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The Effects of Socioeconomic Status on the Quality and Accessibility of Healthcare Services

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Abstract

As the wealth gap continues to increase in the United States of America, disparities in healthcare, exacerbated by the COVID-19 pandemic, continue to grow. Healthcare patients of lower socioeconomic status (SES) are affected by such disparities through lesser quality and accessibility of healthcare services. SES is defined by the American Psychological Association as the social standing or class of an individual or group, often measured through the intersection of education, income, and occupation. However, the measurement of SES is not limited to these criteria. In order to explore areas of healthcare services where quality and accessibility vary due to the effects of SES, this study gauged SES by examining race, and income to determine an individual or household's SES. A questionnaire distributed online collected data that helped determine the healthcare quality and accessibility of households in New York City and Los Angeles County neighborhoods, in which the services, experiences, and obstacles of healthcare were ranked on a one to five scale. The results of the study indicated that SES factors had significant correlations with healthcare quality and accessibility in which people with a lower SES experienced lower quality of medical care and faced more difficulties in accessibility than their counterparts with higher SES. These findings could be used to further research into the flawed aspects of the American healthcare system, and could also be used to determine what aspects of the healthcare system need solutions implemented to reduce disparities in healthcare based on SES.

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Categories: United States, Healthcare, Accessibility
Keywords: Wealth Gap, Healthcare, New York City, Los Angeles

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Literature Review

Healthcare inequity describes the substantial differences between specific population groups that vary between race, gender, income, geographic location, etc. Based on previous medical studies relating to healthcare inequity, research has indicated that those who are at the bottom of the socioeconomic ladder often face worse health outcomes than those at the top due to socioeconomic impediments. In a study conducted by George A. Kaplan, income had a direct correlation with survival rates and health problems, such as anemia, arthritis, and diabetes, that are more prevalent among lower socioeconomic groups. The study found that lower-income patients were three times more likely to develop heart disease than participants who had higher incomes (Kaplan et. al, 1987). Income and mortality rates also display an inverse correlation as demonstrated by the studies conducted in several countries in which participants of lower socioeconomic status had higher mortality rates than participants of higher socioeconomic status; further analysis showed that the gap in the mortality rate increased over the past years (Pappas et.al, 1993).

Kaplan suggests that the largest contributor to these concerning statistics is inadequate healthcare (Kaplan et. al, 1987). Insurance and other financial stressors pose significant disadvantages for those of lower socioeconomic status (SES). Black, Indigenous, and People of Color (BIPOC) and low-income families are more likely to be uninsured or on Medicaid, which is not accepted by many healthcare providers, especially private clinics and specialists. A study reported that one in eleven African Americans did not receive health services due to financial issues compared to one in twenty White Americans (Blendon et. al, 1989). Expensive healthcare services have disincentivized patients from visiting their doctors without an emergency in the fear of making out-of-pocket payments. A previous study displays that many participants reported traditional barriers to medical care such as high cost (24.1%) no health insurance (8.3%) (Taber, Levya, and Persoski, 2015).

In an effort to make health insurance available to more people and minimize financial barriers, the Affordable Care Act (ACA) was enacted in March 2010. Although the Commonwealth of Nations stated that uninsured rates dropped 9% among Black Americans and 12% among Hispanics (Commonwealth, 2017), healthcare equity was still beyond reach. Even with various ACA or employer-based insurance plans, many patients continue to avoid medical visits as they are required to pay thousands on their own. A study conducted in 2017 explored the relationship between economic and health inequality and provided unsettling data on health expenses. Those who receive employer-based private insurance often have to pay out-of-pocket for treatment due to new programs such as cost-sharing with deductibles. Before insurance begins to cover medical costs, the average employee has to pay about $1478 out-of-pocket first, and this amount has nearly tripled since 2006 (Dickman, Himmelstein, and Woolhandler, 2017). Moreover, cost-sharing is significantly worse in insurance plans given by the ACA, which is meant to reduce uninsured rates and provide public healthcare. For "silver-tier plans", which make up the majority of insurance plans in the country, the average deductible amount exceeds $3000 (Dickman, Himmelstein, and Woolhandler, 2017). In addition, many insurance plans only agree to cover

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costs if the provider is one in their restricted list. When patients seek other providers (either out of their comfort or for specific medical reasons), insurance companies often refuse to cover costs.

