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Breaking Barriers: The Influence of Socioeconomic Status on Obesity among Women in Salvador, Bahia, Brazil

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ABSTRACT

Obesity in Brazil has grown rapidly within the past decade, however research is conflicting in terms of who carries the burden of this disease- the economic elite or the poor. Despite the lack of clarity towards the current distribution of obesity, many studies have come to the conclusion that in developing countries, obesity is growing more rapidly among those of lower socioeconomic status.[11] Therefore, the purpose of my research study is to examine how socioeconomic status influences the dietary and exercise habits of lower and lower-middle income women who are obese. This study is relevant because it seeks to connect and expose the socioeconomic barriers such as access to healthy foods and physical activity that contribute to obesity in lower and lower-middle income women. Understanding these obstacles is an important step towards diminishing these existing disparities in order to ensure that these women are able to live a healthier lifestyle.

For my research, individual interviews were conducted throughout Salvador, Bahia, Brazil with six women who are obese and of lower or lower-middle income. The results showed that lack of access to healthy foods, the high cost of gyms, lack of security and proximity to places for physical activity within one's neighborhood, and lack of time are all socioeconomic barriers that contribute to the obesity these women face. However, my results also indicated that other factors unrelated to socioeconomic status such as culture had a significant influence on the types of foods and the amount of physical activity that my interviewees participated in. Overall, my findings indicate that while there is a positive correlation between lower socioeconomic status and obesity among women of lower and lower-middle income, there are other factors that considerably influence obesity in their lives as well.

Key Words: Obesity, women, socioeconomic status

RESUMO

Obesidade no Brasil tem crescido rapidamente na última década, porém a pesquisa está em conflito em termos de quem carrega o fardo desta doença- a elite econômica ou os pobres. Apesar da falta de clareza em relação a atual distribuição da obesidade, muitos estudos têm à conclusão que nos países em desenvolvimento, a obesidade está crescendo mais rapidamente entre aqueles de menor status socioeconômico. [11] Portanto, o propósito da minha pesquisa é examinar como a condição socioeconômica influencia os hábitos alimentares e de exercício das mulheres de renda baixa e média-baixa que são obesas. Este estudo é relevante porque busca conectar e expor as barreiras socioeconômicas em termos de acesso a alimentos saudáveis e atividade física que contribuem para a obesidade em mulheres de renda baixa e média-baixa. Entender esses obstáculos é um passo importante para diminuir as disparidades existentes, a fim de assegurar que essas mulheres são capazes de viver um estilo de vida mais saudável.

Para minha pesquisa, foram realizadas entrevistas individuais em toda Salvador, Bahia, Brasil, com seis mulheres que são obesas e de renda mais baixa ou média-baixa. Os resultados mostraram que a falta de acesso a alimentos saudáveis, o alto custo dos ginásios, falta de segurança e proximidade a locais para atividade física, e a falta de tempo são barreiras socioeconômicas enfrentadas por essas mulheres, que contribuem para a obesidade. No entanto, meus resultados também indicaram que outros fatores não relacionados ao nível socioeconômico, como a cultura, teve uma influência significativa sobre os tipos de alimentos e a quantidade de atividade física que meus entrevistados participaram. No geral, minhas descobertas indicam que, embora exista uma correlação positiva entre nível socioeconômico mais baixo e obesidade entre as mulheres de renda mais baixa e média-baixa, existem outros fatores que também influenciam consideravelmente a obesidade em suas vidas.

INTRODUCTION

Nearly 65% of the population in Brazil is overweight or obese.[2] However, the lack of clarity about the distribution of obesity highlights the need for further research about the connection between socioeconomic status and obesity in developing countries. While a review of past literature shows a positive correlation between higher socioeconomic status and obesity in developing countries, more recent studies all point the fact that this distribution is changing, and higher growth rates for obesity are beginning to appear among those of lower socioeconomic status in middle-income countries, especially among women of the lower class.[11]

It is my belief that lower and lower-middle class individuals have a more difficult time combating obesity because they do not possess as many resources or knowledge about proper nutrition and exercise as the economic elite. In terms of physical activity, there is a direct correlation between neighborhood security and the amount of physical activity people participate in. People of lower socioeconomic status are more likely to live in places with increased violence, crime, and other dangers that have a negative impact on their ability to exercise outdoors.[5] Additionally, in neighborhoods of lower class there has been less development towards the production of areas for outdoor physical activity, as well as a smaller presence of affordable, indoor facilities for exercising.[6] Since those of lower socioeconomic status are more likely to live in neighborhoods that are dangerous and lack available spaces for physical activity, they experience less opportunities to maintain their health through exercise.

In regards to nutrition, the recent boom in Brazil's economy has contributed to a number of dietary transitions over the past decade. The increase in economic development in Brazil has produced more job opportunities, and has led to an increase in work hours to maximize productivity. More women are beginning to work both inside the house as mothers as well as outside of the house in the workforce to create more opportunities for their families.[3] As a result, the consumption of foods that are processed such as Ruffles, Nestle, and Coca- Cola has increased because of their convenience and affordability.[9] Additionally, although the presence of fast food facilities have increased in developing countries, many Brazilians- especially those of lower socioeconomic status- still maintain a traditional, Brazilian diet because it is less expensive than foods such as McDonald's or Kentucky Fried Chicken. However, while this diet represents an integral part of the Brazilian identity, it may be

contributing to the obesity epidemic as well because commonly consumed foods such as *feijoada,* red meat, and juice are all high in salt, sugar, and fat.[9] The practice of salting meat for preservation and the large consumption of sugar that were introduced to this country centuries ago still remain a large part of the Brazilian dietary habits. Therefore, the introduction of cheap, processed foods in addition to the high salt, fat, and sugar diet of many Brazilians may also account for the rise in obesity, especially among the lower classes.

The main purpose of this study is to determine how socioeconomic status plays a role in obesity for women of lower and lower-middle income. It is my belief that women of lower and lower-middle income who are obese experience barriers in terms of access to physical activity and healthy foods because of their socioeconomic situation, and these barriers have contributed to their current state of obesity. The objectives of this study are: 1) to learn about the dietary and exercise habits of obese women of lower and lower-middle income, 2) to discover the barriers to leading a healthy life these women face as a result of their socioeconomic status, and 3) to find out the solutions these women seek for being able to live a healthier lifestyle. Researching and discussing the impact socioeconomic status has on the health of these women will help to expose the barriers they face, and puts them one step closer to improving their health.

