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# Cyberbullying, Suicidal Behavior, and Emotional Intelligence: A Portentous Combination

Eric J. Fenclau

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CYBERBULLYING, SUICIDAL BEHAVIOR, AND EMOTIONAL INTELLIGENCE:  
A PORTENTOUS COMBINATION

A Dissertation

Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for  
the degree of Doctor of Philosophy

By

Eric Fenclau Jr.

August 2016



**DUQUESNE UNIVERSITY**  
**SCHOOL OF EDUCATION**  
**Department of Counseling, Psychology, and Special Education**

***Dissertation***

Submitted in partial fulfillment of the requirements  
for the degree  
Doctor of Philosophy (Ph.D.)

**School Psychology Doctoral Program**

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**June 24, 2016**

**CYBERBULLYING, SUICIDAL BEHAVIOR, AND EMOTIONAL INTELLIGENCE: A  
PORTENTOUS COMBINATION**

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## ABSTRACT

# CYBERBULLYING, SUICIDAL BEHAVIOR, AND EMOTIONAL INTELLIGENCE: A PORTENTOUS COMBINATION

By

Eric Fenclau Jr.

August 2016

Dissertation supervised by Dr. Laura Crothers

For post-secondary students, there are numerous risks to their wellbeing, Principal among these risks is suicide, which is the second leading cause of death in young adulthood (Schwartz, 2006; Schwartz, 2011). Another concern appears to be an increasing susceptibility for victimization by peers through bullying, particularly cyberbullying, among youth attending colleges and universities in the United States (Hinduja & Patchin, 2006). One particular protective factor identified in the extant literature is emotional intelligence, which serves as a mediator for decreasing suicidal behavior (Cha & Nock, 2009). In this study, the researcher examined whether a history of cyberbullying predicted suicidal behavior and whether higher levels of emotional intelligence was predictive of suicidal behavior in college students who identified as victims of cyberbullying, when controlling for depressive symptoms. In a sample of 891 college students (76% female; 89.8% Caucasian), regression results indicated that a history

of cyberbullying victimization accounted for 14.2% of the variance of suicidal behaviors. The second research question focused upon only victims of cyberbullying; thus, any non-victims were excluded from the second analysis. Consequently, the total number of respondents included in the second analysis was 276. Regression results in this analysis also indicated that when combined, both depression and higher levels of emotional intelligence accounted for 14% of the variance in suicidal behavior. In order to parse the contribution of each of the variables, depression was entered into the analysis independent of emotional intelligence and accounted for 11.7% of suicidal behavior. Therefore, emotional intelligence was found to account for 2.3% of the variance of suicidal behavior. The low amount of variance predicted by emotional intelligence suggests that this may not be an avenue for meaningful intervention in addressing the propensity for suicide among cyberbullied college students.

## DEDICATION

I dedicate this dissertation to my wife, Brittany, and all victims of cyberbullying.

## ACKNOWLEDGEMENTS

I WOULD LIKE TO ACKNOWLEDGE MY WIFE, BRITTANY, AND MY PARENTS FOR THEIR UNWAIVERING SUPPORT DURING MY DOCTORAL PROGRAM. I COULD NOT HAVE ACHIEVED THIS GOAL WITHOUT YOU. I WILL FOREVER BE GRATEFUL TO YOU.

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## CHAPTER I: INTRODUCTION

*"Sticks and stones will break my bones but words will never hurt me..."*

This timeless quotation about interpersonal school conflict likely has been uttered and repeated by millions of people. It has been a statement that parents have used to teach their children to cope with words that upset them. However, given recent suicides after documented bullying and cyberbullying victimization (e.g., Jessica Laney, Tyler Clementi, Amanda Todd, Phobe Prince, Megan Meier), it is time we reconsider this statement. Sticks and stones can create cuts and bruises and certainly break bones, but those conditions will heal. Words on the other hand, specifically in the form of cyberbullying, can result in significant long-term harm that does not heal quickly, or sometimes, at all. In some cases, these “harmless” words lead to depression, suicidal ideation, or suicidal behavior. So while this statement was designed to give solace to children, it does not hold the same comforting sentiment in today’s society.

Although attendance at colleges and universities is not compulsory, students should be afforded the same protections from victimization as children attending K-12 schools. Although no formal federal law specifically targets bullying victimization such as cyberbullying in post-secondary institutions, these behaviors may be covered under discriminatory harassment laws; specifically, when the act is based on race, national origin, color, sex, age, disability, or religion. (Federal Laws, n.d.). When cyberbullying and harassment overlap, institutions receiving federal funds (including colleges and universities) have an obligation to resolve the harassment. If not appropriately addressed, the U.S. Department of Education’s Office for Civil Rights and the U.S. Department of Justice’s Civil Rights Division may be able to intervene (Federal Laws, n.d.) in instances of cyberbullying. The Office of Civil Rights and the U.S. Department of Justice’s Civil Rights Division could intervene by investigating acts of cyberbullying and harassment, which can result in institutional fines, loss of federal funding or additional imposed sanctions.

Recent studies suggest that cyberbullying victimization can have profound detrimental implications for victims' social, emotional, and psychological functioning (Hinduja & Patchin, 2009). Indeed, suicidality is associated with cyberbullying victimization. Patchin and Hinduja (2010) found that youth who had experienced cyberbullying victimization, as either offenders or victims, had more suicidal thoughts and were more likely to attempt suicide than peers not involved in cyberbullying victimization. Similar findings have been noted with individuals who were victimized at the college level (Chapell et al., 2004). Given that cyberbullying research is in its infancy, clearly, more research is needed to examine protective factors of suicidality in victims of cyberbullying victimization. It should be noted that in this study only victims are considered.

### **Significance of the Problem**

The overall frequency of cyberbullying victimization has increased over the past decade, increasing from around 11% to upwards of 40% (Patchin & Hinduja, 2010). Since the introduction of the Internet, social networking, and cellphones, electronic victimization or cyberbullying has become easier accomplished and less easy to monitor. As a result, cyberbullies are able to often invisibly and effectively bully, all without direct supervision or societal rebuke. Given the similarity of its impact there are similar consequences to cyberbullying victimization.

As mentioned before, victims of cyberbullying victimization are at greater risk of suicidal ideation, or other suicidal behavior. In the *Youth Risk Behavior Surveillance System* (CDCP, 2008) approximately 16,000 students in grades 9-12 were surveyed and found youth to engage in suicidal behavior at staggering rates. Researchers discovered that 14.5% of US students had seriously considered attempting suicide in the previous 12 months (18.7% females; 10.3%

males). During the same year, 11.3% of students had made a plan about how they would attempt suicide (13.4% females; 9.2% males), and 6.9% reported having made at least one suicide attempt (9.3% females; 4.6% males). Of the last group, 2% of attempters had suffered an injury, poisoning, or an overdose that required medical attention.

Further extrapolating the data into tangible figures, it can be stated that in 2007, 1 out of 7 high school students engaged in serious suicidal ideation, 1 in 10 made a suicidal plan, and 1 in 14 made a suicide attempt, some to a degree that necessitated medical treatment or hospitalization (Miller, 2011). While the same statistics are not available for the young adults or college students, it is suspected that the same rates apply. In fact, suicide is a leading cause of death among youth attending colleges and universities in the United States (Schwartz, 2006; Schwartz, 2011).

Research has established that victims of cyberbullying experience negative effects to their emotional and psychological wellbeing. For example, Patchin and Hinduja (2006) found that many victimized youth report feeling angry, frustrated, sad, and depressed after victimization. Ybarra (2004) similarly found that “three times as many young people who report being harassed [online] also indicate major depressive symptomatology compared to non-targets” (p. 254). While research on the specific implications for college populations are sparse, Chapell and colleagues (2004) found similar psychological results in college-aged victimization.

Furthermore, Wolak and her colleagues (2006) noted that one third of individuals who have experienced online victimization considered the incident to be “distressing...which left them feeling very or extremely upset or afraid” (p. 39). Dempsey and her colleagues (2009) discovered that individuals who had experienced cyberbullying had increased levels of social anxiety. Research has linked a variety of social maladies with cyberbullying behavior, including

alcohol and drug use, hate crimes, planned or executed bombings, planned school shootings, suicide, and even murder (Hinduja & Patchin, 2009; 2012).

Identifying the presence of protective factors among victims of cyberbullying has important implications for intervention. Of relevance to the proposed study, one particular protective factor identified in the extant literature that serves as a mediator for suicidal behavior is well-developed emotional intelligence (Cha & Nock, 2009). In a study by Jacobson and colleagues (2011), individuals with high levels of restrictive emotionality, defined as difficulty understanding and expressing emotions of others and in themselves, were 11 times more likely to have depressive symptoms and 3 times more likely to report suicidal ideation (after controlling for the presence of depressive symptoms). Moreover, the same individuals were more than twice as likely to report a suicide attempt (after controlling for depressive symptoms) than those reporting low restrictive emotionality (Jacobson et al., 2011). As such, identifying protective factors, which potentially can be increased, creates an opportunity for researchers and practitioners to provide assistance to individuals who are vulnerable to cyberbullying victimization. However, research is needed to understand the role of emotional intelligence upon suicidal behaviors when individuals are victims of cyberbullying.

### **Theoretical Basis for the Study**

Understanding emotional intelligence, suicide, and cyberbullying from a theoretical perspective is important, as this helps to provide structure to these complicated psychological constructs, as well as an avenue for intervention. Although psychologists' understanding of these models have changed substantially over the years, it is important to understand traditional theory, as current models have grown from it.

## **Emotional Intelligence**

As a term, emotional intelligence (EI or EQ), appeared several times in the literature (Greenspan, 1989; Leuner, 1966; Payne, 1986), before the formal model and definition were introduced by Salovey and Mayer (1990). However, seminal works by Peter Salovey and John Mayer have offered a fundamental, and widely accepted foundation for understanding emotional intelligence. These researchers purport that emotional intelligence can be categorized into five main domains: knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships (Salovey & Mayer, 1990).

While a comprehensive understanding of the broad construct is necessary, it is even more important to understand the underpinnings of emotional intelligence. Knowing one's emotions, or the ability to identify one's emotions as they happen, is one of the fundamental skills in emotional intelligence. This ability helps the individual with psychological insight and self-understanding (Goleman, 2006). As stated by EQ researcher John Mayor, self-awareness means being "aware of both our mood and our thoughts about that mood" (Goleman, 2006, p. 47). Given that, the failure to recognize one's emotions can leave us at their mercy. Managing emotions involves building upon an individual's self-awareness, and effectively handling emotions as they arise. This involves the capacity to soothe oneself, and to divert rampant anxiety, fear, or melancholy in a balanced manner.