Those of lower SES also face issues such as inadequate services. Medical procedures that are typically undesirable (and not performed unless necessary), such as amputations, were performed on low-income and BIPOC patients at a much higher rate. Disparities in available resources at healthcare facilities raise a major concern about the differing standards of healthcare quality among different socioeconomic groups. An observational study measured the quality of care that Medicaid patients received for services such as breast cancer screening and eye examinations. According to this study, 62.9% of the studied Black population received breast cancer screening compared to 70.9% of the studied White population (Schneider et. al, 2002). Black patients were less likely to receive similar levels of care and medical tests compared to White patients, so it can be assumed that race was a major differing factor. Despite all the patients owning the same insurance and a similar income, it is evident that the BIPOC patients were given less regard when receiving treatment.

The question raised is whether access to and quality of healthcare vary among people of different socioeconomic statuses. In recent years, those with lower socioeconomic statuses were often turned away from treatment at medical institutions or had substandard healthcare facilities available to them, while those with higher socioeconomic statuses were often taken into care more quickly (American Psychological Association., n.d.). This demonstrates that healthcare accessibility is not consistent between different classes. In many instances, those who are on the lower end of the socioeconomic hierarchy are often filled with dissatisfaction because of the ways they are treated and their limited accessibility in receiving healthcare. It can then be hypothesized that people with low socioeconomic statuses report a lower quality of healthcare and dissatisfaction than those who are of higher socioeconomic statuses.

This study aims to highlight the poor quality of healthcare many Americans with low socioeconomic class have access to. In addition, the factors as to why they are tended to this way are identified and solutions to these issues are formulated to promote further awareness of this situation to the public. These are achieved by conducting surveys to send out to people in low, medium, and high-income neighborhoods, who then anonymously respond to a survey. The surveys typically consist of questions such as how satisfactory their experiences at a medical institution were and if that affected how many times they visited the location yearly. Thus, the research conducted brings to light these conditions to prevent disadvantaged patients from being placed in these situations again in the future.

Material and Methods

For the purposes of this paper, research has been conducted through the use of archival research and data collected from an online questionnaire. To gauge the existing SES of the communities in areas being studied, academic studies detailing mortality rates, insurance rates, health treatment, and cost barriers related to SES and healthcare were utilized in this paper.

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To elucidate the current socioeconomic situation of healthcare quality and accessibility, an online Google Form questionnaire was developed asking relevant questions about respondents' personal experiences with healthcare quality and accessibility in relation to their SES. The online format allowed for many participants to be reached considering the simple interface and relatively high accessibility to device and internet access. A first set of questions asked standard personal information regarding status and healthcare: (one) participant's residence (New York City or Los Angeles County), (two) zip code, (three) race, (four) annual household income, (five) number of members in the household, (six) type of health care insurance, (seven) the number of urgent care visits to healthcare facilities, and (eight) the number of primary care visits to healthcare facilities.

To specifically measure healthcare quality, a second set of questions were asked about the participants' experiences in the healthcare environment. Participants responded to this question set in a 1-5 ranking system of services: one indicating highest dissatisfaction, two indicating dissatisfaction, three indicating a neutral opinion, four indicating satisfaction, and five indicating high satisfaction. In this set, four questions required participants to rank their satisfaction of: (one) medical staff interactions, (two) wait times, (three) care received, and (four) the cleanliness of facilities. Respondents were then provided with the option to give testimonials on their personal experiences.

The final set of questions measured healthcare accessibility, in which questions assessed possible obstacles of healthcare accessibility. In this set, six questions were asked: (one) ranking satisfaction of the variety of healthcare services around the participant's area, (two) type of transportation usually used to get to primary healthcare facility, and (three) distance to primary facility in miles. The remaining three questions utilized a 1-5 ranking system: one indicates strong disagreement, two indicates some disagreement, three indicates a neutral opinion, four indicates some agreement, and five indicates strong agreement. The remaining questions are as follows: (one) whether lack of free time prevents healthcare facility visits, (two) whether lack of transportation prevents healthcare facility visits, and (three) whether healthcare costs prevent medical attention from being received.