SOCIAL RELEVANCE

There are several reasons why more research about the connection between SES and obesity in the developing countries is pertinent. First, obesity is increasing among all in Brazil. From 2006 to 2011 the percentage of people with obesity has increased from 11% to 15.8%.[2] However, obesity is growing more rapidly among the poor in developing countries.[11] Thus, more research needs to be conducted to determine what factors are causing this transition, and in turn what effects the growing prevalence of obesity is having on the lives of those in need. In addition, obesity is responsible for a variety of illnesses ranging from stress, sleep apnea, depression, etc. to severe chronic diseases such as heart disease, diabetes, and hypertension, which can be very costly to healthcare systems around the globe.[14] Discovering the barriers that are present as a result of low socioeconomic status and how they contribute to obesity for women of low and lower-middle income is essential so that aid can be brought via education and programs to eliminate these barriers in this community. In addition, understanding the effects of low and lower-middle income on obesity can help to control and diminish the prevalence of chronic diseases and other physical and mental health issues that this group experiences as a result of obesity.

LITERATURE REVIEW

Introduction

For many years, the primary concern in Brazil regarding access to food was malnutrition, but in the past few decades the epidemic of obesity in Brazil has surpassed this issue.[10] As of 2009, undernutrition only affects 2.7% of the population while overweight and obesity affects over 50% of the population.[12] Brazil has the 6th highest prevalence of obesity in the world, therefore it is necessary to understand its distribution within Brazil in terms of gender, socioeconomic status, and age, as well as the effects it has on this country's economy and health.

Obesity in developing countries

While research is conflicting in terms of the socioeconomic distribution of obesity within developing countries, there is a strong consensus that the wealth of a country affects the incidence and growth rate of obesity.[11] Brazil is considered a developing country and is labeled as such by looking at pcGNP- gross national product per capita. Because Brazil falls under the pcGNP range of $2936 to $9075, it is considered an upper-middle income developing country.[16] The economic status of Brazil is important to note because it has many implications towards the development and trends of obesity in this country.

Research regarding the effects of socioeconomic status on obesity in developing countries such as Brazil is unclear, primarily because there is no recent research that investigates whether a correlation between these factors exists or not. Studies taking a clear stance on the distribution of obesity claim that this disease is concentrated in high-income groups and will remain as such, however, these studies date back thirty years ago. For example, after extensively reviewing 144 articles regarding the distribution of obesity in relationship to socioeconomic status in lower-middle income countries, authors Stobal and Stunkard claim that there is a strong direct relationship between socioeconomic status and obesity among adults and children, and that this trend will stay as such.[15] Sichieri's findings compliment the above declaration. He analyzes the relationship between body mass index (BMI) and income level in women by distributing surveys to different regions of varying socioeconomic status and location within Brazil. His results indicate that developed countries such as the United States have less prevalence of obesity in higher income groups, but in developing countries such as Brazil there is a greater frequency of

obesity among the upper-class population.[13] While these articles both believe that obesity is concentrated in higher income groups and will stay as such, it is important to point out that they are not up to date. Since both studies were conducted before 1989, they are not relevant or indicative of the current trends of obesity, thus more research needs to be done to determine the present trend in obesity in relation to socioeconomic status in developing countries.

Although past research suggests the stability of obesity within the upper-class, more recent studies suggest that economic development within lower-middle income countries (LMICs) influences and will continue to influence the distribution and growth rate of obesity over time, shifting it towards those of lower-class.[11] A study by Carlos A. Monteiro conducted an extensive review of literature on obesity distribution and trends in developing countries. His study came to the conclusion that although research before 1989 indicates that obesity is more prevalent in high socioeconomic groups in lower-middle income countries, more current research shows that obesity is developing at a faster rate among the poor in lower-middle income countries.[11] This report is relevant because it is more recent and reviews numerous existing studies to make this deduction. This shows that further research is necessary to determine what factors are responsible for the occurrence of this transition.

The declaration that the burden of obesity is growing more rapidly among the poor in lower-middle income countries can be verified by other recent sources. Another study conducted from 1989-2007 examines overweight inequality by socioeconomic status among women in a cross-national comparison study. This study measured the correlation between GDP, education, and income with overweight prevalence over time in adult women aged 18-49 from 37 different developing countries. What they discovered is that overweight prevalence increased among all classes, however overweight levels increased at a faster rate among poor women in upper-middle income countries.[8] This shows that because Brazil is classified as an upper-income developing country, it is important to examine if this trend is in fact occurring among women in poverty today.

Transitions in nutrition

Although Brazil is known for its fight against hunger during the 20th century, recent economic development in this country has led to an increase in obesity nationwide.[10] Malnutrition in Brazil is not being replaced by obesity, but rather

obesity is adding to this problem because people are not getting the proper nutrients or exercise they need.

Cultural influences largely shape the history of the Brazilian diet. Brazil is known for its emphasis on *almoco* or lunch.[9] Almoco is the largest, most significant meal of the day, and is an important aspect of family life and relationships. Traditional foods in Brazil include rice, beans, cassava flour, and various forms of meat. While, the diet in Brazil has always been high in salt, fat, and sugar, and low in vegetable and fruit consumption, the introduction of processed and fast foods has made the nutritional deficit in this country worse.[9]

The growth in Brazil's economy has led to many dietary changes. Urbanization and development place greater emphasis on working longer hours and further away from home.[1] In addition, the study "Work and Gender in Brazil in the Last 10 Years," shows that there has been a "massive and steady increase of female participation in the labor market." The amount of females in the workforce from 1993- 2005 has increased from 39.6% to 43.5%." [3] This rise in income and work hours has produced numerous dietary changes, particularly for women who are now working outside the home. For example, the consumption of processed foods has already increased from 20% to 28% since 1980. Fast food places such as McDonalds, Kentucky Fried Chicken, and Burger King are also growing all over the country.[9] The cost and convenience of these foods combined with increased income due to the economic development in Brazil have all led to a greater consumption of unhealthy foods and higher rates of obesity. The nutritional transition of cheap, convenient foods correlates with the rapid rise of obesity among the poor because they are eating more processed and fast foods due to the lack of time as a result of increased participation in the work force.

Physical activity, socioeconomic status, and gender

The connection between physical activity, socioeconomic status, and gender is also important to examine. The amount of people who are active in Brazil is much lower than other countries. "A Descriptive Epidemiology of Leisure-Time Physical Activity in Brazil" surveyed nearly 5,000 households in Brazil and found that only 13% of people participate in 30 minutes or more of physical activity at least one time per week.[11] Out of this 13%, men and individuals of higher socioeconomic status

were more likely to engage in leisure-time physical activity. This highlights the discrepancies between gender and social class in regards to utilization and access to exercise, and emphasizes the need to investigate why women and those of lower class have lower levels of physical activity.

