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A comparative study on Mental Health Knowledge Based on Socioeconomic Status in Kisumu Kenya 2019

Mashoud Kaba
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**A comparative study on Mental Health Knowledge Based on Socioeconomic Status in
Kisumu Kenya 2019**

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Fall 2019

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Abstract

Studies show that people who live in rural Kenya have more positive attitudes toward mental illnesses than people in urban areas. They also had more mental health knowledge. One of the differentiating factors between the two environments is the socioeconomic status of those who live in each area. People in rural areas tend to be of lower socioeconomic status, while those living in urban areas tend to be of a higher socioeconomic status. I wanted to see if the previous findings would be observed if we were looking at people in the same area (strictly urban or rural) with the only difference being the income level. I found that there was no significant difference in stigma, satisfaction and knowledge scores between low and high SES participants. Despite this, there were differences in how each group defined mental illness. Further research needs to be conducted with a better study design to find more concrete results.

Keywords: Mental health knowledge, SES, Socio-Economic Status and Mental Health

Introduction & Background

Mental health knowledge is an important research topic that should be delved into. Living in the U.S, there is a stereotype that people who live in African countries are ignorant when it comes to the topic of mental health. Often, when mental health is discussed in the African context, we speak on it based on the idea that it is a taboo and people who suffer from mental illness are shunned from society. We never discuss how much people in African countries know about mental illnesses and do not question if our view of their “ignorance” is based on our western idea of what mental illnesses are while ignoring the cultural context of how mental health is talked about. Unfortunately, I have also played a role in believing this narrative. That is why for my research, I wanted to focus on mental health knowledge. In the beginning stages of my research, I read several papers looking at mental health knowledge based on geographical location. Most of these studies focused on the difference in mental health knowledge between people living in rural versus urban areas. In one study, they found that people in rural areas had more positive opinions about mental health disorders than people in urban areas (Mutiso, Musyimi, Tomita, et al., 2018). The explanation for this difference was that people in rural areas were targeted by mental health advocacy groups because of the poverty rate. They believed that people in the rural areas were more in need of mental health education and because of this, by the time the study was performed, people in rural areas had more information on mental illnesses. This result was found in many other studies, and it made me wonder if this same difference would be observed if we look at samples from the same area (strictly urban or strictly rural) with the only difference being income level. The experiment performed in this paper looked at mental health knowledge differences based on socioeconomic status (SES).

According to the 2016 World Health Organization (WHO) report, 9% of people with depression and 10% of people with anxiety were from the African region. Furthermore, approximately 4.4% of Kenya’s population (1,952,981 people) suffered from depression in 2015, and 3.1% (1,375,341 people) suffered from anxiety. Out of all African countries in the data, Kenya ranked 6th (out of 54) for depression. First was Djibouti with a 5.1% rate of depression, second came Cape Verde and Tunisia at 4.9%, third was Lesotho with 4.8%, fourth were Ethiopia and Botswana with 4.7%, fifth was Algeria with 4.5% and finally, sixth place, we had Kenya, Comoros, Madagascar, Mauritius, Namibia, South Sudan at a 4.4% prevalence rate. The

report also indicated that in Kenya, men are the most affected by depression which goes undiagnosed because most people have no clue what to look for as symptoms (WHO, 2016).

Despite men being the most affected by depression, studies show that they are looked at more negatively than women with depression. There was a cross-sectional investigational study looking at the patterns of mental illness and stigma related to them in community households for 846 participants. The study was conducted in health facilities around Kangemi (an urban slum) and Kibwezi (a rural area). All participants were chosen by their age and their ability to speak English or Swahili (the oldest in the household who could speak either language was chosen for the study). The participants were interviewed using questions from the OMICC (Opinion about Mental illness in Chinese Community) questionnaire, and MINI (International Neuropsychiatric Interview). The results of the study showed that the prevalence of mental illness was 45%, with differences between the genders. They also found that people in rural areas had more positive opinions about mental health disorders than people in urban areas. Women with mental illness were also viewed more positively in both rural and urban settings compared to men with mental illness (Mutiso, Musyimi, Tomita, et al., 2018).

To learn more about mental health knowledge in rural areas, more specifically rural Kisumu, Kenya, a study was performed by The University of British Columbia's Global Health Initiative in collaboration with a local NGO, Kenya Partners in Community Transformation. The study involved five focus groups in three rural communities in Kisumu. The demographics were divided into men, women (subdivided into the area of origin: Kit Mikayi, Kaila and Kajulu Koker), and community health workers. In total there were 104 participants, all between the age of 18 to 50, broken down to 54 women, 14 men and 36 community health workers. During the focus groups, participants were given the definition of different mental health disorders (i.e major depressive disorder) as defined by the Diagnostic and Statistical Manual of Mental Health 5th Edition (DSM5). At the end of the sessions, participants were surveyed about their attitudes and knowledge related to mental health. Results showed that although participants showed signs of understanding mental health and mental illness as defined by the DSM5, they also held the stigmatized ideas observed in their community. When it came to suggesting treatments for mental health illnesses, participants mostly suggested treatments involving spiritual and cultural practices. Even the Community Health Workers did not identify themselves as a resource for

people with mental health disorders and held the same negative perceptions as non-health professionals in the study. The study also showed that there were barriers to accessing mental healthcare in the areas where the study took place. These barriers included stigma, long-distance to care centers and financial strains.

Community Health Workers holding the same stigma as normal community members shows a failure in the health system to educate their workers. It becomes even more of a problem when they don't see themselves as a resource for those who need mental health related assistance. A study conducted in rural Kenya assessed the level of stigma against mental disorders from health workers. Stigma-related mental health attitudes between primary health workers and community health volunteers were compared. The study was composed of 44 primary health workers and 60 community health volunteers for a total of 104 participants. For data collection, participants completed the self-report Mental Health Knowledge Schedule and the Reported and Intended Behavior Scale, along with sociodemographic questions. Results showed that Health workers had significantly higher mean mental health knowledge scores and positive attitudes towards mental health than community health volunteers. This suggests that stigma-related mental health knowledge and attitudes were positively correlated. The authors of the paper suggest that mental health stigma should be targeted using methods that increased knowledge about mental illness.

In fact, there have been methods that were proven to be effective for increasing mental health literacy. In a study called *Changing Patterns of Mental Health Knowledge in Rural Kenya After Intervention Using the WHO mhGAP-Intervention Guide*, the authors tested whether the WHO mhGAP-Intervention Guide could be used as an educational tool to increase literacy on mental illnesses. The study was performed in 20 health facilities in Makeni county, a place with no psychiatrist or clinical psychologists. There was a total of 3267 participants, all of whom had used the community mental health service available. The researchers tracked the patterns of mental health knowledge after 3 months of training using the Mental Health Knowledge Schedule. Data showed that there was a significant increase in mental health-related knowledge after 3 months. Suggesting that the mhGAP-Intervention Guide was an adequate tool for increasing mental health literacy in places where the literacy might not be as high.

Justification

Studies from the past have shown us that there is a difference between how mental illness is viewed in a rural area versus an urban area. In both areas, there was a lack of adequate resources for mental health disorders. However, there were more negative attitudes towards mental health disorders in urban areas compared to the rural areas. This difference could've been due to efforts to increase mental health literacy in rural areas, with the assumption that the urban areas were already adequate in providing help. Therefore, the urban areas were overlooked leading to a widening gap in knowledge. This made me wonder if the same can be seen in people of different socioeconomic status. Do people who have more resources (money, access to education and private healthcare, ect.), higher SES, know more about mental health, or is it the opposite where people of lower SES know more about mental health? If there is a difference, then what are the possible reasons for the differences?

