI, 1.01-1.56), unmet health care needs (OR = 1.11, 95% CI, 1.01-

1.22), and never having attained at least one preventive counseling visit (OR = 1.20; 95%

CI, 1.04-1.39) when paralleled with insured children who had insured parents. Likewise,

insured children with mixed parental insurance coverage (in a two parent family, one was

insured and one was uninsured) encompassed similar vulnerabilities.

In accordance to the evidence presented thus far, it is imperative that children's

family insurance patterns be consistent. However, there are family circumstances, which

are highly associated with an increase risk of losing and gaining (both public and private

insurance) coverage of a child that may not be controlled for, such as change in marital

status and employment of the family head (Hill & Shaefer, 2011). According to Peters,

Simon, and Taber (2014), there is a lack of research in this concentration. Therefore,

they addressed the patterns of health insurance coverage surrounding marital disruption

for families (including men, women, and children) broaden by the subset of educational

level. Findings suggests that lower educated women with children seem to be the most

helpless in terms of losing coverage. Noteworthy of this study is the surprising decline of

dependent coverage for children after marital dissolution despite the likelihood of being

eligible for coverage, more frequently observed in parents with lower-education. The

lack of coverage may be explained in terms of money, where coverage is considered less

cost-effective, assuming the child no longer resides in the same geographical area as their father (Peters, Simon, & Taber, 2014).

<p style="text-align:center">Insurance Status, Care, and Mortality in Children</p>

Another disparity examined among the uninsured group is the care they receive in the emergency department. Mannix, Chiang, and Stack (2012) were the first to investigate the relationship between insurance status (private, public, or none) and the use of diagnostic testing or intervention in the emergency department (ED) for children. It was discovered that children with public or no insurance were provided with less testing than those with private insurance. The researchers explain that the lower levels of education, language proficiency, and health literacy of the uninsured in comparison to their counterparts with private insurance may influence these apparent differences. Perhaps parents whose children are privately insured receive more testing and treatment because of their assertiveness (e.g., asking for advanced imaging), or cultural differences in the expectation of the treatment (e.g., control of pain and resolution of pain after medication). It is also possible that uninsured children request less testing due to limited personal resources. Or perhaps, the hospital and/or physician financial incentives are associated with insurance status, responsible for either over utilization for those with private insurance or under utilization for those without private insurance.

In general, uninsured children face health related disparities in screening, treatment, and outcomes (Rosen, Saleh, Lipsitz, Meara & Rogers, 2009). For this reason the Emergency Medical Treatment and Active Labor Act (EMTALA) was authorized in 1986, denoting that patients cannot be denied treatment or transferred to another hospital when medically unsound. Despite this ruling, evidence seems to suggest that a disparity

in mortality after trauma among uninsured children exists. Using data from the National Trauma Data Bank (2002-2006) including information from more than 900 trauma centers, Rosen et al. (2009) concluded in their analysis that higher mortality risks for uninsured children and adolescents were present when compared with the "commercially" (private) or publicly insured after sustaining trauma. However, both uninsured and publicly insured had greater risks of mortality when compared to the privately insured.

Within the same year, Abdullah et al. (2010) analyzed a vast amount of inpatient data (23 million U.S. children) to primarily explore the overall impact of insurance status on inpatient mortality. In contrast to the preceding study, Abdullah et al., (2009) distinguished the differences in mortality risks by classifying children as insured or uninsured, irrespective of the type of insurance coverage (private vs. public). These researchers (Abdulla et al., 2010) examined data of all pediatric patients admitted to a hospital rather than limiting their assessment to trauma patients. The results showed that children who were hospitalized without insurance had significantly higher all-cause mortality as compared with insured children; the adjusted mortality was roughly 60% higher than the insured children. Further, it is disturbing to know that approximately 16,787 deaths of the 5,995,395 uninsured hospitalizations might have been prevented; assuming absence of insurance was the primary factor.

In summary, this literature review provided an overview of uninsured children based on demographic factors, such as income, race and ethnicity, age, and immigration status. Previous research offers rationalizations of why children remain uninsured while identifying challenges experienced by uninsured children and their parents. Also, trends

in family insurance patterns and the lack of were reviewed, in addition to exploring the

disparities among vulnerable children (of low income and children with special needs

were considered). This knowledge is essential to understand in order to reduce the

number of uninsured children following provisions by the ACA, and to improve the

overall health status, access, and utilization of disadvantaged children during this

monumental period in health care.

CHAPTER 2

METHODOLOGY

<u>Overview</u>

The main objective of this study was to examine how socioeconomic factors, such as income, educational attainment, citizenship status, and race/ethnicity of parents affect children's health insurance. The main two types of insurance examined were employer-based insurance (EBI) and Medi-Cal. Additionally, the associations between socio-economic factors and not being enrolled in the Medi-Cal (Medicaid) Healthy Families program and the main reasons for not having employer's health plan were examined.

Secondary data analysis was conducted using available data from the 2011-2012 California Health Interview Survey (CHIS). The CHIS is prominent and of great value because it covers topics such as health status and conditions, cancer screening, diet, physical activity, other health-related behaviors, health insurance coverage, mental health, access and utilization of health care services. It is a biennial population-based, omnibus health survey in California. Further, it is the largest telephone survey in California and the largest state health survey in the nation, surveying nearly 43,000 adults, roughly 3,000 adolescents, and approximately 7,000 children by adult proxy (CHIS, 2013a).

This survey was piloted by the UCLA Center for Health Policy Research (UCLA-CHPR), in partnership with the California Department of Public Health, and the

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Department of Health Care Services. Funding from the CHIS was provided by state and federal agencies and from a number of private foundations. Some of the funders who supported the 2011 CHIS include the aforementioned along with Kaiser Permanente, the National Institutes of Health (NIH), the California Wellness Foundation, and the First 5 California (CHIS, 2013a).

<center>Sample Design</center>

In general, the CHIS sample is designed to provide population-based estimates for majority of California counties and all predominant racial and ethnic groups, including several ethnic subgroups. The sample is designed to meet and enhance two main goals: (1) To provide local-level estimates for counties with population of 60,000 or more for local planning and evaluations among counties and (2) To provide statewide approximations for California's overall population, its major race and ethnic groups, as well as for several Asian and Latino ethnic groups (CHIS, 2013a).