It is important to study the factors that affect the prevalence of physical activity within communities to determine why some groups partake in more activity than others. In addition to the increase of public transportation and technology, the inequalities that arise from lack of access to physical activity contribute greatly towards obesity. In Brazil, an inverse correlation between overweight frequency and the density of public spaces for working out has been found.[7] More specifically, in neighborhoods of lower socioeconomic status and minority populations there are fewer areas for leisure time exercise, and the places that are available are very costly.[6] As a result, lower-income groups and minorities are more vulnerable to becoming overweight or obese because they do not have adequate funds or live in close proximity to exercise facilities.

In addition, the safety of one's environment is a huge indicator of physical activity. The article, "Inequality, Poverty, and Obesity," discusses how women of lower class experience barriers such as heightened violence, traffic, and inaccessible sidewalks which prevent them from engaging in physical activity.[5] This shows that less access in terms of monetary accessibility and geographic proximity to locations for physical activity, combined with lower levels of safety correlate to less physical activity and a greater chance of overweight and obesity in those of lower socioeconomic status, especially women who are often more vulnerable to a lack of security in the environments in which they live.

METHODOLOGY

The methodology used for my Independent Study Project (ISP) consisted of ethnographic research through formal interviews that were conducted with six women of lower and lower-middle income from the city of Salvador, Bahia, Brazil. Three of the women I interviewed were of lower- income and three were of lower-middle income. This methodology was used in order to gain a more personal and well-rounded account that would provide a deeper insight on the experiences and barriers that these women who are obese currently face. Before, during, and after the interviews I also engaged in participant observation by perceiving the body language, facial expression, and the inflection/tone of voice that each participant used when responding to my questions. Because obesity is not a result of just one factor, the combination of interviews and observation provided me with greater insight into what factors are most influential in contributing to obesity.

For each interview, I used a template containing questions from five categories pertaining to socioeconomic status, childhood, physical activity, diet, and daily life. This template can be found in the Appendix at the end of my research paper. Before beginning each interview, I received oral permission from each participant to record and take notes. I also asked if they would prefer to remain anonymous. I am choosing to reveal the identities of my participants except for one of my interviewees who wished to remain anonymous. For this reason, she is referred to as Sarah throughout this study. During the interview, the majority of my participants seemed to be very comfortable in terms of sharing difficult information such as weight and income level with me, and very willing to work with me to fully understand to each of my questions despite the language barrier. The last step that I took before beginning my interviews was to give the informed consent form to my participant to read (or read it for them if they could not read) and sign in order to receive their permission to begin the interview. After the conclusion of each interview, I thanked my participants for contributing their knowledge and information to my research and asked if they had any further questions. All six interviews were completed in two weeks.

ANALYSIS PROCEDURES

Classification of Socioeconomic Status in Brazil

Although I analyzed socioeconomic status in terms of living conditions, education, and income to interpret my findings, I focused only on income to classify my participants for simplicity. I based my methods for classification off of the study "The Consumption and Socioeconomic Classification in Brazil: A Study Based on the Brazilian Family Expenditure Survey," and the criteria that they use to divide class by income level. The primary method this study uses to stratify data is the Center for Social Policies criterion- a survey based on household per capita income that is used by companies in Brazil to analyze poverty issues.[4] The levels of income are categorized into classes. Class AB represents those of the upper class, class C represents those of the middle class, class D represents those of lower class, and class E represents those who are living below or equal to the poverty line.[4] This study shows the change in classification by income from 2002/2003 to 2008/2009, which can be seen in Table 1 below.

Table 1. Average Monthly Real Income According to the Center for Social Policies Criteria

	Year	
Class	2002/2003	2008/2009
AB	4632	5156
C	1219	1434
D	495	590
E	232	215

The results from this stratification show that income has risen for groups of all income levels besides those living in poverty. Increased access to credit, controlled inflation, and the rise in purchasing power, as well as the implementation of government income transfer programs such as Bolsa Familia and Fome Zero to families of lower socioeconomic status has caused a transition for many families from class D to class C leading to an expansion of the middle class.[4] Since the middle class has only grown within the past decade there is not a fine line between classes D and C. Therefore, for my study I interviewed women of lower-income (class D and E) and

lower-middle income (the lower spectrum of class C) because those in the latter group are still affected by some of the same issues as the lower class.

Because those of class D are categorized in the above study as making R$1433-R$590 and class E is below R$590, I classify those who fall under D and E in my study as lower-income women. Additionally, those who fall under the categorization of class C in the above study make between R$1434- R$5156 per month. Since my participants of class C only make between R$1448- R$2172 reais, they are classified as lower-middle income earners because they are in the bottom third of the middle class. Table 2 below shows a breakdown of the classification system I used for my study.

Table 2. Total Family Income per Month

Income Level	Reais
Upper Income	Above 5156
Upper-Middle Income	3915-5155
Middle Income	2675-3914
Lower-Middle Income	1434-2674
Lower Income	Below 1433

Data Analysis

To analyze the data I collected throughout this two-week period, I began by rewriting and organizing all of the notes I had taken immediately following an interview. I also wrote down any observations I had before, during, and after the interview process. Before the end of the day I listened to and transcribed my interviews into English (if they were conducted in Portuguese), and wrote down all the information that was said into a document on my computer. In order to keep the information organized that I received, I divided my data into five sections: observations, details of past life, details of current life, physical activity, and diet. This helped me to recognize and keep track of any themes as they emerged. I recorded these themes in a Conclusions/Themes section at the end of each interview that I transcribed as well as in the back of my fieldwork journal in order to develop my conclusions.

LIMITATIONS

There are a few unforeseen limitations that I experienced throughout my research period. My first limitation was lack of time because I was not able to get in contact with the majority of my interview contacts until the second week of my research. Despite the fact that my advisor provided my with many contacts early on and persistently tried to reach these contacts when I could not get in touch with them, it was very difficult because each of my interviewees lived in different neighborhoods throughout Salvador and worked various hours. Therefore, I had less time to analyze my results and set up additional interviews as needed.

The next limitation is that I am an outsider to these women since I am American. In some cases, I feel that this made it difficult for some of these women to open up to me, and as a result they were less comfortable and less willing to give me accurate information. Additionally, since my Portuguese is not entirely fluent it was difficult to convey the intent of some of my questions. This made it difficult for some of my participants to answer in the way that I intended.

Furthermore, I encountered a few limitations in regards to socioeconomic status. I originally intended to only interview women of lower socioeconomic status, but ended up with a few interviews from women of lower-middle income because it is difficult to distinguish someone's income level before asking them. As a result my target population changed from only those of lower-income to those of lower-middle income as well.