One of the differentiating factors between the two environments is the socioeconomic status of those who live in each area. People in the rural area tend to be of lower socioeconomic status, while those living in the urban areas tend to be of a higher socioeconomic status. In this experiment, I created a survey that was used to examine if the difference in mental health knowledge observed in urban and rural areas could be observed in people from the same area, with the only difference being the socioeconomic status. The study was conducted in Kisumu City, Kenya. Due to the findings from the previous studies it was hypothesized that people of low socioeconomic status will have a better overall understanding of mental health issues and lower stigma scores, compared to participants of a higher socio-economic status. With the null hypothesis stating there will be no difference in mental health knowledge based on socioeconomic status.

Objective

To learn about how mental health is talked about between the different socioeconomic stratifications/classes in Kenya. If there are any differences, I plan to delve deeper into why this difference is present. I will also talk about the social implications of the results and what they mean in terms of mental health resource development in the country.

Method

Ethical Concerns

Since most participants in the study were patients at Kisumu county hospital, I put great care to keep their personal information anonymous. There were no self-identifying questions asked, other than demographic questions (age, profession, & income level). Patients were asked for their consent for every step of the research. The consent forms were also made available in both English and Swahili so that participants knew and understood exactly what they are signing up for. For those who couldn't read, they were read consent form out loud I also had a translator to help with anyone who might not fully understand the study or its purpose. At the beginning and end of each interview, participants were told that they could pull out of the study at any point if they wished to not continue. To ensure that there are no differences in data collection, the questions were all asked the same way, by me.

Participants

For this study, we had 30 participants in total. Out of the 30, eight of the data sets were thrown out bringing the total number of participants down to 22 people. There was a total of 10 high SES (socio-economic status) and 12 low SES participants. The average age was 28 years old, with the oldest person interviewed being 60 years old and the youngest, 19 years old. Data was collected through convenient sampling. I was mainly stationed at Kisumu county hospital Ward 8. Participants were recruited from the surrounding hospital wards and were not screened for anything prior to the survey. There was no compensation for the study and there were no exclusionary criteria. However, 8 data sets were thrown out due to several reasons: incomplete data, the interview was completed before the finalized version, and the participant had no idea what they were being asked during the interview (before a translator was available).

Design

The study was a within-subject design, with all the participants being interviewed using the exact same questions, in the exact same order. The dependent variable was how the participants answered the questions.

Procedure

Participants were recruited from the Kisumu County Hospital. Most were approached by myself and a translator who would help me translate from Swahili and Luo to English. All participants were asked for consent before any survey took place. For the study, I prepared 2 consent forms, one in English and another in Swahili, to ensure everyone could understand what they were taking a part of. After the first 2 interviews, I switched over to receiving oral consents which were consecutively recorded using a voice recording machine after they had consented to being recorded. The reason for this switch was because people appeared to be very hesitant when they were asked to sign a piece of paper. They consented orally to participate in the survey but showed doubts once they saw the consent form. Also, a lot of the people interviewed were illiterate and had a hard time reading the full consent form. Instead, I chose to read the consent form for batum, out loud. I also ensured that the participants knew that they could pull out of the study at any point and time if they felt uncomfortable and no longer wished to participate in the study. Participants were interviewed using prespecified questions (10 free answers & 9 scaled statements). The interview was structured with all the participants being asked the exact same questions in the same order. Answers were recorded using a voice recording tool (with consent). The recorded interview was then transcribed. Interview questions were about three mental illnesses: depression, anxiety, and schizophrenia. Participants were asked to define the mental illnesses, list the symptoms and causes for each mental illness.

Questions

1. What is mental illness?
2. What is Depression?
 - a. What do you think are the symptoms of depression?
 - b. What do you think causes depression?
3. What is anxiety?
 - a. What do you think are the symptoms of anxiety?
 - b. What do you think causes anxiety?
4. What is schizophrenia?
 - a. What do you think are the symptoms of schizophrenia?
 - b. What do you think causes schizophrenia?

In the second part of the survey, participants were asked to rate their agreement with 9 statements on the scale of 1, *strongly disagree* to 5, *strongly agree*. During the data analysis, the agreement ratings were separated into 2 groups: group 1 which was the low income and group 2 which was the high-income group. The grouping was decided using the mean monthly income level (\$97). Anyone above the mean income level was pinpointed as high income and those below were pinpointed as low income. Using these group distinctions, the average rating for each statement was recorded. These averages were then used in a statistical welch's test to determine if the differences in the responses were statically significant at a $p < .05$.

Statements

Rate your agreement to these statements on a scale of 1 to 5:

- 1 – *strongly disagree*
- 2 – *slightly disagree*
- 3 – *neutral*
- 4 – *slightly agree*
- 5 – *strongly agree*

1. It is important to learn about mental illnesses -

2. It is important to have resources for people with mental illness -

3. Mental illness is a public health problem –

4. There is a strong stigma against mental illness

5. There are enough resources for people with mental illness

6. The Kenyan government is doing enough to support mental health initiatives

7. Mental illness cannot be prevented

8. Mental illness is caused by a curse

9. Mental illness cannot be treated in the hospital

Note: Some statements were pinpointed for rating stigma level (green), satisfaction (blue) and knowledge (yellow).

Results

Statistical

After all the rating scores were combined and compared, an independent samples T-Test was performed. For the calculations in this study, Welch's t-test was used rather than a student t-test because Levene's test was significant ($p < .05$), which meant the scores violated the equal variance assumption. The t-test did not show any significant differences in agreement ratings

between the low SES and high SES groups (Table 1). Only statement 4, “*There is a strong stigma against mental illness*”, came close to having a significant difference in agreement rating. As we can observe from Table 2, the average agreement score for group 1 (low SES) was 4.167 and the average agreement score for group 2 (high SES) was 4.9. A difference that shows that on average low SES tended to simply agree with the statement while high SES strongly agreed. This difference was not big enough to be significant, however. This data shows that there is no significant difference in stigma, satisfaction and knowledge rating between the low and high SES groups.

Independent Samples T-Test

	t	df	p
Question1	NaN	^a	
Question2	-1.137	14.12	0.274
Question3	-0.966	19.99	0.346
Question4	-2.044	12.82	0.062
Question5	1.151	19.75	0.263
Question6	0.618	18.92	0.544
Question7	-0.696	18.16	0.495
Question8	0.000	18.88	1.000
Question9	1.440	16.37	0.169

Table 1. Note. Welch's t-test.

^a Variance = 0 in Question1 after grouping on Income (1-low 2-High)

Group Descriptive

	Group	N	Mean	SD	SE
Question1	1	12	4.833	0.577	0.167
	2	10	5.000	0.000	0.000
Question2	1	12	4.583	0.900	0.260
	2	10	4.900	0.316	0.100
Question3	1	12	3.917	1.564	0.452
	2	10	4.500	1.269	0.401
Question4	1	12	4.167	1.193	0.345
	2	10	4.900	0.316	0.100
Question5	1	12	2.250	1.288	0.372
	2	10	1.700	0.949	0.300
Question6	1	12	2.750	1.288	0.372
	2	10	2.400	1.350	0.427
Question7	1	12	1.917	1.505	0.434
	2	10	2.400	1.713	0.542
Question8	1	12	2.000	1.414	0.408
	2	10	2.000	1.491	0.471
Question9	1	12	2.333	1.775	0.512
	2	10	1.500	0.850	0.269

Table 2

In-Depth Question Analysis

10 statement style questions were asked during the interview. All the answers given were recorded. For this section of the paper, I will be analyzing the answers to each question, and using the information to build a conclusive answer to whether there is a difference in knowledge between the income levels. For the purpose of differentiating answers, the low SES answers have been written in black while the answers from participants who were pinpointed as high SES was written in brown.

What is mental illness?

