BARRIERS TO RECRUITMENT OF DIVERSE WOMEN WITH SUICIDALITY IN CLINICAL RESEARCH

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ABSTRACT

Hafsah Ahmed Tauseef: Barriers to Recruitment of Diverse Women with Suicidality in Clinical Research
(Under the direction of Eileen Burker)

Suicide is the 10th leading cause of death in the United States. It is important to establish effective treatments and prevention efforts. Progression toward these goals has been stagnant because it difficult to recruit representative samples of suicidal individuals in studies. By describing the results of recruitment efforts in a clinical trial examining the role of ovarian hormones in female suicidality, this study aimed to clarify the barriers to recruitment of women with suicidality in research. We hypothesized that barriers to recruitment would be low socioeconomic status, negative attitudes toward research, more severe clinical presentation, and minority race. We conducted t-tests and chi square analyses to compare differences in our expected barriers between eligible women who did enroll and eligible women who did not enroll. Only racial minority status was associated with lower enrollment among eligible women. Future research should aim to refine recruitment strategies so that samples accurately reflect an increasingly diverse US population.

Keywords: recruitment, minorities, socioeconomic status, suicide, recruitment, women, clinical trial
Dedicated to Eyad Atieh and Tory Eisenlohr-Moul, because you believed in me until the very end. And for all the amazing women I have worked with and will work with, may my efforts and research always capture the true essence of your diverse experiences.
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CHAPTER 1: INTRODUCTION

Suicide is the action or attempt of taking one’s own life voluntarily and intentionally (Center for Disease Control and Prevention [CDC], 2017). According to the Center of Disease Control and Prevention and American Foundation for Suicide Prevention, death by suicide is the 10th leading cause of death in America (CDC, 2016; American Foundation for Suicide Prevention [AFSP], 2016). Despite significant prevention efforts, the past 100 years has seen no significant decrease in suicide rates (Linehan, Comtois, & Ward-Ciesielski, 2012); each year, 42,773 individuals die by suicide. Despite these statistics suggesting a dire need for effective treatments, there have been relatively few randomized clinical trials conducted testing the efficacy of suicide prevention interventions. Only 46 randomized control trials have been published examining interventions specifically aimed at reducing suicidal behavior, compared to 396 trials for schizophrenia, 214 trials for bipolar disorder, 904 trials for anxiety disorders, and 1,989 trials for depressive disorders (Linehan et al., 2012). Therefore, more clinical trials are needed to investigate the efficacy of treatments specifically aimed at reducing suicide risk.

Individuals with histories of suicidal ideation or behavior are often excluded from clinical research trials focused on the treatment of other related disorders and symptoms (Linehan et al., 2012). This is a significant problem, because it makes it difficult for researchers to understand whether their results are generalizable to individuals with suicidality (Linehan et al., 2012). Even clinical researchers who have appropriate training in the evaluation and treatment of suicidality are nonetheless hesitant to study individuals with suicidality. The reasons for this are complex and varied, but likely include concerns about potential liability in the event that a participant
makes a suicide attempt, potential stress of responding to participant suicidal crises, and possible scrutiny or study delay due to unfavorable review from ethical bodies (i.e., IRBs) who may be accustomed to the exclusion of suicidal individuals from trials (Linehan et al., 2012). Despite these barriers, Linehan et al. (2012) have argued that it is imperative that clinical researchers begin to rigorously study the mechanisms of suicidality and related disorders in people who actually experience suicidal thoughts and behaviors.

Although many clinical researchers may agree that studying individuals with suicidality is important, they have valid concerns about the feasibility of recruiting, engaging, and retaining these participants. There is a dearth of literature on recruitment of suicidal individuals such that it is not known whether attrition rates are higher amongst suicidal individuals than non-suicidal individuals (Hom & Joiner, 2016). There is also very little information regarding effective recruitment of suicidal individuals (Bhar, Stirman, Zembroski, McCray, Oslin, Brown, & Beck, 2013). Therefore, it is critical to begin trying to identify the factors that influence recruitment of individuals with suicidality.

Even after participants are recruited, attrition risks among individuals with suicidal symptoms may ultimately affect the generalizability of the research study, threaten internal validity, and reduce statistical power (Gibbons, Stirman, Brown, & Beck, 2010). Often there are qualitative differences between those who finish the study and those who drop out (Gibbons et al., 2010). Therefore, it is also important to try to determine the various reasons why individuals with suicidality drop out of treatment and research.

The purpose of the present study was to describe the demographic and attitudinal factors that influence recruitment of individuals with suicidality in the context of a clinical trial focused on females reporting past-month suicidal ideation. The outline of the present paper is as follows.
First, we begin with a brief review of the factors that we expected to predict recruitment of participants with suicidality in clinical research, and list our hypotheses. In the results, we describe the factors associated with successful enrollment (vs. no failure to enroll) of eligible individuals. Finally, we discuss our findings, indicate key topics for future research in this area, and make preliminary suggestions for the recruitment of women with suicidality in biomedical research studies.

We hypothesized that low socioeconomic status (SES), race, clinical symptoms, and attitudinal factors would be recruitment barriers for women entering the CLEAR study. For this specific paper we considered these barriers independent of one another, although we recognize that outside of research settings, these variables often interact, integrate, and ultimately affect each other. It is important to note that in the United States, there is significant and persistent data that shows racial differences in SES, such that individuals from minority groups are less likely to belong to a higher SES. New emerging data also indicates that racial health disparities exists, even at every level of SES. This is especially problematic since these SES and racial disparities to healthcare are contributing factors to earlier onset of illness and more severe diseases for minorities, when compared to their white counterparts (Williams, Mohammad, Leavell, & Collins, 2010). Specifically African American and low socioeconomic status White women often state mistrust and fear about clinical research (Farmer, Jackson, Camacho, & Hall, 2007). For the purposes of this study, we distinguished between low SES, attitudes, race, and clinical symptoms so that we could distinguish if there was any specific factors that associated with poor enrollment of eligible individuals.
Low Socioeconomic Status and Related Factors as a Barrier to Research Participation

Depression and anxiety rates are highest amongst individuals with low SES (CDC, 2013; Steel, Dewa, & Lee, 2007; Woodall, Morgan, Sloan, & Howard, 2010), yet research shows that individuals from these populations underutilize mental health services and are less likely to participate in clinical research (Steel et al., 2007). Because of this paradox, it is particularly important to further clarify the barriers preventing socially disadvantaged groups from participating in clinical research. There are several specific SES-related factors that may contribute to low rates of recruitment. These factors include, but are not limited to, access to transportation, access to phone/internet, transient lifestyle, and poor health literacy (Bhar et al., 2013; Farmer et al., 2007; Gibbons et al., 2010; Steel et al., 2007).