FINDINGS AND ANALYSIS

Lack of access to healthy foods

Personal stories

The six women interviewed throughout Salvador all had similar perceptions and opinions regarding the influence of price on their diets. All six interviewees indicated that the high cost of healthy foods, especially wheat products, "diet foods" such as granola, fruit, poultry, and fish, inhibited them from having a balanced diet in some regard. Mel, Sarah, and Carla, had particularly strong opinions about the financial barriers that inhibit them from leading a healthy lifestyle. (In order to maintain anonymity, I have changed the name of my second interviewee to Sarah.)

Mel is a 36-year-old woman of negra descent who is of the lower-middle income category. She is currently self-employed as an author and a teacher while studying for her graduate degree in literature, and is married with one daughter. When I asked her about her dietary habits, she said that she eats outside of the house three times a week for lunch, but she never eats the food from the vendors on the street. Normally she eats foods such as rice, beans, chicken, fish, bread, and cheese. As a result she prepares many meals in the house for her family. However, because of the price of foods she stated that she must often sacrifice eating healthier foods for her daughter's sake. For example, she said, "Everyday my daughter needs to take one fruit to school so she will be better than I am, but fruit is expensive so I can't always have it for myself."

In addition to sacrificing these foods so that her daughter can have a healthy lifestyle, Mel believes that her job presents another barrier to being able to afford healthy foods. Because she is self-employed she does not have a consistent flow of money, which often affects what foods she can and can't afford. She said she cannot buy many vegetables because, "You need to spend a lot of time and money. Its not like you have the money, the time to go there, and they will last you. No, you need to have that money every week."

Sarah is a 37-year-old, negra woman who is of lower-income. She has completed up to primary school for education, works at Didá School for Music in Pelourinho, and lives with her mother, sister, and cousin. When I asked what she normally eats during the day she said that she skips breakfast, but for lunch and

dinner she has rice, beans, *doces* or sweets, fruit, and lots of red meat. She eats most of her meals at home, but will eat *acarajé*, hamburgers, or other foods on the street as a snack every once in a while. When I asked interviewee #2 what her main barrier to eating healthy is, she stated:

> "I think food is expensive. I think that a good salad, grilled fish- it is all expensive. I don't have the conditions every day to eat these diet foods. If you buy granola it is 7 or 8 reais. If you buy a cereal bar it is 3 reais more or less. Diet food is always twice as expensive…I don't eat vegetables because I don't like how they taste, but I would buy more fruit if it wasn't so expensive."

Carla is a 37-year-old negra woman who is classified as lower-middle income. She is a college graduate and works as a singer at a bar in Rio Vermelho as well as a music teacher at Didá to support her son. She is currently divorced from her husband and is the sole provider for her child. Carla prepares all of her meals in the house and said that she normally eats foods such as bread, juice, pasta, beef, potato salad, rice, and *feijoada* throughout the day. For snacks she said will often eat cake, cookies, or crackers. When I asked her if the price of healthy foods influences her diet she stated, "Yes. For people like me with a small salary, with a little money, healthier foods are very expensive. [When] you arrive in the supermarket you can see that they are all more expensive. Integral bread, diet foods, grains, fruit, lettuce, it is all very expensive for me."

Interpretation

The limitations due to price in regards to obtaining a consistent, healthy diet were reflected deeply amongst all those interviewed. All three participants above mentioned that the price of fruit, salad, and "diet foods" such as whole wheat products and grains prevent them from buying and consuming these foods on a frequent basis. Both Mel and Carla share the burden of having to provide financially for their families, which has a negative impact on their diets. The inconsistency of Mel's finances directly affects her diet because she is not always able to afford to buy and eat healthy foods for both her daughter and herself. In Carla's case, she is a single mom who has been left with the financial responsibility of her son, and is already working multiple jobs to have a comfortable lifestyle. Therefore, she must prioritize

where her money is spent, and cannot afford the price of healthy foods when she has more important expenses such as her son's education.

Fortunately, while there seems to be a consensus that transnational food companies are infiltrating developing countries and contributing to the obesity epidemic[9], especially among those of lower socioeconomic status, only two out of the six women I interviewed mentioned eating from fast food places and street vendors. This indicates that the low price of these foods has not had a huge impact on the dietary habits of women of lower and lower-middle income. However, five out of six women mentioned eating processed or junk foods, so it appears that these foods have a larger influence than fast foods because of their price and convenience. Despite the minimal influence of more Westernized, fast foods, women of lower socioeconomic status are still negatively impacted by the price of healthy foods in the supermarket. The lack of healthy foods in these women's lives is a reflection of their socioeconomic situation because many of them have greater priorities for where they need to spend their money. Despite working multiple jobs and long hours, these women must still make sacrifices in their diets for themselves and their families because they cannot afford to always eat healthy, and as a result this has a negative impact on their health.

The dual burden of price and location on physical activity

Personal Stories

Five out of the six women that I interviewed were in accordance in regards to the influence of price and the environment of their neighborhood on the amount of physical activity that they do. Five women mentioned the desire to attend a gym, but that money placed a restriction on their ability to do so. In addition, five of the women I interviewed also expressed feelings of displeasure towards the availability of spaces such as parks, squares, or safe sidewalks to utilize for exercise and the level of security within their neighborhoods.

One of the women that feel strongly about the burden of high gym prices and the lack of security within her neighborhood is Lenise. Lenise is a 39-year-old woman of parda descent who is in the lower-middle income category. She is a college graduate and works as an English teacher in Názare. Currently, she lives with her brother and two parents who are retired. When I asked Lenise what her main obstacle

to working out is, she replied, “First of all it is money. I do not have the money to go to a gym and I have a hernia, so I need to go to a specific place that has the right equipment or a pool for me to use. The price of gyms influences much more than time. I could find time, but I can’t afford. ” In addition, she expressed a deep sense of insecurity when describing her neighborhood. She stated:

> “I can walk [for exercise], but my neighborhood is dangerous. I live in Bomfim, but nowadays it is dangerous. [There are] a lot of robberies and suspect people walking around, and I’m afraid to walk around because it is deserted at night and in the early morning. There are no parks or lakes, but people can walk on the street and along the boardwalk. However, in my opinion it is dangerous at all times of the day. Last week my friend was telling me that a policeman shot and killed a robber in front of her house. Its horrible, I’m afraid.”

The fourth woman that I interviewed, Sandra, spoke of many of the same issues as Lenise. Sandra is a 27-year-old negra woman who is of lower socioeconomic status. She has completed primary schooling and is financially dependent on her guardian for money and housing. She is a single mom of an 11-year-old boy and she works unpaid as a drum teacher at Didá School for Music. When I asked interviewee #1 to describe her childhood, the first thing she said was, “I did not have a childhood. I grew up in an orphanage and I did not know my family. I have never met my father, nor my mother.” She lived at the orphanage until age 15 when she was adopted, and shortly after she became pregnant with her son who she said causes her a lot of stress and takes a lot of time to take care of.