1. *“Illness which I have. Headaches”*
2. *“Urine”*
3. *“Mental impairers, having problem with reasoning, sense are not in order”*
4. *“A curse”*
5. *“A problem that effects psychology of a person”*
6. *“A disease, a brain disease”*
7. *“The brain is not functioning the way it is supposed to”*
8. *“The normal function is stopped”*
9. *“Inborn, a curse, pass behavior, someone is orphaned and left under the care of a restrictive person (taking drugs)”*
10. *“Any kind of differences that causes abnormal functioning of the mind”*
11. *“The state of mind where a person may live in a state that is not standard”*
12. *“Disease that involves the brain”*
13. *“Someone who is not 100% there”*
14. *“A brain disorder”*
15. *“Abnormal behavior”*
16. *“A condition where someone is unable to reason well”*
17. *“Psychiatric cases”*
18. *“Deals with the mind”*
19. *“A person is suffering from brain problem”*

19 out of 22 of the participants were able to give a definition for mental illness. 9 out of 10 high SES participants answered while 10 out of 12 low SES participants gave an answer. Based on these answers, people of high SES always mentioned the mind or brain in their answers. They had a more scientific definition for the term. People of low SES were more likely to use their own personal experience to describe the word. One person defined mental illness as “an illness which I have” and another who used “Urine” defined it as such because his mental illness was triggered by a death of a loved one, and he remembers peeing on himself when he heard the news. Low SES participants also had more diversity in their answers, their definition ranged from mental illness being a curse, to brain problems.

What is depression?

1. *“Comes when someone has worked so hard but [has] no money. You lost your job.”*
2. *“When you have problems at home”*
3. *“Prolonged stress”*
4. *“State of being/feeling low”*
5. *“stress”*
6. *“Someone who is stressed out”*
7. *“When the mood is low, you don’t have friends, isolating yourself”*
8. *“One feels like they’ve been subjected, low moment, too much stress”*
9. *“A state of being stressed”*
10. *“Stress”*
11. *“When someone has stress which leads to depression and mental/psychiatry case”*
12. *“Mentally disturbed due to stress leading to depression”*
13. *“Stress, you can’t control”*

13 of 22 participants attempted to answer this question. 8 out of 10 high SES participants and 5 out of 12 low SES participants attempted to answer. All participants, no matter their income level, defined depression as being related to stress. As with the previous question, there is a pattern where low SES participants used personal experiences to build definitions. They had more scenario-based definitions than the high SES participants who were more defined in their answers.

What do you think are symptoms of depression?

1. *“Headache, fever, staring, trembling.”*
2. *“Death, shocked, feeling on the leg go up (as if there is hot water on the leg), urinate, extended bladder, lack of fund, sad”*
3. *“Stress”*
4. *“Tiredness”*
5. *“Suicidal thoughts to the extreme, loneliness”*
6. *“Low moods, poor socialization skills, keep quiet a lot, detached from society, complaining, giving up, suicidal”*
7. *“Someone speaking to themselves, isolation”*

8. "Isolation, mood swings"
9. "Withdrawal, loss of weight, isolation, suicidal ideation"
10. "Headache, sleepy"
11. "Lack of job, isolation from others"
12. "Talking alone, taking life, taking drugs (drugs), wild, [will] stab you with a knife"
13. "Severe headache, loss or increased appetite, arrogant"
14. "Walking talking, crying, trying to commit suicide"

14 of 22 participants attempted to answer this question. 8 out of 10 high SES and 6 out of 12 low SES participants attempted to answer. There was a diversity of answers about symptoms of depression. Many defined the symptoms as isolation and suicidal thoughts. The high SES participants had more answers that were in tune with the DSM-5 description of symptoms. Such as sleepiness, headaches, weight changes. The low SES participants also had a good grasp on the symptoms for depression, but less of them answered the question and of those who answered, their symptoms were more active descriptions and were stated in the present tense, such as "Walking talking, crying, trying to commit suicide" and "staring, trembling".

DSM-5 Symptoms (Cagliostro, 2019)

- Persistent feelings of sadness, hopelessness, worthlessness, or emptiness
- Irritability, frustration, or restlessness
- Loss of interest in activities or hobbies that used to be enjoyable
- Difficulty sleeping, sleep disturbances or sleeping too much
- Fatigue and lack of energy
- Difficulty thinking clearly, remembering, concentrating, or making decisions
- Appetite or weight changes
- Recurrent thoughts of death or suicide
- Physical symptoms such as headaches, stomachaches, or back pain

What do you think causes depression?

1. "Carelessness, misunderstanding, job loss"
2. "Shock"
3. "Stress"

4. *“Death of a loved one, sickness”*
5. *“Family problems, sickness, loss of a loved one”*
6. *“Social, economic”*
7. *“Stress”*
8. *“Drug use, mood swings, [being] dependent on something”*
9. *“Work related, social aspects, medical based, economic”*
10. *“Overthinking, losing someone you know, lack of employment, no cash”*
11. *“Lack of job”*
12. *“Lack of counseling, shocking news (having HIV)”*
13. *“Stress, lack of money and job”*
14. *“Depends, comes from message you receive (negative), hopelessness”*

14 of 22 participants attempted to answer this question. 8 out of 10 high SES and 6 out of 12 low SES participants attempted to answer. All participants gave plausible causes for depression.

What is anxiety?

1. *“Like a depression”*
2. *“Overthinking”*
3. *“State of being nervous”*
4. *“Being anxious”*
5. *“[when you] Long for something”*
6. *“When you are anxious, sensitive”*
7. *“Urge or feeling towards achieving something”*
8. *“Curiosity over something”*
9. *“Shocking news or exciting news”*
10. *“The state when someone becomes overexcited, or given shocking news”*
11. *“Positive feeling”*

11 of 22 participants attempted to answer this question. 7 out of 10 high SES and 4 out of 12 low SES participants attempted to answer. Participants most often defined anxiety as a longing to achieve something and being anxious over the unperceived future. There were no differences in the answer type, but the people high SES group had more consistent answers than the low SES group.

What do you think are symptoms of anxiety?

1. *“Headache, trembling, falling over”*
2. *“Being anxious”*
3. *“Tiredness”*
4. *“temperamental”*
5. *“Restlessness”*
6. *“Hyperaware of environment around them”*
7. *“overthinking”*
8. *“Expecting people and they don’t arrive on time (maybe they were involved in accident)”*
9. *“Overexcitement, over expectation, discouraged if they don’t achieve what they want”*
10. *“Having periods, being scared of staining”*
11. *“Restlessness”*
12. *“Somebody smiling, happy, active”*

12 of 22 participants attempted to answer this question. 7 out of 10 high SES and 5 out of 12 low SES participants attempted to answer. Low SES participants had more of a narrative like answer for their definition and they always provided examples. The high SES participants were more likely to list their answers, their symptoms were also more similar to those in the DSM-5, such as “restlessness”, “temperamental”, and “tiredness”.

DSM-5 Symptoms (NCBI, 2016)

- Restlessness or feeling keyed up or on edge
- Being easily fatigued
- Difficulty concentrating or mind going blank
- Irritability
- Muscle tension
- Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)

What do you think causes anxiety?

1. *“Come to the office to find out you have been fired”*
 - a. *“Someone comes [to inform] for death, how it has occurred? no reason”*
2. *“Being lazy, overreactions”*

3. *“financial instability”*
4. *“[being] Unsure about what is expected”*
5. *“Pressure from life, trying to achieve a goal that you can’t”*
6. *“You are waiting for something and doesn’t come”*
7. *“State of mind, anything that interferes with the state of mind.”*
8. *“overthinking”*
9. *“Personal desires, getting something but not being able to achieve it, influence of others in the same position, exposure”*
10. *“Health condition”*
11. *“Depends on the message, how the situation is, a good message”*

11 of 22 participants attempted to answer this question. 6 out of 10 high SES and 5 out of 12 low SES participants attempted to answer. All the answers but one (number 11) were feasible reasons for anxiety. Looking at the answers, we can see that low SES participants used real life examples to define causes: “health condition” and “come to the office to find out you have been fired”. High SES participants used unknown theoretical situations, that were in the unforeseen future: “you are waiting for something and doesn’t come”, “unsure what to expect” and “getting something but not being able achieve it”.