There are logistical factors of daily life that make it difficult for individuals with low SES to participate in research (Bhar et al., 2013; Farmer et al., 2007; Gibbons et al., 2010). For example, some individuals with low SES have a difficult time affording a stable home. Those participants are often transient and have very sporadic contact with their family and friends, making them difficult to contact and recruit (Gibbons et al., 2010; Woodall et al., 2010). If participants entered a rehabilitation facility or a homeless shelter, recruitment may be further complicated, as these institutions do not permit contact due to confidentiality and treatment policies (Gibbons et al., 2010). Additionally, lack of technology is often a barrier, as participants may not own a phone with a long-term contract (with an associated stable phone number) or computer where they could be contacted or reminded of their appointments (Gibbons et al., 2010). Transportation barriers can also be an issue for individuals with low SES (Farmer et al., 2007; Woodall et al., 2010). Previous research shows that providing transportation or compensation for travel, or locating research facilities within or near target communities often enhances recruitment and engagement of low SES participants (Farmer et al., 2007; Woodall et
Another example is that people of color and individuals from low SES reported conflicting demands on their time, such as having children, working full time or being a single head of household, which also hindered their ability to participate in research (George, Duran, & Norris, 2014). Specifically, women of color and white women from low SES reported having more difficulty finding childcare services (Farmer et al., 2007). Wavering availability and affordability of childcare, non-reliable contact information, nomadic lifestyle, lack of access to phone/internet, time constraints, and transportation issues are all challenges which especially affect low SES groups, and all of which may be expected to contribute to low participation rates in suicide research. Given these SES barriers, we hypothesized that lower SES and related issues, such as access to childcare, transportation, cell phone, internet, and income would be associated with poor recruitment and engagement.

**Attitudes Towards Clinicians and Researchers as a Barrier to Research Participation**

A recurrent theme in mental health literature is the distrust participants have of medical providers and researchers. More broadly, participants often express fear, suspicion, distrust, and confusion related to clinical research (Gibbons et al., 2010; Woodall et al., 2010). Individuals from low socioeconomic groups have additionally reported that they perceive a lack of concern for their (the participant’s) overall well being, typically stemming from negative personal experiences with the health care system (Farmer et al., 2007). Some individuals report hesitation in entering a research study and therefore refuse to be contacted (Bhar et al., 2013; Gibbons et al., 2010). Individuals have previously reported feeling fearful because they believed that they would be treated as lab rats or guinea pigs (Fisher, & Kalbaugh, 2011; Farmer et al., 2007; George et al., 2014; Scharff et al., 2010). Mistrust also comes from participants’ lack of understanding of the research and research protocols or of information not conveyed in laymen’s terms (George et al., 2014; Farmer et al., 2007). Given these attitudes, we hypothesized that
distrust of medical professionals and researchers would be associated with poor recruitment and engagement.

**Barriers to Minority Participation in Clinical Research**

Similar to SES, racial minority status determines participation in research. Racial and ethnic minority participation in research is imperative, not only for generalizability, but also for health care equality and accuracy of ethnicity-specific analysis (George et al., 2014; Woodall et al., 2010). In 1993 the National Institute of Health (NIH) mandated the inclusion of minorities and women in clinical trials (Durant, Legedza, Marcantonio, Freeman, & Landon, 2011). Despite the overall need for recruiting and retaining minorities, researchers still struggle to do so (Farmer et al., 2007; George et al., 2014; Scharff et al., 2010; Woodall., 2010). There are several factors that contribute to poor minority participation, such as mistrust, stigma, lack of diverse researchers, and language (Farmer et al., 2007; George et al., 2014; Scharff et al., 2010; Woodall., 2010).

Mistrust of researchers is a common barrier when trying to recruit and retain minorities (Farmer et al., 2007; George et al., 2014; Scharff et al., 2010; Woodall., 2010). Distrust towards researchers is often cited as the most frequent disincentive for research participation amongst minorities (Durant et al., 2011). Efforts to sterilize American Indians highlight some of the gross mistreatment of minorities in health care research (George et al., 2014; Scharff et al., 2010). Mistrust is the highest amongst African Americans, which is logical given the history of research-related abuse of African American individuals, perhaps best exemplified by the denial of treatment to African American research participants in the Tuskegee syphilis study (Fisher, & Kalbaugh, 2011; George et al., 2014). In another example, in the late 19th century, Dr. J Marion Sims performed numerous unethical vaginal restoration after vesicovaginal fistula in African American women, where he operated on them without anesthesia; he only performed his
successful operation on white women when he perfected the procedure and additionally he
would offer them anesthesia (Wall, 2006). Importantly, it is not only historical events, but the
persistent disparities and institutional racism faced in healthcare that may make people of color
distrust both medical providers and researchers (Scharff et al., 2010). For example, in a study
conducted by Schulman et al., showed that African American women were less likely to be
referred for a cardiac catheterization (Fisher, & Kalbaugh, 2011). Minorities often believe that
research will only benefit white individuals, and that the benefits of research will not reach their
respective communities (Farmer et al., 2007; Fisher, & Kalbaugh, 2011; George et al., 2014;
Scharff et al., 2010). Some African Americans also believe that research will be used to affirm
negative stereotypes about their ethnic group (Scharff et al., 2010). Many people of color also
believe that researchers hide information from participants and do not disclose all of the
information in order for them to make informed decisions about participating (Fisher, &
Kalbaugh, 2011). This mode of thought stems from studies like Tuskegee where individuals
were not properly informed, debriefed or treated (Scharff, et al., 2010).

Fear of being stigmatized by an individual’s own community may also be a persistent
barrier (Farmer et al., 2007; George et al., 2014; Woodall., 2010). The stigma of mental illness
may prevent many minorities from participating in mental health research and seeking treatment
(Woodall., 2010). Individuals from minority communities, especially Asian Americans,
typically stated that they would lack acceptance and social support from family members if they
participated, which ultimately contributed to them not wanting to participate (George et al.,
2014). African Americans also hold stigmatizing beliefs about mental health, such as regarding
depression as a personal weakness, regarding mental health issues as non-health-related issues,
and perceiving mental illness as shameful (Ward & Heidrich, 2010). When African American
women were asked to describe their beliefs about depression, they often said that they were not susceptible, and that they thought those who are susceptible to depression were “weak minded, troubled spirited, and lacked self-love” (Ward & Heidrich, 2010, p. 482). These stigmatized beliefs about mental health amongst African Americans discourage them from disclosing their mental health information to their community, for fear of being viewed as contagious or an ill-fit member (Ward & Heidrich, 2010). When looking at successful strategies for recruiting minorities, studies show that recruitment increases amongst minorities when advertisements avoid using stigmatizing mental illness terms (Woodall et al., 2010).

While there are some generalizable barriers for minority populations, it is important to realize that the recruitment of each minority group in clinical research may have its own unique challenges. While many more barriers exist to minorities participating in research, for the purpose of this study we focused on mistrust of researchers and stigma. We hypothesized that higher levels of mistrust and stigma would be associated with lower levels of recruitment in minority participation.