Goleman (2006) states that "when emotions are too muted they create dullness and distance; when out of control, too extreme and persistent, they become pathological, as in immobilizing depression, over-whelming anxiety, raging anger, manic agitation" (p. 56). Motivating oneself, or exercising the ability to delay gratification and stifle innate impulses, can be critical to being productive and effective in life. World-class athletes, successful businessmen

and businesswomen, and international leaders are not able to accomplish unthinkable feats without advanced emotional traits, namely enthusiasm, and persistence in the face of setbacks (Goleman, 2006).

Recognizing emotions in others, or empathy, is also central to an overall emotional intelligence. Empathy builds on the skills of self-awareness, indicating that the more attuned we are to our own emotions, the more advanced we are at reading others' emotions (Larsen et al., 1987). Subsequently, being able to recognize others' emotions from nonverbal cues yield better emotional adjustment, greater popularity, a more outgoing nature, and sensitivity. Lastly, handling relationships involves advanced levels of social competence, perspective taking, and often requires a sophisticated incorporation all of the previous skills. An advanced understanding of this can put one in good stead to develop a sense of rapport, or sophisticated relationships, thus affording him or her with the tools to successfully understand and manipulate his or her environment.

The literature on EQ has been divided regarding the way in which to theoretically conceptualize the construct. Many theorists propose that EQ is an ability that can take place in different life situations. Others propose that EQ is more of a character trait that is a fundamental component of the person's character. After synthesizing the literature on both constructs, Trait EQ, which conceptualizes emotional intelligence as a personality trait, located at the lower levels of personality hierarchies (Petrides & Furnham, 2000b, 2001, 2003), is most consistent with the author's theoretical conceptualization of EQ and thus will be the basis of analysis.

### **Suicidal Behavior**

Relevant theory on suicide was first introduced in 1897 by French sociologist, Émile Durkheim. Although he placed emphasis on the impact of social factors on suicidal behavior and

discounted the individual factors (e.g., genetics, psychiatric disorders), his theory remains influential because it was the first comprehensive, testable theory of suicide (Joiner, 2005). Many contemporary theories of suicide have emerged throughout the history of suicide research, which has included work by researchers such as Aaron Beck, Marsha Linehan, and many others. While their theories have been relevant and contributed substantially to the literature, researcher Thomas Joiner's Interpersonal-psychological theory of suicide builds upon previous conceptualization of suicide, while adding interpersonal considerations to his theory.

Joiner contends that serious suicidal behavior requires three interpersonal-psychological factors. These include an acquired aptitude to enact lethal self-injury; a sense that one has become a burden to loved ones or has developed perceived burdensomeness; and a sense that one is no longer interpersonally connected within a group or failed belongingness (Miller, 2011). Perceived burdensomeness refers to the belief that an individual's existence is somehow burdensome to others, such as family (Joiner et al., 2009). Furthermore, failed belongingness refers to "the experience that one is alienated from others and not an integral part of a family, circle of friends, or other valued groups" (Joiner, 2009, p. 245).

Joiner also discusses one's habituation to the fear and pain associated with death, in that the self-preservation instinct is altered. This habituation process can include any fear or pain-invoking experience, such as injuries, violence, medical implications, accidents and social interactions, and tends to work collaboratively to effectively habituate an individual to no longer have a fear of death (Miller, 2011). Joiner's theory purports that those who have adaptations to their instinctive fear of death through habituating to fear, tend to overcome their fear of suicide. Meaning, those who have less

fear of suicide, or death, are more likely to engage in behaviors that could lead to that end.

### **Cyberbullying**

Cyberbullying is a form of peer victimization that has developed over the past three decades. With the introduction of electronic devices, such as cellphones, computers, and PDAs, individuals can be constantly connected to mobile devices that are linked to email, social media websites, and text messaging services. These devices, along with social media websites, have developed into a gateway for expanding the dyadic relationship of traditional bullying, creating a new social avenue for bully victimization. In 2005, there were over 1 billion internet users and 2 billion mobile device users worldwide (Central Intelligence Agency, 2007; Privitera & Campbell, 2009). As of 2009, the number of internet users had grown to 1.8 billion (CIA, 2011). Given the ever-increasing number of users utilizing the internet, it comes as no surprise that rates of cyber-victimization have also grown.

Cyberbullying is a newly researched construct, which holds many similarities, but also some differences to the traditional face-to-face direct and indirect forms of bullying. Smith and colleagues (2008, p. 376) define cyberbullying as “an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself.” Belsey (2004) adds that cyberbullying also includes “the use of information and communication technologies to support deliberate, repeated, and hostile behavior by an individual or group that is intended to harm others” (p. 1). Consistent with traditional face-to-face bullying, a cyberbullying relationship must be intentional, repetitive, and characterized by a power imbalance.

In a recent analysis of the cyberbullying literature, which examined 35 cyberbullying research articles, Patchin and Hinduja (2012) found that cyberbullying victimization rates range between 5.5% and 72%, with an average of 24.4% of youth from 11-18 years old being victims of cyberbullying. Considering 22 cyberbullying articles, authors of the most recent literature have postulated that 6%-30% of teens have experienced some forms of cyberbullying (Rivers & Noret, 2010). It has been suggested that 1 out of every 5 children has been cyberbullied to some degree in an online arena (Patchin & Hinduja, 2012). The most common type of cyberbullying was reportedly posting mean or hurtful comments about someone online, with 14% of youth reporting this experience (Patchin & Hinduja, 2012). Furthermore, as particularly pertinent to this study, Finn (2004) and Chapell and colleagues (2004) found that between 10-24% of a college sample reported experiencing cyberbullying behavior.

### **Synthesis of Relevant Literature**

#### **Emotional Intelligence and Suicide**

In a 2009 study by Nock and Cha, these researchers found that the construct of EQ is a protective factor for suicidal behavior in victims of childhood sexual abuse. More specifically, they found that EQ moderates the relationship between retrospectively reported childhood sexual abuse and past year suicidal behavior, such that those with low EQ have the highest relationship. Taken together, they concluded that these findings point toward the importance of EQ in understanding and managing emotions in the prevention of suicidal behaviors.

In addition to the limited studies that examine EQ and suicidal behaviors, there are studies that have examined EQ and psychological wellbeing. In a 2010 study by Schutte and colleagues, researchers found that higher emotional intelligence was associated with greater life satisfaction, higher characteristic positive affect, and lower characteristic negative affect, all

associated with subjective wellbeing (Lyubomirsky, King, & Dener, 2005). Other researchers have also found similar findings; that EQ is related to psychological well-being (Adeyemo & Adeleye, 2008; Bar-On, 2005; Salovey & Mayer, 1990).

### **Cyberbullying and Suicide**

Research has established that victims of cyberbullying experience negative effects to their emotional and psychological wellbeing. For example, Patchin and Hinduja (2006) found that many victimized youth report feeling angry, frustrated, sad, and depressed after victimization. Ybarra (2004) similarly found that “three times as many young people who report being harassed [online] also indicate major depressive symptomatology compared to non-targets” (p. 254). While research on the specific implications for college populations are sparse, Chapell and colleagues (2004) found similar psychological results in college-aged victimization.

Furthermore, Wolak and her colleagues (2006) noted that one third of individuals who have experienced online victimization considered the incident to be “distressing...which left them feeling very or extremely upset or afraid” (p. 39). Dempsey and her colleagues (2009) discovered that individuals who had experienced cyberbullying had increased levels of social anxiety. Research has linked a variety of social maladies with cyberbullying behavior, including alcohol and drug use, hate crimes, planned or executed bombings, planned school shootings, suicide, and even murder (Hinduja & Patchin, 2009; 2012).

### **Problem Statement**

In this study, the researcher first examined if a history of cyberbullying predicted suicidal behavior. Then as a second research question, the researcher examined if the construct of EQ is predictive of suicidal behavior in only victims of cyberbullying, when controlling for depression. Prior research has established a relationship between cyberbullying and a host of negative

outcomes for victims including suicide (Hinduja & Patchin, 2009). Furthermore, individuals who have experienced cyberbullying are more likely to engage in suicidal behavior after cyberbullying has occurred (Hinduja & Patchin, 2009; 2012). Additionally, researchers have indicated that there is a relationship between levels of emotional intelligence and suicidal behavior (Nock & Cha, 2009), but a gap in the literature exists regarding specific, at-risk populations such as those who have been cyberbullied.

Lastly, the reason why it is important to control for the presence of depressive symptoms is that research has found that those who are clinically depressed are more likely to engage in suicidal behavior than those who are not (Blanco et al., 2008). Indeed, thoughts of suicide are diagnostic criteria for depression (American Psychiatric Association, 2015). As such, it is important to measure the presence of depression and how that maybe linked to suicide in addition to how identifying as a victim of cyberbullying puts one at risk for suicidal behavior. Taken altogether, the goal of this study is to address the gap in the literature concerning the relationship between emotional intelligence, suicidal behavior, and cyberbullying, and provide a more comprehensive foundation for future research in these areas. Consequently, the following research questions were posed for this study.

### **Research Questions**

Research Question 1: Does an identified history of cyberbullying predict suicidal behavior?

Hypothesis 1: Cyberbullying will account for a statistically significant portion of the variance in suicidal behavior.

Research Question 2: Does emotional intelligence predict suicidal behavior in victims of cyberbullying, when controlling for depressive symptoms?

Hypothesis 2: Emotional intelligence will account for a statistically significant portion of the variance of suicidal behavior, when controlling for the presence of any depressive symptoms, in victims of cyberbullying.

### **Summary**

In this chapter, the constructs of emotional intelligence, suicidal behavior, cyberbullying, and their relationships to one another were discussed. Due to the paucity of psychological literature devoted to a discussion of the relationships among EQ, suicidal behavior, and cyberbullying, the proposed study is critical in determining the effects of EQ on suicidal behavior in victims of cyberbullying. Specifically, in this study, the researcher will examine whether a history of cyberbullying predicts suicidal behavior and whether emotional intelligence is predictive of suicidal behavior in individuals who identify as victims of cyberbullying, when controlling for depressive symptoms.

## CHAPTER II: LITERATURE REVIEW

### Emotional Intelligence

The notion of cognitive intelligence (IQ), which includes many different constructs, is the most widely accepted view of overall intelligence. However, a select number of psychologists have proposed the concept of emotional intelligence (EI), as an additional component of intellect, separate from IQ. Originally introduced by the eminent psychologist, E.K. Thorndike, in his 1930's Harper's Magazine article, emotional intelligence (sometimes called social or personal intelligence), has earned varying degrees of acceptance among the psychological community. By the 1960's, many IQ theorists declared EQ a "useless" concept (Goleman, 2006). However, since then, many psychologists, including the prominent Yale psychologist, Robert Sternberg, have supported Thorndike's interpretation of EI. Sternberg suggests that social intelligence, later recognized as EI, is "both distinct from academic abilities and a key part of what makes people do well in the practicalities of life" (Goleman, 2006, p. 42).