What is schizophrenia?

1. *“Mental condition that presents with hallucinations”*
2. *“Encountered an accident, comes back to the mind” Note: was describing PTSD*
3. *“When someone is talking to themselves”*

3 of 22 participants attempted to answer this question. 2 out of 10 high SES and 1 out of 12 low SES participants attempted to answer. There is no difference in how schizophrenia is defined.

What do you think are symptoms of schizophrenia?

1. *“Hallucinations, lack of drive”*
2. *“Talking alone, seeing things that do not exist, violent”*

2 of 22 participants attempted to answer this question. 1 out of 10 high SES and 1 out of 12 low SES participants attempted to answer. Both participants gave answers that fit at least one symptom of schizophrenia as described by the DSM-5 (Cagliostro, 2019).

What do you think causes schizophrenia?

1. *“Increased dopamine levels”*
2. *“Drug abuse – overuse the same drug to get the same result”*
3. *“Curse, drug abuse, desperation”*

3 of 22 participants attempted to answer this question. 1 out of 10 high SES and 2 out of 12 low SES participants attempted to answer. The high-income participant gave a more scientific answer, than the low SES participants.

Discussion

It was hypothesized that people of low SES will have a better overall understanding of mental health issues and lower stigma scores than their high-income counterparts. This hypothesis is supported by multiple studies looking at mental health knowledge in rural (typically lower SES) and urban (typically higher SES) Kenya. These studies found that people living in rural areas had better mental health literacy rates and lower stigma scores than people living in urban areas. The results of this study do not support this hypothesis. After Welch’s t-test, I found that there was no statistically significant difference in the agreement rating given to statements that were pinpointed for judging stigma, and knowledge about mental health. Due to these results, I am rejecting the alternative hypothesis and accepting the null hypothesis.

Statistics wise, there is no difference between high SES and low SES participants in their answers. Further analysis was performed using the free answer questions asked at the beginning of the study. These questions were straight forward and measured the participants’ knowledge of depression, anxiety, and schizophrenia. The results show that overall more participants had knowledge about depression, followed by anxiety then schizophrenia. Overall, high SES participants answered questions at a higher rate than the low SES participants. This is despite there being more low SES participants in the study. Looking through the answers, I noticed a pattern with all the answers. Overall, the low SES participants defined mental health terms using personal experiences. For example, the participant who defined mental illness as urine. This was

a common trend for every question in the study. They had knowledge of the mental illness, but the way they talked about it wasn't through the western defined terms. If I were to take their answers at face value, it would seem like they had misinterpreted the questions, but when they were left to explain themselves, I understood that they were using what they went through (or others around them) to define the term. High SES participants, on the other hand, gave more scientific definitions for the terms. They had a higher accuracy rate when describing the symptoms of depression and anxiety. One final difference can be observed by how the terms are defined. The low SES participants used narratives and real-life situations to define terms, while the high SES participants spoke in a list like manner and were more likely to talk in indefinite terms or scenarios. If we were using a western scale to judge knowledge, then the high SES participants will appear more knowledgeable than the low SES participants. They spoke in a more scientific manner and answered more questions. This result is the opposite of what was hypothesized at the beginning of the study. In my results, high SES participants have a higher mental health literacy rate than low SES participants. This result could be skewed, however. 4 of the high SES participants were healthcare workers at the hospital, which could have affected the data. This might not make a big difference, since 3 of the low SES participants were nursing students who were interning at the hospital.

Future Recommendations

The study had some interesting results. For the future, I would recommend a replication at a bigger scale for better and more concrete results. The current design did not account for multiple things that could have affected the results of the study. A better study design accounting for education level, sample size, language barriers, and sample variance would have more accurate answers. For example, education level was not included as a factor. I didn't realize the importance of looking at the education level until I was interviewing a nursing student who made \$0 (Low SES) but knew a lot about mental health due to his area of studies. There was also a problem with the sample size. Due to the small number of participants, there was no equal variance in answers, leading to me having to use a Welch Test. The sampling method also needs to be changed. I used a convenient sampling for this study, lowering the external validity of the study. The patients and providers at Kisumu County Hospital do not represent the

whole population and by only interviewing them, I constricted the results to the small pool of people who visit Kisumu County Hospital.

Appendix 1

Survey Questions

Introduction: Hello, for this study you will just need to answer a couple of questions. There is no right or wrong answers.

Demographic:

Age –

Profession –

How much do you make a month?

- 0-5,000
- 6,000 – 10,000
- 10,000 – 15,000
- 16,000 – 20,000
- 21,000 – 25,000
- 26,000 – 30,000
- more 150-200

Questions

1. What is mental illness?
2. What is Depression?
 - a. What do you think are the symptoms of depression?
 - b. What do you think causes depression?
3. What is anxiety?
 - a. What do you think are the symptoms of anxiety?
 - b. What do you think causes anxiety?
4. What is schizophrenia?
 - a. What do you think are the symptoms of depression?
 - b. What do you think cases schizophrenia?

Scale Questions:

On the scale of 1 to 5:

- 1 – *strongly disagree*
- 2 – *slightly disagree*
- 3 – *neutral*
- 4 – *slightly agree*
- 5 – *strongly agree*

10. It is important to learn about mental illnesses

11. It is important to have resources for people with mental illness

12. Mental illness is a public health problem

13. There is a strong stigma against mental illness

14. There are enough resources for people with mental illness

15. The Kenyan government is doing enough to support mental health initiatives

16. Mental illness cannot be prevented

17. Mental illness is caused by a curse

18. Mental illness cannot be treated in the hospital

Appendix 2

Participant Informed Consent Form

Title of the Study: A comparative study on Mental Health Knowledge Based on Socioeconomic Status in Kisumu Kenya 2019

Researcher Name: Mashoud Kaba

My name is Mashoud Kaba I am a student with the SIT Kenya program.

I would like to invite you to participate in a study I am conducting as part of the SIT Study Abroad program in Kenya. Your participation is voluntary. Please read the information below, and ask questions about anything you do not understand, before deciding whether to participate. If you decide to participate, you will be asked to sign this form and you will be given a copy of this form.

PURPOSE OF THE STUDY

The purpose of this study is to learn about how mental health is talked about between the different socioeconomic classes in Kenya. If there are any differences, I plan to delve deeper into why this difference is present. The results of the study will help us understand the social implications of the results and what they mean in terms of mental health resource development in the country.

STUDY PROCEDURES

Your participation will consist of being interviewed and will require approximately 15 minutes of your time. You will be asked a series of questions, all of them on different mental illnesses. Your response will be audio recorded and scribed. The recording will solely be used for scribing purposes. Everything shared or talked about on the tapes will be kept confidential and will have no identifying information. If you do not wish to be audio recorded, please inform us and we will conduct the interview without recording.

POTENTIAL RISKS AND DISCOMFORTS

There are no foreseeable risks to participating in this study and no penalties should you choose not to participate; participation is voluntary. During the interview you have the right not to answer any questions or to discontinue participation at any time.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

There will be no benefits to participants for participating in this study.