**Severity in Clinical Picture as a Barrier to Research Participation**

There are some notable issues with recruiting individuals with suicidality (Crane & Williams, 2010; Gibbons et al., 2012; Hom & Joiner, 2016). Clinical predictors of suicidality, such as hopelessness and hostility, have been associated with poor engagement and retention in mental health treatment and research (Crane & Williams, 2010; Gibbons et al., 2012; Hom & Joiner, 2016). Individuals with suicidality who drop out of treatment tend to have higher rates of anxiety and depression (Hom & Joiner, 2016). Additionally, these individuals reported having higher life stressors (Hom & Joiner, 2016). Looking specifically at a mindfulness-based cognitive therapy study for depression, the two factors that distinguished between people who stayed in the treatment and those who left were having multiple depressive episodes and having a
history of attempted suicide (Crane & Williams, 2010). Participants were more likely to drop out if they had high levels of depressive ruminations and brooding (Crane & Williams, 2010). Additionally, individuals who were not taking antidepressants were more likely to drop out compared to their counterparts (Crane & Williams, 2010).

Work with other high risk populations highlights other factors that may contribute to individuals with suicidality dropping out (Hom & Joiner, 2016). These include worse clinical severity, complex clinical diagnosis, comorbid disorders, poor functioning, and personality disorders, all of which have contributed to high attrition rates in past studies (Hom & Joiner, 2016). Consistent with this work, a study by Hom and Joiner in 2016 showed that individuals with a more severe clinical picture, such as comorbid substance abuse, depressive disorder, suicidal symptoms or comorbid disorders, were more likely to withdraw from the study early (Hom & Joiner, 2016). Engaging individuals with suicidality can be further challenging if they have high rates of substance abuse and dependence (Gibbons et al., 2010; Hom & Joiner, 2016).

Help negation is a term used to describe when a complicated clinical presentation leads to low engagement with health care providers, treatment, and research (Gibbons et al., 2010; Hom & Joiner, 2016).

Other issues that contribute to low participation and attrition of individuals with suicide is the impaired daily functioning and instability in their lives (Gibbons et al., 2010; Hom & Joiner, 2016). Participants often lead a very unpredictable lifestyle, which often affects their ability to make decisions and attend therapy (Gibbons et al., 2010; Hom & Joiner, 2016). Participants often have real, practical barriers to attending sessions, like unpredictable work schedules and childcare difficulties (Gibbons et al., 2010).
Therefore, in this study we hypothesized that more severe clinical presentation such as increased severity of suicidality, comorbid disorders, and number of previous suicide attempts would result in a lower likelihood of enrollment among eligible individuals.

**The Present Study**

The present study reports on the recruitment results of a larger study [Clarifying the Endocrinology of Acute Risk (CLEAR)] that used clinical trial methods to study the effects of perimenstrual hormone withdrawal and suicide risk. Previous research has shown that the perimenstrual phase of the menstrual cycle, characterized by rapid withdrawal from the ovarian steroid hormones estradiol and progesterone, is linked to greater risk of hospitalization for suicide attempts, more lethal attempts, and suicide deaths (Baca-Garcia, 2003; Baca-Garcia et al., 2010; Baca-Garcia, Diaz-Sastre, & Leon 2000; Leenaars, Girdhar, Dattagupta, & Leenaars, 2009; Saunders & Hawton, 2006). Given that suicide is the second leading cause of death amongst reproductive-age women, the purpose of the CLEAR study was to experimentally identify the role of perimenstrual ovarian steroid hormone withdrawal on acute suicide risk. The aim of this larger study was to identify the biological and behavioral predictors of acute suicide risk in order to eventually improve behavioral and pharmacological suicide prevention.

This study used the data from the CLEAR trial to examine the barriers to recruitment of women with suicidal symptoms for a rigorous clinical research study. The purpose of this paper was to identify issues that prevent women from participating in research studies. If we are able to identify these challenges, health care and research professionals can modify recruitment efforts to better accommodate these individuals. For example, for this study we hypothesized that women with low income would not be able to afford child care, and therefore, would not participate in research or go to their mental health providers, as often as their counterparts with higher incomes. As such, we provided compensation for childcare during the time the participant
was attending her appointment. We hoped to identify these obstacles in order to better facilitate the participation of at-risk individuals and additionally provide viable solutions to these barriers.

**Hypotheses**

We hypothesized that a variety of barriers would predict difficulty with recruitment of females with suicidality.

1. We hypothesized that eligible individuals with lower SES (measured by reported income, and 6-point likert scale ratings of difficulty with transportation, accessing a phone or internet service, or child) would be less likely to enroll in the study.

2. We hypothesized that eligible racial minorities would be less likely to enroll compared to Caucasians due to distrust of researchers (as measured with a single straightforward item) and mental health stigma (based on 6-point likert scales as to whether family would support them if they sought mental health services or participated in mental health research and whether they trusted researchers.)

3. We hypothesized that eligible individuals with a more complicated clinical picture (i.e., high number of suicide ideation items endorsed, self-report of psychiatric diagnoses) were less likely to enroll.

4. We hypothesized that eligible individuals who responded with higher rates of distrust of researchers (on a 6-point likert scale rating) were less likely to enroll.
CHAPTER 2: METHODS

Participants

Participants were recruited through social media advertisements seeking women for a study on ‘the biology of depression, stress and suicidal thoughts.” Female participants were recruited if they had suicidal ideation, but were at a low imminent risk for suicide attempt. Specifically, they were deemed appropriate for participation if they reported past-month suicidal ideation but no concrete past-month suicidal planning with intent and no suicide attempts within the last year. Women were between age 18-45, had normal menstrual cycles, were seeing a mental health provider at least once every 3 months, were not pregnant, were not breastfeeding, were not trying to get pregnant, were not taking hormone supplements like birth control, had a normal weight, and were not smokers. In regard to psychiatric diagnoses, participants were not recruited if they had a history of manic episodes or psychosis, as there is an increased risk for difficult-to-predict suicide in these groups (Bryan & Rudd, 2006; Joiner, Walker, & Rudd, 1999). A majority of our participants had major depressive disorder, borderline personality disorder or anxiety disorder. Participants were compensated $700 for completion of the study.

