

AN EXAMINATION OF THE MOTIVATIONAL
PHASE OF THE INTEGRATED MOTIVATIONAL-
VOLITIONAL MODEL OF SUICIDE IN AFRICAN
AMERICANS

By

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Abstract: Suicide is currently the third leading cause of death in African American young adults. The Motivational Phase of the Integrated Motivational-Volitional Model of Suicide (IMV; O'Connor, 2011) may be a beneficial model to examine suicide risk among African Americans. The aim of the proposed study was to investigate the Motivational Phase of the IMV among a sample of African American college students. It was hypothesized that entrapment would mediate the relationship between defeat and suicide ideation, brooding would strengthen the relationship between defeat and entrapment, and perceived burdensomeness would strengthen the relationship between entrapment and suicide ideation. Results of a moderated mediation analysis did not support the study's hypotheses. However, defeat demonstrated a positive direct effect on suicide ideation. These results imply the Motivational Phase of the IMV may not be an ideal model to examine suicide risk among African American college students.

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CHAPTER I

INTRODUCTION

Suicide is a public health concern for African American young adults, as more than 6,000 African Americans between the ages of 18 to 25 have died by suicide since the year 2000 (Centers for Disease Control and Prevention; CDC, 2015). Further, suicide is the third leading cause of death for African American young adults after homicide and unintentional injuries (CDC, 2015). Five percent of African American young adults reported having thoughts of suicide in the year 2013 (Substance Abuse and Mental Health Services Administration, 2014). Despite the fact that African Americans experience disparities in mental health utilization and community resources for suicide related issues compared to other racial groups; historically, they have had lower rates of suicide compared to other ethnic groups (Gibbs, 1997). Although this statistic is still true, given the fact that suicide is a leading cause of death, research on the etiology of suicide in African American young adults is still warranted as it still a concern for the population. Moreover, studies that use a theoretical framework will be useful as few studies have used a theory to explain suicide among African Americans. With this in consideration, the Integrated Motivational-Volitional Model of Suicide (IMV; O'Connor, 2011a) may be a useful theory to study suicide among African Americans.

The Integrated Motivational-Volitional Model of Suicide (IMV) was created in 2011 to attempt to “synthesize, distill, and extend our knowledge and understanding of why people die by suicide with a particular focus on the psychology of the suicidal mind” (O’Connor, 2011b, p. 295). The IMV contains three phases (i.e., Pre-Motivational, Motivational, Volitional) that detail the process of the development of suicide ideation and behaviors. The first phase is the Pre-Motivational Phase, which includes the diathesis-environment-life events triad, which influences the other two phases of the model (O’Connor, 2011a). It is proposed that a genetic vulnerability may put an individual at risk of suicide when their vulnerability is activated by stress. This stress could come from the environment or negative life events. The second phase is the Motivational Phase, which details how an individual comes to develop suicide ideation. This phase includes two constant factors (i.e., defeat/humiliation & entrapment) and two moderators (i.e., threat to self & motivational) that lead to the development of suicide ideation. The last phase (i.e., Volitional) explains the factors that increase the chances that suicide ideation will develop into suicidal outcomes.

As mentioned previously, the core phase of the IMV and focus of the current study is the Motivational Phase. The Motivational Phase includes two constant factors (i.e., defeat/humiliation & entrapment) that are proposed to lead to the development of suicide ideation. The first factor is defeat/humiliation, referred to as “defeat” throughout the literature. Defeat can be defined as “a sense of failed struggle concerning the loss or disruption of some valued status or internal hierarchical aim” (Taylor, Gooding, Wood, & Tarrier, 2011). These feelings of defeat arise when a person struggles to overcome the stresses of a circumstance or situation. Noteworthy, a person will only be able to feel defeated if opportunities to overcome the triggering circumstance are attempted. It is proposed that factors such as failure to attain resources, social put downs, and internal sources of attack could lead to perceptions of defeat (as cited in Taylor et al., 2011). It is possible that these events are particularly relevant to African Americans as they have an increased rate of poverty compared to the general population (DeNavas-Walt & Proctor, 2014) and suffer put downs and attacks such as racism,

discrimination, and microaggressions.

Although the relationship between defeat and suicide has not been examined in African Americans, an abundance of research has examined the two variables in various other samples. Defeat has been shown to have a positive association to suicide ideation in samples of college students (Taylor, Wood, Gooding, & TARRIER, 2010), prisoners (Slade, Edelmann, Worrall, & Bray, 2012), clinical populations (Panagioti et al., 2005; Panagioti, Gooding, & TARRIER, 2014; Panagioti, Gooding, Taylor, & TARRIER, 2013; Taylor et al., 2010), and in a meta-analysis (Siddaway, Taylor, Wood, & Schulz, 2015). In addition, defeat has been demonstrated to prospectively predict suicide attempts in a sample of individuals who had previously attempted suicide (O'Connor, Smyth, Ferguson, Ryan, & Williams, 2013). There is also evidence that patients classified as "parasuicidal" endorsed significantly higher levels of defeat than a control group (Rasmussen et al., 2010). In addition, the patients who had repeated self-harm episodes reported significantly higher rates of defeat than those who had one self-harm episode. Dhingra, Boduszek, and O'Connor (2016) also found that individuals with suicide related outcomes endorsed higher rates of defeat than a control group. These findings demonstrate the negative effects defeat has on suicidal outcomes and its usefulness in a theory of suicide. The IMV also proposes that the next step towards developing suicide ideation occurs after perceptions of defeat lead to feelings of the inability to escape a circumstance (i.e., entrapment).

The IMV states that entrapment is the mechanism through which feelings of defeat influences suicide ideation. Entrapment includes the sense of being unable to escape feelings of defeat, rejection, or stressful situations (O'Connor et al., 2013). Feelings of entrapment can come from internal feelings that block the motivation to escape (i.e., internal entrapment) or outside stimuli that block the motivation to escape (i.e., external entrapment; Gilbert & Allan, 1998). According to the IMV, if an individual is not able to find a solution to escape their feelings of defeat and entrapment, the

motivation to escape increases, thus leading to an increase in thoughts of suicide as an escape of the feelings of entrapment (O'Connor et al., 2011).

Although, no study to my knowledge has examined entrapment and suicide specifically among African Americans, past research has established a positive association between the two variables. Specifically, entrapment was positively associated with suicide ideation in a sample of college students (Taylor et al., 2010), prisoners (Slade et al., 2014), adolescents (Park et al., 2010) and in a meta-analysis (Siddaway et al., 2015). Similar results were also observed in clinical samples (O'Connor et al., 2013; Panagioti et al., 2012; Rasmussen et al., 2010; Taylor et al., 2010). Dhingra et al. (2016) found that individuals who have suicide ideation or past attempts had more elevated levels of entrapment than a control group. Findings have also indicated that people who are at risk for suicide reported lower rates of being able to escape their problems and higher rates of self harm compared to control groups (O'Connor et al., 2003; Rasmussen et al., 2010). Results from Rasmussen and colleagues also found that entrapment mediated the relationship between defeat and suicide ideation, which supports the tenets of the IMV. Similarly, Teismann and Forkmann showed that entrapment mediated the relationship between rumination and suicide ideation (2016). However, Tucker, O'Connor, and Wingate (in press) found a direct effect of defeat on suicide ideation; but no indirect effect on suicide ideation via entrapment. Nevertheless, overall, these findings of entrapment predicting suicide in various samples and research designs, demonstrate it as a robust predictor of suicide, which merits continuous examination as included the IMV.