CONFIDENTIALITY

Any identifiable information obtained in connection with this study will remain confidential. I will keep the data on a password locked computer, and all the voice recordings will solely be used for transcription purposes. At the conclusion of the research project and after interviews are transcribed, the files will be deleted. No identifying questions will be asked during the interview process

When the results of the research are published or discussed in conferences, no identifiable information will be used. Only demographic questions will be used.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

“I have read the above and I understand its contents and I agree to participate in the study. I acknowledge that I am 18 years of age or older.”

Participant's signature _____ *Date* _____

Researcher's signature _____ *Date* _____

“I give my consent to be recorded and to allow that the recording be used in conference (classroom) presentation.”

Initial one of the following to indicate your choice:

_____ (initial) I agree to...

_____ (initial) I do not agree to...

RESEARCHER'S CONTACT INFORMATION

If you have any questions or want to get more information about this study, please contact me at mashoudkaba@gmail.com or my advisor at

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

In an endeavor to uphold the ethical standards of all SIT proposals, this study has been reviewed and approved by an SIT Study Abroad Local Review Board or SIT Institutional Review Board. If you have questions, concerns, or complaints about your rights as a research participant or the research in general and are unable to contact the researcher please contact the Institutional Review Board at:

School for International Training

Institutional Review Board

1 Kipling Road, PO Box 676

Brattleboro, VT 05302-0676 USA

irb@sit.edu

802-258-3132

Appendix 3

Consent Form Swahili

FOMU YA IDHINI YA MSHIRIKI

Kichwa cha uchunguzi: Ulinganishi wa uchunguzi kuhusu maarifa ya afya ya kiakili kwa msingi wa hali ya kiuchumi katika kisumu kenya 2019.

Jina la mtafiti: Mashoud kaba.

Jina langu ni mashoud kaba na mimi ni mwanafunzi wa SIT Kenya program.

Ningependa kukualika ushiriki katika uchunguzi ninaofanya kama sehemu ya SIT study abroad program. kushiriki kwako ni kwa hiari. Tafadhali soma maelezo hapo chini na uulize maswali ambayo huelewi kabla ya kuamua kama utashiriki. Ukiamua kushiriki, utaombwa kutia sahihi kwenye fomu na utapewa nakala ya fomu hii(kopi).

LENGO LA UCHUNGUZI

Lengo la uchunguzi huu ni kusoma kuhusu vile afya ya kiakili inazungumziwa kati ya viwango tofauti vya kiuchumi katika Kenya. kama kunazo tofauti, ninapanga kulenga kwa kina sababu ya hii tofauti. Matokeo ya uchunguzi huu yatatusaia kuelewa maana ya kijamii kwa matokeo na yanamaanisha nini kwa masuala ya maendeleo na rasilimali nchini.

UTARATIBU WA UCHUNGUZI

kushiriki kwako kutajumuisha kuhojiwa na kutahitaji kama dakika kumi na tano zako. Utaulizwa masaaki kadhaa na yote ni juu ya magonjwa tofauti ya kiakili. Majibu yako yata rekodiwa kwa kutumia mtambo wa kieletroniki na kuandikwa. Kurekodi kutatumika kwa madhumuni ya uandishi tu. Kila kitu ambacho kitaongelelewa kwenye kanda kitawekwa siri na hakitakuwa na maelezo ya kujulikana. Ikiwa hutaki kurekodiwa, tafadhali tuelezee na tutafanya mahojiano bila kurekodi.

UWEZEKANO WA HATARI NA USUMBUFU.

Hakuna hatari zozote zinazoonekana kwenye uchunguzi huu na hutaadhibiwa ikiwa utaamua kutoshiriki. Kushiriki ni kwa hiari. Wakati wa hojiano una haki ya kutojibu maswali au kisitiza mahojiano haya wakati wowote.

MANUFAA YA WASHIRIKI NA/AU JAMII NZIMA

Hakutakua na manufaa kwa washiriki kwa kushiriki kwenye huu uchunguzi.

USIRI

Maelezo yoyote ambayo yamepatikana kufuatia uchunguzi huu yatabaki siri. Fomu ya maelezo (Data) itahifadhiwa kwa neno la siri (password) na Sauti zote ambazo zimerekodiwa zitatumika kwa malengo ya uandishi tu. Katika mwisho wa mradi wa utafiti na baada ya mahijiano kuandikwa faili zote zitafutwa. Hakuna maswali ya kujitambulisha yataulizwa wakati wa mahojiano. Wakati matokeo ya utafiti yatachapishwa au kujadiliwa katika warsha hakuna chochote cha kukutambua kitatumika.

KUSHIRIKI AU KUTOSHIRIKI

Unashiriki kwa hiari. Ukikataa kushiriki, hutachukuliwa hatua yoyote au kupoteza manufaa ambayo unastahili kupata. Unaweza kuondoa idhini yako wakati wowote ule na usiendelee na kushiriki bila kuadhibiwa. Huondoi madai ya kisheria, haki kwa sababu ya kushiriki kwako katika huu uchunguzi wa utafiti.

Nimesoma kila kitu na nimeelewa inayosema na ninakubali kushiriki katika huu uchunguzi. "Ninakubali kwamba umri wangu ni miaka kumi na nane au zaidi ya miaka kumi na nane"

Sahihi ya mhusika na _____ tarehe

Sahihi ya mtafiti na _____ tarehe

Nimetoa idhini yangu kurekodiwa na nimekubali kwamba inaweza kutumika kwenye warsha.

Weka herufi za jina lako hapa chini kuonyesha umechagua nini.

__(herufi)Nimekubali.....

_(herufi)Sijakubali.....

MAELEZO YA MAWASILIANO YA MTAFITI

Ikiwa una maswali yoyote, au ungetaka kupata maelezo zaidi kuhusu huu uchunguzi tafadhali wasiliana na mimi kwenye mashoudkaba@gmail.com au mshauri wangu.

HAKI ZA MSHIRIKI IRB MAELEZO YA MAWASILIANO

Katika juhudi za kutekeleza viwango vya maadili ya mapendekezo yote ya SIT uchunguzi huu umekaguliwa na kupitishwa na kamati au taasisi ya uangalizi ya SIT. Kama una maswali ama chochote kile au malalamishi kuhusu haki zako kama mshiriki wa utafiti kwa jumla, na huwezi kuwasiliana na mtafiti mwenyewe tafadhali wasiliana na the Institutional Review Board at:

School for International Training

Institutional Review Board

1 Kipling Road, PO Box 676

Brattleboro, VT 05302_0676 USA

irb@sit.edu

802_258_3132

Appendix 4

Scaled Statement Data Sheet

Income	(1-low 2-High)	Age	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9
0	1	35	3	2	5	1	4	5	5	5	1
0	1	19	5	4	3	5	2	1	2	1	1
70	1	60	5	5	5	4	5	5	1	2	5
0	1	22	5	4	5	4	2	2	1	1	1
230	2	38	5	5	5	5	1	1	1	1	1
180	2	25	5	5	5	4	1	1	4	1	1
0	1	20	5	5	4	5	2	1	2	1	3
110	2	42	5	5	5	5	1	1	5	5	3
0	1	21	5	5	5	5	1	2	1	3	3
0	1	30	5	5	1	5	1	3	1	4	5
125	2	30	5	5	1	5	3	3	3	2	3
280	2	40	5	5	5	5	3	3	2	3	2
280	2	27	5	5	5	5	1	1	1	1	1
230	2	25	5	5	5	5	1	4	1	1	1
230	2	26	5	5	5	5	1	4	1	1	1
125	2	22	5	4	5	5	2	2	1	4	1
0	1	20	5	5	3	4	2	3	1	1	1
0	1	19	5	5	1	3	3	3	5	1	1
0	1	21	5	5	5	4	1	2	2	1	5
125	2	25	5	5	4	5	3	4	5	1	1
80	1	26	5	5	5	5	1	3	1	1	1
80	1	23	5	5	5	5	3	3	1	3	1

Appendix 5

Journals

October 24th

Today I reached out to Dr. Ngwalla, my new advisor. I was originally assigned to another advisor who worked at Kisumu County Hospital, however he seems to have become busy. Honestly, I was a bit confused as to why my advisor was changed so last minute, but I talked to Steve and was told they believed I need a different advisor (my ex-advisor was overseeing both myself and another SIT student), especially since I was doing research while the other student was doing an internship. After talking to Steve, I felt better about my advisor changing because I have been having doubts about my research and my last advisor wasn't much help. I met him once for a bout of 3 minutes and never heard from him again. I look forward to meeting my new advisor.

