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## **A Look into the Relationship Between Socioeconomic Status and Health**

Hunter L. Howell

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The University of Southern Mississippi

A Look into the Relationship Between Socioeconomic Status and Health

by

Hunter Howell

A Thesis  
Submitted to the Honors College of  
The University of Southern Mississippi  
in Partial Fulfillment  
of Honors Requirements

May 2020



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## **Abstract**

Disparities in health have always been present, and major steps have been made to narrow this gap in healthcare. With that said, socioeconomic status still plays a significant role in access to healthcare. This study looks into how socioeconomic factors such as age, race, and income affect access to healthcare while also studying avenues as to why these disparities exist.

**Key Words:** Mississippi, health, socioeconomic, healthcare access, survey, disparities

## **Dedication**

To Lynn and Bubba Howell:

I wouldn't be where I'm at without both of you.

I love you both more than you will ever know.

## **Acknowledgments**

I would like to take a moment to thank my thesis advisor, Dr. Nina McLain, for her guidance and mentoring throughout this process. This piece of work would not have been possible had it not been for her invaluable counsel. Thank you for everything.

I would also like to pay special thanks to the Honors College. Throughout my four years, the faculty has always been so warm and welcoming at all times. I know that my college experience would not have been the same without the presence of the Honors College, and I am forever thankful for their support.

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## **List of Abbreviations**

CONHP	College of Nursing and Health Professions
IRB	Institutional Review Board
USM	The University of Southern Mississippi

## **Chapter 1: Introduction**

Health disparities are evident all across the nation. This is possibly even more prevalent in the southeastern portion of the country where states such as Mississippi are overwhelmed by poverty. Mississippian's are among the nation's poorest citizens. As such, daily needs and financial resources must be balanced. Many of Mississippian's health behaviors may be learned but some may simply be a result of lack of finances or other factors that prevent them from seeking healthcare when needed. This project will address factors that influence whether or not Mississippians' seek healthcare.

It is important to determine factors that influence healthcare in Mississippi residents. Because our citizens are the poorest in the country and have high obesity rates, along with other negative comorbidities such as heart disease and hypertension, there is need to educate them on improving health behaviors to reduce mortality. However, before education on specific issues can begin, it is important to identify the immutable factors that present. For example, education about the need to see a healthcare provider annually for a physical examination would likely fall on deaf ears if the person is unable to afford medications or office visits. In an effort to determine true rationales for health behaviors, this project will investigate factors that influence the decisions that citizens make regarding their health.

## **Chapter 2: Literature Review**

A literature review was conducted using the EBSCOhost search engine from the USM library, CINAHL, PubMed, and Google Scholar. The terms searched were health disparities, healthcare access, comparison of income and healthcare, history of disparities in healthcare, and socioeconomic status related to healthcare plus combinations of these as well.

Health disparities in society predate the development of modern healthcare systems by several centuries, and it has been present across every continent for equally as long. In an 1840 study conducted in Liverpool, England, Edwin Chadwick observed a difference in mortality rates amongst individuals in various socioeconomic classes that were largely attributable to poverty and lifestyle choices (Macintyre, 1997). In a more modern scope, these same issues remain prevalent and research in the past century has provided more information indicating that these disparities tend to be biased based on race and ethnicity (Institute of Medicine [IOM], 1970). These health disparities are largely influenced by various health behaviors, and some of these behaviors remain more common in individuals who fall into the lower socioeconomic class.

One prominent factor that tends to carry a heavy toll on health outcomes is regular visits to a reputable health care provider. The recommended time frame for a routine healthcare check-up varies with age and pre-existing health factors, but it is suggested that even the healthiest individuals should go no longer than 3 years without a visit to their health care provider (Salinas, 2018). These routine check-ups consist of valuable screenings and assessments that provide a general scope of an individual's overall health as well as any underlying issues that would otherwise remain unknown to the patient. As important as these visits are, regular healthcare check-ups can serve as a heavy financial burden for individuals who lack insurance or another mode of payment. In a study carried out by Johns Hopkins University, it was determined that a basic new patient appointment could run anywhere from one hundred and nine to one hundred and eighty-eight dollars without the inclusion of any special testing or blood work (Johns Hopkins University, 2015). It can be assumed that this lack of access to necessary check-ups and screening ultimately predisposes individuals living in poverty to many diseases that are often preventable and treatable. For men, a relevant example would be prostate cancer screening.