When I asked Sandra what her main obstacle to working out is, she describes about a number of barriers that she faces as a result of the neighborhood in which she lives, Pelourinho. For example, Sandra mentioned that she only has a few gyms in her neighborhood, and that they are “very expensive”- about R$80. The accessibility she has to any form of physical activity besides a gym is very minimal. When I asked her to describe the access that she has to places to do physical activity outdoors in her neighborhood such as parks, squares, or lakes, she said, “They are far. The health is in Campo Grande, but it would take me an hour just to walk there.” She also described the streets as having “many slopes.” “They are horrible to walk on,” she stated. Furthermore, Sandra expresses feelings of insecurity and uneasiness in her neighborhood due to the crime and violence.

Mel also experiences barriers to exercising as a result of the neighborhood where she lives, Federação. When I asked Mel if the price of gyms influences the amount of physical activity she does, she replied, "Oh yes, definitely. There is one gym near to my house, Vila Forma, that is open all hours but it is too expensive. If I could afford that one I would go there, but their cost I think is R$320. That's a lot of money." She goes on to explain that because she does not have the time to go to the gym during the day, she would prefer to go at night, but many of the gyms that are less expensive are not open when she has the time to go.

In regards to the security of her neighborhood and proximity to available spaces for physical activity, when I asked Mel if there were any parks, squares, or lakes for people to exercise in her neighborhood she said no. She stated, "If I had a car I could probably go to Barra or another park, but first I would have to walk a long ways just to get there. Every once in a while you can see one person walking on the street in my neighborhood, but it is not common." She also has strong feelings towards the lack of security in her neighborhood. She stated, "In the morning I normally walk with my daughter to school, but they had 3 or 4 robberies this past month. Now, my husband has to come with me to take her to school because of this. These days it is twice as unsafe."

Interpretation

In accordance with the previous study, "Inequality, Poverty, and Obesity," the overwhelming agreement of these women in regards to the barriers of high cost of physical activity, as well as the restrictions of heightened violence and crime on physical activity, highlights a connection between the lower socioeconomic situation of these women and their obesity.[5] Not only do these women conclude that the financial investment in a gym is currently beyond their ability and deters them from joining, but they also demonstrate that the neighborhoods in which they live are not conducive to physical activity because they lack free spaces to do physical activity and are not safe to workout in at all times of the day. Lenise's feelings towards the conditions of her neighborhood reflect a deep sense of insecurity that prevents her from maintaining her weight through exercise. Because her hernia restricts the type of physical activity she can do, Lenise needs specialized care. However, she is left with no opportunity to exercise because of the price of gyms is beyond her budget and she does not feel safe to exercise in her neighborhood.

In addition, Sandra's history of growing up in an orphanage and becoming pregnant at sixteen has contributed to her current economic situation. She did not have anyone who encouraged her attend school so that she could create opportunities for her future, which has had a negative impact on her current ability to find employment. She also did not have parents to tell her what foods she should eat as a child or to invest money in sports or dance classes for her to participate in physical activity. As a result, upon leaving her orphanage she became pregnant with her son, which has prevented her from going back to school or obtaining a job. Today, she continues to live in economic hardship and experiences many health consequences because of this. Her neighborhood, Pelourinho, is comprised of visiting tourists or other families who are also of lower socioeconomic status, thus there are few gyms in the area because the people who live in this neighborhood have more important expenses and cannot afford the high cost of gyms. In addition, because there are many tourists and many people who do not have money in this neighborhood, there is a lot of crime and theft that occurs making it unsafe to exercise at all hours of the night. Furthermore, there are no squares, sidewalks, or parks for people to exercise in because it is more of a tourist destination than a residential location.

Furthermore, Mel's inconsistent financial situation makes it difficult for her to afford a gym on a monthly basis, and she too experiences a lack of other opportunities for places to engage in physical activity in her neighborhood. Since she is not even able to walk her daughter safely to school without the protection of her husband, it is not possible for her to exercise safely outside either. The lack of additional funds to spend on a gym, the lack of available spaces to exercise, and the lack of security within the neighborhoods in which these women live are all directly a result of their socioeconomic situation, which has contributed to the obesity they now face.

Lack of time

Personal Stories

All six women that I interviewed expressed lack of time due to their jobs or schooling as an infringement on their ability to eat a balanced diet or partake in physical activity. Out of the six women interviewed, having a "hurried life" was mentioned thirteen times as either having a negative impact on their diet or that it invaded upon their ability to workout. In addition, four out of six women mentioned eating processed, snack foods such as chips or cookies for their convenience and price

because they lacked the time to go home and prepare a snack or meal. While many women expressed feelings of stress, hurriedness, or frustration with the imposition of time on their diet and exercise habits, interviewee's Ira, Carla, and Lenise describe substantial obstacles that they face on a daily basis in regards to time.

Ira is a 55-year-old negra woman who is in the lower-income category. She has completed primary education and currently makes less than minimum wage cooking and cleaning at Didá. She lives with her husband, however he is retired due to mental illness so she is responsible for all of the household chores, as well as earning money to support her family. When I asked Ira the main reason that she does not exercise, she replied, "I don't have time because my job takes up my whole day. Also, my husband, he is sick. Taking care of him is like another job for me." The responsibilities that she has in taking care of her husband and going to work to earn a living to care for her family are a priority for Ira. During the week, she begins her day at 5am ironing and washing clothes, preparing breakfast, and taking care of her husband who is sick. She leaves the house for work from 8am until 6pm, and upon returning home she has dinner, takes a shower, and prepares a remedy for her husband. Her day does not end until 11 or 12 at night. She also mentions that time has a negative impact on her diet. She said, "I would like to eat a healthier diet, but I snack a lot. Because of my job I do not have the time to always eat lunch, so I eat a lot of bread, cake, and cookies throughout the day for snacks."

Carla, the single mother who is a singer at Didá School for Music and at a bar in Rio Vermelho, also highlights many barriers she faces to exercising as a result of a lack of time. Everyday she wakes up at 8am. Until she leaves for work at 6pm, she is preoccupied with household chores, taking her son to school, teaching singing classes at Didá, and practicing her music for work. She goes to work at Pedra da Sereia bar from 6- 11pm, and she does not end up returning home until 11:30pm. She goes to bed shortly afterwards around midnight. When I asked Carla what her main reason is for not doing physical activity she believes that her daily activities and household chores take a lot of time, and as a result she cannot workout. "Picking up toys off of the floor, washing my child's clothes, washing the bed sheets…many times these activities take all day." Additionally, she replied that while she cannot afford to attend

a gym, the main reason she does not go to the gym is that she would be “stretched for time.”