October 25th

I'm supposed to be meeting Dr. Ngwalla, but he hasn't responded to any of my messages, but I have told Christine who reached out to him.

October 26th

No updates, but I am getting anxious at the lack of response. I am also having doubts about my research subject. I don't think I'll be finding a significant result and I am considering changing my study. That would make more work for me, but I am not as confident as I used to be, I wish I could talk out the someone to really figure out my whole project.

October 27th

I reached out to Dr. Ngwalla once again. This time, I received his number from Christine and messaged him from my phone. I introduced myself and he responded in less than 10 minutes, we will be meeting on Tuesday, October 29th. I have to present him with my study design and have the questionnaire ready, however, I am worried about the feasibility of having all of this ready by the time I meet him. I am having serious doubts about my study and don't want to create something I might not end up using. I also realized I don't know where to start from. I sat on my

computer to start on something, yet nothing came to mind, and I didn't know where to start or end. I am starting to get cold feet about doing research. Despite my doubts, I can't change from an ISP project because my school does not accept internships from SIT. I guess I'll figure it out tomorrow.

October 28th

I started working on my study design and was unable to do much. I am more confused about my objectives than I ever was. It doesn't help that I am about a week behind because I haven't been able to meet my advisor. I'm highly considering giving up the ISP and asking my school if there is any way I could do the internship. The internship seems to have more structure than the ISP. I feel like I am being thrown to people and that these people are not really understanding my focus. I have also decided to not finish the questionnaire, because I don't know exactly what I want to ask or how I want the study to work. I'll use my time tomorrow with my advisor to ask any questions I have.

October 29th

I'm meeting Dr. Ngwalla at 4pm today.

He wasn't able to make it. I arrived at the office at 3:30pm in preparation for the meeting. He reached out to me around 4:30pm so ask if our meeting time could be shifted to 5pm. I rejected and asked to meet him tomorrow instead. The SIT office closes at 5pm, and to be honest I hate being made to wait for a prescheduled meeting. I was a bit frustrated that I left my house and came all the way to the SIT office without him coming. He mentioned that he had a meeting that went over, which I completely understand, but at the same time we had agreed to this meeting 2 days prior after a series of missed communications and him being unable to answer my meeting requests. After the call, I decided to call my school's study abroad coordinator and asked if there was any way I could do the internship since it had more structure. Since no one picked up, I left a voicemail and also sent an email explaining my situation. I told her that I felt unprepared to do research on my own, and that the ISP period felt like a big puzzle with missing pieces. I'm looking forward to her answer.

October 30th

I woke up to an email from my school's advisor and unfortunately, I am not able to switch over to an internship. She reached out to the SIT representative for my school, and the credits for the internship do not meet my school's requirement. She did give me a boost of confidence, which I appreciate. I will be continuing the ISP path.

I met with Dr. Ngwalla at 9am. He connected me with Psychiatric Clinical officer named Rafael who works at Kisumu County Hospital. We talked about my project and he gave me some pointers about how I should conduct my research. He, however, seems to be under the idea that I will be conducting a comparative study in both an urban and rural area. I had to correct this misconception, because if I were to do this, I will be replicating the previous studies and that's not my goal for this ISP project. After an hour of talking, we agreed on my sending him my questionnaires. He also wanted me to send my proposal to Rafael. He promised to send me a survey he was currently working on to help me with figuring out the income cut off for low and high income. Apparently, the data I found online was inaccurate.

I got Rafael's contact information and told him I will be starting on Monday. He and Dr. Ngwalla are requesting an introduction letter. I offered to reach out to Steve but was told there is nothing I need to do from my end. I hope everything goes well, now all there is left to do is finish the questions, the consent form and show up on Monday.

The weekend

I mainly worked on finishing up my outlines, and questionnaires. I reached out to Rafael with my schedule and will be seeing him on Monday.

November 4th

I went to my first day for research. I mainly did introductions. I arrived before Dr. Rafael, but luckily enough my host mom (who is a nurse) was stopping at Kisumu County Hospital (KCH), so she was able to help me find ward 8 (the psychiatry ward at KCH). No one at the ward knew who I was, and I had to sit a little while until Rafael came. I was introduced to the people working at the ward and taken to a back room where Dr. Rafael does his own personal research. I was told I could use the room for as long as I am doing research. About half an hour after arriving, I found out that Dr. Ngwalla hadn't reached out to Steve for my introduction letter, so I couldn't start my research or walk around the hospital. I reached out to Steve, but he seemed to

be busy so I reached out to Dr. Ngwalla who told me he had forgotten but will reach out to rectify the situation. Steve was able to get back to me, and he reached out to Milton who sent me the form I needed within a matter of minutes.

Since I couldn't do anything without the form, I decided to leave the internship early. Before leaving, I showed Rafael my consent form and he recommended that I also have one in Luo (the most spoken language in Kisumu). He connected me to someone who could translate my form for me which I really appreciated. I was told I needed to pay the person for his work, so I decided I would ponder on the option until I talked to SIT. At the end, I went to the print it out two copies of my introduction letter (one for Ward 8 and another for the administration office) at the cybercafé by Kisumu hotel.

November 5th

I talked to Steve and Cecilia and they told me I didn't need to hire a person at the county hospital to help me. I just need to ask Mwalimu Anne (our Swahili teacher) to help me translate the form and Cecilia will help me with the in-person translation for Swahili and Luo.

I showed up to the KCH with my introduction letter and got it stamped at the administration office. I gave a copy to the officers in Ward 8. Seems like I am all set.

Halfway through the day, Dr. Rafael brought me my first interviewee. The person was a caretaker of a patient and I think the interview went well. I realized that my scaling questions needed to be more specific and that I may need to think of a better alternative to the consent form.

I also realized that I needed to have at least 60 copies of my consent form (20 for each language) and each copy is 3 pages at 10 cents per page. Looks like I am looking at 1,800 KSH of expense out of pocket, a price I really don't want to pay.

November 6th

I have decided to forgo the written consent forms. Most of the participants I have interviewed appear cautious about signing their names on a piece of paper even after they have verbally consenting. So far I have been getting verbal consent with my advisor and another person at the ward as witness. I have also asked for consent for audio recording. The verbal consent was asked

reading a script (the written consent form was read out loud for batum). All consent was recorded.

November 7th – 8th

Nothing much happened during these two days. They were very similar in terms of what I have been doing, which is why I decided to combine them. I have interviewed a total of 5 people. All of them people Dr. Rafael brought to me. I am starting to see patterns in answers, and I hope they become meaningful when I gather all of my data. I did end up tweaking my scaled questions and for this reason I am throwing away the first interview I did. I have also realized that doing this interview in English is wildly constricting me because there are a lot of patients who either speak Luo or Swahili. I have also had a participant whom I wasn't a 100% sure understood what I was asking of him. But I look forward to doing the rest of the interviews. I am currently considering leaving the back room of ward 8 and just walking around the hospital, in hopes of finding more people to interview. I brought up this idea to Rafael and he told me it was a good idea, but I needed to have my stamped introduction paper with me, in case I get asked any questions by the staff members who work at the other wards.