When caught early with appropriate screening, the 5-year survival rate is nearly 100% according to Cancer.net. This percentage drastically falls to thirty in cases that cancer has been undetected and metastasized, and the same trend remains true for annual mammography for menopausal women (American Society of Clinical Oncology [ASCO], 2020). According to a study carried out by Geller et al. (2017), 93% of millennials do not schedule annual medical appointments. This same study also reported that women are more likely to neglect preventive care in comparison to their male counterparts.

Insurance access is another factor that ties directly into regular checkups. Insurance can be very expensive, and it can be even more so for individuals whose job does not provide some type of insurance coverage. In a North American study by Levy and Meltzer (2008), it was determined that access to healthcare can serve to promote better health outcomes. With that being said, the authors deduced that the relationship between insurance and health is not concrete. The authors also suggested that the relationship is not causative, but that other factors may have an impact on these health outcomes. Despite this, it is still true that individuals with insurance are provided a greater opportunity to increase health outcomes. Along with access to insurance, another factor that goes hand in hand with this is education. Many people who grew up receiving home remedies from their parents to treat certain ailments and symptoms due to poverty and lack of advancement in medical treatments. This type of upbringing combined with the lack of a proper education concerning medical checkups could lead to individuals attempting to treat chronic disease with aspirin or some herbal remedy. This line of thinking can be carried on down family lines, and the recent drop in the number of school nurses in the past 30 years is not a good sign that these habits will be changing (Androus, 2020). The decrease in school

nurses means that children especially may be missing general screenings that could alert parents to certain ailments that may often go unnoticed.

Another underlying factor contributing to these disparities may be activity level. In a study published in the Canadian Medical Association Journal, a relationship was established between overall health and exercise (Warburton et al., 2006). In this same study, it was determined that a proportional relationship is present between the two, which means that more exercise equates to an even greater benefit in terms of health. In another study, it was determined that women engage in exercise more regularly than men (Levy & Meltzer, 2008). Along with these factors, time and finances can have a significant impact on an individual's choice to exercise. It is obvious that financial reasons may prevent an individual from being able to afford a gym membership which places a restriction on the types of exercise an individual could have access to. Financial obligations could also prevent an individual from having access to a car, or they may be unable to afford the extra gas to make a trip to the gym or doctor's office. For individuals with children, it may not be possible to find an affordable baby sitter in order for them to make a trip to the doctor for a checkup. This lack of financial security may also predispose individuals to certain diseases that are more commonly spread in close quarters. In a study carried out in Brazil, an inverse relationship was established between the likelihood of being diagnosed with pneumonia and household income. This same study showed a relationship between the likelihood of being diagnosed with pneumonia and the mother's education level (Thörn et al., 2011). The relationship with household income is most likely tied to the fact that pneumonia and other diseases are more easily transmitted in close quarters with less than adequate ventilation. Low-income households may lack a functioning A/C system or electricity in general. Time can also serve as a limiting factor for individuals to exercise due to work,

cooking, sleeping, and other obligations. Nonetheless, these factors such as time, income, age, and gender may play a significant role in the health and healthcare access of Mississippians as a whole.

### **Chapter 3: Methods**

The population for this study will be a convenience sample from those willing to participate who have access to Facebook and the Honors College Bulletin from USM. An announcement will be placed on Facebook and shared with multiple family members and acquaintances as well as a recruitment email sent to the College of Nursing & Health Professions bachelor's students. The Honors College Bulletin is sent out by the Dean of the Honors College and a recruitment announcement was included in the April 2020 edition. The survey was shared on Facebook where many Mississippi residents were followers. The instructions and consent stated that participants must be 18 years of age or older to participate. The sample size was 180 respondents to the postings. A small sample size was anticipated since the survey needed to be concluded early to complete requirements by the Honors College schedule.