Likewise, Lenise, the English teacher presented above, believes that the factor of time has a negative impact on her dietary habits. She feels that the lack of control over her schedule due to her work makes it difficult for her to have a consistent, healthy diet. Everyday she wakes up at 6:30 am to pray, take a shower, and have breakfast. She leaves the house between 8-8:30am and often returns as late as 8pm. During her days she is often running errands for her family and teaching English courses. Her schedule for teaching changes each week, and she often must run to teach a class last minute or stay teaching late at night. Because of this, she believes that it is difficult for her to maintain a consistent, healthy diet. When I asked her what is the main barrier that she faces to eating healthy she said:

“I try to eat health food, I try. But, I have a hurried life. I have to go from one place to another very fast and sometimes I eat junk food. It is not healthy. It is horrible to my health, but what can I do? My students will always bring in snacks like cookies, chocolate, or chips to share, and when I am stuck in class all day and don’t have time to get lunch, I will often eat these foods.”

Interpretation

All three women above experience difficulty in finding the time to exercise or eat a balanced diet due to their job situation. Ira and Carla both demonstrate that the need to work long hours and multiple jobs in order to support their families is a significant obstacle to doing physical activity. Ira, the sole supporter of her husband, must work all day just to make enough money to get by and support her family because her husband is ill. As a result, she must make more important aspects of her life such as her job and her husband larger priorities, leaving her with no time to exercise. This also causes her to snack on unhealthy foods because she often does not have time in her day to stop for lunch. Carla, burdened by having to act as a father figure by work multiple jobs, as well as act as the mother figure in her family by taking on the responsibility of doing all the household chores, has no time left to make exercise a priority either. When she is not at work she is cleaning the house, and in Brazil this is a demanding task for many women because they often wash their clothes by hand, mop the floors multiple times a week, or go to the supermarket every

other day. This highlights a connection with the increase in longer hours that is occurring here in Brazil as a result of the booming economy.[1] More women like Ira and Carla must go into the workforce in order to improve the standard of living for their families in order to have money for necessities such as education and healthcare, but this leaves no money or time to spend on working out. Consequently, has a negative impact on their health by increasing their obesity.

Furthermore, the impact of working longer hours and further away from home also has many consequences on diet as reflected in Lenise's situation. With the increase of processed snack foods like cookies and crackers, and the infiltration of companies such as Nestle, Ruffles, and Coca-Cola into developing countries such as Brazil,[9] people who are not able to return home for the traditional noontime meal are often forced to grab something on the go. In Lenise's case –as well as with the Ira, Sandra, and Sarah who mentioned eating processed foods as a result of being in a hurry-, the lack of control over her schedule and the odd hours that she has to work prevents her from eating a consistent, healthy diet and leads to snacking. The influence of time on Lenise's diet is in part a reflection of her socioeconomic situation because she must work under the control of someone else who decides her schedule, and she must work to support her parents who are retired. While lack of time is in part related to socioeconomic status since many of these women of lower and lower-middle income must work longer hours and further away from home in order to make enough money to support their families, it is important to recognize that these same factors may still affect those of the upper-middle class and the upper-class as well.

The influence of culture on diet

Personal Stories

All six women that were interviewed mentioned eating foods that are traditional to Brazil, particularly Bahia, in their daily meals. In the six interviews that I conducted, 5 women said that they eat rice, 5 women said they eat beans, 4 women said they eat red meat, and 5 women said they eat *farinha* on a daily basis. Additionally, bread and juice were consumed two or more times on a daily basis by 4 out of the 6 women. Although none of the women I interviewed consume *acarajé* and cake everyday, 3 out of the 6 women said that they eat *acarajé* "frequently," and 5 out of the 6 women referenced eating cake at least once during a normal week when I asked them about their diet.

In addition, all of the women that I interviewed said that they eat inside their homes more often than eating in a restaurant or on the street. Many women describe that the traditional foods they cook inside their homes have been a part of their diet since childhood. For example, when I asked Sarah what types of food she ate as a child, she said, "I ate normal foods. We always had rice, beans, farinha, and I ate lots of red meat everyday." Mel also mentioned the consistent presence that traditional Brazilian food have had in her life. She says, "The first time I tried feijoada was at my aunt's house when I was five. I loved it. After I tried it that first time I never went back." Furthermore, Lenise expressed her longstanding love for acarajé. She does not eat it often because "it is not good for my health and the oil hurts my stomach," but she said, "I could never give it up. It is tradition in Bahia."

Interpretation

While the influence of culture on diet is not a factor that is directly related to the socioeconomic situation of these women, this theme appeared a number of times in the descriptions each woman gave about their diet. The traditional Bahian foods they described eating as a child or that they still eat today seem to give them a sense of comfort and a connection to their culture. It is more than just a taste, but it is a memory, something that has been with them through childhood and is a part of who they are today.

Because the diets of all six women reflect a continuation of the consumption of these foods, this may be contributing to the obesity that they currently face because the traditional Brazilian diet is high in salt, fat, and sugar. Today, the mass consumption of red meat in Brazil, which is high in fat and salt, has contributed to a number of chronic diseases today such as hypertension, diabetes, and obesity.[14] In addition, sugar is widely used in Brazil because it is the world's largest sugar producing country, however the consumption of healthier foods such as vegetables remains low in the Brazilian diet.[9] Consequently, the continuation of these foods as an integral part of these women's diets presents a strong barrier to eating a more well-rounded diet and contributes to their obesity because they contain a high amount of salt, sugar, and fat.

Although the consumption of traditional Bahian foods seems to influence obesity, there seems to be a lack of influence from the implementation of fast foods and food from street vendors in Brazil. Only two of the interviewees mentioned eating

fried foods on the street such as acarajé, hamburgers, or hot dogs, and only one of these women mentioned eating these foods on a daily basis. Also, these two women conveyed that the main reason that they consume these foods is for preference, rather than price. Therefore, this indicates that people of lower socioeconomic status may be eating inside the home more and haven't been as exposed to fast foods or vendors, demonstrating a negative correlation between fast food and obesity among those of lower class despite the findings conveyed in existing studies. However, four out of the six women mentioned eating foods such as chips and cookies, so the consumption of these processed foods does appear to be increasing as a result of their price and convenience.

CONCLUSION

The aim of this study was to determine how socioeconomic status contributes to obesity among women of lower and lower-middle income. While I am not able to

conclude that there is a stronger presence of obesity among women of lower and lower-middle income compared to those of upper-income because I did not do a comparative study, I was able to determine how socioeconomic status influences obesity among women within this income group by investigating their dietary and exercise habits and by identifying the main barriers they face to eating healthy and exercising.