November 11th

I reached out to Cecilia today, I thought it was better for me to walk around the hospital to get my participants. Last week, I got about 6 participants, and at this rate, I might not reach the 30 participants I am hoping to reach. I asked Cecilia if she could be here with me tomorrow at 8:30 am. With her, I think I will be able to talk to more people.

Today, I mainly stayed in the backroom. Dr. Rafael went home early, but I told him of my plans to bring Cecilia.

November 12th

Cecilia came! We had a few stumps in the beginning when I had to spend 30 minutes walking around looking for my signed research approval form. The person I handed it to in ward 8, was not present so no one knew where it was located. I had to go to the administration office. The had also misplaced the file, as a result I need to reprint another one. After the debacle, I we got down to business. Today was one of my busiest day! I interviewed 6 people, this is the same

amount of people I had gotten after one-week last time. We walked around to different wards and I introduced myself to the workers there. They had patients and caretaker sitting outside, so Cecelia helped me approach them for the interview. Apparently, people are hesitant about foreign people doing research because they are afraid, they won't understand my English. Luckily enough, Cecelia was there, and she helped me speak to them in Swahili and Luo to get more participants.

Rest of the week

I usually try to journal at every day, but I have been so exhausted this past few days. I am big introvert and talking to people drains me out! I have talked to 18 people these past three days alone and honestly, I was coming back home exhausted. It took a lot out of me to keep approaching people. The good news is, I have reached my goal! We have gone to almost every ward in the hospital and after the first two days, I got used to it. I was able to interview people from all over. We had participants who were students, and I was even able to walk into the hospital pharmacy to interview a few pharmacists. I am starting to notice patterns in my study and I hope they are meaningful!

Week of November 18th

Nothing much happened this week, which is why I am just writing a summary post. This week, since I was done getting participants, I mainly went to KCH (Kisumu county hospital) to use the back room. I found it easier to focus in the hospital than at home. I was able to aggregate all my data on an excel file to make it easier for me to do my calculations. I also organize all of the responses on a sheet to help me when I am analyzing the answers. That took longer than I expected, but lucky for me even when I got bored I was able to talk to some of the patients from ward 8 (psychiatry ward) who pass through the window.

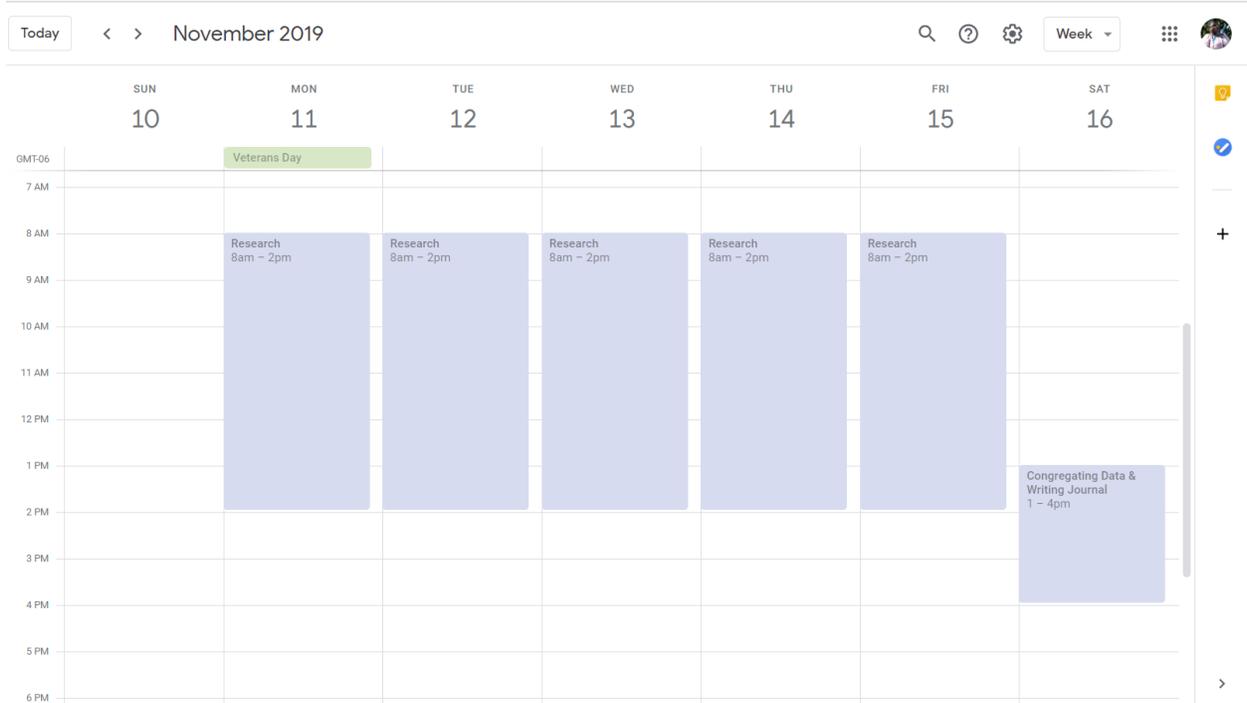
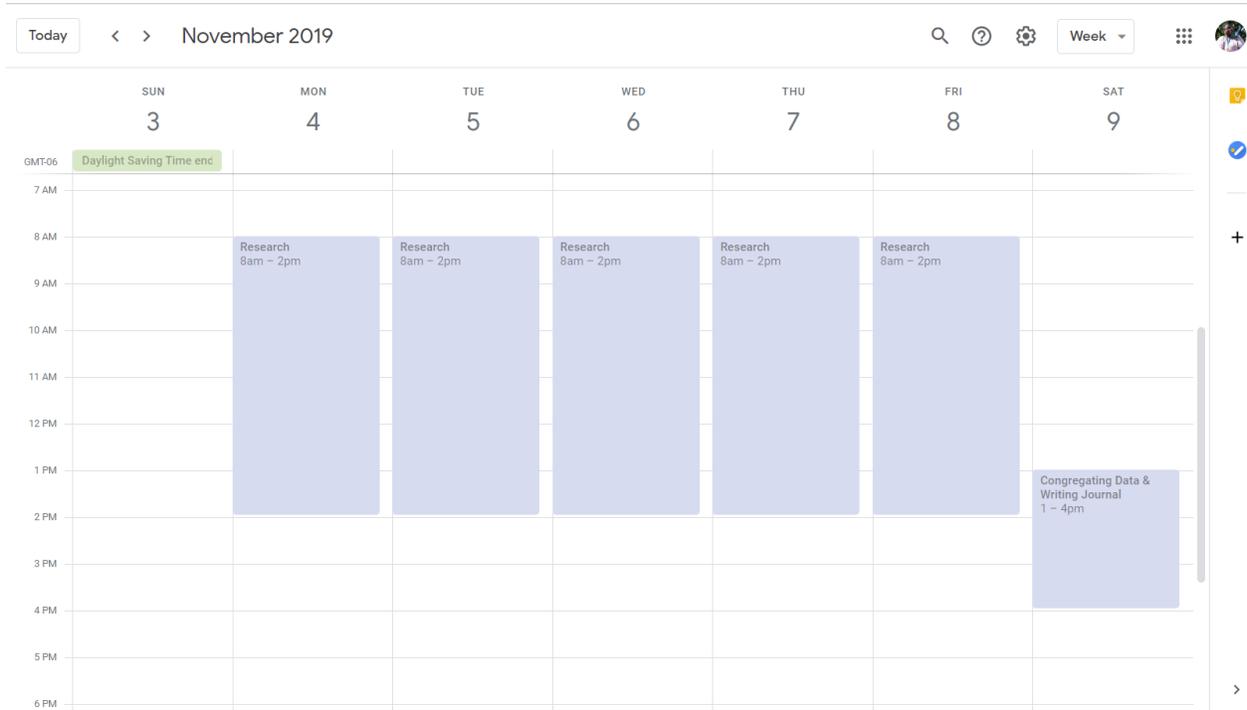
Week of November 25th