In addition to defeat and entrapment, which are constant constructs, the IMV includes two forms of moderators that influence the relationships between defeat and entrapment and entrapment and suicide ideation. These two moderators are threat to self moderators and motivational moderators. Threat to self moderators (TSMs) are variables that have the potential to increase the likelihood that defeat leads to entrapment (O'Connor, 2011a). TSMs are activated by perceptions of defeat/humiliation and strengthen the effect that defeat has on entrapment. O'Connor proposed

various variables that may serve as TSMs, and specifically identified brooding rumination. Brooding includes pondering about events with anxiety, gloom or as a negative experience (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Research has suggested that of the two forms of rumination (i.e., brooding & reflective), brooding is the more maladaptive type. Consistent with O'Connor's theory, empirical evidence has suggested that brooding may influence the relationship between defeat and entrapment. Specifically, positive future thinking was negatively influenced by feelings of defeat and brooding was associated with a deficit of positive future thinking in a sample of adults (O'Connor & Williams, 2014). Thus it is possible that brooding could decrease positive future thinking to the point that an individual feels entrapped and unable to escape their current situation.

In addition to the relationship with defeat and entrapment, there is overwhelming support that brooding is associated with suicide risk (for a review see Morrison & O'Connor, 2008). It was proposed that brooding may increase vulnerability to suicide because brooding causes one to engage in repetitive thinking about negative mood and can interfere with problem solving abilities and mood regulation (Miranda & Nolen-Hoeksema, 2007). Past research has supported this hypothesis as brooding has predicted suicide ideation in samples of adults (Miranda & Nolen-Hoeksema, 2007; O'Connor & Noyce, 2008). Additional studies have also demonstrated a positive association between brooding and suicide ideation (Abdollahi & Talib, 2015; Chan, Miranda, & Surrence, 2009; Miranda, Valderrama, Tsypes, Gadol, & Gallagher, 2010; Tucker et al., 2013; Tucker, Wingate, O'Keefe, Hollingsworth, & Cole, 2015).

As the brooding and suicide relationship literature has increased, studies have started to examine brooding as a mediator or moderator of the relationship between a suicide risk factor and suicide ideation. Specifically, brooding has been demonstrated to have an indirect effect on suicide ideation through symptoms of depression (Chan et al., 2009; Miranda & Nolen-Hoeksema, 2007) and emotional intelligence (Abdollahi & Talib, 2015). Similarly, brooding has had a mediating effect on the relationships between suicide ideation and suicide risk factors such as self-criticism (O'Connor &

Noyce, 2008), negative life events (Chan et al., 2009), cognitive inflexibility (Miranda et al., 2013), and historical loss (Tucker et al., 2015). In addition to mediational analyses, brooding has also been studied in a moderation analysis. Specifically, brooding moderated the relationship between perceived stress and suicide ideation in a sample of college students (Cole et al., 2015). Although there has been an increase in the amount of literature on the brooding and suicide relationship in general samples, this increase has not been reflective in the amount of studies that examined the relationship in ethnic minority people, especially African Americans. Only one study to my knowledge has examined brooding and suicide specifically among African Americans. The results were in line with other findings in other populations of a positive correlation between the two variables (Cheref, Lane, Polanco-Roman, Gadol, & Miranda, 2015). As evidenced by the findings above, there is support for brooding as a risk factor for suicide and its necessity in a predictive model of suicide such as the IMV. Further, since brooding has been demonstrated as a moderator of the stress and suicide relationship, it is possible that it could also serve as a moderator of defeat and entrapment, as proposed by the IMV.

In addition to the threat to self moderators, which increase/decrease the likelihood that defeat leads to entrapment, the IMV also proposes that the presence of motivational moderators in the model. Motivational moderators are any variable (i.e., moderator) that increases or decreases the likelihood that entrapment leads to suicide ideation. Future thinking, goals, subjective norms, and social support are examples of possible motivational moderators given by O'Connor (2011). Perceived burdensomeness is another example of a motivational moderator that has a substantial amount of support as a risk factor of suicide. Perceived burdensomeness is a construct from the Interpersonal Theory of Suicide and includes the perceptions that an individual is ineffective in life and a burden on family, friends, and close others (Joiner, 2005). An individual high in perceived burdensomeness may also feel worthless and that others will benefit from their death. Past research has indicated that perceived burdensomeness is a positive predictor of suicide ideation in samples of

African Americans (Davidson et al., 2010; Hollingsworth et al., 2014; Lamis & Lester, 2012). Perceived burdensomeness has also evidenced interaction with other suicide risk factors (i.e., thwarted belongingness & acquired capability) to predict suicide ideation in African Americans (Davidson et al., 2010). Given the evidence that perceived burdensomeness moderates the relationship between suicide risk factors and suicide ideation in a sample of African Americans, it is plausible that it may also have the same moderating effect on the relationship between entrapment and suicide ideation in the same population.

It is imperative that theories are tested repeatedly and in various populations to observe their predictive ability and understand whether the theory holds true in diverse samples. To date, no study has tested the IMV in a sample of African Americans as it is a relatively new theory. Further, few studies have examined suicide in African Americans using a theoretical framework. To fill the gap in this literature, the aim of the proposed study is to investigate the motivational phase of the IMV among a sample of African American college students. The current study consists of three hypotheses, which are congruent with the IMV. First, it is hypothesized that defeat will have an indirect relationship to suicide ideation through entrapment. Second, it is hypothesized that brooding will serve as a threat to self moderator and strengthen the relationship between defeat and entrapment. Brooding was selected as the threat to self moderator, as it was proposed to be one by O'Connor (2011a) and is thought of as the more maladaptive type of rumination. Last, it is hypothesized that perceived burdensomeness will serve as a motivational moderator and strengthen the relationship between entrapment and suicide ideation. Perceived burdensomeness was selected as a motivational moderator instead of thwarted belongingness, because of the evidence that thwarted belongingness may not be as independently predictive of suicide ideation and may be most predictive of suicide ideation in the presence of perceived burdensomeness (Van Orden, Witte, Gordon, Bender, & Joiner, 2008). Implications of the study may provide evidence of a novel way to study suicide in African Americans and add to the literature on suicide among African Americans, which there is a lack of,

compared to other groups. The study may also provide clinical implications in assessing for suicide risk among clients who are African American.

CHAPTER II

REVIEW OF LITERATURE

Suicide in African Americans

Suicide is a public health concern for African Americans, specifically African American young adults. Over the past 15 years, 6,243 African Americans between the ages of 18 to 25 have died by suicide (Centers for Disease Control and Prevention; CDC, 2015). This disturbing toll makes suicide the third leading cause of death for African American young adults after homicide and unintentional injuries (CDC, 2015). In addition, results from the 2013 National Survey on Drug Use and Health, indicated that 6.3% and 5.0% of African Americans between the ages of 18-25 reported having serious thoughts of suicide in the years 2012 and 2013, respectively (Substance Abuse and Mental Health Services Administration, 2014). Further, the percentage of African Americans above the age of 18 that reported a suicide plan and suicide attempt has not changed significantly between 2008 and 2013, and only minimally fluctuated (Substance Abuse and Mental Health Services Administration, 2014). An additional concern is the lack of mental health service utilization among African Americans. African Americans have been shown to be 20% less likely to seek treatment for depression, of which suicide ideation is a symptom (Agency for Healthcare Research and Quality, 2012). This lack of services decreases the opportunities that an

African American can receive treatment for suicidal thoughts, which may prevent a future suicide attempt.