Questionnaire responses were anonymous to preserve the security of the participants as well as to ensure respondents filled out the questionnaire as accurately as possible. At the top of the survey was an explanation of research purposes, an outline of the survey's contents, and a statement of survey anonymity. The questionnaire was administered to at least 200 households in New York City and Los Angeles County neighborhoods each, via virtual outreach, primarily through the use of social media. Friends, family, and community members from either New York City or Los Angeles County were reached out to on social media platforms such as Discord, Reddit, and Instagram.

Statistical analysis was carried out through several separate one-way ANOVA tests using JASP software. This was used to measure the significance of our tests along with Microsoft Excel to form the graphs and trend lines. All measurable responses from the survey relating to the subjective opinions of the participants (such as satisfaction levels with quality and agreement with accessibility statements) were compared with income as the independent variable, and then race. The p-value of each test was then recorded to determine which tests were significant

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indicators of differences in healthcare quality and accessibility. Responses with significant correlations were then graphed in a bar chart with a linear trend line to present the data in a clear, comprehensible manner.

In data analysis, the household income and race of the participant determined their SES. Participants were characterized with a lower SES if their income ranges were below the median threshold or if they were considered a racial minority in the US.

Results

Demographics

403 responses were collected from the survey measuring health quality and accessibility. Five were removed due to incompletion, resulting in 200 responses from Los Angeles (50.3%) and 198 from New York City (49.7%).
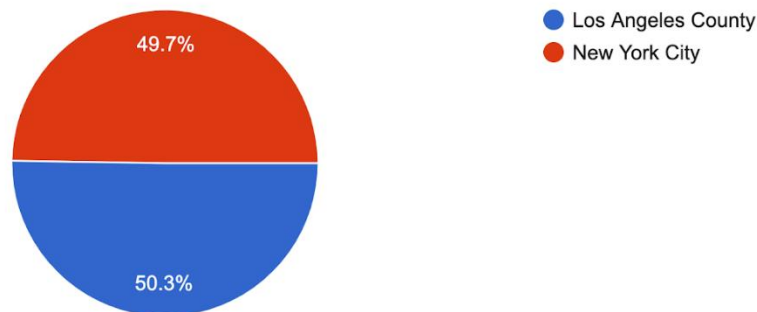

Figure 1. Regional breakdown of survey participants.

Of all respondents, 9.3% are American Indian or Alaska Native (n=37), 31.7% are Asian (n=126), 15.1% are Black or African American (n=60), 15.6% are Hispanic or Latino (n=62), and 13.6% are Native Hawaiian or Other Pacific Islander (n=59).

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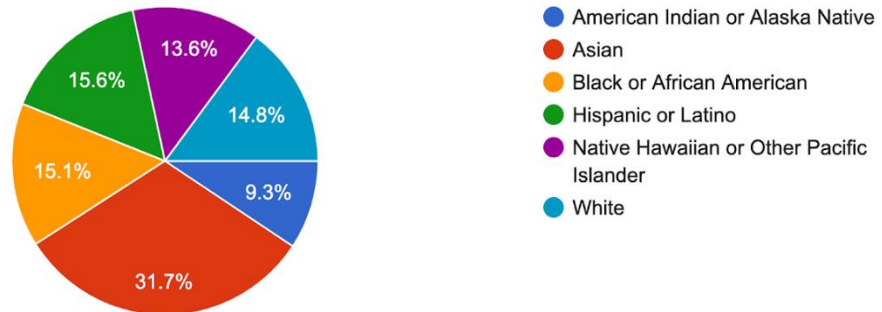International
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Figure 2. Racial breakdown of survey participants.