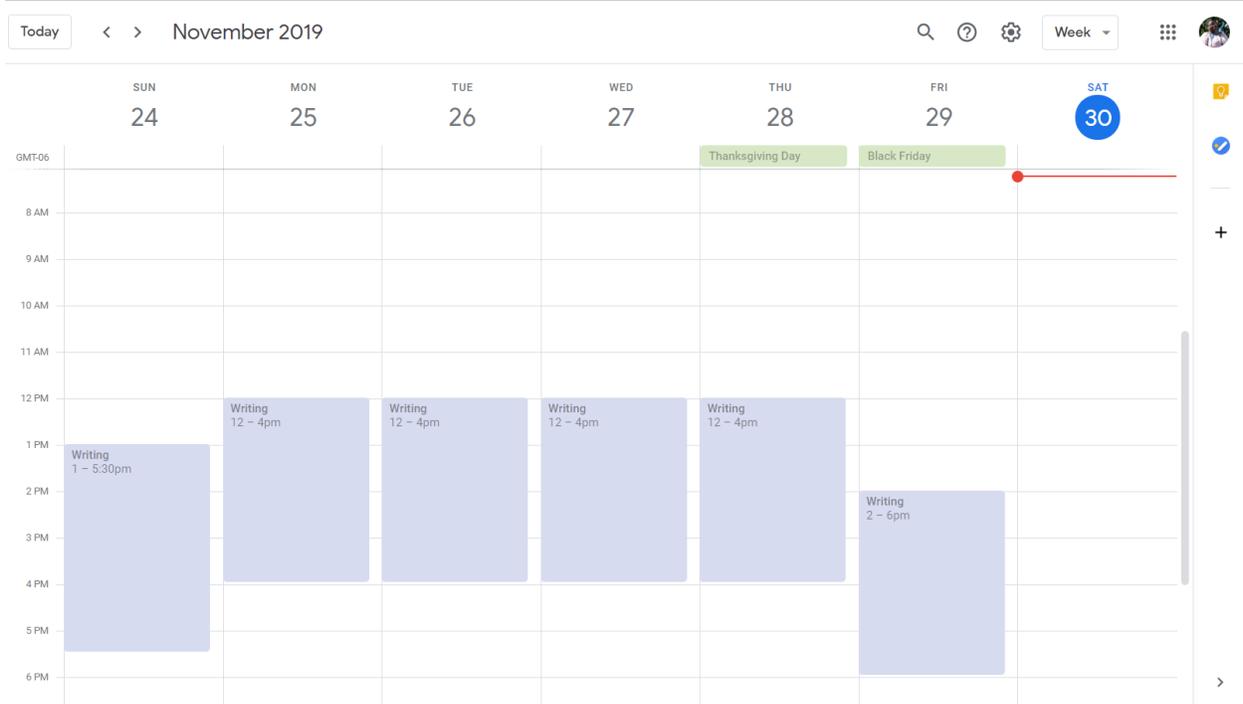
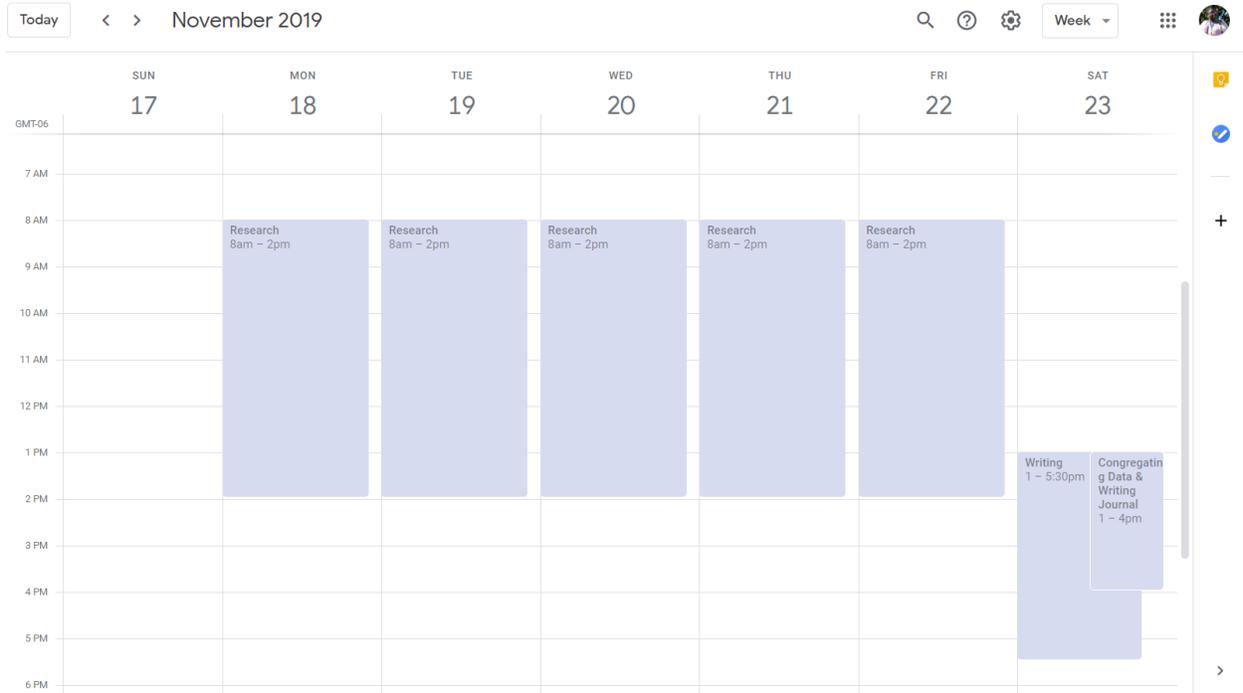
I mainly worked on my paper this week. Who knew writing this paper would take so long? At some point I was ready to shut my computer down and give up. I also got sick on Tuesday and Wednesday which made it impossible for me to write at the pace I had originally planned out. We do have a presentation on Friday of this week, and I hope that goes well. I'm a bit nervous

because public speaking is not my forte, but I am hoping I don't stumble in front of everyone. I think I have spent at least 20 hours this week alone on writing this paper.

Appendix 6

Research Calendar





Appendix 7

Approval for Research

COUNTY GOVERNMENT OF KISUMU

Telegrams: "PRO.(MED)"
 Tel: 254-057-2020105
 Fax: 254-057-2023176
 E-mail: kisumudh@gmail.com
 When replying please quote:
RE:

County Director of Health,
 Kisumu.
 P. O. Box 721-40100,
KISUMU.

DEPARTMENT OF HEALTH

RE: GN 133 VOL. IX (371)

Date: 23rd September, 2019

All Medical Superintendents

All SCMOHs

Kisumu County

RE: PERMISSION TO CONDUCT FIELD STUDY IN KISUMU COUNTY

The following students are hereby authorized to conduct their internships and/or independent study projects within the County Government of Kisumu, its health facilities and surrounding communities.

NAME	PASSPORT/ID NUMBER
Vivika Fernes	565883565
Tamar Shine	645369320
Deborah Kubwayo	PC232601
Erin Augustine	592505970
Brayden Cohen	563223946
David Duncan	589516009
Alexis Kapanka	646038612
Mashoud Kaba	586577318
Kathy Zhang	645672022
Janell Hill	643133158
Eloise Moore	565917563
Yuki Iida	MU6594689

Their topics will contribute towards the implementation and review plans for the County as the

Works Cited

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