<center>Sampling Technique and Participants</center>

The CHIS is a random-dial telephone survey conducted in all of the 58 counties in California, which uses a dual-frame random-digit-dial (RDD) technique. The survey captures a representation of the state's population by using traditional landline RDD and cell-phone RDD sampling frameworks. The CHIS randomly selects one adult to interview in each participating household throughout California and may additionally interview a child and adolescent if part of the same household. CHIS asks questions that are combined across age groups and also particular questions that are exclusive to only one age group: children (0-11 years of age), adolescents (12-17 years of age), and adults (18 years and older). Adults respond for themselves, respond for children (most

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knowledgeable parent of the selected child), and adolescents respond for themselves with parental permission. Hence, there are three different sets of questionnaires pertaining to each group and a data set per questionnaire to complement it. For the 2011-2012 survey, the total sample size by age group includes 42,935 adults, 2,799 adolescents, and 7,334 children (CHIS, 2013b).

The CHIS landline is stratified into 56 geographic sampling divisions, including the largest counties in California: Los Angeles, San Diego, Orange, and Riverside Counties. The sample is allocated to attain CHIS's goals of providing estimates for the greatest number of counties as possible and to provide estimates for significant race/ethnic groups and subgroups. As mentioned, a main sampling goal of the CHIS is to deliver data that echoes the diversity in California's racial and ethnic groups. CHIS includes samples of Whites (30,110 adults), Latinos (9,506 adults), Asians (4,302 adults), Pacific Islanders (82 adults), African Americans (2,102 adults), and American Indians (790 adults) that reflect their portions of the state's population. Further, to seize the rich diversity of the population in California, the survey is administered in five languages: English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese, and Korean (CHIS, 2013).

<div align="center">Present Study</div>

This study utilized data from the 2011- 2012 CHIS adult questionnaire for statistical analysis. This study focused on parent socioeconomic factors inclusive of ethnicity, citizenship status, educational attainment, and income level to determine the associations of children's health insurance based on the responses from adult participants. The main types of health insurance examined in this study were employer-based

insurance and Medi-Cal. All responses for relevant questions used in this analysis were from adult participants.

The Statistical Package for Social Services (SPSS), version 22 was used to determine the proposed hypotheses:

H1: Parent's highest grade of education is associated with lacking employer-based health insurance (EBI).

H2: Lower income children (< 200% FPL) will less likely have employer-based health insurance.

H3: Educational attainment of parents is associated with child being uninsured but eligible for Medi-Cal.

H4: Ethnicity/race is associated with the main reason for not having employer based health insurance (EBI).

H5: Children whose parents are not citizens of the U.S. are less likely to have Medi- Cal coverage.

Measurement of Children's Insurance Status

The CHIS data does not have a single question straightforwardly addressing whether a child has insurance or does not have insurance. Rather, the survey provides various questions addressing the type of insurance the child may receive, as reported by the adult parent. Each question in the CHIS questionnaire is assigned a unique sequential number and a data variable name is associated per question. The dependent and independent variable names are derived from the specific questions addressed and will be measured as described next.

Dependent Variables

Employer-Based Insurance (EBI)

The dependent variable of the child being covered by employer-based insurance was measured by QA11_15, which asks the following: "Is (CHILD) covered by a health insurance plan or HMO through your own or someone else's employment or union?" The coded responses which will be used are: Yes = 1 and No = 2, eliminating responses such as, Refused = -7 or Didn't Know = -8. This question pertains to variable name CF3 (in the 2011-2012 CHIS data file), which was used to run the appropriate type of analysis.

Main Reason for Not Being Enrolled in Medi- Cal Program

This variable was measured by QA11_I16, which asks: "What is the ONE main reason why (CHILD) is not enrolled in the Medi- CAL program?" The coded responses which were used were: 1 = Paperwork Too Difficult, 2 = Didn't Know if Eligible, 3 = Income Too High, Not Eligible, 4 = Not Eligible Due to Citizenship/Immigration Status, 5 = Other Not Eligible, 6 = Don't Believe in Health Insurance, 7 = Don't Need it Because Healthy, 8 = Already Have Insurance, 9 = Didn't Know It Existed, 10 = Didn't Like/ Want Welfare, Other (specified in survey). Responses of parents who Refused= -7 or Don't Know = -8 are invalid and were voided in this analysis. The coded data variable name for this question used is CF1A.

Main Reason for Not Having Health Insurance

This variable was measured using QA11_I26, which asks: " What is the main reason (CHILD) does not have any health insurance?" The coded responses examined are 1 = Can't afford/ Too Expensive, 2 = Not Eligible Due to Working Status/ Changed

Employer/ Lost Job, 3 = Not Eligible Due to Health or Other Problems, 4 = Not Eligible

Due to Citizenship/ Immigration Status, 5 = Family Situation Changed, 6 = Don't Believe

in Insurance, 7 = Switched Insurance Companies, Delay Between, 8 = Can Get Health

Care for Free/Pay for Own Care, 8 = Other (specified by adult). Invalid responses

excluded are Refused = -7 or Don't Know = -8. The coded variable, which will be

referenced in the data set is CF18.

<center>Independent Variables</center>

<u>Highest Grade of Education (Parent)</u>

Parental educational attainment was measured by QA11_G22: "What is the

highest grade of education you have completed and received credit for?" The coded

variable used was AHEDUC and the ordinal responses are as follows: No Formal

Education = 30, 1st Grade = 1, 2nd Grade = 2, 3rd Grade = 3, 4th Grade = 4, 5th Grade = 5,

6th Grade = 6, 7th Grade = 7, 8th Grade = 8, 9th Grade = 9, 10th Grade = 10, 11th Grade =

11, 12th Grade = 12, 1st Year of College (Freshman) = 13, 2nd Year of College

(Sophomore) = 14, 3rd Year of College (Junior) = 15, 4th Year of College

(Senior)(BA/BS) = 16, 5th Year = 17, 1st Year of Grad or Prof School = 18, 2nd Year Grad

or Prof School (MA/MS) = 19, 3rd year Grad or Prof School = 20, More than 3 years

Grad of Prof School = 21, 1st Year of Junior or Community College = 22, 2nd Year of

Junior or Community College (AA/AS) = 23, 1st Year of Vocational, Business, or Trade

School = 24, 2nd Year of Vocational, Business, or Trade School = 25, More than 2 Years

of Vocational, Business, or Trade School = 26. Invalid responses which will be voided

include: Refused = -7 and Don't Know (out of Range) = -8. The code data variable name

from the survey is AH/47.

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<u>Income Level (FPL < 200%)</u>

Using question QA11_K20, which states, assessed the Federal Poverty Level of less than 200%: "I need to ask just one more question about income. Was your total annual income before taxes less than or more than $ {POVRT200}?" The coded responses used are: Equal To Or Less = 1, More= 2, excluding invalid responses, Refused = -7 and Don't Know= -8. The data variable name associated to this question to be used was AK18B.