To combat this issue, some researchers have proposed community suicide prevention programs. These programs include using the Black Church as a location, as a number of African Americans seek help for psychological difficulties and other issues in the church (Molock et al., 2008). Molock and colleagues suggest the church as an ideal location as it would be culturally sensitive and would be useful to promote individuals to seek appropriate mental health resources, if necessary. This proposal could be plausible as 53% of African American reported attending church once a week and 87% reported belonging to a religious group (Pew Research Center, 2009). Another program suggests prevention programs that treat risk factors for suicide such as depression, bullying, and substance abuse (Brown & Brumet, 2009). The authors assert that African American families may be amenable to discussing and treating these issues more than suicide, which is highly stigmatized.

Although African Americans do not use mental health services as often as others and have a lack of community suicide prevention programs, compared to other ethnic groups, African Americans have historically and currently reported lower rates of suicide (Gibbs, 1997). However, similar to other races, African American women are more likely to attempt suicide, while men are more likely to die by suicide (American Association of Suicidology, 2014). This statistic could possibly be explained by the method that an individual chooses to attempt suicide. Specifically, African American men used firearms as the primary method of suicide, while African American women's primary method of suicide was suffocation (CDC, 2014). While the suicide rate among African Americans may not be as high as other ethnic groups, research on the etiology of suicide in African Americans is still warranted as it still a concern for the population. Further, studies that utilize a theoretical basis would be fruitful, as few studies have used a theory to examine suicide in African Americans. With this in consideration, the Integrated Motivational-

Volitional Model of Suicide (IMV; O'Connor, 2011a) may be a useful theory to study suicide among African Americans.

Integrated Motivational-Volitional Model of Suicide

The Integrated Motivational-Model of Suicide (IMV) was developed in 2011 in attempt to “synthesize, distill, and extend our knowledge and understanding of why people die by suicide with a particular focus on the psychology of the suicidal mind” (O'Connor, p. 295, 2011b). The IMV was influenced by a number of theories, but three were most influential including the Theory of Planned Behavior (Ajzen, 1991), the diathesis-stress hypothesis (e.g., Schotte & Clum, 1987), and the Arrested Flight Model of Suicidal Behavior (Williams, 2001; Williams & Pollock, 2001). The IMV is a three phase model that aims to “map the relationship between background factors and trigger events as well as the development of suicidal ideation/intent through to suicidal behavior” (O'Connor, 2011b, p. 296). As stated, the IMV contains three phases (i.e., Pre-Motivational, Motivational, & Volitional) which are detailed below, with an emphasis on the Motivational Phase, the focus of the current study.

The Pre-Motivational Phase

The first stage of the IMV is the Pre-Motivational Phase, which includes the diathesis-environment-life events triad, which influences the other two phases of the model (O'Connor, 2011a). This phase draws from the diathesis-stress model, which proposes that the interaction of nature and nurture influences suicidal behavior. The diathesis may be the genetic vulnerability that puts an individual at risk of suicide when activated by a stress, and the stress can come from the environment or negative life events. Personality and individual differences (e.g., perfectionism) can also make one vulnerable to suicide. In addition to the general environment and negative life events that most people experience in this phase, African Americans also endure negative factors such as racism, discrimination, and microaggressions, making this phase particularly relevant for African Americans. This is even more concerning as the racial factors mentioned are associated with suicidal outcomes (e.g., O'Keefe et al., 2014, Walker et al., 2014).

In conclusion, this phase provides background factors that may increase one's chance of developing suicidal behavior. As with the general population, African Americans are at risk for genetic vulnerabilities and general life stressors that may put them at risk of suicide. However, as an ethnic minority, they are exposed to racial stressors that could also increase suicide risk. The inclusion of these factors makes the IMV a possible favorable model to study suicide among ethnic minorities, including African Americans. The next phase is the core of the model and it includes proposed factors that increase the chance of developing suicide ideation.

The Motivational Phase

The motivational phase of the IMV is the core phase of the model and details the formation of suicide ideation. The phase includes two constant factors (i.e., defeat/humiliation & entrapment) that are proposed to lead to the development of suicide ideation. Both defeat and entrapment have been demonstrated to separate people who endorse suicide-related outcomes versus those who do not (Dhingra, Boduszek, & O'Connor, 2015). In addition, the phase includes moderators that influence the way the constant factors mentioned above impact the development of suicide ideation. The phase is largely influenced by the Arrested Flight Model of Suicidal Behavior, which proposed that suicide risk was increased when feelings of defeat and entrapment were elevated and feelings of support were low (see Williams, 2001). However, O'Connor includes moderators that explain the transition from feelings of defeat/humiliation to entrapment to suicide ideation and eventually to suicidal behavior. The first part of this phase includes feelings of defeat/humiliation, which is referred to as defeat throughout the model. Defeat can be defined as "a sense of failed struggle concerning the loss or disruption of some valued status or internal hierarchical aim" (Taylor, Gooding, Wood, & Tarrier, 2011). Essentially, feelings of defeat arise when an individual struggles to overcome the stresses of a circumstance or situation. It is important to note that for a person to feel defeated, they must have attempted to overcome the triggering circumstance. The concept of defeat originated in animal research (Gilbert & Allan, 1998), but has since been studied in relation to various psychopathologies including depression,

anxiety, posttraumatic stress disorder, and suicide (see Taylor, Gooding, Wood, & Tarrier, 2011 for a review). Gilbert proposed three classes of events that have the potential to create perceptions of defeat in humans including a failure to attain resources of value (e.g., financial stability), social put-downs or attacks from others, and internal sources of attack (e.g., self-criticism, unfavorable social comparisons or unachievable ambitions; as cited in Taylor et al., 2011). It is possible that these events could especially be observed in African Americans, as they have an increased rate of poverty (DeNavas-Walt & Proctor, 2014) and suffer put-downs and attacks from others because of their race (e.g., racism, discrimination, & microaggressions).

Although the relationship between defeat and suicide has not been empirically examined in African Americans, the relationship has been looked at in the general population, which shows defeat's deleterious effects. For example, Taylor, Wood, Gooding, and Tarrier (2010) showed a positive association between defeat and suicide ideation in a sample of 93 college students. Further, the association between defeat and suicide ideation has also been examined in various clinical samples. For instance, O'Connor (2003) compared levels of defeat between a group of 30 patients at a hospital who were classified as parasuicidal and a group of 30 patients who were a control. Results from the study demonstrated that the parasuicidal group endorsed significantly higher levels of defeat than the control group. An additional study that included 103 patients who were admitted to a hospital for an episode of self-harm showed that defeat had a positive association with suicide ideation (Rasmussen et al., 2010). In addition, the patients who had repeated self-harm episodes reported significantly higher rates of defeat than those who had one self-harm episode. The relationship between defeat and suicide has also been established in people who have PTSD and a history of trauma. Specifically, Panagioti et al. (2005) showed that there was a positive association between defeat and suicide ideation in a sample of 91 adults who were diagnosed with PTSD or had experienced a traumatic event. Other studies have supported the positive association between defeat and suicide ideation among people who have PTSD (Panagioti, Gooding, & Tarrier, 2014; Panagioti, Gooding, Taylor, & Tarrier, 2013).