Seminal works by Peter Salovey and John Mayer have proffered an elaborated definition of emotional intelligence, subsequently categorizing this construct into five main domains: knowing one's emotions; managing emotions; motivating oneself; recognizing emotions in others; and handling relationships (Goleman, 2006). Furthermore, Goleman (2006) has described EQ as "abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize" (Goleman, 2006, p. 34). Bar-On (2010) indicates that EQ is an array of interrelated emotional and social competencies and skills that determine how effectively individuals understand and express themselves, understand others and relate with them, and cope with daily demands, challenges and pressures. Given those definitions, it is important to understand that IQ and EQ are not opposing competencies, but are

separate ones. Some research has demonstrated a slight positive correlation between IQ and EQ; however, most researchers make clear distinctions, and have acknowledged them as largely independent entities.

### **Knowing One's Emotions**

Understanding one's emotions or recognizing an emotion as it happens is one of the key underpinnings of EQ. This awareness is akin to what Freud described as "evenly hovering attention," which he identified as an essential attribute in those who could conduct psychoanalysis. Furthermore, the ability to monitor emotions across time is central to psychological insight and self-understanding (Goleman, 2006). Thus, as stated by EQ researcher John Mayor, self-awareness means being "aware of both our mood and our thoughts about that mood" (Goleman, 2006, p. 47). Self-awareness can involve nonreactive and nonjudgmental attention to our inner states, which provide us with greater insight externally (Goleman, 2006). Given that, failure to notice our feelings appropriately will leave us at their mercy. Individuals who have greater understanding or self-awareness about their emotions are better at navigating their lives, and have a more comprehensive sense of how they feel from day to day (Goleman, 2006).

### **Managing Emotions**

The notion of managing emotions involves building upon an individual's self-awareness of emotions and handling emotions as they arise. This involves the capacity to soothe oneself, and to divert rampant anxiety, fear, or melancholy. However, it is important to note that the goal of managing emotions is not suppression, but balance, as every emotion has value and significance (Goleman, 2006). Goleman (2006) states that "when emotions are too muted they create dullness and distance; when out of control, too extreme and persistent, they become

pathological, as in immobilizing depression, over-whelming anxiety, raging anger, manic agitation” (p. 56). It can be argued that the ups and downs in life add a certain element of completeness. Life with only happiness can lead to blandness; while the experience of suffering can add to the importance and gratification of moments of non-suffering (Goleman, 2006).

Often, when an individual has an inability to regulate emotions, he or she may be overwhelmed with emotion (Goleman, 2006). Moreover, such individuals may continually sabotage attempts to pay attention to other tasks due to a catatonic state of mind. This catatonic state of the mind, while debilitating, often overrides all other emotions. From a neurobiological perspective, one’s working memory cognitive load or “cup,” is full, and continually overflowing with emotions. Goleman (2006) suggests that “when the limbic circuitry that converges on the prefrontal cortex is in the thrall of emotional distress, one cost is in the effectiveness of working memory: we can’t think straight” (p. 79) or effectively take on other tasks. Therefore, individuals who are inept at managing emotions may be constantly battling feelings of distress; while those who excel can bounce back far more quickly (Goleman, 2006).

### **Motivating Oneself**

Emotional self-control, or the ability to delay gratification and stifle impulsivity, is critical to being productive and effective in life. World class Olympians and musicians may possess a unifying trait of using intrinsic motivation to complete their arduous training routines (Goleman, 2006). Furthermore, most of the world-class athletes, musicians, and the like have spent years, many since childhood, cultivating their skills. These feats are not accomplished without emotional traits, namely enthusiasm and persistence in the face of setbacks (Goleman, 2006).

## **Recognizing Emotions in Others**

Empathy is the fundamental skill of understanding and recognizing emotions in others. Research shows that people who are more empathic are more attuned to subtle social indicators that dictate what others need or want. This makes individuals more adept at being socially successful (Goleman, 2006). Empathy builds on self-awareness, indicating that the more attuned we are to our own emotions, the more advanced we are at reading others' emotions (Larsen et al., 1987). Those who have difficulty understanding their emotions are at a disadvantage in attempting to understand the emotions of others. Goleman (2006) purports that the key to understanding another's emotions is often through nonverbal cues, such as "tone of voice, gesture, facial expression" (p. 96). Outcomes of being able to recognize others emotions from non-verbal cues include better emotional adjustment, greater popularity, a more outgoing nature, and more sensitivity. Interestingly, researchers have found that empathy can be demonstrated as early as infancy (Goleman, 2006).

## **Handling Relationships**

The relational "dance" is a skill that involves successfully managing emotions in others. This often involves advanced levels of social competence and perspective taking, and also necessitates the ability to appropriately express one's emotions and interpret the ever-changing emotions of others. This process requires specific skills, as successfully interfacing with others often presumes innate and learned social abilities (Goleman, 2006). This skill involves being able to detect, and have insight and understanding about people's feelings, motives and concerns. An advanced understanding of this can put one in good stead to develop a sense of rapport, or sophisticated relationships; affording him or her with the tools to successfully understand and manipulate his or her environment. Failure to understand, or manage the emotions of others, can

result in unsuccessful relationships, poor social skills, inaccurate emotional interpretation, and deficient social interactions.

### **Trait Emotional Intelligence**

A well-researched model for considering EQ is trait emotional intelligence. This refers to “emotion-related self-perceptions and behavioral dispositions relating to the perception, processing, and utilization of emotionally dense information” (Mavroveli, Petrides, Sandareau & Furnham, 2009, p. 259). Furthermore, those studying the trait emotional intelligence model contend that there is an overarching personality factor that represents the person’s emotional self-confidence (Petrides et al., 2007). Bar-On’s (1997) mixed model defines EQ as “an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p. 14). Akin to other personality traits, trait EQ represents a behavior or experience that is adaptive to certain situations or contexts, but not in others (Zeidner, Matthews, & Roberts, 2009). Moreover, this model posits that EQ is a stable aspect of personality that manifests itself through typical emotional functioning (Schutte et al., 2010). The discriminant and incremental validity of the construct has also been demonstrated in numerous studies (Mikolajczak, Luminet, & Menil, 2006; Petrides, Pita, & Kokkinaki, 2007).

Data involving children, adolescents and adults show that trait EQ is related to teacher and peer-rated pro-social and antisocial behavior (Mavroveli, Petrides, Rieffe, & Bakker, 2007), adaptive coping and depressive affect (Mavroveli et al., 2007), emotion regulation (Mikolajczak, Nelis, Hansenne, & Quoidback, 2008), and affective decision making (Sevdalis, Petrides, & Harvey, 2007). Research has shown that there are correlates to emotional intelligence, which include goal orientation and reduced depressive symptomatology (Martinez-Ponz, 1997), life satisfaction and loneliness (Palmer, Donaldson, & Stough, 2002; Saklofske et al., 2003), and

depression and affect intensity (Dawda & Hart, 2000). In a study by Mavroeli et al. (2007), these researchers found that adolescents who perceive themselves as being in touch with their emotions and able to regulate them tend to report less depression and physical pain. In light of this finding, high trait EQ adolescents seem to be less vulnerable to psychological disorder symptomatology as compared to their low trait EQ peers.

### **Does Emotional Intelligence Matter?**

Currently, there is disagreement in the literature as to whether EQ is an individual ability (ability model) or a non-cognitive skill, capability, or competency that influences a person's competence when coping with environmental demands and pressure (trait model; Dulewicz & Higgs, 2000). However, EQ researchers agree that regardless of the theoretical model used, EQ encompasses personal and social competence. Furthermore, EQ is a critical factor in understanding the link between stress and mental health and has been found to be an important problem solving skill that employs both emotional and cognitive abilities (Akerjordet & Severinsson, 2007). Finally, there is overall consensus that a person has an inherent ability to further develop, and refine his or her EQ (Akerjordet & Severinsson, 2007).

Emotional intelligence from a public health science perspective is an adaptive ability that promotes overall wellbeing (Spence et al., 2004). Furthermore, many researchers have argued that the current demands of society require additional skills in the areas of emotional awareness, decision-making, social interaction, and conflict resolution for success in life (Romasz et al., 2004). Additionally, EQ has been found to be related to improved academic achievement, improved health, adjustment, and career or workplace success (Humphrey et al., 2007); enhanced workplace and school performance (Van Rooy & Viswesvaran, 2004); and wellbeing and stress management (Schutte, Malouff, Thoresteinsson, Bhullar, & Rooke, 2007). An understanding of

the purported role of EQ is outlined eloquently by Elias and Weissberg (2000): “If children are not aware of their feelings, they will find it difficult to make reasoned decisions, control impulsive actions, or say what they really mean” (p. 186).

Elias and Weissberg (2000) posit that parents are of paramount importance in developing children’s social and emotional competencies. Research on emotional regulation in children has shown that the degree of attunement between a mother and an infant at 10 months will predict the ability of the child to manage intense emotions at 2 years (Schore, 1999). Schore (1999) states that the nature and quality of parent-children interactions can actually shape the brain’s formation. Additionally, in a study with adults, individuals with higher levels of emotional intelligence were found to suffer less subjective stress, experience better health and general well-being, demonstrate better management performance, and were less likely to experience burnout (Geritis, Derksen, Verbruggen, & Katzko, 2005). Finally, Brackett, Mayer, and Warner (2004) provide evidence from college students suggesting that the inability to perceive emotions and to use emotion to facilitate thought is associated with such negative outcomes as illegal drug use and deviant behavior.

Given the documented effects of EQ, it is important to understand the implications for individuals with low EQ, and how these implications can manifest in maladaptive behaviors. In a recent study by Cha and Nock (2009), emotional intelligence was found to be a protective factor for both suicidal ideation and attempts in victims of childhood sexual abuse. In an investigation by Jacobson and colleagues (2011), individuals with high levels of restrictive emotionality, defined as a difficulty understanding and expressing emotions, were 11 times more likely to have depressive symptoms. Furthermore, in the same study, researchers found that these individuals were three times more likely to report serious suicide ideation (after controlling

for depressive symptoms) and more than twice as likely to report suicide attempt (after controlling for depressive symptoms) than those reporting low restrictive emotionality. Despite these compelling findings, additional research is needed to understand the relationship between EQ and suicidal behaviors.

### **Suicide**

The act of suicide is an enormous societal problem that, while being labeled as “taboo,” still affects a great number of lives. The World Health Organization (WHO) estimates that approximately one million people die by suicide each year. That number is equivalent to approximately 3,000 deaths per day, or one death every 40 seconds from suicide worldwide. These current estimates are staggering, and when compared to deaths by homicide and war-related deaths, rates of death by suicide are much higher. Moreover, the WHO has estimated that suicide has increased over 60% worldwide during the last 50 years, and is the second leading cause of death among people ages 10-24 in the world (Miller, 2011).