Measures

Our primary criterion outcome variable in the study was a dichotomous variable indicating whether someone who was eligible for participation (after the online and phone screeners) scheduled and attended an enrollment session.
Online Screener

In the online screener phase, individuals interested in participating in the study completed an online questionnaire on the Qualtrics survey platform. The demographic questionnaire included multiple-choice questions about household income and race. To examine SES status and related factors, we asked individuals to report their household income by selecting from a range of predetermined income brackets, ranging from less than $15,000 to above $100,000. We also asked individuals on 6 point likert scale if struggle to find access for transportation and childcare so that they can engage in school, work, or other activities. To measure race, we asked individuals to select their race from predetermined category, which included Caucasian, African American, Asian, American Indian, Alaskan Native, Native Hawaiian or Pacific Islander, more than one race, or other-to which they wrote in their race. Individuals could also decline to answer this question. See Appendix A for these items. The psychiatric history section of the survey was a self-report about a history of common psychiatric diagnoses. Finally, to measure their clinical symptoms we asked if a doctor has ever told them they had one of the following conditions, anxiety disorder, borderline personality disorder, bipolar disorder/ mania, psychotic disorder, substance use disorder, postpartum depression or psychosis, or premenstrual dysphoric disorder. Additionally, we asked about life time experience with suicidal thoughts and behaviors, participants responded yes, no, or prefer to answer on phone to questions regarding passive suicidality (i.e. I have wished I could go to sleep and not wake up) and active suicidality (i.e. I have made a suicide attempt). The key diagnoses that we used as predictors of recruitment were: Borderline Personality Disorder, Anxiety Disorder, and Depression. Some of these diagnoses were exclusionary for participation (e.g., PMDD, Postpartum depression, Psychotic Disorders, Mania and Bipolar Disorder, substance abuse disorder) and were not examined as predictors of recruitment. See Appendix B for psychiatric diagnosis questionnaire.
In another section of the survey we asked about history of lifetime experience of suicidal symptoms, including items about passive suicidality (wishing one was dead, wanting to go to sleep and not wake up, feeling that friends and family would be better off), active suicidality (wanting to kill myself or considering killing self), suicide attempt (history of suicide attempt), and non-suicidal self-injury (self-injury). See Appendix C for this questionnaire. Finally, there was a section that asked about common issues and barriers that are thought to reduce an individual’s likelihood to participate in research, including access to communication methods (telephone, internet), access to childcare, and access to transportation. Other attitudinal and cultural barriers assessed include familial support (feeling that one’s family would support them in seeking counseling or participating in research), and an item evaluating the degree of trust participants feel towards researchers. Participant responded to all these survey items using a 6-point Likert scale (from 1= “strongly disagree” to 6= “strongly agree”). See Appendix D for questionnaire.

**Post-screening Phone Contact**

After an individual completed the online screener, the principal investigator of the study (a Caucasian woman trained as a clinical psychologist) called and/or texted individuals who appeared eligible based on the online screener, or who had not fully completed the online screener, to set up a phone screening. For those who responded, the principal investigator then conducted the phone screening to further determine eligibility. The phone screening included a variety of questions to determine or verify eligibility (i.e., does the participant have normal menstrual cycles? Would they be in the area for the next 3-4 months?). Finally, participants were given a detailed summary of the study and what was expected of them. The principal investigator then asked participants if they still wished to continue with scheduling the enrollment visit. If they decided to participate, they were scheduled for a 4-hour enrollment visit with the principal
investigator. They received one detailed reminder email, one text reminder, and a phone call reminder if they did not confirm their appointments following the email and text reminders.

For the purposes of the present paper, the main outcome was whether or not an individual who was eligible following the phone screen successfully scheduled and attended an enrollment visit.

**Procedure**

During this study, we recorded barriers to recruitment of women with suicidality. We were particularly interested in understanding the difference between eligible women who chose to enroll and those who chose not to enroll.

Three hundred and fifty individuals completed the initial web-based screening survey for the study. Of the 350 individuals who completed the online screener, 210 were not eligible or were lost to follow-up, and 140 completed the phone screen (either because they appeared eligible or because they had provided incomplete eligibility information in the online screen). Of the 62 eligible participants after phone screener, 39 enrolled and 23 did not enroll.

Given our awareness of potential barriers that may prevent eligible women from entering the study, we expressed to potential participants that we would provide practical supports as necessary. For example, in addition to the $700 compensation, we offered to cover costs of child care and transportation. To better help recruit women with severe clinical symptoms, we emphasized our strong desire to understand women with suicidality, reinforced the notion that we wish to understand depression and suicide, and that we were willing to work with them on an outpatient basis provided that imminent risk of suicide remained low.

We took additional steps to increase our recruitment of minority women as well. In our initial Facebook advertisements, we noticed that we received poor response from women of color. At that point, we decided to target additional advertisements towards women of color. In
these advertisements, we used African American and Asian models instead of Caucasian models, we emphasized a need for women of color in our study, and we changed the language of the advertisement. In our original advertisements we used terminology such as ‘depressed’ and ‘suicidal’, but for some of our advertisements aimed at recruiting women of color, we used less stigmatizing words such as ‘sad’ and ‘stressed’ (see Appendix E for copies of the advertisements). We did so to address the stigma that persists in minority culture regarding mental health issues. The staff for the study were primarily non-white; however, this would not have been clear to participants prior to the enrollment visit, which occurred after our main outcome (enrollment visit scheduling).

**Data Analysis**

The key predictor variables for this study were socioeconomic status and related factors (i.e., income, education, access to phone/internet), attitudes towards clinicians and researchers (i.e., mistrust, familial support), and clinical presentation (i.e., previous suicide attempts, substance abuse, comorbid issues). The dependent variable was enrollment of eligible individuals after the phone screener. We used chi-square analyses to test for differences in recruitment rates across each categorical independent variable (e.g., race, access to phone/internet, transportation, childcare). For quantitative independent variables (i.e. degree of researcher distrust, number of suicidal symptoms or diagnoses) we used Mann-Whitney U test analyses to test for effects of these variables on recruitment rates.
CHAPTER 3: RESULTS