In addition to PTSD, defeat has a positive association with people who have schizophrenia related disorders. For example, Taylor, Gooding, Woods, and Jones (2010) found a positive relationship between defeat and suicide ideation in a sample of 28 patients with schizophrenia spectrum disorders. In addition to general and clinical samples, defeat positively predicted engaging in self-harm behaviors in a sample of 81 male prisoners (Slade, Edelmann, Worrall, & Bray, 2012). Additionally, defeat has been demonstrated predict suicidal outcomes in a longitudinal study. Specifically, O'Connor, Smyth, Ferguson, Ryan, and Williams (2013) showed that defeat predicted suicide attempts 48 months after baseline predictors were collected in a sample of 70 participants who had previously attempted suicide. The aforementioned studies have shown the effects perceptions of defeat have on suicidal outcomes. With these findings, the importance of examining defeat in a model of suicide, as observed in the IMV model, is needed. After an individual has feelings of defeat, the IMV model proposes that the next step towards suicide ideation is the perception of the inability to escape a circumstance (i.e., entrapment).

Similar to defeat, the concept of entrapment also began in the animal literature (Gilbert & Allan, 1998). In the animal literature, entrapment can be described as the state where an animal feels defeated, and the motivation to escape is thwarted. It is thought that feelings of entrapment are more dangerous than feelings of defeat (as cited in Gilbert & Allan, 1998). The concept of entrapment has been extended to examine suicide in various suicide models (i.e., Cry for Pain, Escape Model, Arrested Flight model), which the IMV model draws from. Entrapment in humans can defined as the sense of being unable to escape feelings of defeat, rejection, or stressful situations (O'Connor et al., 2013). In addition, there are two forms of entrapment (i.e., internal and external). Internal entrapment refers to internal feelings and thoughts that block the motivation to escape and external entrapment refers to the perceptions that outside stimuli block the motivation to escape (Gilbert & Allan, 1998). It is thought that if an individual is not able to find a solution to escape their feelings of defeat and entrapment, the motivation to escape

increases, thus leading to an increase in thoughts to die by suicide as an escape of the feelings of entrapment (O'Connor et al., 2013).

Past research has provided empirical support for the theorized relationship between entrapment and suicide. For example, Taylor et al. (2010) showed that entrapment was positively associated with suicide ideation in a sample of college students. In addition, Park et al. (2012) found that higher levels of entrapment predicted higher levels of suicide ideation in a sample of 11,393 adolescents. Further, entrapment had the greatest effect on suicide ideation, over other robust risk factors of suicide including depression. O'Connor et al. (2013) also showed that entrapment added incremental validity of predicting suicide attempts while controlling for depression, hopelessness, suicide ideation, and previous suicide attempts. A meta-analysis reviewed forty studies and also demonstrated a positive association between defeat and suicidality (Siddaway, Taylor, Wood, & Schulz, 2016). Another study showed that entrapment mediated the relationship between rumination and suicide ideation in an online and clinical sample (Teismann & Forkmann, 2015). In a sample of 181 adult male prisoners with an average age of 32.7 years, entrapment (as measured by the entrapment scale) negatively predicted self-harm behaviors (Slade et al., 2014). However, other measures of entrapment (i.e., locus of control & low seeking guidance) positively predicted self-harm behaviors. The authors posited that their findings may be due to the entrapment scales measures external entrapment, which is influenced by being a prisoner.

The relationship between entrapment and suicide has also been established in clinical samples. In a 2003 study, a group of participants who were "parasuicidal" endorsed lower rates of being able to escape their problems than a control group (O'Connor, 2003). Similarly, in a sample of 103 patients, participants who had repeated self-harm episodes reported higher levels of entrapment than a control group of participants who had no history of self-harm (Rasmussen et al., 2010). Results from their study showed that entrapment (internal, external, & the two combined) was positively associated with suicide ideation. In a sample of 50 participants with

PTSD, feelings of entrapment were positively associated with suicide ideation (Panagitoi et al., 2012). This positive association between entrapment and suicide ideation has also been observed in patients with schizophrenia (Taylor et al., 2010). Other studies have supported the positive association between entrapment and suicide ideation (Panagitoi, Gooding, & Taylor, 2014; Panagitoi, Gooding, Taylor, & Tarroer, 2013; Siddaway et al., 2016) In addition to examining entrapment and suicide ideation in cross-sectional studies, O'Connor et al. (2013) showed the predictive ability of entrapment. Specifically, entrapment positively predicted suicide ideation at a two year follow up.

The IMV proposes that entrapment is a mediator of the relationship between defeat and suicide ideation. One study has demonstrated the mediational effect of entrapment on the defeat and suicide ideation relationship in a sample of individuals who had engaged in self-harm behavior (Rasmuseen et al., 2010). This study supports O'Connor's hypothesis that defeat influences suicide ideation through feelings of entrapment. However, Tucker et al. (in press) found no indirect effect of entrapment on the relationship between defeat and suicide ideation. Overall, these findings of entrapment predicting suicide in various samples and research designs, demonstrate it as a robust predictor of suicide, which merits continuous examination. Furthermore, it should be studied among African Americans to see if it has the same outcome.

The IMV proposes that defeat and entrapment are two separate constructs, however some suggest that defeat and entrapment are better conceptualized as a single construct (Taylor et al., 2009). In addition, some studies have examined suicide and the combination of entrapment and defeat as one construct (Panagiotti et al., 2012; Panagiotti et al., 2013; Panagitoi et al., 2014; Taylor, Gooding, Wood, & Tarrier, 2011; Taylor, Wood, Gooding, Johnson, & Tarrier, 2009; Taylor, Wood, Gooding, & Tarrier, 2010; Taylor et al., 2010; Taylor et al., 2011). However, O'Connor (p. 194, 2011) stated that "they (i.e., entrapment & defeat) are distinct but overlapping constructs, in the same way that depression and hopelessness are correlated but have considerable

discriminant validity.” Thus, the current study will examine the two as distinct constructs as proposed by the IMV.

As stated previously, the IMV proposes suicide ideation develops after feelings of defeat lead to feelings of entrapment. However, the theory also proposes that this relationship is moderated by threat to self moderators (TSMs), which have the potential to increase the likelihood that defeat leads to entrapment (O’Connor, 2011a). TSMs are variables that strengthen the defeat and entrapment relationship and are activated by a perceptions of defeat or humiliation. O’Connor proposed various possible TSMs including social problem-solving, coping, and memory biases. O’Connor also proposed that rumination, specifically brooding, may also be a possible TSM (O’Connor, 2011a). Broadly, rumination is defined as repetitively focusing and thinking about negative emotional states (Nolen-Hoeksema, 1991). More specifically, brooding includes pondering about events with anxiety and gloom or as a negative experience (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Further, compared to the other type of rumination (i.e., reflection), brooding is thought to be the more negative and maladaptive type of rumination and develops from a lack of mastery and an increase in chronic stressors (Treyner et al., 2003). Empirical evidence suggested that brooding may influence the relationship between defeat and entrapment. Specifically, positive future thinking was effected by feelings of defeat and brooding was associated with a deficit of positive future thinking in a sample of adults (O’Connor & Williams, 2014). Thus, it is possible that brooding could decrease positive future thinking to the point that an individual feels entrapped and unable to escape their current situation.