<u>Citizenship Status (Child)</u>

Whether a child is a citizen or not will be determined by QA11_I83: "Is (CHILD) a citizen of the United States?" Valid coded responses which will be utilized are Yes = 1, No = 2, Application Pending = 3. Invalid responses to be excluded are Refused = -7 and Don't Know = -8. The data variable name associated to this specific question is AH40.

<div align="center"><u>Proposed Analysis</u></div>

Hypothesis 1 used the dependent variable "child has employer-based coverage" and the "highest grade of education" attained by parent as the independent variable to determine if there was an association between both variables. A Chi Square test was used for this analysis as the dependent variable is ordinal and the dependent variable is categorical.

Hypothesis 2 also used employer-based coverage as the dependent variable and income level as the independent variable to explore if lower income children will be less likely to have employer-based health coverage. A Chi Square test was used for this bivariate analysis as the dependent and independent variables are categorical.

Hypothesis 3 observed the main reasons for not being enrolled in the Medi-Cal Program as the dependent variable and the highest grade of educational attainment by the parent(s) to test if there was an association between the two variables. Since the dependent variable is of categorical nature and the independent variable is ordinal, the Chi Square test was used.

Hypothesis 4 examined the relationship between ethnicity and the main reason for not having health insurance. The main reason for not having health insurance is the dependent variable and ethnicity (Latino or Hispanic parent) is the independent variable. These variables are both categorical in nature and thus, the Chi Square test was the appropriate test to use for this analysis.

Lastly, Hypothesis 5 tested if non-citizen children were less likely to have Medi-Cal coverage. Citizenship status of the child is the independent variable and Medi-Cal coverage is the dependent variable. Both variables were categorical in nature and hence, were analyzed using the Chi-Square test.

Table 1 summarizes the proposed analysis, inclusive of the hypotheses, independent and dependent variables, and appropriate tests performed for the analysis of the five hypotheses in this study using data the 2011-2012 CHIS Adult Questionnaire.

TABLE 1. Proposed Analysis

Hypothesis	Dependent Variable	Independent Variable	Statistical Test
Parent's highest grade of education is associated with lacking employer-based health insurance (EBI)	Employer-based Coverage	Highest Grade of Education (Parent)	Chi-Square
Lower income children will be less likely to have employer-based health insurance	Employer-based Coverage	Household's total annual income	One-Way ANOVA
Highest grade of education by parents is associated with being uninsured but Medi-Cal eligible	Uninsured but Medi-Cal eligible	Highest Grade of Education (Parent)	Chi-Square
Race is associated with main reason for not having employer based health insurance	Main reason for lacking employer-based health insurance	Race	Chi-Square
Children whose parents are not citizens of the U.S. are less likely to have Medi-Cal coverage	Uninsured but Medi-Cal eligible	Citizenship Status	Chi-Square

Note: Table 1 is a summary of statistical analysis of variables

CHAPTER 3

RESULTS

Descriptive Statistics

The data set used in this study was acquired from the CHIS 2011- 2012 Adult

Questionnaire in which a total of 42, 935 adults responded. For the present study, only

data from adults within the ages of 18-64 were used. Thus, the data used in this project is

a subset, consisting of 28, 820 adults (approximately 62 percent of the initial sample).

Respondents will be referred to as "parents" for the dialogue of this section and the next.

Version 22 of the Statistical Package for Social Services (SPSS) was the primary tool

used to run the data analysis.

Age frequencies for the subset of respondents show that out of the 28, 820

respondents, 16% were within the ages of 18-29 years of age, 19% were within the range

of 30-49 years of age, and the largest percentage of age frequencies were of the older age

groupings: 29% of respondents were 42-53 years of age, and 35% were 54-64 years of

age. Refer to Figure 1 for visual enrichment of age groupings.

The CHIS 2011-2012 survey questions of interest, specific to children's health

insurance were not available in this data set. For instance, QA11_15, which asks the

following: "Is (CHILD) covered by a health insurance plan or HMO through your own

or someone else's employment or union?" was not found as a response in the data set,

having been suppressed from the public use data file.

As a result, the associations were determined using variables in regard to the parents' health insurance. For instance, the frequencies of the employer based insurance (EBI) variable named, "offer, eligibility, acceptance of employer based insurance," was examined, in addition to being one of the dependent variables. This variable consisted of five categories: (1) Unemployed or self-employed, (2) Accepted EBI, (3) Not accepted EBI, offered and eligible, (4) Was offered EBI, not eligible, (5) Was not offered EBI. See Figure 2 for the distribution of EBI.

Educational attainment coded as AHEDUC was assessed, establishing one of the independent variables tested in two of the five hypotheses presented in this study. Being categorical in nature, educational attainment was grouped within grade levels: (1) Grade 1-8, (2) Grade 9-11, (3) Grade 12/H.S. Diploma, (4) Some College, (5) Vocational School, (6) AA or AS Degree, (7) BA or BS Degree, (8) Some Grad School, (9) MA or MS Degree, (10) PhD or Equivalent, and (11) No Formal Education.   Most parents constituted two of the educational attainment categories. The largest percentage of the parents responded as having graduated H.S. or equivalent (22.8%) or having a B.A. or B.S. degree (22.3%). Refer to figure 3 for the visual grouping of this variable.

In consideration of one of the major factors affecting children's health insurance status dependent on their parents' is the financial position of the household. Emphasizing on disadvantages children, frequencies of the Federal Poverty level were examined. The distribution of the Federal Poverty Level demonstrates that slightly more than half (53%) of the participants were at 300% FPL and above (roughly $69,000-92,000 for a family of four in 2012). The other half of the respondents reported the following distributions: 13% at the 200%-299% FPL (approximately $46,000-68,000 for a family of four in

2012), 18% at 100%-199% FPL (roughly $23,000-45,000 for a family of four), and 16% at 0-99% FPL, receiving less than $23,000 a year (Georgetown University Health Policy Institute, 2012). Refer to Figure 4 for the visual of the reported FPL frequencies.

Observing citizenship status, the distribution evidently shows that more than two thirds of the participants within the ages of 18-65 are U.S.-born citizens (70%). The other percentages of the sample size (28,820) include 15.5% naturalized Citizens and 13.8% of non-citizens. The frequencies of these categories are illustrated in Figure 5.