Figure 3 displays the income breakdown among the participants. 13.6% fall in the $0-25k range (n=54), 15.1% in $26-50k (n=60), 13.8% in $51-75k (n=55), 13.6% in $76-100k (n=54), 10.3% in $101-125k (n=41), 7.8% in $126-150k (n=31), 7.5% in $151-175k (n=30), 6% in $176-200k (n=24), and 12.3% in $201k+ (n=49).
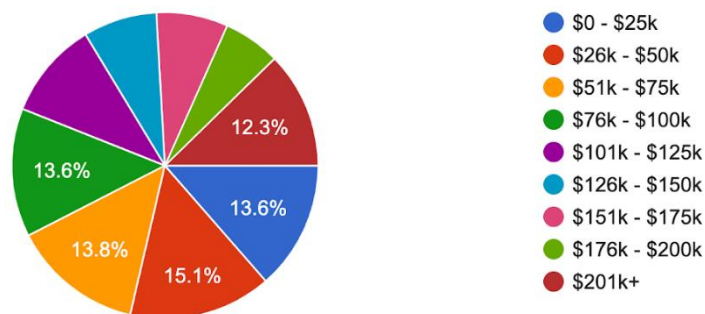
Figure 3. Income breakdown of survey participants.

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Healthcare Quality

The following analysis of the data collected from the survey participants relates to the quality of their healthcare experiences; interactions with medical staff and wait time were two factors that were largely influenced by one's SES.
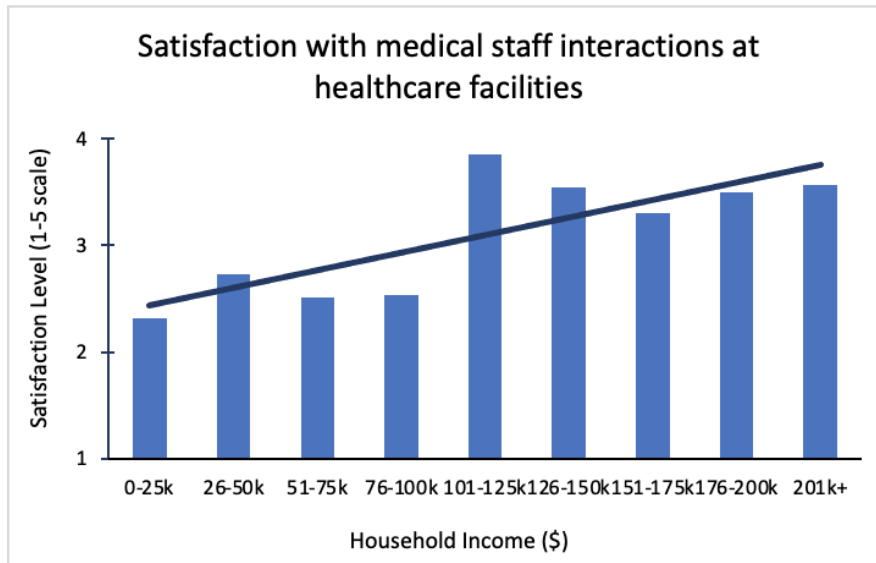

Figure 4. Satisfaction with Medical Staff Interactions v. Income (1=very dissatisfied; 5=very satisfied).
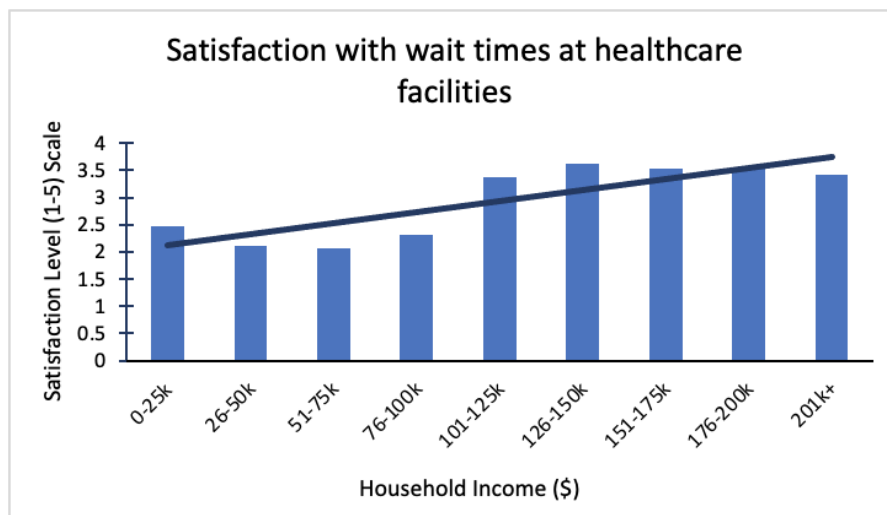

Figure 5. Satisfaction with Wait Times at Healthcare v. Income (1=very dissatisfied; 5=very satisfied).