Of this sample, 63% (n=39) of individuals enrolled and 37% (n=23) did not enroll although they were eligible. Descriptive statistics for those eligible after the phone screener (n=62) are presented in Table 1.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>Possible Range</th>
<th>Observed Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>27.65 (6.61)</td>
<td>18-45</td>
<td>18-42</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>8 (12.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>5 (8.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>45 (72.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than One Race</td>
<td>2 (3.2%)</td>
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<td></td>
</tr>
<tr>
<td>Other</td>
<td>2 (3.2%)</td>
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<tr>
<td><strong>Income</strong></td>
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<tr>
<td>$100,000 or Above</td>
<td>4 (6.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$80,000-$99,999</td>
<td>3 (4.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,000-$79,999</td>
<td>12 (19.4%)</td>
<td></td>
<td></td>
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<tr>
<td>$40,000-$49,999</td>
<td>3 (4.8%)</td>
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<tr>
<td>$35,000-$39,999</td>
<td>2 (3.2%)</td>
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<tr>
<td>$30,000-$34,999</td>
<td>4 (6.5%)</td>
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<td>$25,000-$29,999</td>
<td>8 (12.9%)</td>
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<td>5 (8.5%)</td>
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<tr>
<td>$15,000-$19,999</td>
<td>2 (3.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $15,000</td>
<td>17 (28.8%)</td>
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<tr>
<td><strong>Diagnostic History</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>History of Borderline PD Diagnosis</td>
<td>11 (18%)</td>
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</tr>
<tr>
<td>History of Depression Diagnosis</td>
<td>52 (85.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Anxiety Diagnosis</td>
<td>47 (78.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Suicide History</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Non-suicidal Self-injury</td>
<td>39 (63.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Suicide Attempt</td>
<td>26 (42.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Number of Suicidal Ideation Items Endorsed</td>
<td>3.36 (1.02)</td>
<td>0-6</td>
<td>0-4</td>
</tr>
<tr>
<td><strong>Barriers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researcher Trust</td>
<td>5.39 (0.78)</td>
<td>1-6</td>
<td>2-6</td>
</tr>
<tr>
<td>Phone Barrier</td>
<td>1 (0)</td>
<td>1-6</td>
<td>1-1</td>
</tr>
<tr>
<td>Internet Barrier</td>
<td>1.01 (0.13)</td>
<td>1-6</td>
<td>1-2</td>
</tr>
<tr>
<td>Transport Barrier</td>
<td>1.65 (1.31)</td>
<td>1-6</td>
<td>1-6</td>
</tr>
<tr>
<td>Childcare Barrier</td>
<td>1.66 (1.29)</td>
<td>1-6</td>
<td>1-6</td>
</tr>
<tr>
<td>Family Support for Mental Health Research</td>
<td>4.75 (1.36)</td>
<td>1-6</td>
<td>1-6</td>
</tr>
<tr>
<td>Family Support for Mental Health Treatment</td>
<td>5.13 (1.19)</td>
<td>1-6</td>
<td>1-6</td>
</tr>
</tbody>
</table>

*Note. Standard Deviations and Within-group Percentages in Parentheses*
Table 2. Comparing the difference between eligible women who enrolled with eligible who did not enroll on our predicted barriers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD) Enrolled</th>
<th>Mean (SD) Not Enrolled</th>
<th>Comparison Stat</th>
<th>p-value</th>
<th>EFFECT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>28.56 (7.03)</td>
<td>26.08 (5.64)</td>
<td>U= 360.5</td>
<td>.15</td>
<td>d=.20</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>2 (5.1%)</td>
<td>6 (26.1%)</td>
<td>$\chi^2(4)=12.24$</td>
<td>.01</td>
<td>V=.44</td>
</tr>
<tr>
<td>Asian</td>
<td>1 (2.6%)</td>
<td>4 (17.4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>34 (87.2%)</td>
<td>11 (47.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than One Race</td>
<td>1 (2.6%)</td>
<td>1 (4.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1 (2.6%)</td>
<td>1 (4.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\geq 100,000 or above</td>
<td>2 (5.1%)</td>
<td>2 (8.7%)</td>
<td>U=444</td>
<td>.95</td>
<td>d=.01</td>
</tr>
<tr>
<td>$80,000-$99,999</td>
<td>2 (5.1%)</td>
<td>1 (4.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,000-$79,999</td>
<td>10 (25.6%)</td>
<td>2 (8.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$40,000-$49,999</td>
<td>1 (2.6%)</td>
<td>2 (8.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$35,000-$39,999</td>
<td>1 (2.6%)</td>
<td>1 (4.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$30,000-$34,999</td>
<td>2 (5.1%)</td>
<td>2 (8.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$25,000-$29,999</td>
<td>3 (7.7%)</td>
<td>5 (21.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$20,000-$24,999</td>
<td>4 (10.3%)</td>
<td>1 (4.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$15,000-$19,999</td>
<td>2 (5.1%)</td>
<td>0 (0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $15,000</td>
<td>12 (30.8%)</td>
<td>7 (30.4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-Reported Lifetime Diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Borderline PD Diagnosis</td>
<td>8 (20.5%)</td>
<td>3 (13.6%)</td>
<td>$\chi^2 (1)=.45$</td>
<td>.50</td>
<td>V=.08</td>
</tr>
<tr>
<td>History of Depression Diagnosis</td>
<td><strong>36 (92.3%)</strong></td>
<td><strong>16 (72.7%)</strong></td>
<td>$\chi^2(1)=4.28$</td>
<td>.03</td>
<td>V=.26</td>
</tr>
<tr>
<td>History of Anxiety Diagnosis</td>
<td>33 (84.6%)</td>
<td>14 (66.7%)</td>
<td>$\chi^2 (1)=2.59$</td>
<td>.10</td>
<td>V=.21</td>
</tr>
<tr>
<td>History of NSSI</td>
<td>27 (69.2%)</td>
<td>12 (54.5%)</td>
<td>$\chi^2 (1)=1.31$</td>
<td>.25</td>
<td>V=.15</td>
</tr>
<tr>
<td>History of Suicide Attempt</td>
<td>16 (41%)</td>
<td>10 (45.5%)</td>
<td>$\chi^2 (1)=.11$</td>
<td>.73</td>
<td>V=.04</td>
</tr>
<tr>
<td>Average Number of Suicidal Symptom Items Endorsed</td>
<td>3.44 (.90)</td>
<td>3.22 (1.19)</td>
<td>U=374.5</td>
<td>.69</td>
<td>D=.05</td>
</tr>
<tr>
<td><strong>Barriers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researcher Trust</td>
<td>5.50 (.64)</td>
<td>5.19 (.98)</td>
<td>U=331.5</td>
<td>.20</td>
<td>D=-.37</td>
</tr>
<tr>
<td>Phone Barrier</td>
<td>0</td>
<td>0</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet Barrier</td>
<td>1.02 (.16)</td>
<td>1 (0)</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Barrier</td>
<td>1.55 (1.24)</td>
<td>1.85 (1.46)</td>
<td>U=404.5</td>
<td>.61</td>
<td>D=.06</td>
</tr>
<tr>
<td>Childcare Barrier</td>
<td>1.47 (.98)</td>
<td>2.11 (1.83)</td>
<td>U=107.5</td>
<td>.46</td>
<td>D=.13</td>
</tr>
<tr>
<td>Family Support for Mental Health Research</td>
<td>4.76 (1.30)</td>
<td>4.72(1.48)</td>
<td>U=435.5</td>
<td>.92</td>
<td>D=.02</td>
</tr>
<tr>
<td>Family Support for Mental Health Treatment</td>
<td>5.15 (1.06)</td>
<td>5.09 (1.41)</td>
<td>U=447.5</td>
<td>.76</td>
<td>D=.04</td>
</tr>
</tbody>
</table>
Socioeconomic Barriers

We predicted that individuals from a lower SES background would be less likely to enroll. Subsequently, we predicted that lack of access to phone, internet, transportation, and childcare would contribute to poor recruitment. Individuals reported a wide range of incomes. Means and standard deviations for phone barriers, internet barriers, transportation barriers, and childcare barriers ranged from strongly disagree and disagree somewhat. Results of independent Mann-Whitney U tests indicated no significant differences on self-reported transportation, childcare, phone, and internet barriers, as well as income level, between those who did and did not enroll in the study.