In addition to the relationship with defeat and entrapment, there is overwhelming support that brooding is associated with suicide risk (for a review see Morrison & O’Connor, 2008). Miranda and Nolen-Hoeksema (2007) proposed that brooding rumination may increase vulnerability to suicide because brooding causes repetitive thinking about negative mood and can interfere with problem solving abilities and mood regulation. This proposition was supported as Miranda and Nolen-Hoeksema (2007) found that brooding prospectively predicted suicide

ideation in a community sample of 1,324 adults. This result was later replicated in a sample of 153 adults (O'Connor & Noyce, 2008). Another study with participants diagnosed with Major Depressive Disorder showed that those who reported suicide ideation endorsed higher levels of brooding than reflective rumination (Crane, Barnhofer, & Williams, 2007). Additional studies have also supported the positive association between brooding and suicide ideation (Abdollahi & Talib, 2015; Chan, Miranda, & Surrence, 2009; Miranda, Valderrama, Tsypes, Gadol, & Gallagher, 2010; Tucker et al., 2013; Tucker, Wingate, O'Keefe, Hollingsworth, & Cole, 2015).

As research has indicated the direct association of brooding and suicide, more studies have examined brooding as a third variable in relation to suicide. Brooding has been demonstrated to have an indirect effect on suicide ideation through symptoms of depression (Chan et al., 2009; Miranda & Nolen-Hoeksema, 2007) and emotional intelligence (Abdollahi & Talib, 2015). Similarly, brooding partially mediated the relationships between negative life events and suicide ideation (Chan et al., 2009) and self-criticism and suicide ideation (O'Connor & Noyce, 2008). In addition, brooding was a significant mediator of cognitive inflexibility and suicide ideation in college students (Miranda et al., 2013) and historical loss and suicide ideation in a sample of American Indian young adults (Tucker et al., 2015). Brooding has also been demonstrated as a moderator of the relationship between perceived stress and suicide ideation (Cole et al., 2015). Although there has been an increase in the amount of literature on the brooding and suicide relationship in general samples, this increase has not been reflective of studies examining the relationship in ethnic minorities, especially African Americans. Only one study to knowledge has examined brooding and suicide specifically among African Americans, which showed a positive association between the two variables (Cheref, Lane, Polanco-Roman, Gadol, & Miranda, 2015). Interestingly, in the previous study mentioned reflection rumination was a moderator of race/ethnicity and suicide ideation, while brooding was not. The authors suggested that their unexpected results were possibly caused by the sample's low level of depressive symptoms, which may have effected brooding's effect on suicide ideation. Although a

few studies have not supported the relationship between brooding and suicide (Strange et al., 2005; Surrence, Miranda, Marroquin, & Chan, 2009), collectively, most results provide evidence supporting brooding as a risk factor for suicide and its necessity in a predictive model of suicide such as the IMV. Further, since brooding has been demonstrated as a moderator of stress and suicide, it is possible that it could also serve as a moderator of defeat and entrapment, as proposed by the IMV. In addition to the threat to self moderators, which increase/decrease the likelihood that defeat leads to entrapment, the IMV also proposes that the presence of motivational moderators influence the chance that feelings of entrapment lead to suicide ideation and intent.

Motivational moderators are any variable (i.e., moderator) that increases or decreases the likelihood that entrapment leads to suicide ideation. O'Connor (2011a) provides examples of possible motivational moderators including future thinking, goals, subjective norms, and social support. Perceived burdensomeness is another example of a motivational moderator that has a substantial amount of support as a risk factor of suicide. Perceived burdensomeness is a construct of the Interpersonal Theory of Suicide and can be defined as the perception that one is a burden on family, friends, and close others and ineffective in life (Joiner, 2005). In addition, perceived burdensomeness includes feelings of worthlessness and thoughts that others will benefit from one's death. It has also been shown to predict suicide ideation above and beyond other risk factors of suicide (i.e., hopelessness & depression) in a sample of adults (Van Orden, Lynam, Hollar, & Joiner, 2006). Recently, studies have demonstrated the predictive ability of perceived burdensomeness on suicide ideation in various samples of African Americans. For example, perceived burdensomeness positively predicted suicide ideation in a sample of 115 African American college students. Additional studies have provided support for Davidson and colleagues' (2010) findings that perceived burdensomeness is a significant positive predictor of suicide ideation among African Americans (Hollingsworth et al., 2014; Lamis & Lester, 2012). As proposed by the IMV, perceived burdensomeness is suggested to interact with or strengthen the relationship between entrapment and suicide ideation. Perceived burdensomeness has been

evidenced to interact with other suicide risk factors (i.e., thwarted belongingness & acquired capability) to predict suicide ideation in African Americans (Davidson et al., 2011). Given the finding that perceived burdensomeness strengthens the relationship between other known risk factors of suicide in African Americans, it is possible that it may also have the same effect on the relationship between entrapment and suicide ideation in the same population.

The Volitional Phase

The Volitional Phase is the final phase of the IMV. This specific phase addresses how suicide ideation develops into suicidal behaviors. The majority of people who have suicidal thoughts do not act on their thoughts and attempt suicide (Gliatto & Rai, 1999). Thus, the IMV proposes that volitional moderators link the bridge between suicide ideation and intention to suicidal behavior. O'Connor (2011a) advanced that factors such as capability, impulsivity, planning, access to means, and imitations are examples of variables that could make an individual who is having suicide ideation go on to attempt suicide. However, no study to date has examined if these variables can increase the chance that suicide ideation can lead to a suicide attempt in a sample of African Americans.

The Proposed Study

Since the IMV is a new model of suicide, it is important that it is tested repeatedly and in various populations to observe its predictive ability and if the theory holds true in diverse samples. No study to knowledge has examined the IMV in a sample of African American college students. Furthermore, few studies have tested suicide models and theories in samples of African Americans. To fill the gap in this literature, the current study seeks to examine the Motivational Phase of the IMV as a predictive model of suicide ideation in a sample of African Americans. The study consists of three hypotheses, which are consistent with the IMV. First, it is hypothesized that defeat will have an indirect relationship to suicide ideation through entrapment. Second, it is hypothesized that brooding will serve as a threat to self moderator and strengthen the relationship between defeat and entrapment. Brooding was selected as a threat to self moderator,

because it was proposed by O'Connor (2011a) and it is thought to be the more maladaptive type of rumination, compared to reflective. Last, it is hypothesized that perceived burdensomeness will serve as a motivational moderator and strengthen the relationship between entrapment and suicide ideation. Perceived burdensomeness was selected as a motivational moderator instead of thwarted belongingness, because of the evidence that thwarted belongingness may not be as independently predictive of suicide ideation and may most predictive of suicide ideation in the presence of perceived burdensomeness (Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

CHAPTER III

METHODOLOGY

Participants

Participants consisted of 75 students from a large Midwestern University who identified as African American. The sample included 40 (53.3%) females and 34 (45.3%) males. One participant did not indicate his or her sex. The average age of participants was 20.85 years. Six participants (8%) of the sample reported having suicide ideation in the past two weeks.