The six interviews conducted with lower and lower-middle income women who struggle with obesity presented results that indicate that socioeconomic status does contribute to obesity in a variety of ways. First, my interviewees described the high price of healthy foods as a reason for the absence of healthy foods as a part of their diet. All women described that fruits, whole-wheat products, and leaner protein such as fish and chicken were difficult to buy. Because these women struggle financially in all areas of their lives, they must allocate their money to more important areas such as their children's education and health. In addition, the high price of gyms in combination with the lack of ability to exercise outside due to the environment of the neighborhood also inhibits these women from exercising. There is little development of exercise spaces in these neighborhoods and the luxury of a gym membership is not a feasible option, so there is little opportunity for women of lower and lower-middle class to participate in physical activity. Furthermore, in order to support their families, many of these women have to work long hours or multiple jobs. This infringes on their time to workout and their ability to eat a controlled, healthy diet because they must work outside of the home while maintaining their responsibilities within home. Since spending time at work is a necessity for many of these women in order to provide for their families, they lack the option to exercise or eat at home, and as a result their health suffers. Finally, although this obstacle is not a result of their socioeconomic situation, the influence of the traditional Brazilian diet remains a strong part of the identity of many women of lower and lower-middle income, but it may have adverse affects on their health since it is high in fat, salt, and sugar and low in vegetable consumption. The maintenance of this traditional Brazilian diet combined with the increase and convenience of processed foods that some of these women mention eating influence the dietary habits of those of lower and lower-middle income, contributing to their obesity.

While the socioeconomic status of my interviewees does present barriers in terms of diet and exercise that contribute to their obesity, there are many other factors

that exist and influence obesity as well. I believe that it is important that these women have a voice in order to expose the barriers they face to leading a healthy lifestyle as a result of their race, education, living conditions, and financial situations, and I hope that by shedding light on these obstacles that this may lead to actions to improve the access these women have to resources to combat their obesity. Although discovering these socioeconomic barriers only highlights part of the reason that these women are obese, it is important to explore what other factors contribute to their obesity in order to improve their health.

RECOMMENDATIONS FOR FURTHER STUDY

While the focus of this study highlights how the socioeconomic barriers to leading a healthy lifestyle influence obesity within women who are of lower and lower-middle income, my foremost recommendation for further research would be to

conduct a comparative study among women of all socioeconomic statuses in order to prove that there is a strong, inverse association between socioeconomic status and obesity. Although my study shows that those of lower and lower-middle income experience barriers to eating healthy and exercising as a result of their socioeconomic situation, some of these barriers such as time, neighborhood insecurity, and the cost of healthy foods may also prevent those of upper-class from leading a healthier lifestyle. Also, since my study was just focused on socioeconomic status, another potential study could delve deeper into what other factors besides socioeconomic status contribute to obesity.

In addition, because I did find that the socioeconomic situation of these women contributes to their obesity, another interesting area for further research would be to analyze the affects that obesity has on the physical and mental well-being of women in Salvador. Since women are often more concerned with their weight in order to remain healthy or for aesthetic reasons, addressing the feelings women who are obese may have about their weight may help to give them a voice about their struggles.

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APPENDIX

Definition of Terms

- Acarajé- A fried dish made from black beans and dendê oil

- Farinha- A type of flour commonly used with beans and meat
- Feijoada- A stew made from beans and red meat
- Real- Brazilian currency
- BMI- Body mass index
- LMIC- Lower-middle income country
- GDP- Gross domestic product

Interview Template

SIT BRASIL: SAÚDE PÚBLICA, RAÇA, E DIREITOS HUMANOS

OBJETIVO: Determinar se há uma ligação entre o baixo nível socioeconômico e obesidade entre as mulheres afro-brasileiras. Se for assim, por que esta ligação existe?

I) QUESTÕES PRELIMINARES

1. Qual é a sua idade? _____
2. Qual é a sua raça? _____
3. Qual é o seu peso? _____ kg
4. Qual é a sua altura? _____ Centímetros

5. Você estudou ate que serie?

6. Quantas pessoas moram em sua casa?

7. Quantas pessoas trabalham em sua casa?

8. Qual é a sua renda familiar?
   a. Menos de um salario mínimo
   b. De um a dois salários mínimos
   c. De dois a três salários mínimos
   d. Acima de três salários mínimos

9. Você está...?
   a. Empregado b. Desempregado c. Dona de casa
   e. Estudante f. Aposentado

II) INFÂNCIA

1. Pode descrever sua infância para mim?
2. Quais tipos de comida você comeu quando era uma criança?
3. Fazia qualquer atividade fisica quando era uma criança?

III) ATIVIDADE FISICA

1. Você se exercita? Se sim, com qual frequência e quais atividades você faz? Se não, porque?
2. O preço das academias influencia a quantidade de atividade física você faz?
3. Você acha que seu bairro é seguro?
4. Você tem academias, parques, praças, ou lagos perto de sua casa?
5. Você acha que o seu trabalho e as atividades diárias impedem que você tenha tempo suficiente para exercitar-se?

IV) DIET

Ontem…

1. O que você comeu no café de manha?
2. Você faz lanche entre o café e almoço? O que você lanchou?
3. O que você comeu no almoço?
4. Depois do almoço, você comeu alguma coisa?
5. O que você comeu para o jantar?

6. Quantas vezes por semana você come fora de casa?
7. O que você se acredita ser uma dieta saudável?
8. Você acha que você tem uma dieta saudável? Se não, porque?

9. Você acha que o preço dos alimentos saudáveis impede que você tenha uma dieta equilibrada?

V) DIA-A-DIA

1. Que horas você acorda?
2. O que faz quando você acorda?
3. Que horas você sai para o trabalho?
4. Que horário você retorna?
5. Quando você chega em casa, o que você faz?
6. Que horas você vai dormir?

INTERVIEW

SIT BRAZIL: PUBLIC HEALTH, RACE, AND HUMAN RIGHTS

OBJECTIVE: To determine if there is a link between low socioeconomic status and obesity among Afro-Brazilian women. If so, why does this link exist?