In the US, approximately 32,000 people die as a result of suicide each year, which is about 80 people per day. Results from a milestone study involving over 46,000 adults 18 years of age and older who completed the National Survey on Drug Use and Health (NSDUH) in 2008 indicate that 8.3 million individuals (3.7% of the US adult population) had serious thoughts of suicide during the past year, 2.3 million (1.0%) had made a suicide plan, and 1.1 million (.05%) had attempted suicide, with over 60% of the last group requiring medical treatment and 46% requiring hospitalization (Miller, 2011).

While the overall statistics are quite alarming, they only include individuals over 18 years of age. However, youth suicide rates in the US have remained high (King & Apter, 2003) over the past decade. On average, approximately five children and adolescents between the ages of

10 and 19 currently die by suicide every day in the US (Wagner, 2009). However, those who commit suicide only account for a small percentage of youth affected by suicide. For every youth who dies by suicide, it is estimated that at least 100 to 200 young people make suicide attempts, or have serious thoughts about killing themselves (Miller & Eckert, 2009).

### **Youth Suicide**

Suicide and the thoughts and actions that surround it are a growing trend with no sign of dissipating anytime soon. Currently, suicide is the 3<sup>rd</sup> leading cause of death among young people in the US, trailing only accidents and homicide (Centers for Disease Control and Prevention, 2006; Miller & Eckert, 2009). Moreover, it is estimated that 8.8% of young people have attempted suicide in the last 12 months (Hacker, Suglia, Fried, Rappaport, & Cabral, 2006). Even more alarming, there have been overall suicide rate increases for children and adolescents estimated at over 300% since the 1950s (Berman, Jobes, & Silverman, 2006), with a 51% increase between 1981 and 2004 for children aged 10-14 (American Association of Suicidology, 2006). Sadly, these estimates fail to account for the possibility that individuals are underreporting, and thus actually may be an underestimate of actual rates (Lieberman, Poland, & Cassel, 2008).

In a national survey, the *Youth Risk Behavior Surveillance System* (CDCP, 2008), researchers surveyed students in grades 9-12, and found results that further illuminate this national public health problem. As a result of their responses on the survey, it was noted that 14.5% of US students had seriously considered attempting suicide in the previous 12 months (18.7% females, and 10.3% males); during the same year, 11.3% of students had made a plan about how they would attempt suicide (13.4% females, 9.2% males); 6.9% reported having made at least one suicide attempt (9.3% females and 4.6% males); and 2% of attempters had suffered

an injury, poisoning, or an overdose that required medical attention. Further extrapolating the data into tangible figures, it can be stated that in 2007, 1 out of 7 high school students engaged in serious suicidal ideation, 1 in 10 made a suicidal plan, and 1 in 14 made a suicide attempt, some to a degree that necessitated medical treatment or hospitalization (Miller, 2011).

### **Young-Adult/College Student Suicide**

Suicide, as discussed previously, is a public health problem in the US, and does not discriminate with age. Researchers have found that almost half of all college students meet the criteria for at least one Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR) psychiatric disorder (Blanco et al., 2008). Eisenberg and colleagues (2007) found in a national study that 17% of college students evidence depressive symptoms, with 9% meeting the criteria for major depression. As is known through the literature, one of the most significant predictors of suicidal behavior is depression (Haas et al., 2008).

Some studies indicate lower rates of suicidal behavior for college students when compared with same-age peers (Drum, Brownson, Denmark, & Smith, 2009), but suicide is the second leading cause of death for young adults and approximately 1,100 college students die by suicide each year (CDC, 2010). The American College Health Association in 2009 found that about 6.4% to 9.5% of college students seriously consider suicide, and 1.3% to 1.5% made a suicide attempt (ACHA, 2009). Further studies have found that male students (ages 18 to 24) are more than twice as likely as female students to have died by suicide (Drum, Brownson, Burton, Denmark, & Smith, 2009). However, female graduate students aged 25 and older die by suicide at a rate similar to their male counterparts (SPRC, 2004).

Additionally, a recent large-scale study found that approximately 18% of undergraduates reported having seriously considering a suicide attempt at some point, while 6% reported serious

suicidal ideation in the past 12 months (Drum et al., 2009). A 2005 study by Westefeld and colleagues found that 24% of college youth considered suicide. Another study found that suicidal ideation among college students ranged from 32% to 70% (Gutierrez, Osman, Kopper, Barrios, & Sacks, 2000). Lastly, estimated rates of suicide attempts by college youth range from about 1% (American College Health Association, 2009; Furr, Westefeld, McConnell, & Jenkins, 2001) to 5% (Westefeld et al., 2005).

### **Suicide Behavior Continuum**

**Suicidal ideation.** Suicidal ideation is the first stage in the suicidal behavior continuum, and refers to cognitions or thoughts about suicide (Miller, 2011). These cognitions tend to range from general thoughts about never being born, to more specific thoughts about developing plans about when, where, and how suicide might occur (Mazza, 2006). The severity of the suicidal ideation often relates to the potential for more serious forms of suicidal behavior. Research states that transient thoughts about suicide behavior appear to be common during adolescence (Rueter, Holm, McGeorge, & Conger, 2008). Smith and Crawford (1986) found that up to 63% of a sample of high school students reported some level of suicidal ideation. The prevalence of suicidal ideation tends to increase with age, peaking around ages 14-16, and declining thereafter (Rueter & Kwon, 2005), but is still present at all ages. Greening and colleagues (2007) conducted a path analysis of suicidal behavior, and found a significant direct effect for suicidal ideation on suicide attempts. Interestingly, although suicidal ideation is a very serious form of suicidal behavior, it does not always preclude more serious suicidal behaviors, such as planning or attempting suicide (Lewinsohn, Rohde, Seeley, & Baldwin, 2001).

Rueter and colleagues (2008) studied 552 adolescents and young adults over a 13-year period, beginning at a mean age of 14 until a mean age of 27. Researchers identified three

subgroups in this sample: nonideators (youth who did not exhibit suicidal ideation); decreaseers (youth whose level of suicidal ideation decreased between age 14 and 27); and increaseers (youth whose level of suicidal ideation increased over time). Subsequent results concluded that the probability of making plans to die by suicide in these groups was found to be greatest among those with increasing suicidal ideation over time. Moreover, it was found that the probability of attempting suicide was found to be highest among males with decreasing suicidal ideation and females with increasing suicidal ideation (Rueter et al., 2008). Suicidal ideation becomes clinically significant when more than transient thoughts are present, and there is a preoccupation which can be translated into behavioral actions (Berman et al., 2006).

**Suicide-Related Communications.** Silverman and colleagues (2007b) define suicide-related communications, the next serious step in the suicide continuum, as “any interpersonal act of imparting, conveying, or transmitting thoughts, wishes, desires, or interest for which there is evidence (either explicit or implicit) that the act of communication is not itself a self-inflicted behavior or self-injurious” (Silverman et al., 2007b, p. 268). Suicidal communications can involve verbal and nonverbal forms of communication. A suicide threat refers to “any interpersonal action, verbal or nonverbal, without a direct self-injurious component, that a reasonable person would interpret as communicating or suggesting that suicidal behavior might occur in the near future” (Silverman et al., 2007b, p. 268). These forms of communication can be direct (telling a friend that he/she wants to kill himself/herself) or indirect (engaging in dangerous, death-provoking behaviors), and vary in regards to levels of planning, communication and concealment from others (Kingsbury, 1993).

A suicide plan refers to “a proposed method of carrying out a design that will lead to a potentially self-injurious outcome; a systematic formulation of a program of action that has the

potential for resulting in self-injury” (Silverman et al., 2007b, p. 268). Individuals who express either suicidal threats or suicidal plans are communicating with others a desire or intent to die. It is important to note that the complexity of the plan is not as important as the lethality of the plan (Miller, 2011). In fact, increased lethality is a predictor of successful suicide completion (Miller, 2011).

Silverman and colleagues (2007b) purport that suicide-related communications are the theoretical halfway point between suicidal ideation and more extreme forms of suicidal behavior on the suicidal behavior spectrum. This category of suicidal behavior is interpersonally motivated, and frequently involves divulging to others how an individual might progress from suicidal ideations, to suicide threats or to action (suicidal plan). It should be noted that not all individuals who have suicidal ideations, threats, or plans are actively suicidal (Mazza, 2006). Likewise, not all suicidal individuals communicate their threats or plans with other people (Mazza, 2006).

Miller (2011) conveys that a significant majority of individuals who attempt or die by suicide, estimated at 80%, display preceding threats or warnings. Conversely, the majority of suicide threats are not followed by suicidal actions (Berman et al., 2006). However, it is because of this ambiguity that all suicidal threats or other communications about suicide should be taken seriously. As noted by Berman and colleagues (2006), “All threats and communications about suicide should be taken seriously, responded to, and evaluated as indicators of potential clinical significant and potential risk. To not do so and to be proved wrong by eventual suicide is a cost we believe to be most preventable and unacceptable” (p. 99).

**Suicide Attempts.** A suicide attempt is the third form of suicidal behavior on the continuum presented by Miller (2011), and can be defined as “a self-inflicted, potentially

injurious behavior with a nonfatal outcome for which there is evidence (either explicit or implicit) of intent to die” (Silverman et al., 2007b, p. 273). There are different types of suicide attempts, with important distinguishing characteristics.

Some suicide attempts are considered high-intent attempts, while others are considered low-intent attempts (Miller, 2011). Berman and colleagues (2006) suggest that distinctions can be made between these two types based on the level of lethality of the method used in making the attempt. For example, if the person is attempting suicide by not talking for 100 days, that would be considered low lethality, as the behavior is unlikely to result in death. Conversely, if one attempts suicide by using a gun, that would indicate higher levels of lethality. Most suicide attempts by children and adolescents are of low lethality (Miller, 2011). The typical low level of lethality in methods chosen by children, adolescents, and young adults may imply that the majority of those who attempt suicide are ambivalent about taking their own lives (Mazza, 2006).

When children, adolescents, and young adults engage in low level of lethality suicide attempts, they are presented with the opportunity to re-engage in the attempts, resulting in what Berman and colleagues (2006) suggest are repeated suicide attempters. They indicate that these repeat attempters are those youth who engage in “chronic, habitual self-destructive behavior” (Berman et al., 2006, p. 98). Individuals who attempt suicide have an amplified risk of repeated suicide attempts, and subsequently, an increased risk for later death (Groholt & Ekeberg, 2009; Miller, 2011). These individuals tend to have more pervasive symptoms associated with suicide, and marked deficits in coping strategies. Furthermore, these individuals tend to be members of families with evidence of chaotic and chronic dysfunctional behavior patterns (Miller, 2011). Consequently, repeat suicide attempters are at high risk for increasing the lethality of methods

for subsequent suicide attempts. Although most who attempt suicide will do so only once, a substantial number of individuals who attempt will later die by suicide (Berman et al., 2006).