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Figure 4 displays how satisfaction with medical staff interactions at healthcare facilities generally increased as household income increased, as indicated by the increasing trendline. Out of the participants included in the 0-25k household income range (n = 54), the average staff interaction satisfaction rating was 2.3 out of the 1-5 scale. This low rating is also present in the 26-50k (n = 60), 51-75k (n = 55), and 76-100k (n = 54) income ranges, which all have ratings under a 3. However, once the data reaches the 101-125k range (n = 41), the average satisfaction rating increases drastically to a 3.9; this increased rating is also consistent in the greater income ranges of 126-150k (n = 31), 151-175k (n = 30), 176-200k (n = 25), and 201k+ (n = 49).

Figure 5 displays how satisfaction with wait times at healthcare facilities increased as household income increased. Similar to the data in Figure 4, the satisfaction rating of participants in the income ranges before 101-125k were below 3. Once the 101-125k range was reached, satisfaction ratings rose to 3.3 and stayed at a similar level for the greater income ranges.

The trends present in Figure 4 and Figure 5 are indicative of a correlation between wealth and healthcare quality. Income is a significant predictor of both wait time and staff interaction satisfaction, as p<.001 for both tests. It is evident that healthcare quality rises with wealth, as indicated by greater satisfaction ratings.
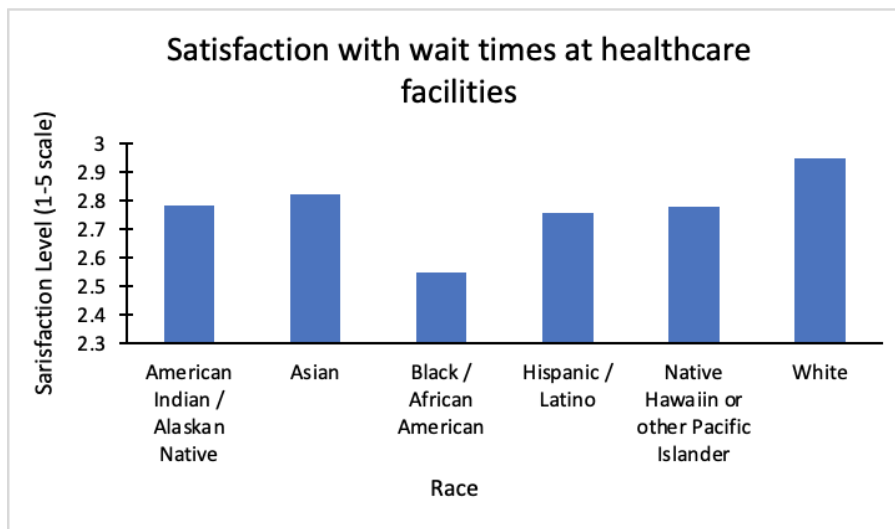

Figure 6. Satisfaction with Wait Times at Healthcare v. Race (1=very dissatisfied; 5=very satisfied).

According to Figure 6, Black/African American participants (n = 60) experienced the lowest satisfaction with wait times at healthcare facilities, having an average satisfaction rating of 2.6. On the other hand, White participants (n = 59) reported the greatest average satisfaction rate of 2.9. Overall, participants characterized as racial minorities experienced lower satisfaction with wait times.