After a search of literature regarding health behaviors and tools to measure impact of socioeconomic factors, no single tool was found to meet the needs of the study. A tool was developed using concepts from the reviewed literature to address specific environmental and social factors. Factors identified in the literature review such as age, race, health insurance, financial insecurity, activity level, and education level were used as bases for the questions in the survey.

The standard online informed consent tool from the USM Institutional Review Board (IRB) was used to ensure protection of human subjects. This was filed under the IRB as a

descriptive study. This informed consent was inserted as question one into the survey and the participant could not proceed without selecting that they consented to participation. After the creation of the survey tool, the institutional review board (IRB) was contacted and provided with the survey and plan of action. Approval was obtained by the IRB after a thorough review.

An anonymous survey was created through the USM Qualtrics Software which consisted of questions pertaining to race, gender, age, healthcare, income, and lifestyle habits. A personal link was created in order to maintain the integrity of the survey and to allow efficient sharing. The link was sent out by way of sharing on Facebook as well as sending out the link to fellow nursing students by way of email by the primary investigator. This approach was utilized due to the ease of access to such a large number of people. The survey was shared by the Honors College in their newsletter as well as by Dr. Nina McLain. The information gathered from the survey was evaluated using descriptive statistics and report percentages. These trends were analyzed to determine the relationship that were present concerning certain socioeconomic factors when compared with certain healthcare characteristics. The information gathered for this study was then moved to the trashcan of the Qualtrics database and purged in order to ensure anonymity and privacy of the participants. The results were then shared with the Department Chair for validation of the analysis. Upon completion and approval of the final draft, the final product will be submitted to the Honors College for evaluation.

### **Age**

Due to implied differences in generational views and priorities concerning day-to-day topics, age is an important topic to discuss as it possesses many differences across the population as a whole. It is important to determine if general interest in healthcare is present in these groups as well as the ability to access healthcare.



## **Race**

As referenced in the literature review, race is known to have an impact on outcomes in many different categories. With that said, it could possibly make a difference in terms of health and overall healthcare access.

## **Income**

In terms of income, higher incomes would be more likely to afford insurance, physician's visits, vehicles to transport to appointments, and childcare to watch the children while parent goes to doctor. Meanwhile, lower income people would be focused on paying essential bills such as power and water and do not have excess monies to spend on medical payments and medicines.

## **Gender**

As mentioned in the literature review, gender may have an impact on the likelihood of seeking healthcare due to learned habits.

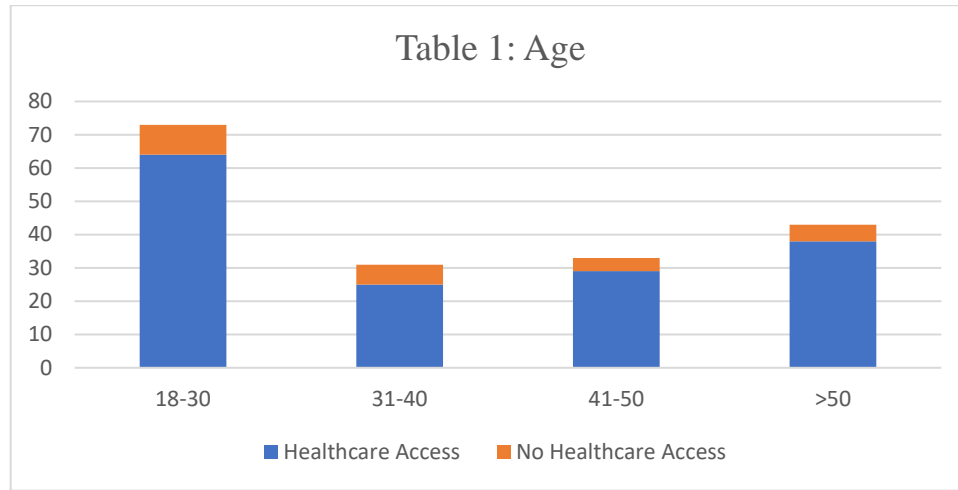
## **Chapter 4: Results**

Following the survey period, 180 responses were recorded. The results were collected over a one-week period and stored in the Qualtrics Survey system. The results will be organized and recorded based on each demographic. The results were analyzed, and trends were detected. The results are indicated as follows:

## **Age**

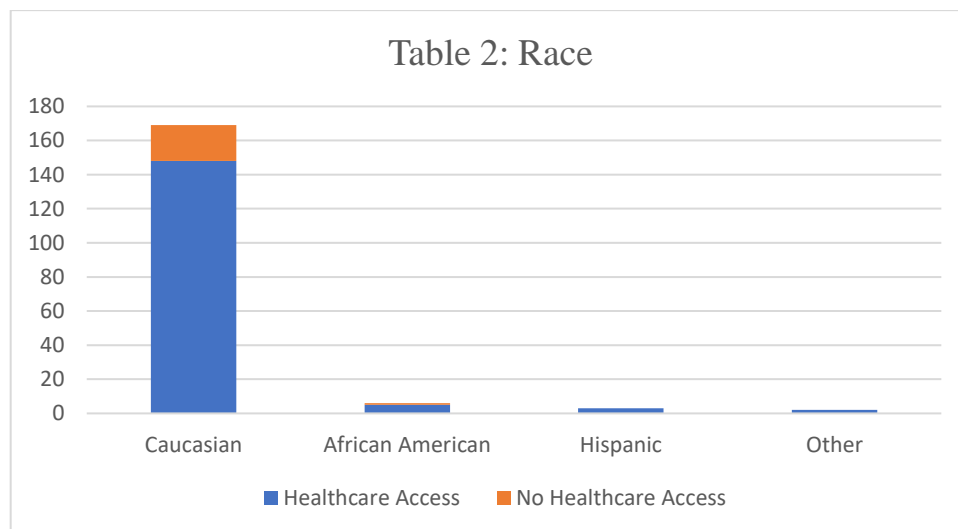
In terms of age, 40.6% of respondents were between the ages of 18 and 30. In this bracket, 12.3% of individuals reported not having access to healthcare. The 31-40 age bracket made up 17.2% of the respondents. In this bracket, 16.1% of individuals reported not having access to healthcare. The 41-50 bracket made up 18.3% of the respondents. In this bracket, 12.1% of individuals reported not having access to healthcare. For the greater than 50 age

bracket, respondents made up 23.9% of the total. In this bracket, 7% of individuals reported not having access to healthcare.



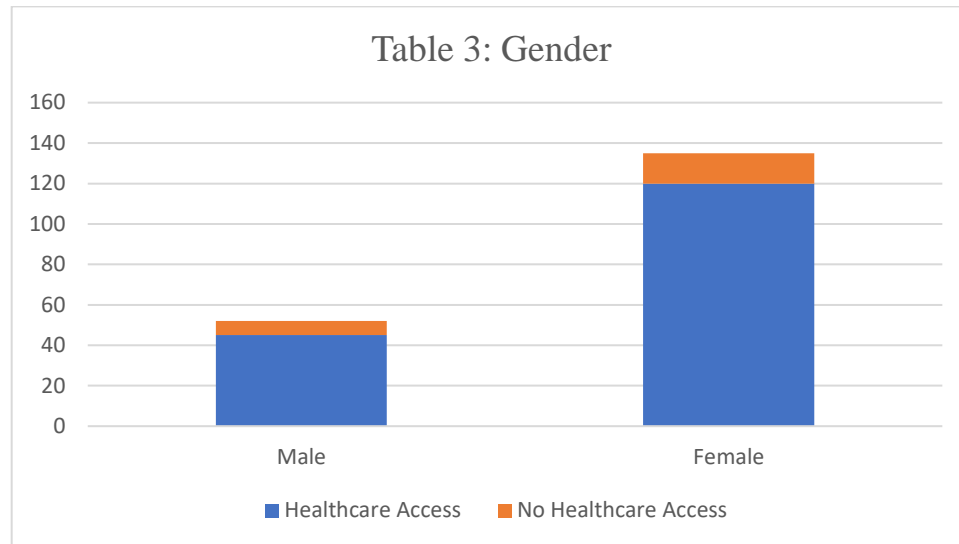
### Race

In terms of race, Caucasians accounted for 93.9% of the respondents. In this group, 17.2% of respondents reported not having access to healthcare. African Americans accounted for 3.3% of the respondents. In this group, 16.7% of respondents reported not having access to healthcare. Hispanics accounted for 1.7% of the respondents. In this group, 0% of respondents reported not having access to healthcare. The “other” category made up 1.1% of the respondents, and 0% reported not having access to healthcare.