In addition to an increased risk of further suicidal behavior, engaging in suicide attempts can place individuals at increased risk for a myriad of other mental health problems. Groholt and Ekeberg (2009) found that in a group of 71 adolescents interviewed 8 to 10 years after they made a suicide attempt, 79% had at least one psychiatric disorder, with the most common disorder being depression. Furthermore, 33% of the sample had received some form of inpatient treatment, 78% had received some form of psychiatric treatment, and 44% had made additional suicide attempts. Given these findings, it is evident that one single attempt can be a precursor to future attempts and subsequent mental health problems.

**Suicide.** Death by suicide is the last behavior on the suicide behavior continuum (Miller, 2011). Suicide may be defined as a “fatal, self-inflicted act with the explicit or inferred intent to die” (Miller, 2011, p. 7). Given this definition, it is hypothesized that one must have exhibited suicidal ideation, intent to die by suicide, and used sufficiently lethal means to complete the suicidal act. Research has shown that the key difference between those who attempt, and those who die by suicide, is the presence of underlying psychopathology; specifically mood disorders, substance abuse disorders, and disruptive behavior disorders (Fleischmann, Betolote, Belfer, & Bautrais, 2005). In fact, research suggests that 90% or more of those who die by suicide have at least one diagnosable mental disorder at the time of their death (Berman et al., 2006).

### **Suicide Theories**

The earliest theory of suicide that is still relevant today was introduced over 100 years ago by the French sociologist, Émile Durkheim (1897). His emphasis was on the impact of social factors on suicidal behaviors, and he suggested that “collective social forces were much

more central to suicidal behavior than individual factors," with his theory focusing on the importance of social integration and moral regulation (Miller, 2011 p. 17). Furthermore, Durkheim's theory suggested that there are four different types of suicide that relate to an individual's relationship to society: egoistic, altruistic, anomic, and fatalistic (Berman et al., 2006). While Durkheim's theory rejects the impact of variables now known to contribute to suicide (e.g., genetics, psychiatric disorders), his theory remains influential because it was the first comprehensive, testable theory of suicide (Joiner, 2005).

Contemporary theories of suicide have recently emerged in the literature, and are gaining greater empirical support than earlier theories. It has been suggested that current theories offer a more pragmatic framework for generating predictions and testable hypotheses (Miller, 2011; Van Orden, Witte, Selby, Bender, & Joiner, 2008). Recent research has conceptualized suicide from a cognitive-behavioral perspective, focusing upon cognitions that contribute to the progression of suicide and suicidal behavior (Miller, 2011).

Modern theorists on suicide emphasize various components in the development of suicidal thoughts and behaviors. Aaron Beck and his colleagues (1975, 1989) purport that *hopelessness* is a major contributor to the suicidal continuum, and consider hopelessness to be more characteristic of suicidal behavior than depression. Furthermore, Beck (1996) has placed emphasis on the role of *cognitive errors* and *distorted thinking* in suicidal behaviors. Berman et al. (2006) further discuss the importance of Beck's concept of the *cognitive triad* (i.e., negative thoughts about oneself, others, and the future) as an essential component in fully understanding suicide. Within the cognitive conceptualization of suicidal behavior, hopelessness has been found to be the most significant clinical variable predicting suicidal behavior (Berman et al., 2006). Additionally, empirical evidence has affirmed the importance of hopelessness as an

integral feature of suicide behaviors (Beck, Brown, & Steer, 1989; Brown, Beck, Steer, & Grisham, 2000).

Groundbreaking theory by Dr. Marsha Linehan and her model of Dialectical Behavior Therapy (DBT) suggest that suicide and self-destructive behaviors manifest due to a basic effort to cope with low distress tolerance and limited coping resources (Linehan, 1993). Linehan argues that maladaptive coping skills should be behaviorally extinguished, and replacement coping skills should be taught and differentially reinforced. While DPT was not originally developed for treating suicidal behavior, this theory holds significant implications within the field of suicidology (Berman et al., 2006). Extrapolating Linehan's theory and applications of DPT principles have afforded significant contributions to the suicidology literature (Chiles & Strosahl, 1995; Miller, 1999).

Thomas Joiner (2005, 2009) has developed one of the most comprehensive and empirically supported theories of suicide in recent years. His interpersonal-psychological theory of suicide behavior was developed to build upon the original theories while incorporating the strengths of the original theories (Joiner, 2005). Joiner agrees that hopelessness is a key component to suicidal behavior, but furthers the notion by asking, "What in particular are suicidal people hopeless about? If hopelessness is key, why then do relatively few hopeless people die by suicide?" (Joiner, 2005, p. 39)

Joiner (2003a) contends that serious suicidal behavior requires three interpersonal-psychological factors. These include an acquired aptitude to enact lethal self-injury; a sense that one is burdensome or has developed into a burden to loved ones; and a sense that one is no longer interpersonally connected within a group or has failed belongingness (Miller, 2011). Perceived burdensomeness refers to the belief that an individual's existence is somehow

burdensome to others, such as family (Joiner et al., 2009). Furthermore, failed belongingness refers to “the experience that one is alienated from others and not an integral part of a family, circle of friends, or other valued groups” (Joiner, 2009, p. 245).

Joiner also discusses one’s habituation to the fear and pain associated with death, in that the self-preservation instinct is altered. This habituation process can include any fear or pain invoking experience, such as injuries, violence, medical implications, accidents and social interactions, and tends to work collaboratively to effectively habituate an individual to no longer have fear of death (Miller, 2011). Joiner’s theory purports that those who have adaptations to their instinctive fear of death through habituating to fear, tend to overcome their fear of suicide. Meaning, those who have less fear of suicide, or death, are more likely to engage in behaviors that could lead to that end. Considering this notion, one may see why certain professions have higher rates of suicidality (Joiner, 2005); namely medical doctors, police officers, and soldiers. All of these occupations have elevated rates of suicide compared to other lines of work (Miller, 2011), indicating that the common factor is a consistent exposure, and habituation, to physically painful or provoking experiences.

### **Risk and Protective Factors**

The suicide literature includes many factors that place individuals at a greater risk for engaging in suicidal behavior. These varying risk factors all affect individuals independently, and are not always present in someone who is suicidal. Beautrais (2003) contends that risk factors can be categorized into seven domains, including social and educational disadvantages, childhood and family adversity, psychopathology, individual and personal vulnerabilities, exposure to stressful life events and circumstances, and social, cultural, and contextual factors.

Research has documented the following risk factors: reduced popularity, low social integration, low self-esteem, problematic parent-child relationship, school-related behavioral problems (Katzner, Fetchenhauer, Belschak, 2009); prior suicide attempts (Coryell, 2006); hopelessness (Coryell, 2006); mental illness (Foster et al., 1997; Wischstrom & Rossow, 2002); recent loss or crisis (Beautrais, 2003); negativity, rigidity, impulsivity or violent/aggressive behavior, fewer adequate coping mechanisms when faced with stressful events (Chagnon, 2007); social and educational disadvantage, individual and personal vulnerability, exposure to stressful life events (Beautrais, 2003); poor problem-solving and coping skills and low self-esteem (Joiner, 2005). Furthermore, male adolescents with a history of suicide attempt were 17.6 times more likely to report suicidal ideation than male adolescents without a history of attempt (Park, Koo, Schepp, Jang, 2006). Moreover, Beautrais and colleagues (1997) found that one of the most common precipitants of serious suicide attempts was interpersonal conflict and relationship difficulty. Speaking specifically about college-aged individuals, the often stressful experience in college can lend itself to increased levels of difficulty with persistent academic demands, career indecisiveness, financial pressures, loneliness, and separation from support networks (Hirsch & Ellis, 1996).

Protective factors are characteristics that put an individual at decreased risk to engage in, or become a part of a situation that increases the probability of a negative outcome. Protective factors are not simply the absence of risk factor; rather, they are third variables that modify the intensity or direction of the relationship between a risk factor and maladaptive outcome. Research has found that positive coping skills (Hughes & Neimeyer, 1993; Josepho & Plutchik, 1994); life satisfaction (Chioqueta & Stiles, 2007); and interpersonal social support (Rigby & Slee, 1999) are protective factors against suicidal behavior. Researchers have determined that

genetic and neurobiological factors can moderate the influence of stressful life events on the likelihood of suicide attempts (Mann, 2003). Other researchers have purported that environmental factors, such as reduced accessibility to firearms (Brent, Perper, Moritz & Baugher, 1993; Shenassa, Rogers, Spalding & Roberts, 2004), and social support (Borowsky, Ireland, Resnick, 2001; Resnick et al., 1997) may temper the influence of stressful life events on suicide. Given the previous literature, it will be important to further study psychological protective factors for suicidal behaviors, as such factors are more easily modified than other mediating factors identified in previous research (i.e., genetics).

After considering the presented risk and protective factors of suicidality, it is reasonable to assume that one factor that may elevate the risk of engaging in suicidal behavior is being the recipient of bullying behavior. This is because of the inherent social, emotional, and physical vulnerability to which those who are bullied are subjected. While the construct of bullying is broad, and encompasses both direct and indirect behavior, it is particularly important to expand the research literature to include cyberbullying, as it is the least studied type of bullying behavior. Indeed, Patchin and Hinduja (2010) found that youth who had experienced cyberbullying, as either offenders or victims, had more suicidal thoughts and were more likely to attempt suicide than peers not involved in cyberbullying.

### **Cyberbullying and the Internet**

In 2005, there were over 1 billion Internet users and 2 billion mobile device users worldwide (Central Intelligence Agency [CIA], 2007; Privitera & Campbell, 2009). As of 2009, the number of Internet users had grown to 1.8 billion (CIA, 2011). This significant growth in Internet use across the last five years can be attributed to an increasing use of social media, and an internet-dependent generation and society. Further adding to this phenomenon is the rapid

growth of social media websites, such as Facebook. Since Facebook's inception in February 2004, more than 750 million individuals have become active members (users who have returned to Facebook in the last 30 days), with people sending over 700 billion messages per month (Facebook, 2013). Facebook reports that more than 30 billion pieces of content (web-links, news stories, blog posts, notes and photo albums) are shared each month between their users. There are more than 250 million active users accessing Facebook through their mobile devices, and these people are twice as active on Facebook than non-mobile users (Facebook Statistics, 2011). This rapid increase in technological communication and social interaction has unwittingly served to introduce a new form of bullying that deviates from traditional forms of direct and indirect aggression.

### **Definition of Cyberbullying**

Cyberbullying is a newly researched construct, which holds many similarities and differences from the traditional face-to-face direct and indirect forms of bullying. Smith and colleagues (2008, p. 376) define cyberbullying as “an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself.” Belsey (2004) adds that cyberbullying also includes “the use of information and communication technologies to support deliberate, repeated, and hostile behavior by an individual or group that is intended to harm others (p. 3).” Consistent with traditional face-to-face bullying, a cyberbullying relationship must be intentional, repetitive, and characterized by a power imbalance.