In terms of race, the largest percentage (approx. 55 percent) of parents who participated in the survey reported being "White." Following were parents who identified as being "Latino" (19%), "Asian" (11%), "Other single/multiple race" (9%), and "African American" (5%). The other categories, such as "American Indian/Alaskan Native" were of minimal fractions from the sample size studied. Refer to Figure 6 for graphic of race frequencies.
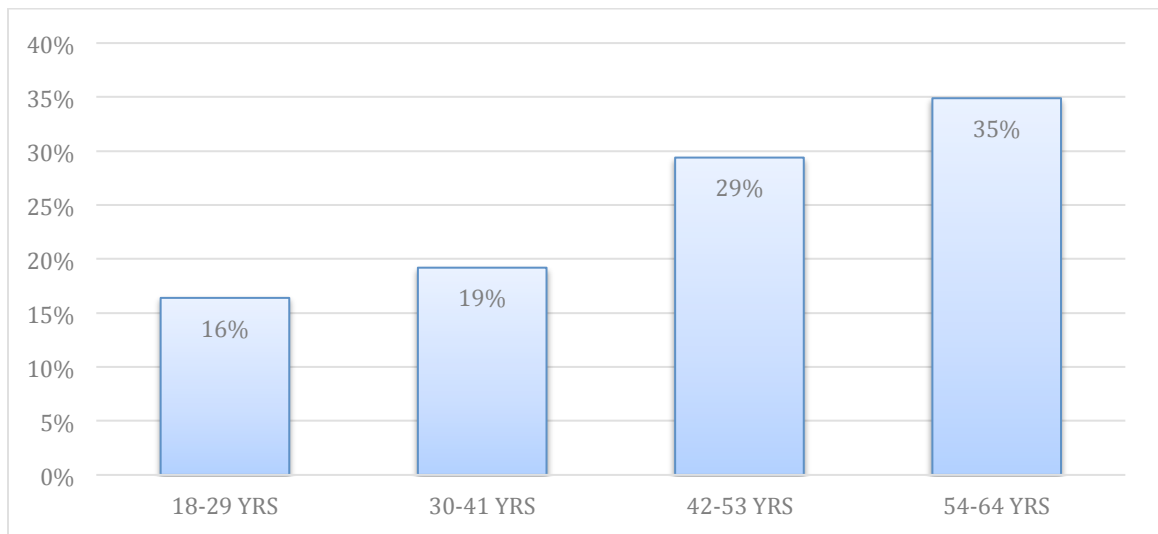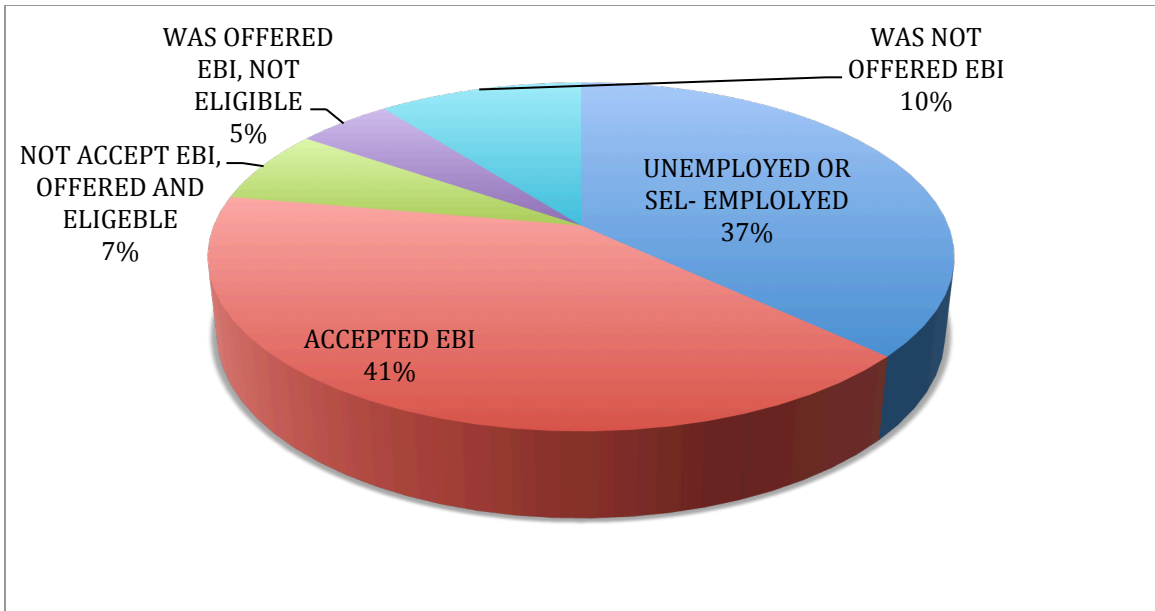

FIGURE 1. Distribution of age (N = 28,820).

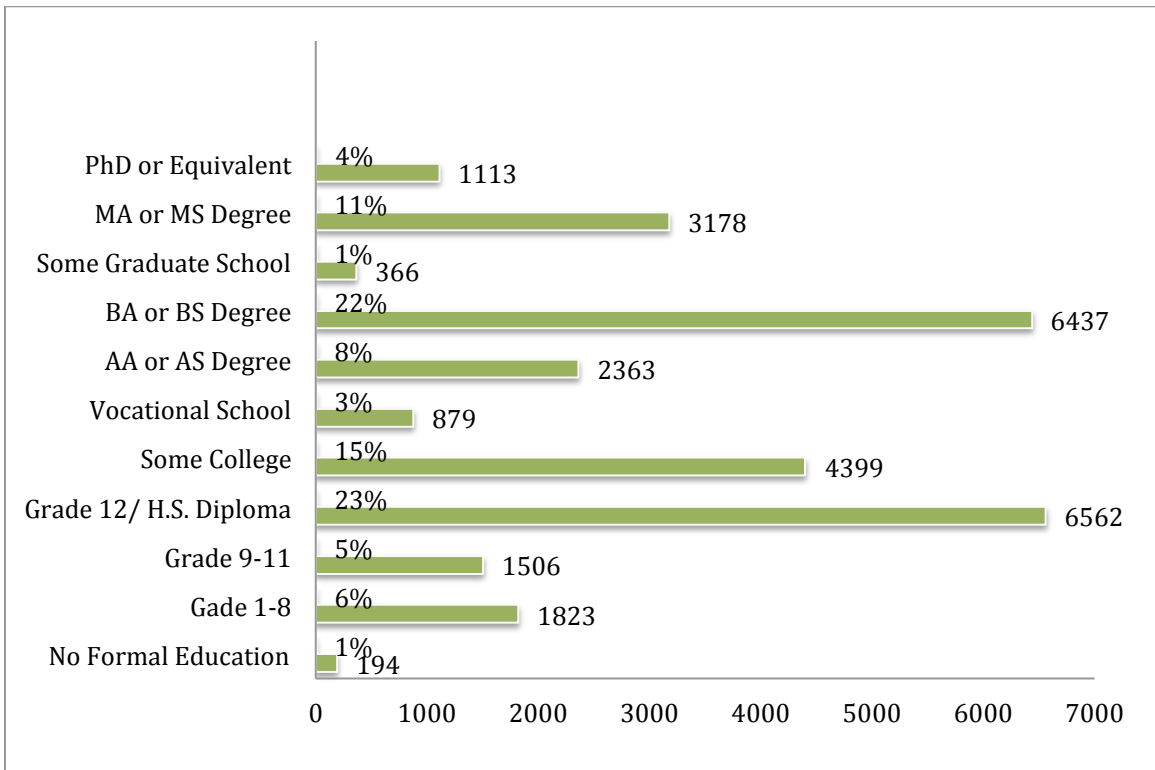FIGURE 2. Employer-based insurance distribution within sample size (N = 28,820).