Psychiatric Diagnosis

We hypothesized that a more severe clinical picture (e.g. higher number of suicidal symptoms endorsed) would result in lower likelihood of enrollment. Frequencies for self-reported lifetime histories of psychiatric diagnoses indicated that 83.9% (n= 47) had been diagnosed with a depressive disorder, 76.4% (n= 42) had been diagnosed with an anxiety disorder, and 12.5% (n=7) had been diagnosed with borderline personality disorder. Approximately sixty-six percent (n=37) reported a history of non-suicidal self-injury, and 41% (n=23) of individuals had attempted suicide in the past. Results of a chi-squared analysis indicated that eligible women with a history of diagnosed depression were more likely to enroll than those without a history of diagnosed depression.

Race Factors

We predicted that we would have a difficult time enrolling eligible minority participants. Among individuals who were eligible after the phone screener, a majority of individuals identified as Caucasian 72.6% (n=45), while African American individuals made up 12.9% (n=8) and Asians made up 8.1% (n=5) of this sample. Individuals who identified as ‘other race’ or
‘more than one race’ consisted of 6.4% (n=4) of this sample. Results of a chi-squared analysis indicated that there was a significant difference in race amongst those who enrolled and those who did not enroll, such that African Americans and Asians were significantly less likely to enroll than would be expected given the number of eligible African American (n=6) and Asian individuals (n=4), and Caucasians were more likely to enroll than expected given the number of eligible Caucasian individuals.

**Attitudinal Barriers**

We hypothesized that low family support for seeking mental health treatment and participating in mental health research would result in poor recruitment. We also predicted that mistrust of researchers would result in a lower likelihood of recruitment. The mean for family support of research was between “agree slightly” and “agree somewhat,” and the mean for family support for mental health treatment was “agree somewhat.” Self-reported trust in mental health research was also high. Results of a Mann-Whitney *U* test suggested no significant differences in family support for treatment seeking or research, or in self-reported trust of researchers between eligible individuals who did and did not enroll.

Inferential statistics for those eligible after the phone screener and barriers are presented in Table 2.
Despite their lethality, suicidal thoughts and behaviors are understudied in clinical research, and best practices for recruiting patient populations for suicide-related clinical trials is lacking. Further, clinical research—and especially suicide research—has historically struggled to engage diverse samples with respect to demographics. The purpose of the present study was to use the recruitment data from a clinical trial looking at females with suicidality to understand the factors that predict successful recruitment of individuals with suicidality.

In the present study, factors such as income, socioeconomic status, trust in researchers, familial support for mental health and mental health research were not associated with enrollment among eligible individuals. We were successful at enrolling individuals with a past history of depression, indicating that our recruitment strategies for these individuals were successful. Finally, race was a significant predictor of enrollment among eligible individuals. Despite significant effort from the researchers to engage a diverse sample, African Americans and Asian Americans who were eligible for this study had a lower-than-expected rate of enrollment. This research thus indicates that we need to determine potential attributing factors for poor engagement, and subsequently develop better recruitment strategies for women of color in suicide research.

Specifically looking at attitudinal barriers, we predicted that trust in researchers and familial support towards mental health and mental health research would predict poor recruitment rates. This did not appear to be a significant barrier for individuals in our study. Given the nature of the study, we wanted to be very specific about which individuals we would
consider eligible for the study; consequently, this led to an extensive preliminary online questionnaire. Realizing that potential participants may be experiencing symptoms of avolition, we kept the online screener as short and easy to read as possible. Given that, we included a very limited number of questions measuring attitudinal barriers. We believe that additional questions may have allowed us to better gauge their attitudes about and interest in mental health research and treatment. Although our questions had face validity, we believe that more subtle questions would have led to greater variability in responses, preventing social desirability bias. Future researchers should focus on asking attitudinal questions in a different way, perhaps by asking about previous experiences with mental health professionals/researchers, inquiring about any unique experiences that friends and family may have faced regarding research, or whether or not individuals were familiar with the Tuskegee studies or the 1970’s forced sterilization of Native American women (George et al, 2014).

We also predicted that lower SES, as measured by access to phone, internet, transportation, childcare, and income, would be a barrier for recruitment. However, results indicated that these barriers were not significant. We hypothesized that the high compensation, $700, for participation in this study may have been a strong incentive to participants in lower SES groups. For those with high SES, these barriers were not as prominent. Anecdotally, these individuals tended to seem more interested in the study itself, rather than the compensation associated with it. Despite the assumed digital divide among individuals from a higher socioeconomic status and lower socioeconomic status, no participant in our study reported access to the internet or access to a phone as a difficulty. Given the rise of modern technology and ease of access, we believe that this may no longer be as relevant of a barrier as it once was. Women in this particular study were provided with assurance that they would be compensated for childcare
and transportation costs if they enrolled in the study. Thus, for this study, relief for those specific barriers was provided to participants. It is possible that through compensation we were able to mediate some effects for individuals with lower SES, thus enabling their participation.

Previous researchers have struggled to recruit individuals with suicidality and depression. This is often because of the impaired daily functioning and symptoms of depression these individuals experience, such as rumination, brooding, or avolition. We believe we were successful in recruiting individuals with higher rates of depression because our advertisements were very clear that we were recruiting women with suicidality. We used social media, specifically Facebook, to recruit participants. We then verified eligibility with a phone call and an interview. When individuals were asked questions about their clinical picture, we prompted them to answer as truthfully as possible, reinforcing the notion that we wished to understand them and that we were willing to work with them on an outpatient basis provided that imminent risk of suicide remained low. We also made it clear that their clinical picture regarding depression and suicidality would not disqualify them from participating. Finally, we recognized that individuals may wish to discuss questions with a researcher, we allowed individuals to talk to a staff member on the phone, rather than answer the questions online. Our aim was to make every participant feel comfortable discussing their clinical symptoms, without the feeling of judgement or stigmatization. As such, we believe we were able to successfully recruit individuals with depression and suicidality.

In an attempt to recruit a diverse sample and to gain a better understanding of suicidal individuals, we used several techniques to increase minority participation. First we used specific Facebook advertisements with varying races of models, employed a racially diverse research staff, and advertised in ways that specifically requested racial minority participants to participate.
Despite our efforts, we were less likely to enroll African American and Asian American women. We theorized that the factors associated with poorer recruitment of African Americans and Asian Americans, in comparison to their Caucasian counterparts, would be socioeconomic status, income, trust in researchers, familial support for mental health and research; however, we did not find associations of any of these factors with recruitment—only race was a significant predictor. We looked at the intersection of these barriers specifically for women of color because in the United States, these factors often overlap. For example minority women tend to report more mental health and research stigma in their communities than their white counterparts (Woodall, 2010). There were no significant results with regard to the interaction between race and other barriers in the current study.