### **Repetition**

Olweus (1993) argued that repetition is necessary in the definition of traditional bullying, used to differentiate and exclude an occasional act of arbitrary aggression directed at different

people, at different times. Olweus's concept is also a central component in cyberbullying, but should be expanded to include repetitive victimization, even if the instigating act is singular. For example, repetitive cyberbullying may occur when a perpetrator instantaneously sends multiple phone text messages, emails, and social networking messages (Slonje & Smith, 2008), or when a cyberbully creates a single derogatory message, post, video or website, which many people can access repeatedly (Leishman, 2005).

Research has found that due to the inability to hide from repetitive victimization, whether from numerous single messages, or a widely disseminated post, the victimization impact is similar, or worse. Further, even one message, post, or video that is observed numerous times, by many people, can be akin to repetitive face-to-face victimization. Researchers have documented that when victims see the count of visitors to the act of cyberbullying, it is as though the victimization is occurring over and over again. Guerin and Hennessy (2002) found that over 50% of children did not consider the frequency of the cyberbullying to be important, with over 40% of those believing that an act that occurred once or twice could still be cyberbullying. Moreover, the impact of picture/video clip cyberbullying has been considered worse by victims than face to face bullying (Smith et al., 2008), while the impact of a phone call, text message, or email is considered less damaging than face to face bullying (Slonje & Smith, 2008). Lastly, it is important to make the distinction between bullying and general harassment. Although harassment may be a form of hurtful behavior, it does not meet the definition of bullying because it is not repetitive in nature.

### **Power Imbalance**

Analogous to traditional face-to-face bullying, a power imbalance is central to the cyberbullying dyad. The cyberbullying power differential in the relationship is often more

complicated than the traditional face-to-face bullying because the victim and bully are not together in the same physical environment, thus often adding anonymity into the equation. Further, this environmental change lends the power imbalance to be social, psychological, and physical in nature (Monks & Smith, 2006). Victims or anonymous cyberbullies report increased feelings of frustration and powerlessness (Doodly et al., 2009) compared to those with identifiable cyberbullies.

Adding to the novel form of power imbalance, cyber-perpetrators are able to conceal or transform their identities. Moreover, the added anonymity of chatrooms, texts, and other forms of cyberbullying enable perpetrators to cast off their actual personality characteristics; abandoning a negative self-image, potential unpopularity, or social rejection from other students (Boulton & Underwood, 1992; Nansel et al., 2001, 2004). Vandebosh and van Cleemput (2008) reported that those who engaged in cyberbullying acknowledged that many of their victims knew them in the real world, but with a concealed identity, they were able to successfully target a person perceived as higher equal in strength or popularity. It is hypothesized that cyberbullies seek pleasure or perceived social benefits through the mistreatment of other individuals (Hinduja and Patchin, 2009). With the different power imbalances, any person can initiate a victim/perpetrator relationship. Further speaking to this new paradigm, Rigby (2007) noted that, “wherever there is a power imbalance, whatever its source, an individual can be reduced in status” (p. 19).

## **Prevalence**

With over 1.8 billion people using the Internet, and over 200 billion mobile cell phone users, there is an enormous opportunity for individuals to engage in cyberbullying behaviors. Hinduja and Patchin (2008) found that approximately 34% of chatters surveyed in the US

claimed to have been victims of virtual forms of aggression in Internet chatrooms. With 25% of 6-13-year olds regularly visiting chatrooms (Katzner, Fetchenhauer & Belschak, 2009), victimization presumably affects a large number of children. Thirty-four percent of chatters, for example, reported being abused or insulted every few months to more than once a month; 31.6% reported being harassed for no apparent reason every few months to more than once a month; and 12.3% reported being teased (Katzner et al., 2009). These statistics account for only a small number of victims of cyberbullying, because they only include chatroom victims.

In a recent analysis of the cyberbullying literature, which examined 35 cyberbullying research articles, Patchin and Hinduja (2012) found that cyberbullying victimization rates range between 5.5% and 72%, with an average of 24.4% of youth from 11-18 years old being victims of cyberbullying. Considering 22 cyberbullying articles, authors of the most recent literature have postulated that 6%-30% of teens have experienced some forms of cyberbullying (Rivers & Noret, 2010). It has been suggested that 1 out of every 5 children has been cyberbullied to some degree in an online arena (Patchin & Hinduja, 2012). The most common type of cyberbullying was reportedly posting mean or hurtful comments about someone online, with 14% of youth reporting this experience (Patchin & Hinduja, 2012). Furthermore, as particularly pertinent to this study, Finn (2004) and Chapell and colleagues (2004) found that between 10-24% of a college sample reported experiencing cyberbullying behavior.

### **Gender Differences**

The literature on cyberbullying and gender differences has yielded mixed results. Blair (2003) reported that women are more likely to communicate using text message and email than men. Furthermore, girls tend to have more close-knit friendships, which fosters an environment in which a female may exchange more intimate details and personal secrets that can be used as

ammunition in future victimization; while boys tend to socialize in larger groups, yielding less intimate detail sharing (Dooley et al., 2009). These estimations about gender differences may relate to the opportunities for victimization, corresponding to the previously shared secrets (Dooley et al., 2009). Conversely, others have reported that there are no gender differences, with males and females engaging in cyberbullying activities with a similar frequency (Williams & Guerra, 2007; Ybarra & Mitchell, 2004). This could again be a result of the method of cyberbullying being measured. Furthermore, the use of the internet and other social media technologies is an ever-changing trend, which requires future research to document the shifting movement.

### **Differences between Traditional Bullying and Cyberbullying**

While there are many similarities between traditional bullying and cyberbullying; namely, the need for repetition, intentionality, and the characterization of a power imbalance, there are also significant differences. One of the more obvious differences is the method by which the acts transpire. For traditional bullying, acts of bullying occur in a number of different ways, but almost always occur with the victim and perpetrator being face-to-face. While there are exceptions to that, for example, in instances of relational or social aggression, the more traditional verbal and physical bullying occurs overtly between a perpetrator and victim. With cyberbullying, however, almost all the acts occur behind the camouflage of a screen.

Another major difference between traditional bullying and cyberbullying is the level of impact. Although both traditional bullying and cyberbullying have a significant impact upon victims, in cyberbullying, the perpetrator can magnify the effects of cyberbullying due to its anonymous nature and the ability to perpetrate through many methods (i.e., email, text, Facebook, etc.). Furthermore, victims of cyberbullying often report that they feel that the

victimization is continuous as they are able to re-read the messages that were sent or watch the number of visits to a webpage increase. Essentially, the public forum in which the bullying occurred is exaggerated due to the reach of technology beyond the typical physical constraints of a direct incident of peer victimization.

### **Forms of Cyberbullying and Victimization**

Young bullies are beginning to employ a wide variety of electronic devices to harass their victims from afar, make their modalities more ubiquitous. While various forms have differential impacts, each electronic modality falls under the construct of cyberbullying. Smith and colleagues (2008) proposed a model, which included seven modes of cyberbullying. These different methods have variations in frequency, intensity, and effect, but all can have significant impact on the victim. The seven modes are: phone calls, mobile phone text messaging, email, picture/video clips, instant messaging, websites, and chatrooms. Another method of cyberbullying that may be employed is the use of social media websites such as Facebook, Myspace, and Livejournal. Furthermore, perpetrators often employ a victimization cocktail, utilizing a combination of methodologies. For example, one victim reported being sent text messages, social media messages, phone calls, and altered pictures posted on a social media website from a single group of perpetrators. Recent changes to social media websites afford a multi-modal method of perpetration; incorporating chat, instant messaging, and group and individual website page posting. Consequently, victims may be subject to victimization through a multitude of methods, just by entering one website.

Perpetrators may further add to the problem by posting pictures and videos that can be witnessed by an indeterminate number of people. As individuals become more familiar with technology, they increase their ability to manipulate and modify the pictures and videos they

post, further adding to the potential mortification of victims (Smith et al., 2008). Often times, perpetrators include counters, which record the number of times the posting is viewed. Many victims report that they feel like they are continually being victimized as they see the count rise (Fauman, 2008).

Specific research has been documented on chatroom frequency. Results indicate that 69% of all 10-to19-year olds claimed to regularly chat (28% once or more daily; 12% every 2 to 3 days; 9% once a week; 20% less than once a week; 21% didn't chat or no longer chatted; Katzer et al., 2009). Furthermore, the average person uses a chatroom 70 minutes on school days and 122 minutes on non-school days (Katzer et al., 2009). While some may speculate that friendships cannot be forged through the Internet, one study found that 40.1% of chatters reported that their chat friends were just as important as their real school friends, and 47% reported that they made new friends via the Internet (Katzer et al., 2009).

Cyberbullying in the college-age population is similar in modality; however, some individuals have reported unique experiences in post-secondary settings. For example, at some universities, individuals will post pictures of individuals making out or engaging in sexual acts at social gatherings and use hashtags and words like “slut,” “whore,” or other derogatory terms posted with the image. This type of cyberbullying has been given the unique name of “slut shaming” or “slut slamming.” Generally speaking, this involves criticizing a woman or man for real or perceived sexual activity. These types of occurrences often happen on Facebook and Instagram, which can lead to mass dissemination among the student body attending a particular college or university. Furthermore, individuals can subscribe to certain usernames and when content is posted, it automatically shows up on their newsfeeds on media such as Facebook and Twitter. An example would be the username HarvardHussys, which would post pictures of

students engaging in real or perceived sexual activity. Other students can subscribe to HarvardHussys and see their content as it is posted on the website. Given the method of dispersion, a victim can often be re-victimized as the number of “likes” or sharing grows among college students.

### **Consequences of Cyberbullying**

While some may dismiss cyberbullying as a “rite of passage” and others may be able to ignore cyberbullying because it does not have a direct proximal impact on children’s physical safety, a significant body of research suggests that there are real implications linked to cyberbullying (Patchin & Hinduja, 2012). Research has made clear that both the victim and bully in the cyberbullying dyad experience negative effects to their emotional and psychological well-being. For example, Patchin and Hinduja (2006) found that many victimized youth report feeling angry, frustrated, sad and depressed after victimization. Ybarra (2004) similarly found that “three times as many young people who report being harassed [online] also indicate major depressive symptomatology compared to non-targets” (p. 254).

Furthermore, Wolak and her colleagues (2006) found that one third of individuals who have experienced online victimization considered the incident to be “distressing... which left them feeling very or extremely upset or afraid” (p. 39). Dempsey and her colleagues (2009) found that individuals who had experienced cyberbullying had increased levels of social anxiety. Research has linked a variety of social maladies with cyberbullying behavior, including alcohol and drug use, hate crimes, planned or executed bombings, planned school shootings, suicide and even murder (Hinduja & Patchin, 2009, 2012).