FIGURE 3. Distribution of educational attainment (N = 28,820).
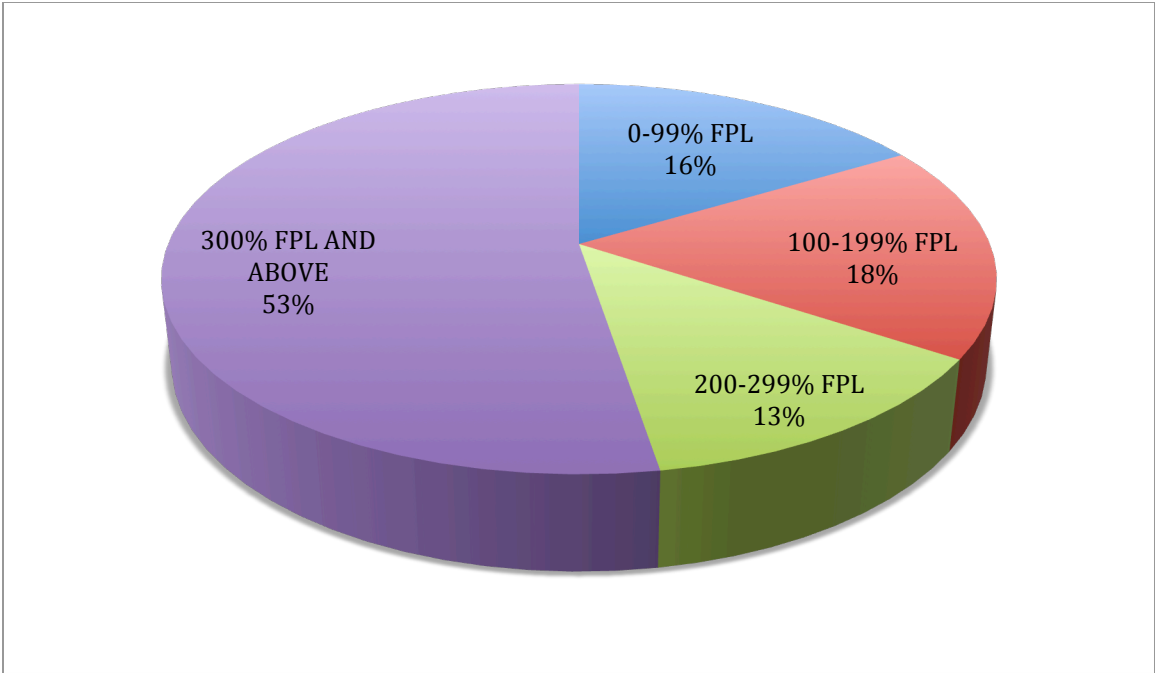
FIGURE 4. Distribution of federal poverty level ($N = 28{,}820$).
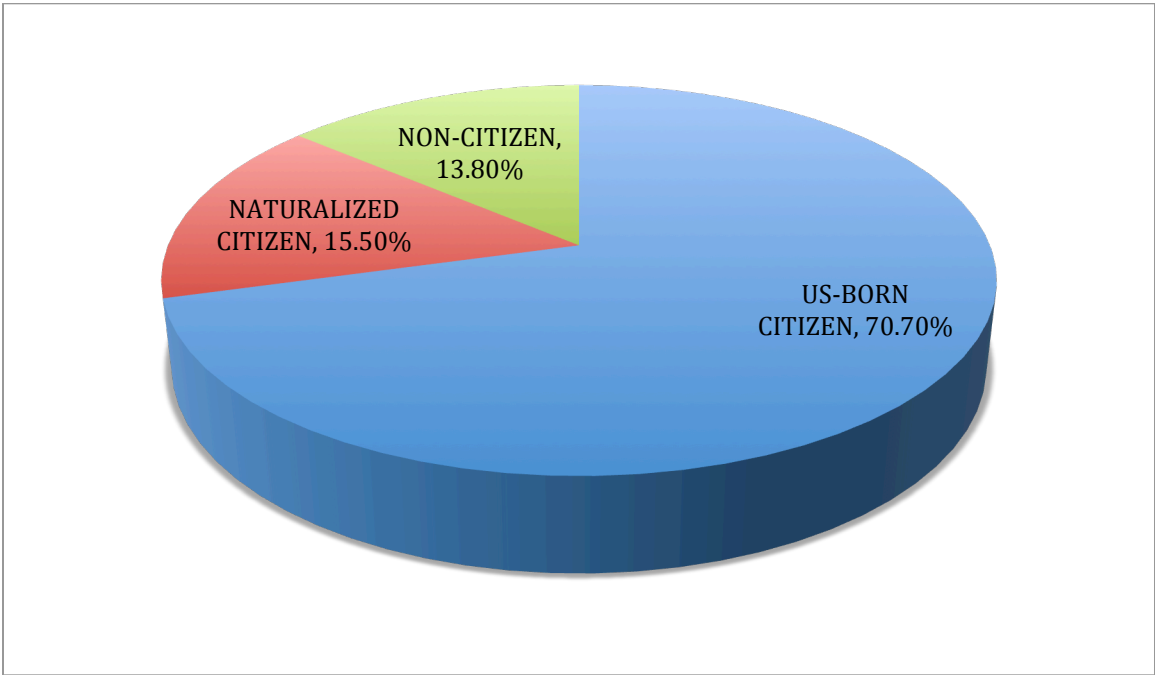
FIGURE 5. Distribution of citizenship status ($N = 28{,}820$).
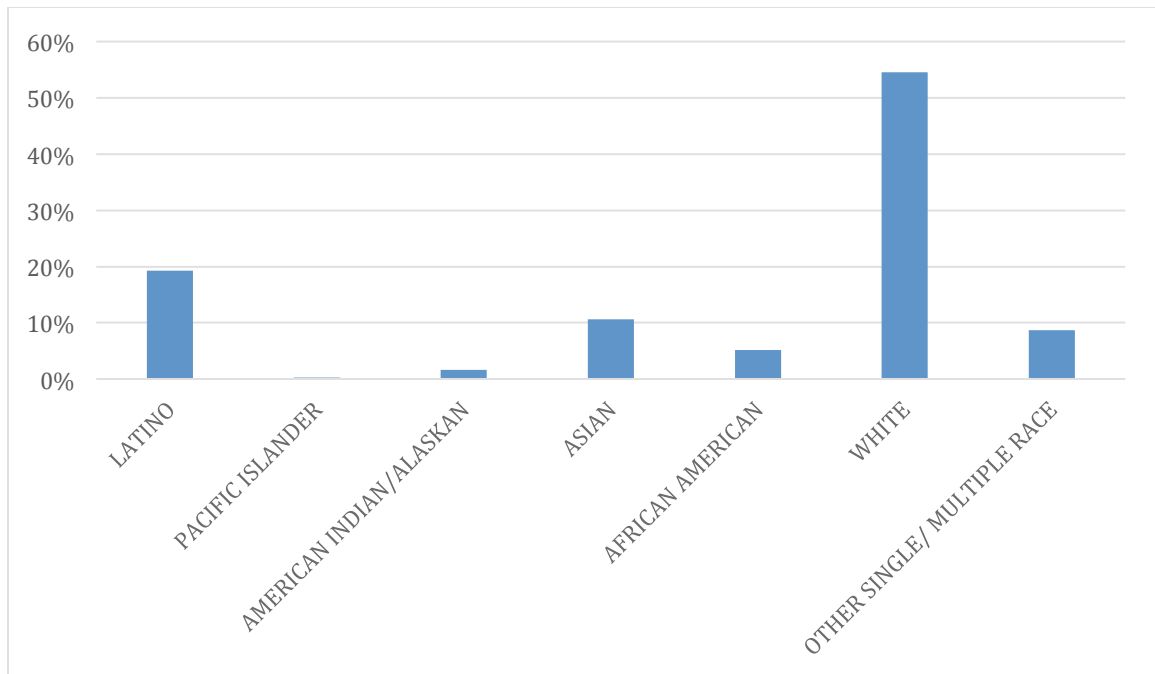
FIGURE 6. Race (UCLA CHPR definition) frequencies (*N* = 28,820) .