A majority of research on effective recruitment strategies has predominantly been based on white participants, and translating those recruitment strategies to racial and ethnic minorities has been ineffective (George et al., 2014). Research shows that passive recruitment strategies are more effective than active strategies for minorities and women (Farmer et al., 2007). Passive recruitment styles include announcement in congregations, advertisements in news, and posting fliers (Farmer et al., 2007). Active strategies include sending targeted emails, telephone calls, and face to face contact (Farmer et al., 2007). As such we believed that Facebook advertisements would be a more effective tool for recruitment of women of color. Providing compensation for transportation and additional incentives, and clinically staffing culturally diverse individuals have also proven to be effective strategies for recruiting women and minorities (Farmer et al., 2007). Therefore, we offered compensation for child care and transportation. We were also a majority non-white staff. As such, we are unclear about why our recruitment strategies were not as effective as they have been for other studies.
It is important to study the interactions of race and other intersectionalities (i.e., socioeconomic barriers, attitudinal barriers, and clinical picture). As mentioned earlier, it is often difficult to clearly distinguish between the effects of race, SES, clinical symptoms, and attitudinal factors. These concepts overlap and are often codependent on one another, as such we hypothesize that rather than a singular factor affecting recruitment outcomes, it was possibly the integration of all of them. We predicted one variable to stand out amongst others, but it seems more plausible that for African American and Asian women, it’s the same barriers interacting with one another that ultimately affected recruitment rates.

Another explanation for our findings is that African Americans and Asian Americans may have less suicidality than Caucasian women. Specifically looking at African Americans, despite racial discrimination, lower SES, cultural persecution, and poor access to resources, suicide rates remain relatively low compared to Caucasian (Gibbs, 1997). This enigma is often referred as the racial suicide paradox (Spates, 2014). Research indicates that trends of suicide amongst African Americans are different than Anglo-Americans, for example black women are less likely than black men to attempt suicide and are less likely to use lethal means for completing suicide (Gibbs, 1997). Since the 1970’s, white female suicide rates have been consistently twice as high as rates for black females (Gibbs, 1997; Spates, 2014). Given the history of racism and discrimination in the United States, it is theorized that the African American communities have developed multifaceted survival strategies that may also be protective factors against suicide (Spates, 2014). Unique protective factors in African American suicide has been religiosity, older age (i.e. suicide rates tend to decline amongst older African Americans), southern region (suicide rates tend to me lower for African Americans in the south
and less racially integrated areas), and social support (suicide rates tend to be lower for African Americans when they are more involved with their family units) (Gibbs, 1997).

The racial suicide paradox is also consistent for Latinos as well (Spates, 2014). Strong social support from family and friends during stressful times help Latinos effectively cope with social and psychological issues (Spates, 2014). Although Asian American groups are substantially growing in the United States, there is limited data reflecting on their individual experiences related to suicide (Cheng et al., 2010). Similar to African Americans, Asian Americans are less likely to seek mental health services for psychological pain (Cheng et al., 2010). Some reported protective mechanisms for Asian Americans and Native Hawaiian and Pacific Islander youths have been higher self-esteem, bicultural identity (i.e. acculturation & enculturation), school involvement, peer relationship, collective ethnic self-esteem, family support, spirituality, and ethnic belonging (Wyatt, Ung, Park, Kwon, & Trinh-Shevrin, 2015).

There could also be other attitudes, which we were unable to measure, that may contribute to poor research engagement. Many African Americans believed that mental health issues can be remedied without help from a health care professional (Ward & Heidrich, 2010). In a study looking at coping behaviors amongst African Americans, they were less likely to endorse mental health symptoms and antidepressants as acceptable treatments. African Americans endorsed religious coping strategies more than their counterparts (Ward & Heidrich, 2010). African American women specifically reported that psychological pain and distress was a normative part of being a ‘strong black woman’, and therefore believed that it not an issue with their health, but rather a part of their identity and a normal part of their experience (Ward & Heidrich, 2010).
Minorities often believe that research will only benefit white individuals, and that the benefits of research will not reach their respective communities (Farmer et al., 2007; George et al., 2014; Scharff et al., 2010). This ideology stems from poor access to health care for racial and ethnic minorities (Alegria et al., 2008; McGuire & Miranda, 2008). Health disparities is defined as inequitable access to health care; which is not attributed to the needs or preferences of the patient but rather inequality in access to good providers, differences in insurance coverages, and discriminations from professionals (McGuire & Miranda, 2008). In the United States, racial and ethnic minorities have less access to mental health services than Caucasian individuals (Alegria et al., 2008; McGuire & Miranda, 2008). In the past ten years there has been no significant change in closing the racial disparities in Mental Health Access (McGuire & Miranda, 2008). Minority individuals who are less acculturated in the United States are more likely to go undetected for depression due to limited effectiveness of facilities (Alegria et al., 2008). Across different ethnicities and races, individuals vary in symptom presentations, for example Latino individuals are more likely to report somatic symptoms of psychiatric issues (Alegria et al., 2008). In the case for African American women, they are often associated with stereotypes such as a being a strong matriarch, angry, and living on welfare (George et al., 2014). These stereotypes are often included in the diagnosis given and the treatment decisions that are made (George et al., 2014). Given that mental health professionals and researchers have a poor understanding of these differences, it often results in a clinical misdiagnosis (Alegria et al., 2008). Minorities are less likely to receive the mental health care they need, and when they do receive services, it is inferior due to racial prejudices (Alegria et al., 2008; McGuire & Miranda, 2008). After entering mental health treatment individuals do not receive effective evidence based treatment interventions for both depression and anxiety (McGuire & Miranda, 2008). Given the
stigma and poor treatment availability, there is a higher rate of attrition among minority individuals that white individuals (McGuire & Miranda, 2008).

The belief that research will predominantly benefit Caucasian individuals is supported in the considerable scientific literature and oral history of many minorities (Corbie-Smith, Moody-Ayers, & Thrasher, 2004). These experiences of health disparities unfortunately will affect future research participation from minority individuals (Corbie-Smith et al., 2004). It is the responsibility of clinical researchers to address the racial health disparities in research participation and mental health services. Researchers can do so by analyzing data in way that challenges the underlying assumptions, interpreting the differences in health outcomes for various minorities, and investing more time outside of data collection with community members to build rapport and trust (Corbie-Smith et al., 2004). Minority members often state that researchers are ‘helicopter’ researchers who drop into the communities, receive the data that they need, and pull out once they have received that information (Corbie-Smith et al., 2004; Horowitz, Robinson & Seifer, 2010). It is imperative that future researchers consider the needs of minority communities and create studies that will also benefit them, by recognizing the existing deficits.