## Summary

When considering the aforementioned topics separately, they seem like disparate constructs that are unrelated; however, after analyzing them together, they comprise a potential and potent risk. However, it is also clear that additional research is needed to identify a potential relationship among them. To that end, as comparable with many constructs with documented negative outcomes, the “cocktail effect” of combining the three can be tragic. That is to say that cyberbullying by itself is unlikely to lead to suicide. Rather, it appears that cyberbullying, when coupled with poor coping skills or low distress tolerance, may have the propensity to exacerbate other life stressors or personal problems faced by youth. In the next chapter, the methods of the study will be reviewed in order to further clarify the relationship among the theoretical constructs of emotional intelligence, suicidal behavior, and cyberbullying.

## **CHAPTER III: METHOD**

The purpose of the current research study was to investigate the relationship between the constructs of emotional intelligence, suicidal behavior, and cyberbullying. Specifically, this study examined whether individuals who identify as having a history of cyberbullying predicted suicidal behavior and whether emotional intelligence is a predictive factor of suicidal behavior in victims of cyberbullying when controlling for depression. Although this study will not be the first to examine these constructs individually, it is the first to examine them all together. Further the study will expand the limited research in these areas. Below is a description of the way in which participants were recruited and procedures for collecting data were implemented. The measures used in this study will also be reviewed. Lastly, data analyses are discussed.

### **Participants**

#### **Recruitment of Participants**

The researcher solicited participation through a convenience sample of college students at a mid-Atlantic private Catholic university. A total of 7,840 male and female undergraduate and graduate students who were between the ages of 18-25 were asked for their possible participation in this study. Emails were obtained through the University directory. Participants were solicited through an email explaining the purpose and nature of the study, and provided a link to Survey Monkey, which prompted the participant to acknowledge consent and proceed with the study if he or she so desired. Of the 7,840 emails sent, 8.3% of students responded to the request to participate, representing a total of 891 subjects. Following participation in the study, participants were given the ability to submit their email address for the opportunity to win one of two \$50 gift cards. Participants were only excluded from the study if they were under 18 or older than 25 years of age.

## **Survey Response Rates**

When conducting research via surveys, the research always strives for the highest response rate possible, as that builds a robust sample and gives the study more power. However, response rates are rarely 100%, and more typically are between 30-50% (Baruch & Holtom, 2008). However, when collecting on-line data from an external source, one can expect an overall less response rate. The current study only achieved a response rate of 8.3%. While this response rate is below the average and thus lessens the robust nature of the study and decreases the power of the results the survey yielded a substantial number of participants. Bandilla, Couper, and Kaczmirek (2012) report that research findings on whether email is an effective method for recruitment are ambiguous. That finding could support the lower than average response rate in the study.

## **Power Analysis**

An a priori power analysis was conducted using statistic software G-Power 3.1 to determine the required sample size to achieve adequate power when conducting the statistical analysis. Power analysis indicates that with an estimated medium effect size of 0.15, power of 0.90 and  $\alpha = .05$ , 59 participants were required to complete the analysis. However, research tells us that the higher the response rate, the more power the study has. Therefore, given the modest response rate of the study, the power of the study is reduced.

## **Measures**

Information from participants includes demographic information and self-report rating scales that measure the different constructs being studied. These measures, which next will be discussed, are the *Cyberbullying and Online Aggression Survey* (Hinduja & Patchin, 2009a),

*Interpersonal Needs Questionnaire* (Van Orden, 2009), the *TEIQue-Short Form* (Petrides & Furnham, 2006) and *Beck's Depression Inventory* (2<sup>nd</sup> edition; Beck, Steer, & Brown, 1996).

### **Cyberbullying and Online Aggression Survey**

In addressing the construct of cyberbullying, participants answered the Cyberbullying and Online Aggression Survey (Hinduja & Patchin, 2009a). This instrument was used to elicit responses regarding whether the participant has been cyberbullied in the past month or if he or she engages in cyberbullying behaviors as the perpetrator. It should be noted that while this measure examines victimization and perpetrator behavior, this study focused on victimization of cyberbullying, not on perpetration of cyberbullying behavior. Reliability and validity for the instrument have been documented through three separate studies utilizing over 8,000 youth ages 11-18 years of age across 50 schools in the United States. Internal reliability was determined for two scales, the cyberbullying victimization scale and the cyberbullying offending scale. For the first scale, the victimization scale, Cronbach's alpha was found to be 0.93-0.94 and each item loaded with  $r = .68$  to  $.89$ . Comparably, the offending scale resulted in Cronbach's alpha of 0.96-0.97 and each item loaded with  $r = .73$  to  $.94$ .

This scale is based on a Likert scale and all item responses are summed. Responses with higher values represent increased involvement in cyberbullying as the victim and/or perpetrator (Hinduja & Patchin, 2009a). Furthermore, factor analyses were conducted to determine item loadings for each scale. All items significantly loaded on to one of the two scales. The nine items on the cyberbullying victimization scale accounted for 67.53-68.98% of the variance of victimization. Additionally, the nine items on the cyberbullying offending scale accounted for 80.11-81.29% of the variance of offending (Hinduja & Patchin, 2009a). Given the results of the

analyses, it can be concluded that the instrument has sufficient reliability, validity, and factor analysis loadings.

When considering the variable cyberbullying, the measure contained 18 items. Of the 18 questions, 9 focused on cyberbullying victimization and 9 focused on cyberbullying offending. In order to reduce the number of questions asked, and to keep in line with the focus of the study, only the cyberbullying victimization questions were asked. These questions are presented with a scale that gives the options; never, once, a few times, several times and many times. Participants are instructed to select one option that reflects their level of past victimization. For the study, anyone who indicated that they had been a victim of cyberbullying was put into one group, and those who had indicated that they have never been a victim were out into another. The frequency of victimization was not a factor that was taken into consideration for this study.

### **Interpersonal Needs Questionnaire**

The Interpersonal Needs Questionnaire (INQ) was developed for use by researchers in investigating the etiology of suicidal desire and behavior (Joiner, Van Orden, Witte, & Rudd, 2009), through the measure of two main components of Joiner's (2005) interpersonal-psychological theory of suicide: (a) Thwarted Belongingness and (b) Perceived Burdensomeness. All statements in the measure are rated on a 7-point Likert from 0 (not at all true for me) to 6 (very true for me). Van Orden, Witte, Gordon, Bender and Joiner (2008) found good estimates of internal consistency for the Thwarted Belongingness ( $\alpha = .85$ ) and Perceived Burdensomeness ( $\alpha = .89$ ) subscale scores. Furthermore, Van Orden (2009) completed a Confirmatory Factor Analysis (CFA) and found CFI, TLI, and RMSEA values of .86, .84, and .07, respectively. While these values do not indicate an unequivocal good fit, the researchers suggest that the proposed two-factor model provides an adequate fit based on the complexity of the constructs.

In addition, they reported moderate correlations in the expected directions with measures of suicidality and depressive symptoms.

The interpersonal needs questionnaire is used to determine levels of suicidal desire and behavior. The measure contains 15 questions, which focus on Joiner's interpersonal-psychological theory of suicide, which contains two tenants, thwarted belongingness and perceived burdensomeness. All statements in the measure are rated on a 7-point Likert from 0 (not at all true for me) to 6 (very true for me). The total score for each of the tenants are added up and create a global score. The higher your global score, then more likely one is to have suicidal desire and subsequent suicidal behavior.

### **Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF)**

The TEIQue-SF is a 30-question measure designed to measure global trait emotional intelligence (Petrides & Furnham, 2006). This short form edition is derived from the full form of the TEIQue, which covers 15 distinct domains. Based primarily on correlations with total domain scores, two items from each of the 15 domains were selected for inclusion in the short form to retain an overall global trait emotional intelligence score. The short form uses a Likert-style response option format, ranging from 1 (completely disagree) to 7 (completely agree). A global trait emotional intelligence score is determined by summing the total item scores and dividing by the total number of items.

The TEIQue-SF was standardized on a sample of men and women recruited from a college campus and general community ( $n = 1,119$ ; Cooper & Petrides, 2010). Reported internal consistency reliability estimates fall within an acceptable range ( $\alpha = .89$  for Males;  $\alpha = .88$  for Females). Furthermore, an Exploratory Factor Analysis (EFA) was completed to determine the appropriateness of implementing a uni-dimensional Item Response Theory (IRT) model (Cooper

& Petrides, 2010). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .089, indicating that EFA was appropriate for this sample. The first five eigenvalues were 7.22, 1.94, 1.60, 1.55, and 1.44, and the first eigenvalue accounted for 24.08% of the variance (Cooper & Petrides, 2010). The factor matrix showed that all items loaded above .30 with the exception of item 25, which loaded at .28. Therefore, the results of the EFA analysis suggest that there is sufficient dominant trait EQ factor structure present to use a uni-dimensional IRT model (Cooper & Petrides, 2010).

Results of the IRT analysis determined that the model-data fit residuals produced by Multilog showed that no residuals were higher than .04, with most resulting in .00 or .01. The adjusted chi-square to degrees of freedom ratio was 2.61 for single items and 3.15 for both double and triple items. These values suggest a fairly good model-data fit, and also suggests that some multidimensionality exists, which was expected given the breadth of the construct (Cooper & Petrides, 2010). Overall, these statistical results suggest that the TEIQue-SF is a good measure of global trait emotional intelligence.

When considering the variable Emotional Intelligence, the measure TEIQue-SF, is the short form of the longer measure, which determines a global trait emotional intelligence score. The short form contains 30 questions and uses a Likert-style response option format, ranging from 1 (completely disagree) to 7 (completely agree). A global trait emotional intelligence score is determined by summing the total item scores and dividing by the total number of items. The global trait emotional intelligence score was then used in the study's analysis.

### **Beck's Depression Inventory (2<sup>nd</sup> edition)**

The Beck Depression Inventory (2<sup>nd</sup> edition; BDI-II) is a 21-item self-report measure used to evaluate the severity of depression in adolescents and adults age 13 and older. It was

developed as an indicator of the presence and degree of depressive symptomatology consistent with the DSM-IV, following revisions to the amended Beck's Depression Inventory (BDI-IA). The BDI-II was standardized on a sample comprised of participants from one college-student group ( $n = 120$ ) and four different psychiatric outpatient clinics ( $n = 500$ ; Beck et al., 1996).

Reported internal consistency reliability estimates fall within the excellent range ( $\alpha = .93$  for college students;  $\alpha = .92$  for outpatients). All 21 corrected item-total correlations were significant at the .05 level for the outpatient and college student samples, even after a Bonferroni adjustment had been made. Correlations for the outpatient sample ranged from .39 to .70, and correlations for the student sample ranged from .27 to .74. Test-retest reliability was examined via responses provided by 26 outpatients who were administered the BDI-II on two separate occasions, one week apart. The test-retest correlation of .93 was found to be significant at the  $p < .001$  level. The convergent validity correlation between the BDI-IA and BDI-II was .93 at the  $p < .001$  level. The mean BDI-II score (21.88) was 2.96 points greater than the mean BDI-IA score (18.92). The correlation between the BDI-II and Beck Anxiety Inventory (BAI) scores was .60 ( $p < .001$ ). This finding was expected given previous correlations between depression and anxiety in clinical evaluations (Beck et al., 1996).