Materials

Demographics Questionnaire. Demographic information collected from participants included age, sex, and ethnicity.

The Defeat Scale (Gilbert & Allen, 1998). The Defeat Scale is a 16-item self report measure that assesses perceived failed struggle and loss of rank. The scale is a 5 point likert scale with response options ranging from 0 (never) to 4 (always). Sample items include: “I feel that I have not made it in life” and “I feel defeated by life.” This was the first study to use the Defeat Scale in a sample of African Americans, as it was first validated in a sample college students. However, internal consistency for the Defeat Scale in the current study was excellent, with an alpha level of .93.

The Entrapment Scale (Gilbert & Allen, 1998). The Entrapment Scale is a 16-item self-report measure that assesses the feelings of being unable to escape a situation. Further, it measures both internal and external forms of entrapment. The scale is a 5 point likert scale with response options ranging from 0 (not at all like me) to 4 (extremely like me). Sample items include “I have a strong desire to escape from things in my life” and “I feel trapped by my obligations.” This was the first study to use the Entrapment Scale in a sample of African Americans, as it was first validated in a sample college students. However, internal consistency for the Entrapment Scale was excellent, with an alpha level of .97.

Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012). The INQ is a 15-item self-report measure that assesses belongingness and burdensomeness and is a seven point likert scale with response options ranging from 1 (not at all true for me) to 7 (very true for me). For the purpose of this study, only the six items that are included in the perceived burdensomeness subscale will be analyzed. Sample items of the perceived burdensomeness subscale include: “These days, the people in my life would be happier without me” and “these days, I think I am a burden on society.” A previous study showed the perceived burdensomeness subscale of the INQ had high internal consistency in a sample of African Americans (Hollingsworth et al., 2014). Internal consistency of the perceived burdensomeness subscale of the INQ was excellent in the current study, with an alpha level of .96.

Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991; Treynor et al., 2003). The RRS is a 22-item self-report measure of rumination with response options ranging from 1 (almost never) to 4 (almost always). For the purpose of this study, only the five items from the brooding subscale was analyzed. Sample items from the brooding subscale include thoughts of “What am I doing to deserve this” and “Why can’t I handle things better?” To knowledge, the RRS has not been used in a sample solely of African Americans. However, it has been used in a sample of college students who were ethnic minorities, including 216 who identified as African American. The brooding subscale showed adequate internal consistent with an alpha level of .79

in the aforementioned study (Cheref et al., 2015). In the current study, internal consistency of the brooding subscale of the RRS was excellent, with an alpha level of .90.

Hopelessness Depression Symptom Questionnaire-Suicidality Subscale (HDSQ-SS; Metalsky & Joiner, 1997). The HDSQ-SS is a 4-item self-report measure of suicide ideation in the past two weeks. Items are evaluated on a likert scale with response options ranging from 0 to 3 and the corresponding responses vary for each item. Items are summed with higher scores indicating higher levels of suicidal ideation. In a previous study of African Americans, the HDS-SS had good internal consistency (Hollingsworth et al., 2014). In the current study, internal consistency of the HDSQ-SS was also good, with an alpha level of .88.

Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, Williams, 2001). The PHQ-9 is a 9-item self-report measure of symptoms of depression in the past two weeks. Items are evaluated on a likert type scale with response options ranging from 0 (not at all) to 3 (nearly every day). Items are summed with higher scores indicating higher levels of depression symptoms. Internal consistency of the PHQ-9 was excellent, with an alpha level of .91.

Procedure

Participants were recruited through an online research system (i.e., SONA). Participants completed informed consent forms and measures on an online website. After completion of measures, participants were debriefed about the aims of the study and received a referral list of psychological services. Participants received research credit for their participation. This study was approved by the University Human Research and Compliance Office.

Statistical Analyses

First, relationships between variables were assessed using a two-tailed bivariate correlation analysis. To test the study's hypotheses, a moderated mediation model with 5,000 bootstrapping samples, as outlined by Hayes (2013) was used. Bootstrapping was used as it does not assume normal distribution, uses resampling, and "may be used in samples of virtually any size" (Preacher, Rucker, & Hayes, p. 200, 2007). Specifically, defeat served as the predictor

variable (X), entrapment served as the mediator (M), and suicide ideation served as the outcome variable (Y). Brooding rumination served as the moderator (V) of the relationship between defeat and entrapment (path a). Perceived burdensomeness served as the moderator (W) of the relationship between entrapment and suicide ideation (path b). Post hoc analyses, controlling for symptoms of depression, were conducted to examine if results were also significant, above and beyond the effects of symptoms of depression, a common risk factor of suicide. One participant was excluded from post hoc analyses, as their PHQ-9 was incomplete.

CHAPTER IV

FINDINGS

Correlations

Results indicated that defeat, entrapment, brooding, perceived burdensomeness, symptoms of depression, and suicide ideation were all significantly and positively correlated with one another. See Table 1 for correlation values.

Moderated Mediation

Results from the moderated mediation analysis showed that there was no indirect effect of defeat on suicide through entrapment at any value (i.e., mean, one standard deviation above mean, one standard deviation below mean) of both moderators (i.e., brooding & perceived burdensomeness).¹ This is evidenced by the 95% Bias Corrected Confidence Interval (95% BC) containing a value of zero at all levels of both moderators. See Table 2. Brooding did not significantly moderate the relationship between defeat and entrapment, as the 95% BC contained a value of zero ($\beta = .0174$, $SE = .0159$, 95% BC [-.0143, .0492]). However, perceived burdensomeness significantly moderated the relationship between entrapment and suicide ideation, as the 95% BC did not include a value of zero, accounting for .04% of predicting suicide

ideation at low ($\beta = .0018$, $SE = .0143$, 95% BC [-.0268, .0303]), moderate ($\beta = -.0061$, $SE = .0134$, 95% BC [-.4532, .6518]), or high levels ($\beta = -.0260$, $SE = .0150$, 95% BC [-.0559, .0040]) of perceived burdensomeness. Low, moderate, and high levels are represented by the minimum, the mean, and one standard deviation above the mean after variables are mean centered, respectfully.² Given that the simple slopes were not significant one standard deviation away from the mean, the Johnson-Neyman Technique was used to probe simple slopes further. This technique provides a specific value at which the conditional effect of perceived burdensomeness on the entrapment-suicide ideation is statistically significant. Results indicated entrapment was related to suicide ideation at perceived burdensomeness values greater than 7.2391.

Single Mediation

A single mediation was conducted to examine whether defeat had an indirect effect on suicide ideation through entrapment (excluding brooding and perceived burdensomeness as possible moderators). Results demonstrated that there was no indirect effect of entrapment on the relationship between defeat and suicide ideation ($\beta = .0023$, $SE = .0131$, 95% BC [-.0251, .0282]). However, increased defeat did have a direct effect on increased suicide ideation ($\beta = .0401$, $SE = .0131$, 95% BC [.0135, .0277]).

Post Hoc Analyses

To see if results were significant above and beyond the effects of symptoms of depression, identical analyses were run again controlling for symptoms of depression.