Although we did not measure ‘interest’ as an attitudinal barrier, it seems possible that women of color find the research less interesting and important. It is possible that minority women perceive that neither the menstrual cycle nor suicidality are subjects that relate to them or their communities (Gibbs, 1997). Future researchers should consider examining interest levels of minority individuals in research participation and if the topic of the research being conducted reflects, or is perceived to reflect, the needs of the individuals and their respective communities.
There were several limitations to our study. First and foremost, due to the nature of the CLEAR study and the need for an extensive screener, we were unable to include a large number of questions in the screeners. While our questions were clear and concise, our measurement could have been improved had we asked questions in various and subtler ways. For example, rather than asking, “On a scale of strongly disagree to strongly agree, do you trust researchers?”, it may have been beneficial to ask supplementary questions such as, “Have you heard of the Tuskegee study?”, and “Do you believe researchers disclose and debrief effectively?”, and “How comfortable are you with researchers?” Finally, we did not measure interest in the study, or if participants believe this research will benefit them. Future studies should include questions that help understand the construct of research trust from varying perspectives. The second limitation to the study is the statistical power of our study. We had a relatively small sample size ($n=62$) after eligibility, reducing statistical power to detect significant differences. If we had a larger sample size, we may have been able to see more prominent results on our barriers. Our third limitation of the study was although we had a non majority white staff, participants did not come into contact with these individuals until they enrolled in the study. Future studies should increase contact between all research staff and their participants, especially for participants of color.

Based on our experience with recruitment of women with suicidality, there are several recommendations we believe would be helpful to other researchers. First, although we noted (during the phone screen) the availability of travel and childcare compensation during the study, none of our enrolled participants utilized these services. We believe this may be due in part to the fact that public bus transportation to our lab was available. Secondly, while we had a majority non-white staff, the outcome of the present study (enrollment opt-in) occurred prior to any interactions in which participants would have observed this diversity. One possible method of
increasing interest and trust early on in the process may be to develop a specific recruitment script for African American and other minorities. The goal of this specific script is to highlight how the study might ultimately benefit them and their communities if they participate. It may also be useful to communicate the racial disparities in clinical trials participation, and how our research strives to bridge those gaps by including minority individuals and examining how our variables of interest relate to minority risk specifically. Finally, although we believe that community-based recruitment may be useful, we also believe that researchers should be selective about where they chose to recruit (e.g., since religiosity is a protective factor against mental illness among people of color, churches may not be the best place to recruit individuals with suicidality). We suggest working with, for example, local ACT teams and other community-based teams to recruit racial minority participants.
CHAPTER 5: CONCLUSION

This is the first study to examine factors associated with effective enrollment in a clinical trial for women with suicidality. Attitudinal factors, socioeconomic factors, and severity in clinical picture were not significant barriers for individuals in this study. Unlike some previous research, we were able to effectively recruit individuals with depression and suicidality. We attribute this high recruitment rate to using social media as a recruitment platform, using advertisements which made it clear that we are looking for women with suicidal thoughts, and encouraging women during the study to accurately describe the extent to which they feel depressed and suicidal. We established rapport with our participants by conveying that we wish to understand them and would work with them on an outpatient basis given that they did not show express clear imminent risk of suicide attempt.

Despite significant efforts to recruit minority participants, such as creating specific ads for minorities, and having a diverse staff, race was a barrier to recruiting African American and Asian American women. At this point, it remains largely unknown why we were unsuccessful in recruiting minority women. This is especially unclear given that traditionally assumed barriers were not associated with failure to enroll. It is imperative that future researchers include suicidal women in clinical research and determine why minority women are less likely to enroll in these studies. By determining the true barriers that prevent minority women from participating in research, we will be able to make research more inclusive so that the results of our studies can accurately represent the diverse population of women with suicidality.
APPENDIX A: DEMOGRAPHIC QUESTIONS

How much was your household income from all sources for last year? (Report income before taxes).

- 1. less than $15,000
- 2. $15,000 - $19,999
- 3. $20,000 - $24,999
- 4. $25,000 - $29,999
- 5. $30,000 - $34,999
- 6. $35,000 - $39,999
- 7. $40,000 - $49,999
- 8. $50,000 - $79,999
- 9. $80,000 - $99,999
- 10. $100,000 or above

What is your race?

- Caucasian
- African American
- Asian
- American Indian
- Alaskan Native
- Native Hawaiian or Pacific Islander
- More than one race
- Other (Specify): [__] / 
- I decline to answer
## APPENDIX B: PSYCHIATRIC HISTORY

Have you ever been told by a doctor you may have one of the following conditions?

*Note: Remember, it's okay to say yes to these!*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>I'd rather discuss this on the phone or in person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Borderline Personality Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Bipolar Disorder/ Manic Episode</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Psychotic Disorders</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Substance Use Disorder (e.g., alcoholism)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Postpartum Depression or Psychosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Premenstrual Dysphoric Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
APPENDIX C: SUICIDE HISTORY

Have you EVER, in your entire life, had any of the following experiences?

*Remember: We are especially interested in recruiting women who HAVE had some of these experiences.*

<table>
<thead>
<tr>
<th>Experience</th>
<th>Yes</th>
<th>No</th>
<th>I’d rather answer this question on the phone or in person</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have wished I were dead.</td>
<td></td>
<td></td>
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<tr>
<td>I have wished I could go to sleep and not wake up.</td>
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<tr>
<td>I have wanted to kill myself or considered killing myself.</td>
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<tr>
<td>I had thought that my friends and family would be better off if I were dead.</td>
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<tr>
<td>I have made a suicide attempt.</td>
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<tr>
<td>I have injured myself on purpose (for example, cutting)</td>
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</tbody>
</table>
APPENDIX D: COMMON BARRIERS

Please rate each statement below-- note that there are NO RIGHT OR WRONG ANSWERS, and your honest responses will not exclude you from participation.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Slightly</th>
<th>Agree Slightly</th>
<th>Agree Somewhat</th>
<th>Agree Strongly</th>
<th>X</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>I struggle to find convenient transportation to school, work, or other activities.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>I struggle to find child care so that I can engage in school, work, or other activities.</td>
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<tr>
<td>I do not have convenient access to the internet.</td>
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</tr>
<tr>
<td>I do not have convenient access to a phone.</td>
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</tr>
<tr>
<td>My family would support me in participating in mental health research.</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>My family would support me in seeking mental health care (therapy, medication, etc.).</td>
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<td></td>
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<tr>
<td>I trust researchers.</td>
<td></td>
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</tbody>
</table>
APPENDIX E: ADVERTISEMENTS USED

CLEAR Women's Research Lab
Seeking women to participate in a study on the biology of stress and suicidal thoughts. Earn $700 for participation!

Find out if you're eligible!

CLEAR Women's Research Lab
Seeking women of color to participate in a study on the biology of stress and suicidal thoughts. Earn $700 for participation!

Find out if you're eligible!
REFERENCES


Woodall, A., Morgan, C., Sloan, C., & Howard, L. (2010). Barriers to participation in mental health research: Are there specific gender, ethnicity and age related barriers?. *BMC Psychiatry, 10*