<u>Hypotheses Testing</u>

Despite the trials with finding available data in relation to children's health insurance in the adult data sets, all hypotheses were tested using the parent's health insurance data (e.g., employer based insurance, Medi-Cal eligibility) and socioeconomic characteristics (e.g., annual household income, educational attainment, race, and citizenship status) as reported by the adults.

Using the CHIS 2011- 2012 Adult Questionnaire data, the Chi Square test (cross tabulations) and the One-way ANOVA tests were used to examine the associations for the dependent and independent variables.

In summary, the dependent variables and respective codes examined are: (1) Offer eligibility, acceptance of employer-based insurance (OFFTK), (2) Households total

annual income (AK22_P), (3) uninsured but Medi-Cal (Medicaid)/healthy family

eligibility (ELIGPRG3), and (4) Main reasons not in employer's health plan (AI15).

The independent variables and corresponding codes analyzed comprise of: (1)

Educational attainment (AHEDUC), (2) Offer eligibility, acceptance of employer-based

insurance (OFFTK), (3) Race (RACEHPR2), and (4) Citizenship status (CITIZEN2).

Hypothesis 1 predicted that parents' highest grade of education is associated with

lacking employer health insurance. This was proven to be significant (χ^2 (40, $N = 28820$)

= 2767.09, $p < .001$), hence the null hypothesis was rejected.

Hypothesis 2 proposed that children of lower income households will be less

likely to have employer-based health coverage as reported by the parent. For this

analysis, the dependent variable was set as the total annual household's income and the

independent variable was employer-based insurance. The relationship between these two

variables was explored using a one-way ANOVA test. An analysis of variance

demonstrated (see Figure 7) that there was a statistical difference between the groups as

determined by the one- way ANOVA (F (4, 28815) = 745.815, $p =$. 000).

Hypothesis 3 proposed that there is an association between parent's highest

educational attainment and Medi-Cal coverage; being uninsured but Medi-Cal eligible.

The Chi square was used to evaluate these two variables and determined that there is a

significant association between educational attainment and (χ^2(30, $N = 28817$) =

162.43, $p < .001$), therefore we reject the null hypothesis.

Hypothesis 4 aimed to prove that there was a connection between race and the

main reason why parents were not in employer's health insurance. A chi square analysis

successfully ascertained the association between these variable, ($\chi^2(42, N = 1980) = 150.22, p < .001$).

Conclusively, Hypothesis 5 suggested that children whose parents lack citizenship are less likely to be insured by Medi-Cal. This relationship was found to be significant as demonstrated by the Chi-square analysis ($\chi^2(6, N = 28817. 62, p < .001$).
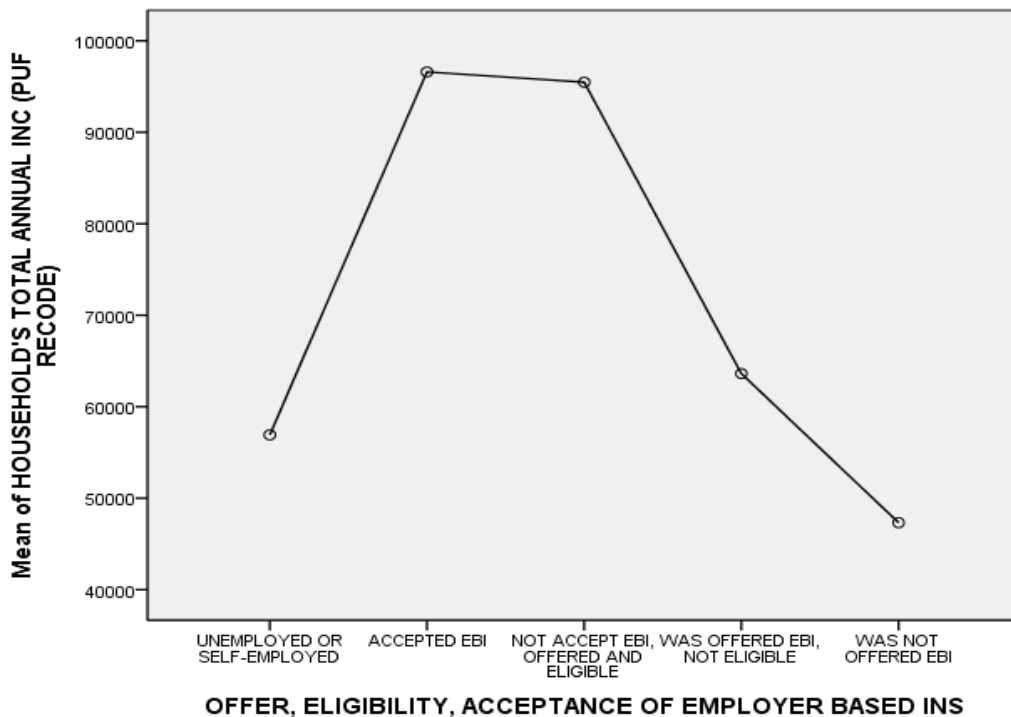
FIGURE 7. Means plot of household's total annual income and offer, eligibility, acceptance of employer-based insurance