Moderated Mediation

Results from the moderated mediation analysis showed that there was no indirect effect of defeat on suicide through entrapment at any value (i.e., mean, one standard deviation above mean, one standard deviation below mean) of both moderators (i.e., brooding & perceived burdensomeness), after controlling for symptoms of depression.³ See Table 4. Brooding did not significantly moderate the relationship between defeat and entrapment, ($\beta = .0160$, $SE = .0154$, 95% BC [-.0148, .0468]). However, perceived burdensomeness significantly moderated the

relationship between entrapment and suicide ideation, accounting for .05% of the variance of suicide ideation above and beyond the main effects ($\beta = -.0043$, $SE = .0017$, 95% BC [-.0077, -.0009]). See Table 4. Entrapment was not related to suicide ideation at low ($\beta = .0036$, $SE = .0151$, 95% BC [-.0266, .0338]), moderate ($\beta = -.0053$, $SE = .0141$, 95% BC [-.0034, .0228]), or high levels ($\beta = -.0280$, $SE = .0152$, 95% BC [-.0584, .0025]) of perceived burdensomeness. Low, moderate, and high levels are represented by the minimum, the mean, and one standard deviation above the mean after variables are mean centered, respectfully.⁴ Given that the simple slopes were not significant one standard deviation away from the mean, the Johnson-Neyman Technique was used to probe simple slopes further. Results indicated entrapment was related to suicide ideation at perceived burdensomeness values greater than 6.1647.

Single Mediation

Another single mediation was conducted to examine whether defeat had an indirect effect on suicide ideation through entrapment (excluding brooding and perceived burdensomeness as possible moderators, and controlling for symptoms of depression). Results demonstrated that there was no indirect effect of entrapment on the relationship between defeat and suicide ideation ($\beta = .0009$, $SE = .0123$, 95% BC [-.0289, .0225]). However, increased defeat did have a direct effect on increased suicide ideation, above and beyond symptoms of depression ($\beta = .0474$, $SE = .0150$, 95% BC [.0176, .0772]).

CHAPTER V

CONCLUSION

The aim of the current study was to examine the Motivational Phase of the Integrated Motivated-Volitional Model of Suicide (IMV; O'Connor, 2011) in a sample of African Americans. The study consisted of three hypotheses. First, it was hypothesized that entrapment would have an indirect effect on the relationship between defeat and suicide ideation. Second, it was hypothesized that brooding would strengthen the relationship between defeat and entrapment. Last, it was hypothesized that perceived burdensomeness would strengthen the relationship between entrapment and suicide ideation. None of the study's hypotheses were supported. Results indicated that there was no relationship between defeat, entrapment, and suicide ideation at any level of brooding or perceived burdensomeness. An additional analysis examining the indirect effect of entrapment on the relationship between defeat and suicide ideation, without moderators, was also non-significant. However, defeat had a direct positive effect on suicide ideation. Results also showed that brooding did not strengthen the relationship between defeat and entrapment. Last, perceived burdensomeness did not strengthen the relationship between entrapment and suicide ideation, but conversely weakened it. Post-hoc analyses were conducted to examine previous analyses while controlling for symptoms of depression, a known risk factor of suicide.

The findings of these analyses were identical to analyses not controlling for depression.

Results of the current study do not support the hypothesis of the Motivational Phase of the IMV, as feelings of entrapment did not mediate the defeat-suicide ideation. This finding was also observed in Tucker et al. (in press). Tucker and colleagues suggested that the non-significant mediation could have been due to the strong direct effect of defeat on suicide ideation, which is also a possibility in the current study. It was also proposed that the high correlation between defeat and entrapment could have made it difficult to detect entrapment's indirect effect on the relationship (Tucker et al., in press). It is also possible that African American college students may not feel entrapped compared to African Americans who are not in college, as they have evidenced the ability to possibly escape negative situations as they have left their hometown to attend college.

The results of brooding not serving as a moderator of the defeat and entrapment relationship, could be due to brooding not being a predictor of suicide for African Americans. Although there was a positive correlation between brooding and suicide ideation, as also seen in Cheref et al. (2015), brooding was not a significant predictor of suicide ideation in the context of other suicide risk factors in the current study. It is possible that African Americans have coping skills that make them resilient against thinking about negative thoughts repetitively and thus do not have the negative outcomes associated with them (e.g., hope; Davidson & Wingate, 2011).

The finding of perceived burdensomeness weakening the relationship between entrapment and suicide in the moderated-mediation analysis was unexpected, but could possibly be explained statistically. There may be issues with multicollinearity, which could have impacted the interaction coefficient. Specifically, as seen in Table 1, all of the study's variables were correlated with one another. Furthermore, defeat and entrapment were highly correlated ($r=.81$), which could be an initial indicator of multicollinearity. In addition, the average variance inflation factor (VIF) was greater than 1, which indicates multicollinearity could be biasing the model.

Last, Cohen (2009) suggests that tolerance values below 0.2 as a possible indicator of multicollinearity, and one of the variables (i.e., entrapment) had a tolerance value of .232. Although this value is not below 0.2, it is approaching it and could be of concern.⁵ Further, it is possible that having a number of prominent risk factors in the same model (i.e., defeat & perceived burdensomeness) may have accounted for a significant amount variance of predicting suicide ideation, resulting in error variance. Last, although bootstrapping analyses were used in the study and can be used with small sample sizes, the size of the current sample may have been too restrictive, particularly with its low level of reported suicide ideation.

Although the findings of the study were not supportive of hypotheses, the study consists of a number of strengths. This was the first study to examine the IMV in a sample of African Americans and provides initial empirical support that part of the IMV may not be salient to African American college students. This was also the first study to examine defeat in relation to suicide in African Americans, which showed defeat as a predictor of suicide ideation above and beyond the effects of symptoms of depression. This finding adds to literature of risk factors of suicide for African Americans. The current study also used a theoretical framework to examine suicide risk in a sample of African Americans, which does not occur often in the suicide literature. The use of theory in examining suicide is important to continue to move the field of suicidology forward. In addition, it is imperative to continue to test theories in various populations (i.e., ethnic minorities) to observe whether results are consistent with findings from the general population and whether the theory is a predictive theory of suicide for specific groups. Testing suicide theories in ethnic minority groups also allows the opportunity for constructs to be defined and examined in ways that may be more culturally relevant. Though the current study has strengths, limitations should also be considered while interpreting results. The cross sectional design in a mediation analysis, does not allow for causal inferences to be made. In addition, the sample consisted of college students and results cannot be generalized to African Americans who

are not in college. Last, there was a low level of suicide ideation reported, which also decreases generalizability to African Americans at higher risk of dying by suicide.

Future studies should expand and improve on the current study's limitations. For example, future studies should utilize a longitudinal design, which could allow for more causal inferences to be made. In addition, replicating this study in a clinical sample would allow for more generalizability as participants would likely report higher rates of suicide ideation and be at a higher suicide risk. It would also be beneficial to examine what factors explain the relationship between defeat and suicide ideation, as defeat was a positive predictor of suicide ideation. Similarly, defeat and entrapment may be studied as one construct to see if it is predictive of suicide ideation for African Americans. Further, more studies should examine other risk factors that could serve as threat to self and motivational moderators and increase suicide risk specifically for African Americans.