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Healthcare Accessibility

According to the analysis of data collected from the survey participants regarding healthcare accessibility, it was found that a lack of transportation and the cost of healthcare services were two significant factors heavily influenced by participant SES.
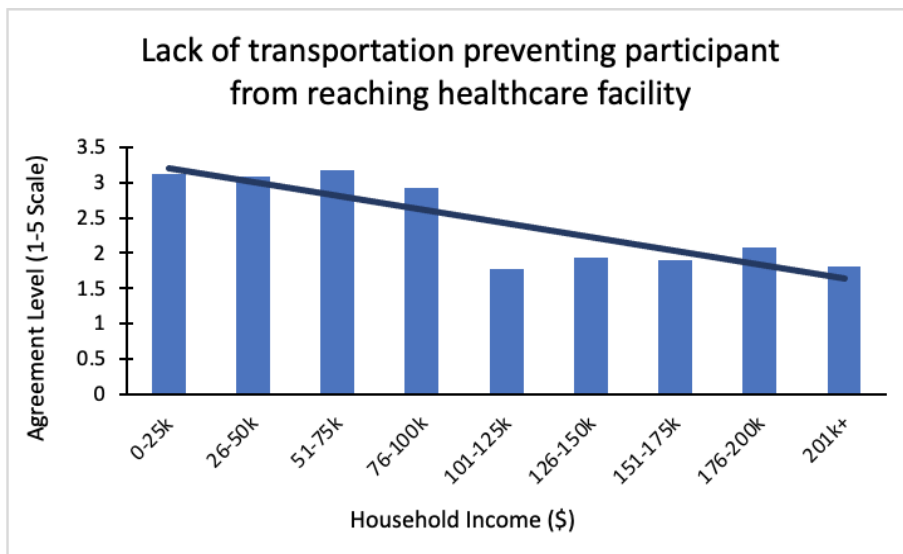

Figure 7. Lack of Transportation Preventing Participants from Receiving Medical Care v. Income (1= Strongly Disagree; 5=Strongly Agree).

The survey assessed how much the participants agreed with the fact that a lack of transportation affected their ability to access a healthcare facility. As displayed in Figure 7, the results demonstrated a downward trend. Those of lower SES, as indicated by lower-income ranges, had higher agreement levels with the statement, meaning they were prevented from accessing healthcare facilities more often because of lacking transportation. This agreement level would decrease as income increased as those with higher SES felt that lack of transportation did not make a large impact on their ability to receive healthcare. For instance, participants from the 0-25k income range (n = 54) reported an average agreement rating of 3.1 while participants from the 201K+ (n = 49) range reported an average rating of 1.8. Overall, this depicts how lower SES decreases healthcare accessibility as a result of less available transportation. This data shows that income is a significant indicator of whether transportation serves as a barrier for healthcare accessibility since $p<.001$.
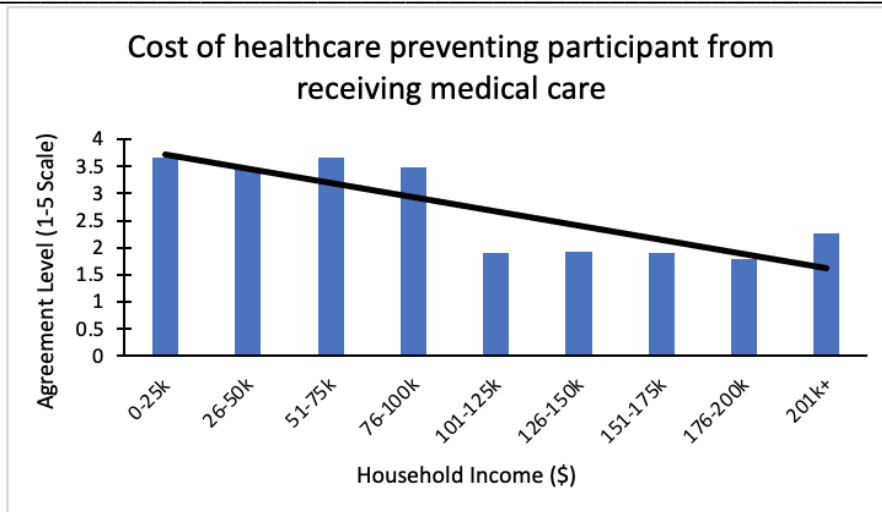
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Figure 8. Cost of Healthcare Preventing Participant from Receiving Medical Aid v. Income (1= Strongly Disagree; 5=Strongly Agree).