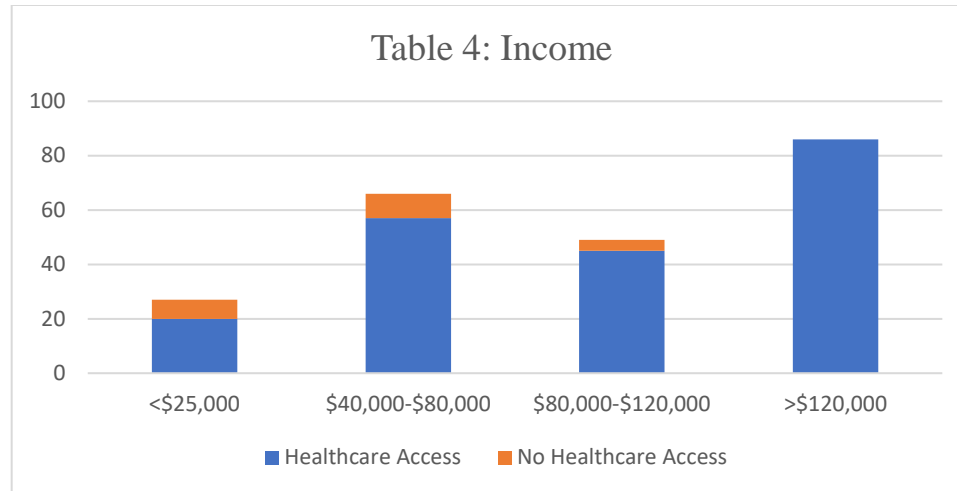
## Gender

In terms of gender, males accounted for 28.9% and females accounted for 71.1% of the respondents. For males, 13.5% reported not having access to healthcare. For females, 10.9% reported not having access to healthcare.



## Income

As far as income is concerned, 15% reported their yearly income as less than \$25,000. In this group, 25.9% of respondents reported not having access to healthcare. The \$40,000-\$80,000 bracket made up 36.7% of the respondents. In this group, 13.6% of respondents reported not having access to healthcare. The \$80,000-\$120,000 bracket made up 40.8% of the respondents. In this group, 6.1% of respondents reported not having access to healthcare. The greater than \$120,000 bracket made up 20.9% of the respondents. In this group, 0% of respondents reported not having access to healthcare.



### Chapter 5: Limitations

One of the primary limitations of this study was the small sample size. A larger sample size would have been preferable and given more robust results. Although the results were from respondents statewide, it cannot be concluded that it is representative of the population in the state. This pilot study does indicate some disparity in income and age in a scope of healthcare access. A larger scale study for a larger, more diverse population in Mississippi could be more easily generalized and yield more results for groups that were possibly underrepresented. One of the main reasons this sample size was not representative was due to the inability to restrict responses to Mississippi residents only. A future study that ensures participants are Mississippi residents would likely be helpful in determining more accurate regional differences. With this in mind, it is also important to consider that an email was sent to the students in the College of Nursing and Health Professions (CONHP). As students, most of these individuals are on a limited income level that is likely lower than most other respondents. Most students in the CONHP are full time and not working professionals and that may have skewed the results as well. Another limitation to this study was time. Due to the recent COVID-19 outbreak, communication amongst investigators was limited which resulted in a smaller window of

response time for the survey. This shorter amount of time for the survey to remain open served as a limitation and was likely responsible for the decreased number of responses. With that said, a future study could explore other factors such as individuals who are married, single, or divorced as well as the number of children the individuals have.