In summary, all hypotheses were proven to be of high significance ($P < .01$). Hypotheses 1,3, 4, and 5 were supported to be meaningful through the application of a Chi-square analysis. The significance of Hypothesis 2 was achievable through the use of a one-way ANOVA test. The overall findings, implications, and limitations are discussed in Chapter 4 of this project report.

TABLE 2. Statistical Analysis

Hypothesis	Dependent Variable	Independent Variable	Statistical Test	P-value
Parents' educational attainment is associated with lacking employer-based insurance (EBI)	Offer, eligibility, acceptance of employer-based insurance	Educational attainment	Chi-Square (χ^2)	0.000
Lower income children will less likely have employer-based insurance (EBI)	Household's total annual income	Offer, eligibility, acceptance of employer-based insurance	One-way ANOVA	0.000
Parents' highest educational attainment is associated with being uninsured but Medi-Cal eligible	Uninsured but Medi-Cal eligible	Educational attainment	Chi-Square (χ^2)	0.000
Race is associated with main reasons why parents are not in employer's health insurance	Main reason not in employer's health insurance	Race (parent)	Chi-Square (χ^2)	0.000
Children whose parents lack citizenship status are less likely to be insured by Medi-Cal	Uninsured but Medi-Cal eligible	Citizenship status (US-born citizen, naturalized citizen, non-citizen)	Chi-Square (χ^2)	0.000

CHAPTER 4

DISCUSSION

The purpose of this study was to examine the associations between

socioeconomic factors (all-encompassing of educational attainment, annual household

income, citizenship status, race) and the effect on children's health coverage, based on

their parent's health insurance. Socioeconomic factors were examined in the hypotheses

testing of this study as these factors serve as good indicators in the prediction of whether

parents will have health insurance, that being public or private health coverage, and thus

forecasting whether a child will have health insurance or not.

<u>Descriptive Statistics</u>

<u>Age of Respondents (< 65yrs)</u>

Due to the objective of the study, individuals 65 years of age and older were

excluded, since they are not likely to have progenies within the ages of 18 years old or

younger. Descriptive statistics revealed that most participants (referred to as parents)

were of the older age groupings. As such, the distribution of age for the parents was 29%

within the ages of 42-53 and 35% within the group of 54-64 years of age.

Martinez, Daniels, and Chandra reported in 2012 that that the mean age for a

parent was found to be 23 for a female and 25 for a male. Given that information, we can

conclude that parents with grade school children (ages 5-12) are on average 28 years old

with a 5 year old for women and 30 years old for a man. Moreover, statistics provided in

the aforementioned study indicated that most men and women have a child by the age of 40. Considering parents who have children at a later time of their lives, regardless of gender, we can assume that parents are 45-52 years of age when parenting a child 5-12 years of age. The older adults would be parents to teenagers within the ages of 13-18.

Educational Attainment and Income

The largest percentage of parents were found to be within the classifications of high school graduates or equivalent (22.8%), having earned a bachelor's degree (22.3%), or obtaining some college education (15%) at the time of the survey (2011-2012). Educational attainment and income are found to be significantly associated: those individuals with a higher education are more than likely to earn higher income. The National Center for Education Statistics (2014) stated that young adults within the ages of 25-34 with a bachelor's degree, on average earn $46, 900, while the median for those with a high school education or equivalent who work full time, earn $30,000. Furthermore, in 2012 it was found that the median earnings for young adults with a graduate degree was $59,600, approximately 27 percent more than the average for young adults with a bachelor's degree.

The above findings are substantial to the relationship between socioeconomic factors and children's health coverage. Educational attainment facilitates the access of health care insurance for adults, therefore, allowing adequate health care coverage for their children. One can infer that young adults with school aged children have the opportunity to acquire health insurance through their employers due the favorable position of having a middle-higher class job, enabling them to provide adequate health coverage for their children.

Race

Frequencies of race from the data set used exhibited the top portions of respondents having identified as: 55% White, 19% Latino, 11% Asian, and 5% African American. Hispanics, regardless of race were not accurately represented in the CHIS 2011-2012 survey. These findings are of significant concern due to the large number of Hispanics in the state of California. The latest numbers reported by the US Census (2014) indicate a total population estimate of 38.5 million residents in 2013, of which 38.5% are Hispanic.

Citizenship status

Further characterized, descriptive statistics of this study showed that roughly 71% of the participants were U.S.-born citizens, 14% non-citizen, and 15 % were naturalized citizens. The distribution of citizenship was an accurate and valid representation of the numbers recorded by the current U.S. Census Bureau's March 2014 Current Population Survey (The Kaiser Family Foundation, 2014), which reports 88% of Californians as having citizenship status and the remainder 12% as being non-citizens. Although, it is important to note that California occupants, may not all be reporting their citizenship status out of fears, such as being penalized and convicted for being undocumented.

Household Annual Income in Relation to Federal Poverty Level

Income distribution (in terms of FPL) for the population examined showed that half of the respondents classified at the 300% FPL, with an income of about 69-92,000 on an annual basis. The other half of the parents are within the reported percentages: 18% at the 100-199% FPL benchmark earning approximately less than $23,000 a year, 16% at 0-99% FPL receiving less than $23,000 a year, and 13% at the 200-299% benchmark,

earning $46-68,000. Surveying federal poverty level is meaningful as this is the measure used by programs to determine eligibility criteria for public health coverage, such as Medi-Cal.

Bivariate Analysis

Five hypotheses were tested to examine the relationships between the independent (predictors) variables encompassing educational attainment, offer eligibility, acceptance of employer-based insurance, race, and citizenship status and the dependent (outcome) variables. Both sets of variables were selected based on the objective of the study. Dependent variables include: offer eligibility, acceptance of employer-based insurance, household total annual income, Medi-Cal healthy family eligibility-uninsured, and main reason not in employer's health plan. It is important to note that these variables used in the statistical analysis slightly varied from the initial proposed analysis, later discussed in the limitations section of this report

This study used the Chi Square and One-way ANOVA tests to explore the associations of the chosen independent and dependent variables summarized in Table 2. The statistical analysis indicated that all proposed hypotheses were highly significant with a P value of < 0.001.