As study results should be interpreted with limitations in mind, theoretical and clinical implications should also be considered. First, the study provides support that defeat and entrapment should possibly be considered one construct, instead of two. O'Connor has stated that the two are distinct but overlapping constructs, however some suggest the two are better conceptualized as a single construct and have tested it as such (Panagioti et al., 2012; Panagioti et al., 2013; Panagioti et al., 2014; Taylor, Gooding, Wood, & Tarrrier, 2011; Taylor, Wood, Gooding, Johnson, & Tarrrier, 2009; Taylor, Wood, Gooding, & Tarrrier, 2010; Taylor et al., 2010; Taylor et al., 2011). The results of the high correlation between the two variables and entrapment not serving as a mediator of the defeat-suicide ideation relationship provide further support that they perhaps should be considered one construct. Second, the study shows that the Motivational Phase of the IMV is possibly not an ideal model to examine suicide risk in African Americans, compared to other theories (e.g., Interpersonal Theory of Suicide); however, more replication studies need to be conducted to support this. In addition, African Americans have historically had lower levels of suicide compared to other groups and thus may also endorse lower rates of

proposed risk factors from the model or the risk factors that are predictive of suicide ideation in a general sample (e.g., brooding & entrapment). A suicide risk factor from the study that does seem robust is defeat, which had a direct effect on suicide ideation above and beyond the effects of symptoms of depression. This is the first study to examine defeat and suicide among African Americans and the relationship should continue to be investigated in the future.

In addition to theoretical implications, the study also has clinical implications. As previously stated, defeat was a positive predictor of suicide ideation in the sample and could be assessed by clinicians who have African American clients who may be at risk of suicide or endorse suicidal thoughts. Therapeutic techniques to challenge their thoughts of being defeated, as used in cognitive therapy may be beneficial. In addition, clinicians could encourage African American clients to engage in activities they excel in, which could decrease feelings of defeat, which in turn could decrease thoughts of suicide. Last, implementing Molock and colleague's (2008) community prevention proposal for suicide among African Americans; church members and administrators could be educated of the deleterious effects of feelings of defeat and encourage members who report feeling defeated to seek appropriate mental health services. This proposal could be plausible as 53% of African American reported attending church once a week and 87% reported belonging to a religious group (Pew Research Center, 2009). African Americans may be more amenable to seeking help from a mental health professional if they are encouraged by a person they trust in the Church. This would increase mental health service utilization among African Americans, which could lead to a decrease in the suicide rate.

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APPENDICES

Footnotes

1. For at least one moderator, one standard deviation below the mean was replaced with the minimum because one standard deviation below the mean is outside of the range of the data.
2. One standard deviation below the mean the mean was replaced with the minimum because one standard deviation below the mean is outside of the range of the data.
3. For at least one moderator, one standard deviation below the mean was replaced with the minimum because one standard deviation below the mean is outside of the range of the data.
4. One standard deviation below the mean the mean was replaced with the minimum because one standard deviation below the mean is outside of the range of the data.
5. A Variance Inflation Factor (VIF) analysis was conducted to examine if multicollinearity was a possible reason that the interaction of entrapment and perceived burdensomeness negatively predicted suicide ideation. Results of the VIF analysis indicated an average VIF score of 3.07. In addition, a Tolerance analysis was conducted and entrapment had the closest value to .2 at 232.

Table 1.

Correlations Between the Variables and Their Means and Standard Deviations

Variable	1	2	3	4	5	6
1. Brooding	-					
2. Depression	.66*	-				
3. PB	.53*	.38*	-			
4. Suicide Ideation	.52*	.39*	.38*	-		
5. Defeat	.74*	.74*	.44*	.55*	-	
6. Entrapment	.75*	.71*	.63*	.46*	.82*	-
<i>M</i>	8.6	5.93	8.07	.27	14.04	8.77
<i>SD</i>	3.89	6.45	5.23	.95	12.28	13.99

Note: * $p < .01$, PB= Perceived Burdensomeness

Table 2.

Indirect Effect of Defeat on Suicide Ideation Through Entrapment at Values of Moderators

Brooding	Burden	Effect	<i>se</i>	LLCI	ULCI
-3.6133	-2.0667	.0010	.0100	-.0198	.0214
-3.6133	.0000	-.0033	.0107	-.0245	.0184
-3.6133	5.2281	-.0141	.0189	-.0522	.0167
.0000	-2.0667	.0011	.0109	-.0221	.0223
.0000	.0000	-.0037	.0115	-.0260	.0205
.0000	5.2281	-.0158	.0204	-.0559	.0191
3.8865	-2.0667	.0012	.0120	-.0239	.0245
3.8865	.0000	-.0041	.0126	-.0288	.0220
3.8865	5.2281	-.0175	.0225	-.0620	.0220

Note. Burden= Perceived Burdensomeness, LLCI= Lower Limit Confidence Interval, ULCI= Upper Limit Confidence Interval

Table 3.

Moderation Results of the Moderated Mediation Analysis

Outcome	Predictors	ΔR^2	Coefficient	<i>se</i>	LLCI	ULCI
Entrapment	Defeat		.4576	.2271	.0047	.9105
	Brooding		.7902	.4408	-.0887	1.669
	DefeatxBrooding		.0174	.0159	-.0143	.0492
Suicide Ideation	Entrapment		.0246	.0204	-.0160	.0652
	Defeat		.0381	.0133	.0115	.0647
	PB		.1522	.0544	.0436	.2607
	EntrapmentxBP	.0455	-.0038	.0017	-.0072	-.0004

Note. DefeatxBrooding = Interaction of Defeat and Brooding, PB= Perceived Burdensomeness, EntrapmentxBP= Interaction of Entrapment and Perceived Burdensomeness.

Table 4.

Indirect Effect of Defeat on Suicide Ideation Through Entrapment at Values of Moderators Controlling for Symptoms of Depression

Brooding	Burden	Effect	<i>se</i>	LLCI	ULCI
-3.5270	-2.0676	.0017	.0098	-.0190	.0209
-3.5270	.0000	-.0025	.0102	-.0261	.0162
-3.5270	5.2638	-.0132	.0182	-.0574	.0117
.0000	-2.0676	.0019	.0106	-.0214	.0218
.0000	.0000	-.0028	.0110	-.0273	.0184
.0000	5.2638	-.0147	.0198	-.0602	.0140
3.8400	-2.0676	.0021	.0118	-.0235	.0247
3.8400	.0000	-.0031	.0122	-.0299	.0209
3.8400	5.2638	-.0165	.0220	-.0669	.0160

Note. Burden= Perceived Burdensomeness, LLCI= Lower Limit Confidence Interval, ULCI= Upper Limit Confidence Interval

Table 5.

Moderation Results of the Moderated Mediation Analysis Controlling for Symptoms of Depression

Outcome	Predictors	ΔR^2	Coefficient	se	LLCI	ULCI
Entrapment	Depression		.3187	.2049	-.0901	.7275
	Defeat		.5272	.1348	.2582	.7961
	Brooding		.9699	.3442	.2831	1.6566
	DefeatxBrooding		.0160	.0154	-.0148	.0468
Suicide Ideation	Depression		-.0219	.0222	-.0661	.0223
	Entrapment		-.0053	.0141	-.0334	.0228
	Defeat		.0476	.0145	.0188	.0765
	PB		.1286	.0148	.0452	.2120
	EntrapmentxBP	.0551	-.0043	.0017	-.0077	-.0009

Note. DefeatxBrooding = Interaction of Defeat and Brooding, PB= Perceived Burdensomeness, EntrapmentxBP= Interaction of Entrapment and Perceived Burdensomeness.

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