A similar trend occurred when participants were asked their agreement rating with the statement that the cost of healthcare influenced the reception of quality medical care. Once again, the data demonstrates a downward trend with those of lower SES perceiving the cost of healthcare as a relatively greater impediment. The lowest income range, 0-25k, reported a 3.7 agreement rating with the statement. A similar rating was reported by the generally low class and lower-middle-class incomes until the 101-125k range, which reported a significantly lower agreement rating of 1.9. Income is a significant indicator of whether healthcare cost is a barrier in healthcare accessibility since $p<.001$. A pattern develops for incomes ranges greater than \$101k in which the agreement level regarding the cost of healthcare levels off, suggesting that people with higher income ranges may not be as concerned with receiving medical care as they are likely in jobs that provide medical insurance for them and possibly even their household.
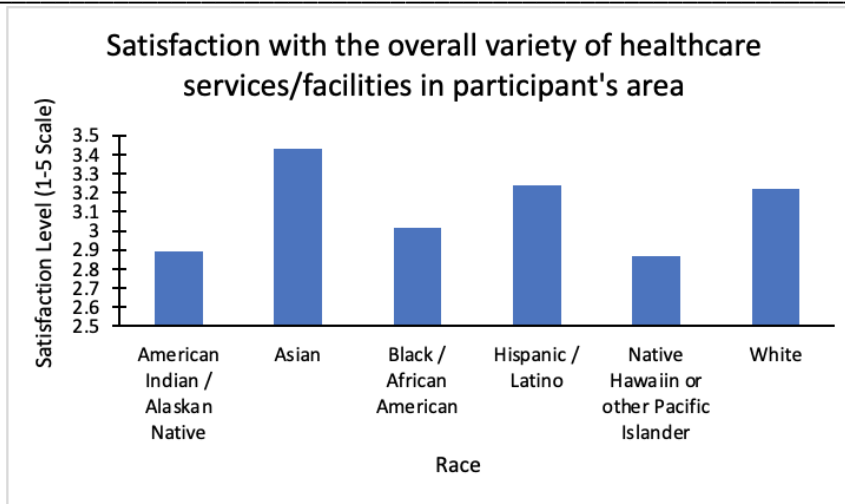
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Figure 9. Satisfaction with the Overall Variety of Healthcare Services/ Facilities v. Race (1=very dissatisfied; 5=very satisfied).

When considering the accessibility of healthcare, another important factor considered was the accessibility of specialized healthcare facilities to participants. With the specialization of medical care, more effective and targeted treatments are provided for those with health issues in a specific area. According to Figure 9, it is evident that racial groups often denoted as minorities reported the lowest satisfaction levels of the variety of healthcare facilities/services available to them in their areas. The American Indian/Alaskan Native group (n = 37) responded with an average satisfaction rate of 2.9, the Black/African American group (n = 60) responded with a 3.0, and the Native Hawaiian or other Pacific Islander group (n = 54) responded with a 2.9.

Discussion and Conclusion:

Through the analysis of around 400 survey responses from participants located in Los Angeles County and New York City, the initial hypothesis proved to be overwhelmingly accurate. Participants that indicated a lower SES based on the metrics of household income and racial background indicated lower levels of satisfaction with healthcare quality and accessibility. This study gauged healthcare accessibility in terms of cost, transportation, and time as barriers for patients. Healthcare dissatisfaction rates were analyzed on factors such as wait times and medical staff interactions to provide insight on the variation of healthcare quality among varying socioeconomic statuses.

As initially hypothesized, the results demonstrated that the quality of healthcare for people of lower SES was of lower quality than for people of higher SES on every metric evaluated. The correlation between lower quality healthcare and low-income communities can be attributed to fewer resources, scarcity of medical staff, and higher healthcare needs due to syndemics of poverty (Mendenhall et al., 2017). Inadequate healthcare in low-income areas can also perpetuate the cycle of the communities needing healthcare more often; this cycle could be partly responsible for overcrowding in facilities and prolonged time in the waiting room. Another effect

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could be medical staff rushing to examine as many people as possible and not making an effort to develop a meaningful relationship with their patients, degrading the relationship between patients and medical staff: a component of healthcare necessary for a healthy environment. These issues put a strain on local medical facilities, thus lowering the quality of care that low SES populations receive.

The COVID-19 pandemic may also have widened the quality gap. As many medical facilities began to crowd with patients due to the onset of COVID-19, the aforementioned impact of overcrowding in medical facilities likely exacerbated the quality of healthcare as well (Moghadas et al. 2020). Telemedicine has become a popular option for medical professionals to consult their patients digitally in order to avoid in-person contact and the possible spreading of the virus. However, some respondents claimed that they were aware of telemedicine options but were not provided with instructions to access the resource. Many respondents also mentioned in the survey that the primary factor affecting their experiences at healthcare facilities was the waiting times. One respondent described how he/she waited in the emergency room for seven hours to get a diagnosis for their "minor mental health issues".