Employer Based Insurance

Hypothesis 1 predicted that parents' educational attainment is associated with lacking employer health insurance. Results demonstrated as such, there is a strong association between educational attainment and acquiring health insurance through the parent's employer. From this finding one can conclude that higher educated parents will more likely have higher paying jobs, whose employers offer competitive packages

inclusive of health insurance for both, parents and their children. This implies that

parents at the lower level of the income spectrum will be disadvantaged and probably

work for employers who do not offer health care benefits.

Similarly, hypothesis 2 has a strong association between annual household

income and employer-based insurance, which can be related to educational attainment.

Children of lower income households will be less likely to have employer-based health

insurance (parent). The positive association between these two variables speaks to the

relationship of having higher income levels and educational attainment. The means plot

(Figure 7) illustrates that Children whose parents have a bachelor's degree will have

more job opportunities than those of lower income families. Disadvantaged households

will not benefit from private insurance options. The means plot graph (Figure 7)

generated by the ANOVA test demonstrates that parents with higher household incomes

ranging from $90-100,000 accepted employer based insurance and those on the other end

of the spectrum, earning less than 50,000, were not offered employer- based health

insurance.

Further, Hypothesis 4 predicted that race is associated with main reasons why

parents are not in employer's health plan. Focusing on the predominant race in

California, classified as a minority group: 50% of Latinos reported foregoing employer

based insurance due to the it being "too expensive." Consistent with previous research

(BeLeu et al., 2014), findings demonstrate perceived health care costs as being a major

barrier for acquiring children's health insurance.

Medical Coverage--Uninsured but Eligible

Hypothesis 3 predicted the association between parents' highest educational attainment and Medi-Cal coverage. A chi square analysis was conducted utilizing both variables, "Medi-Cal (Medicaid)/ Healthy Fam. Elig.-Uninsured" coded as AI15 and "Educational Attainment" coded as AHEDUC to test for this relationship. Results demonstrated a trend between education and insurance status further analyzed by eligibility. There is an apparent correlation between insurance status and level of educational attainment.

Out of the total sample size of 28817 of parents who responded, the largest proportions were high school educated (23%), attended "some college" (15%), or attained a BA/BS degree (22%). Significantly, parents with high school education reported lower numbers of insurance in comparison to college educated parents. 76% of parents with a high school diploma reported being insured, 88% had a BA/BS degree and, 94% with an MA/MS degree were insured.

In terms of eligibility, less than 1% of parents in all three levels of education considered (High school, some college, and BA/BS degree) reported being eligible for Medi-Cal. These results indicate that although insurance status increases with level of educational attainment, Medi-Cal eligibility does not. The preceding findings echoed former research (Salsberry, 2013). It can be implied that parents with lower levels of education are unaware and unfamiliar with eligibility requirements qualifying for public health coverage, such as Medi-Cal and therefore, fail to accurately report their eligibility. In contrast, parents with higher levels of education may be informed but simply do not

quality for Medi-Cal due to their higher annual household income being above 200% of the FPL (Salsberry, 2003).

Emphasizing on the disadvantaged parents and children who lack citizenship status, Hypothesis 5 predicted that children whose parents are non-citizens would less likely be insured but eligible for Medi-Cal. Results reveal that out of 28,817 participants, approximately 71% were citizens, 15% naturalized and 14% non-citizens. Significantly, the percentages insured parents correlated with citizenship status: 86% of the insured were US-born citizens, 81% naturalized citizens, and 61% non-citizens. Results demonstrate the advantage of attaining citizenship status in relation to insurance status. Parents with citizenship status have better chances of qualifying for insurance, both private and public, therefore report a larger percentage of insurance status.

Limitations

The present today resulted to be of high statistical significance, but nonetheless, had limitations. Some limitations were out of my control and others were integrated into the nature of the survey utilized. The CHIS survey is designed to be cross sectional and thus, only captures the data at one point in time. Since the data collection took place, there have been many changes in health care due to provisions provided by the Affordable Care Act. Health care is ever changing and with many implementations taking effect, it is hard to predict the direction of health insurance, especially of children whose coverage is dependent upon their parents' health insurance.

The greatest limitation of this study was the suppression of direct information on children's health insurance status leading to the use of proxy variables. Information about children's health insurance was suppressed from the public data file of the CHIS

2011-2012 survey. Therefore, the analysis was based on parent's health insurance and although a good indicator, it reduces the validity of the study.

Lastly, frequencies of the descriptive statistics showed that the age distribution of the selected sample size (< 65 years of age) was too large of a range with the older age groupings (42-64yrs) making up more than half of the sample. Previous research (Martinez et al., 2012) notes that on average, women have a 5 year old at the age of 28 and men have a child of the same age by 30. Provided that not a high percentage of young adults who have school aged children participated, the generalizability of this study is reduced.

<p align="center">Previous Research</p>

The premise of this study is concurrent with previous findings, it demonstrates how socioeconomic factors, such as household income in terms of FPL, educational attainment, race, and citizenship status are associated with each other. The research of conducted in 2013 by De Navas-Walt et al. was replicated; children in poverty are more likely to be uninsured than their wealthier counter parts.

Additionally, investigators have identified key challenges to attaining health coverage for immigrant families. Citizenship status is a major barrier as it is a big marker in attaining private health coverage through employment. BeLeu et al. (2014) argued that lower rates of employer- sponsored health insurance have a significant impact on the higher percentages of uninsured children among immigrant households. Furthermore, children with immigrant parents, irrespective of residence in the U.S., are more prone to lack insurance as a result of their parents missing employer-sponsored insurance.

Conclusion and Future Research

In conclusion, this study explored the relationships between socioeconomic factors and children's health insurance status, based on their parent's insurance status. The CHIS 2011-2012 survey was used as the data source due to the strength of the survey, enabling the analysis of the suggested relationships. The hypotheses revealed strong associations by rejecting all of the null hypothesis. Results echoed previous research dedicated to children's health insurance status, specific to the socially and economically disadvantage population.

Future studies should focus on addressing one of the most vulnerable populations in the U.S. and in health care specially: the undocumented population. The health care industry is ever changing and with the ACA, a lot of children's health insurance access, utilization, and health status is expected to change. However, one of the weaknesses of the ACA is the exclusion of the undocumented population. Research and policy efforts are needed to improve the overall health care and health status of children.

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