### **Chapter 6: Summary/Discussion**

Following an analysis of the data gathered from the survey, disparities seem to be apparent in certain categories. As far as age is concerned, the data indicates that there is a slightly higher percentage of individuals who do not have access to healthcare in the 31-40 age bracket when compared to the other three. For all of these individuals, the ultimate determinant in their lack of access was the cost. With 31-40 still being the younger years of adulthood, this lack of health care access can primarily be accredited to having several bills to pay. This was specifically mentioned by several respondents, and it is worth noting that the percentage of individuals without access to healthcare in the 41-50 age bracket is nearly two thirds that of 31-40. This could indicate that the 31-40 age frame involves more bills and daily expenses and possibly more responsible spending when compared to that of 41-50. A future study could delve further into these possibilities and perform a survey with questions focused on spending habits, monthly bills, and access to healthcare. Another notable disparity is present in the income category. The percentage of individuals with an annual income of less than \$25,000 who do not have access to healthcare is nearly twice that of all other categories combined. Most of these respondents indicated that cost was the primary deterrent in their access to healthcare, and several respondents also indicated that they forego healthcare visits except for when absolutely necessary due to their inability to afford the service. This is likely directly due to the lower

income when compared to the other brackets, but a future study could seek more details as to what healthcare options are made available to poverty-stricken individuals.

Four categories that were analyzed in detail could also be cross-examined in a future study. For example, young individuals with a higher income may still go to the doctor on a less consistent basis than older individuals with a higher income. Each of these categories could have an even greater impact when combined with another. This pilot study showed a notable relationship that is present between factors such as income, gender, race, and age when it comes to healthcare access. It was determined after a descriptive review of the data that both negative and positive relationships were present amongst these categories and a future study could reveal more relationships in other categories.

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## Appendix A

### Healthcare Survey

Age:

- a) 21-30
- b) 31-40
- c) 41-50
- d) 51-60
- e) 61-70
- f) 71-80
- g) 81-90

Race:

- a) Hispanic
- b) African American
- c) Caucasian
- d) Other

Gender:

- a) Male
- b) Female
- c) Other

Have you ever been unable to access healthcare due to lack of insurance?

- a) Yes
- b) No

Which of the following categories do you fall into concerning yearly household income?

- a) <\$25,000
- b) \$40,000-\$80,000
- c) \$80,000-\$120,000
- d) >\$120,000

How often do you exercise?

- a) Never
- b) Once a Week
- c) Twice a Week
- d) More Than Three Times a Week

How often do you eat fast food?

- a) Never
- b) Once a Week
- c) Twice a Week
- d) More Than Three Times a Week

Do you have a fulltime job?

- a) Yes
- b) No

Do all of the members of your immediate family have health insurance?

- a) Yes
- b) No

Have you ever been unable to afford food?

- a) Yes
- b) No

Have you ever been unable to afford keeping the lights and water on?

- a) Yes
- b) No

Do you consistently get about 8 hours of sleep every night?

- a) Yes
- b) No

How often do you see your doctor?

- a) Annually
- b) Only When Sick
- c) Very Rarely/Never

What is your highest level of education?

- a) High School
- b) College
- c) Other

How many individuals live in your home?

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5 or more

What is your biggest barrier to receiving healthcare for you and your family?

## Appendix B

### Office of Research Integrity



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#### **NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION**

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.
- **FACE-TO-FACE DATA COLLECTION WILL NOT COMMENCE UNTIL USM'S IRB MODIFIES THE DIRECTIVE TO HALT NON-ESSENTIAL (NO DIRECT BENEFIT TO PARTICIPANTS) RESEARCH.**

PROTOCOL NUMBER: IRB-20-168

PROJECT TITLE: A Look Into The Relationship Between Socioeconomic Status and Health

SCHOOL/PROGRAM: Leadership & Advanced Nursing

RESEARCHER(S): Hunter Howell, Nina Mclain

IRB COMMITTEE ACTION: Exempt

CATEGORY: Exempt

Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

APPROVED STARTING: April 14, 2020

*Donald Sacco*

**Donald Sacco, Ph.D.**  
**Institutional Review Board Chairperson**