Participants of lower SES were also found to have less access to healthcare services when compared to their wealthier counterparts because of many logistical differences. High costs and lack of transportation were shown to be significant barriers for participants receiving medical care. Additionally, there is an evident trend between the variety of healthcare services available and race. The average satisfaction rate for the availability of varying healthcare services was overwhelmingly low for those considered to be racial minorities, suggesting that minority neighborhoods may lack access to many medical facilities and specialty offices (such as dialysis centers or internal medicine offices). In fact, a study conducted by Darrell J. Gaskin on the disparities in healthcare services based on residence found the number of providers present in minority neighborhoods was relatively low due to certain cultures and traditions that reduce the use of healthcare services and the reimbursement rates in these areas (Gaskin et al., 2011). Hence, this study underscores a strong correlation between SES and healthcare quality and accessibility, placing those with lower SES at a disadvantage in both regards.

Exploring the intersection of healthcare quality and accessibility through the perspective of socioeconomics is important considering the importance of healthcare in our lives. The evidence of inequity in the American healthcare system is likely to be more apparent than it would be in other countries, including Nordic countries such as Switzerland. The cost of healthcare in the United States is among the most expensive in the world (Anderson, Hussey, and Petrosyan, 2019). During the years 2020 and 2021, in the context of the unprecedented COVID-19, it is as important as ever to pinpoint where the American healthcare system can be improved. By approaching this issue through the lens of socioeconomics, the study ensures that the well-being and benefit of all people, regardless of social or financial background, will be given proper attention. Data on the coronavirus from 2020 to 2021 has found that low-income minority communities were the most affected by the virus and, hence, need to be accounted for in studies that focus on healthcare. These discoveries are a direct reflection of the American healthcare system, and this study pinpoints these flaws in order to create a more equitable system in the

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future.

In an attempt to encapsulate a wide range of experiences affected by SES, Los Angeles County and New York City, two diverse locations in terms of household income and racial diversity, were surveyed to collect data that could consider all individuals regardless of SES within the study (County of Los Angeles, 2018). However, since only two primarily urban locations were surveyed, a lack of geographical diversity may have still played a role in the collection of data as it is not representative of all Americans. As very populous and economically productive areas, the results collected are not likely representative of healthcare experiences in non-urban areas like the rural Midwest. Additionally, as the survey requires internet access, those with true financial issues may not be able to access and complete the survey. In this sense, the survey may not account for groups that may face financial struggles and, hence, have technological limitations. While this study applied subjective measures of healthcare in assessing quality and accessibility, numeric values were used by respondents to provide data on their experiences that would be more comprehensible. Metrics in healthcare quality and accessibility that this study used were measured from a value of 1 to 5 by questionnaire respondents. Reducing highly subjective metrics of healthcare quality and accessibility to numeric values removed necessary nuance which would better allow us to truly understand the experiences in healthcare of people of different SES. While a free-response section was incorporated in the survey to provide respondents with the option to elaborate on their ratings, only 21 out of the 400 total respondents utilized this section. The respondents were disproportionately of Asian descent (not including Native Hawaiians or other Pacific Islanders) despite being the smallest ethnic group in the United States (US Census Bureau Public Information Office, 2011). This may have skewed certain data points such as average familial income as Asian-Americans make on average more than any other of their fellow minority groups in the United States (Kochhar, Rakesh, and Cilluffo, 2020).

To address the limitations of the study in future research, data should be collected from all 50 states of America to ensure geographical diversity and to account for differing populations. As this survey focused on primarily urban regions, examining suburban and rural areas would expand the breadth of future studies. Future studies would additionally have to consider collecting personal experience without the restraints of utilizing numeric values. Conducting interviews could be a potential method of subjective data collection, but the issue remains in the interpretation of such data that could be perceived differently by each individual viewing the data. The racial diversity within survey participants can be maintained by targeting a certain number of participants for each racial category, which could be adjusted later in the study depending on the number of responses received. All these changes could potentially affirm and expand the range of the survey results.

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