I) PRELIMINARY QUESTIONS

1. What is your age? _____
2. What is your race? _____
3. What is your weight? _____ kilograms
4. What is your height?_____ centimeters

5. What grade did you study until?
   a. Never attended school or only attended kindergarten
   b. Grades 1 through 8 (Elementary)
   c. Grades 9 through 11 (Some high school)
   d. High school graduate
   e. College 1 year to 3 years (Some college or technical school)
   f. College 4 years or more (College graduate)

6. How many people are in your household?
   a. 1 b. 2 c. 3 d. 4 e. 5 f. 6 or more

7. How many people work in your household?
   a. 1 b. 2 c. 3 d. 4 e. 5 f. 6 or more

8. What is your monthly combined household income?
   a. Less than one minimum salary
   b. From one to two minimum salaries
   c. From two to three minimum salaries
   d. Above three minimum salaries

9. Are you currently…?
   a. Employed b. Unemployed c. A Homemaker
   d. A Student e. Retired

II) CHILDHOOD

1. Can you describe your childhood to me?
2. What types of food did you eat as a child?
3. Did you do any physical activity when you were a child?

III) PHYSICAL ACTIVITY

1. Do you exercise? If yes, how often and what activities do you do? If no, why not?
2. Does the price of the gyms influence the amount of physical activity you do?
4. Do you think your neighborhood is safe?
5. Do you have gyms, parks, squares, or lakes near your home?
6. Do you think your work and daily activities prevent you from having enough time to work out?

IV) DIET

Yesterday…

1. What did you eat for breakfast?
2. Did you snack between breakfast and lunch? What you did you eat for a snack?
3. What did you eat for lunch?
4. After lunch, did you eat something?
5. What did you eat for dinner?

6. How many times a week do you eat outside the house?
7. What do you believe is a healthy diet?
8. Do you think you have a healthy diet? If no, why?
9. Do you think that the price of healthy food prevents you from having a balanced diet?

V) DAY-TO-DAY

1. What time did you wake up?
2. What do you do upon waking?
3. What time do you leave for work?
4. What time you return?
5. When you come home, what do you do?
6. What time do you go to sleep?

Additional Questions

1. Could you have done this project in the USA? What data or sources were unique to the culture in which you did the project?

Yes. The influence of traditional Brazilian foods from the Afro-Brazilian culture on my results was unique to this study.

2. Could you have done any part of it in the USA? Would the results have been different? How?

Yes. There is a larger presence of fast food in the United States and the affordability of these types of foods would have produced different results because those of lower socioeconomic status eat fast foods much more frequently in the US.

3. Did the process of doing the ISP modify your learning style? How was this different from your previous style and approaches to learning?

Yes. I have never done a fieldwork project or written a paper based on my own research before. I feel that it has made me much more observant and that I am better equipped to apply what I am learning to a larger social context.

4. How much of the final monograph is primary data? How much is from secondary sources?

I have six resources of primary data and sixteen secondary sources, however due to limitations I had to get rid of four primary resources I had originally collected.

5. What criteria did you use to evaluate your data for inclusion in the final monograph? Or how did you decide to exclude certain data?

I excluded certain data if it did not fit in with my research question. For example, the four interviews I excluded were left out because my target population was obese women of lower socioeconomic status and I ended up with people of higher socioeconomic status unintentionally.

6. How did the "drop-off's" or field exercises contribute to the process and completion of the ISP?

They helped to make me feel more comfortable getting around Salvador by bus, they helped me to improve my Portuguese, and they helped me to analyze the observations and experiences I had in a critical manner.

7. What part of the RME most significantly influenced the ISP process?

The RME was not particularly helpful, but it did help me to think about the best method of research for my project in particular and about possible issues that might arise such as cultural differences.

8. What were the principal problems you encountered while doing the ISP? Were you able to resolve these and how?

- The main problem I faced was in getting interview contacts. As I mentioned above, I had originally sought out to only interview people of lower SES, however it can be difficult to predict someone's income sometimes so the

people I was set up with to interview were not all of lower SES. I resolved this by eliminating interviews from those of upper income and instead of only looking at low-income people I looked at lower-middle income individuals as well because they face many of the same difficulties.

- I also experienced difficulties communicating with some of my interviewees because of my Portuguese, especially with setting up interviews over the phone. I resolved this by using WhatsApp to message many of my interviewees or I asked a friend who spoke better Portuguese to help me to understand the interviewee over the phone.

9. Did you experience any time constraints? How could these have been resolved?

Yes. I was not able to set up the majority of my interviews until the second half of the second week. This issue could have been resolved if I would have been able to set up interviews the week prior to starting the ISP.

10. Did your original topic change and evolved as you discovered or did not discover new and different resources? Did the resources available modify or determine the topic?

Yes. I changed my target population to those of lower and lower-middle income instead of just looking at people of lower SES due to the participants I was able to get.

11. How did you go about finding resources: institutions, interviewees, publications, etc?

I found most of my interviewees through my advisor.

12. What method(s) did you use? How did you decide to use such method(s)?

Originally I was going to use surveys and interviews, however I decided not to use surveys because it was too difficult to correlate BMI, socioeconomic status, and health habits, and I thought that the interviews would give me a deeper understanding about the main barriers my participants face to combating their obesity.

13. Comment on your relations with your advisor: indispensable? Occasionally helpful? Not very helpful? At what point was he/she most helpful? Were there cultural differences, which influenced your relationship? A different understanding of educational processes and goals? Was working with the advisor instructional?

My advisor was helpful. Although we had difficulties with finding times to meet, she was helpful with giving me interview contacts and helping to set up interviews when I could not communicate well enough over the phone in Portuguese. She was most helpful in the beginning with helping me with my methodology and giving me possible ideas of places to go/people to interview for my project. There were no cultural differences because she spoke English.

14. Did you reach any dead ends? Hypotheses which turned out to be not

useful? Interviews or visits that had no application?

Four interviews had no application as I mentioned above. Originally I thought that my hypothesis was not going to be supported but after gaining more interviews and eliminating the interviews of those of the upper class I was able to find data that supported my hypothesis.

15. What insights did you gain into the culture as a result of doing the ISP, which you might not otherwise have gained?

The main insight that I gained is that tradition and culture in terms of diet is very important to the people in Brazil. Many of my participants still value and eat foods traditional to Brazil despite the influx of fast food companies.

16. Did the ISP process assist your adjustment to the culture? Integration?

Yes. I feel much more comfortable using my Portuguese to communicate effectively to explain who I am and my goals.

17. What were the principal lessons you learned from the ISP process?

The main lessons that I learned are to plan ahead, to take initiative and issues into my own hands, and the importance of building a connection with people in order to create trust and an open environment.

18. If you met a future student who wanted to do this same project, what would be your recommendations to him/her?

My recommendations would be to plan ahead, to set up interviews as early as possible, and to understand that you cannot predict all of the issues that may arise.

19. Given what you know now, would you undertake this, or a similar project again?

Yes. I would have probably changed my methodology back to surveys to get a larger sample size if I were to undertake this project again. I also would have changed my question to do a comparative study to look at the dietary and exercise habits of people of lower and higher SES, instead of just looking at the ways in which SES plays a role in obesity.