When considering the variable suicidal behavior, it should be noted that it had a range of 0-4, as there are five options: no suicidal behavior = 0, suicidal ideation = 1, suicidal communication = 2, suicidal attempts = 3, and all of the above = 4. The variable was then collapsed into a binary variable (Yes for suicidal behavior and No for no suicidal behavior) before the analysis was completed. The reason for this process is the research question and researcher was specifically looking at suicidal behavior as a whole variable, not at the individual behavioral level. Combing these behavioral factors into one factor also increased the suicidal

behavior sample used in the analysis. A score of 0 indicated no suicidal behaviors and a score of 1-4 indicated the presence of suicidal behaviors.

In the BDI measure, one of the questions directly asks the participant about suicidal thoughts or wishes. Specifically, the question has the option, “I would kill myself if I had the chance”. Given that the sample potentially had individuals who endorsed that they were suicidal, the researcher, at the discretion of the institutional review board, provided resources for all participants regardless of their answer to this question. These resources were information for local and national suicide hotlines, as well as information for the university-counseling center. It was the hope that if the study brought about thoughts or wishes of suicide that they would utilize the resources. No further steps were taken if the participant endorsed suicidal thoughts or wishes, in hopes of maintaining anonymity in the study. The institutional review board approved this procedure.

### **Research Design**

In this study, the researcher used a convenience sample of participants from a mid-Atlantic private Catholic university. The collected data was quantitative in nature and was used to determine if emotional intelligence is a predictive factor of suicidal behavior in victims of cyberbullying, when controlling for symptoms of depression, and secondly, if a history of cyberbullying is predictive of suicidal behavior. A logistic regression model was conducted to determine relationships among the variables, and to determine the direction of these relationships. When considering the different variables, the researcher utilized global scores and individual questions for analysis. Specifically, the researcher used a global index score for defining emotional intelligence, as it was considered to be the most robust measurement of the construct. Global index scores are the most robust measurement of the construct because they

take into consideration all aspects of the construct, not just item level analysis. Furthermore, the researcher used simple binary questions to determine if the participant identified as a victim of cyberbullying or indicated they had a history of suicidal behavior. For the purposes of this study it was important that the constructs be based on the participant's perspective of his or her experience, rather than a global index score.

### **Threats to Validity**

Given the simplicity of the study, and limited number of independent variables, there are few potential threats to internal validity. However, given the sensitive nature of the topic, it is possible that participants may have answered in a socially desirable manner, thus failing to disclose being a victim of cyberbullying, considering suicide or low EQ. Although this survey data provided anonymous responding, social desirability may still be a potential source of error.

Given the convenience nature of the participant sample, there are some threats to external validity and caution is required for applying these findings to future other groups of college students. Given that this study is designed to be exploratory in understanding any relationships among the variables, findings should be considered as only a first step for future research.

### **Procedure**

All basic demographic information and measures in this study was compiled into one survey document. This survey includes the Cyberbullying and Online Aggression Survey (Hinduja & Patchin, 2009a), the Interpersonal Needs Questionnaire (Van Orden, Cukrowicz, Witte, & Joiner, 2012), the TEIQue-Short Form (Cooper & Petrides, 2010; Petrides & Furnham, 2006), Beck's Depression Inventory (2<sup>nd</sup> edition; Beck, Steer & Brown, 1996) and the Young Adult Social Behavior Scale (YASB; Crothers et al., 2009). The survey was disseminated via an email from the principal researcher, which contained a hyperlink to the Verisign certificate

Version 3, 128 bit encrypted online survey, and was accessed through the website, *SurveyMonkey*. A copy of the survey can be found in Appendices A.1 through A.6.

A reminder email was sent to all individuals in the email database by the principal researcher two weeks after the initial email was sent. Data collection and the survey hyperlink were live for six weeks. As determined by the principal researcher, when a sufficient number of respondents were obtained the principal researcher closed the survey after the six week period. At the end of the survey, participants were given the opportunity to complete a separate form to be entered into a drawing for one of two \$50.00 gift cards. The information was gathered via a separate hyperlink for participants to enter basic contact information (i.e., first name, last name and email address). This information was kept separate from the original survey and was only used as contact information for the participants who won the drawing.

Due to the sensitive nature of the information gathered, and the inability to track which participant had provided responses indicating thoughts of suicide all participants were provided with local and national suicide hotline phone numbers at the end of the survey. Participants residing in Allegheny County could call the re:solve Crisis Network (1-888-7-YOUCAN) or the Allegheny County Peer Support Warmline Network (1-866-661-WARM). For those participants outside of the county, the National Suicide Prevention Lifeline (1-800-273-TALK) could have been utilized. Information for the on-campus, university counseling center was also provided. The reason for this provision is to provide support for those individuals who may feel the need to discuss feelings of suicide. Offering this type of information is considered part of the ethical requirements regarding research around sensitive topics. The hotline information was provided to all participants regardless of their responses. This afforded those who felt the need to use the hotline information the ability to do so.

## **Data Analysis**

The research questions within the study were analyzed utilizing specific statistical analysis techniques. There were two research questions posed: (1) whether someone who identified as having a history of cyberbullying victimization predicts suicidal behavior and; (2) whether emotional intelligence was a predictive factor for suicidal behavior in victims of cyberbullying, when controlling for depressive symptoms. It was hypothesized that a history of cyberbullying would be predictive of suicidal behavior and that emotional intelligence would account for a significant amount of variance of suicidal behavior, when controlling for depressive symptomatology. Two logistic regression analyses were the statistical procedures and process used to analyze these research questions. The reason why a logistic regression was used is because it accommodated the categorical (e.g., Yes/No) dependent variable (History of Cyberbullying; Suicidal Behavior).

## **Summary**

In this chapter, the methodology of the proposed study was discussed. Specifically, this chapter outlined the participants, measures, and research design required to collect the data and complete the study. Furthermore, the data analyses were outlined and discussed. The data were gathered as part of a convenience sample from a mid-Atlantic private Catholic university setting, with young adults aged 18-25, completing an anonymous online survey. Results from the collected data determined whether a history of cyberbullying predicts suicidal behavior and whether emotional intelligence is predictive of suicidal behavior in victims of cyberbullying, when controlling for depression.

## CHAPTER IV: RESULTS

The purpose of this study was to determine if there was predictability among the constructs of emotional intelligence, suicidal behavior, and cyberbullying, controlling for depression. The measures used were the *Cyberbullying and Online Aggression Survey* (Hinduja & Patchin, 2009a), *Interpersonal Needs Questionnaire* (Van Orden, 2009), *Beck's Depression Inventory* (2<sup>nd</sup> edition; Beck, Steer, & Brown, 1996) and *TEIQue-Short Form* (Petrides & Furnham, 2006).

### Descriptive Statistics

From the 7,840 *SurveyMonkey* requests, a total of 944 individuals responded. Of the 944 responses, 891 finished the survey in its entirety. Therefore, 53 respondents failed to complete the entire survey. Data from these 53 partial responders were only used in the analyses if a measure was complete and a total score was able to be determined. Additionally, for constructs where a total score did not need to be obtained, data was used in the analysis if the participant completed the required questions. If the respondent terminated his or her participation before completing the entire measure, then all responses from that measure were excluded from the analysis. These 891 participants were used in the calculation of the statistical analysis in response to the first research question. Of the 891 respondents, 183 (20%) reported they were male, 702 (78%) reported they were female and 6 (2%) reported other; 2.6% reported they were African American, 0.1% reported they were American Indian or Alaska Native, 3.3% reported they were Asian, 89.8% reported they were Caucasian, .6% reported they were Native Hawaiian or Other Pacific Islander, 1% reported they were Hispanic and 2.5% reported they were another race. Table 4.1 illustrates the demographic variables of the participants.

Table 4.1

*Demographic Description of the Sample Used in Research Question One*

|  | Frequency | Percentage |
|--|-----------|------------|
| Male   | 183       | 23.4%      |
| Female                                       | 702       | 76%        |
| Reported Other                               | 6         | .6%        |
| Total  | 891       | 100.0%     |
| Caucasian                                    | 848       | 89.8%      |
| African American                             | 25        | 2.6%       |
| American Indian/Alaska Native                | 1         | 0.1%       |
| Asian  | 31        | 3.3%       |
| Hispanic                                     | 9         | 1.0%       |
| Native Hawaiian or<br>Other Pacific Islander | 6         | .6%        |
| Other  | 24        | 2.5%       |
| Total  | 891       | 100.0%     |

In Table 4.2, the range, mean, median and standard deviation of all variables (i.e., history of cyberbullying and suicidal behavior) in the first analysis is presented. Identifying as someone with a history of cyberbullying was coded as either 0-1, as the options were binary (yes/no), and had a mean of .31 and standard deviation of .46. When considering the variable suicidal behavior, it should be noted that it had a range of 0-4, as there are five options: no suicidal behavior = 0, suicidal ideation = 1, suicidal communication = 2, suicidal attempts = 3, and all of the above = 4. The variable was then collapsed into a binary variable (Yes for suicidal behavior

and No for no suicidal behavior) before the analysis was completed. The reason for this process is the research question and researcher was specifically looking at suicidal behavior as a whole variable, not at the individual behavioral level. Combing these behavioral factors into one factor also increased the suicidal behavior sample used in the analysis. The suicidal behavior variable had a mean of .09 and standard deviation of .41.

Table 4.2

*Descriptive Statistics of Research Question One Variables*

|                    | History of Cyberbullying | Suicidal Behavior |
|--------------------|--------------------------|-------------------|
| Range of Scores    | 0-1                      | 0-5               |
| Mean               | .31                      | .09               |
| Standard Deviation | .46                      | .41               |

The second research question focused upon only victims of cyberbullying; thus, any non-victims were excluded from the second analysis. Consequently, the total number of respondents included in the second analysis was 276. Of the 276 respondents, 40 (14%) reported they were male, 233 (84%) reported they were female and 3 (2%) reported other; 2.9% reported they were African American, 0% reported they were American Indian or Alaska Native, 3.6% reported they were Asian, 87.3% reported they were Caucasian, .7% reported they were Native Hawaiian or Other Pacific Islander, 1.1% reported they were Hispanic and 4.3% reported they were another race. Table 4.3 illustrates the demographic variables of the participants.

Table 4.3

*Demographic Description of the Sample Used in Research Question Two*

|                               | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Male                          | 40        | 14.5%      |
| Female                        | 233       | 84.4%      |
| Other                         | 3         | 1.1%       |
| Total                         | 276       | 100.0%     |
| Caucasian                     | 241       | 87.3%      |
| African American              | 8         | 2.9%       |
| American Indian/Alaska Native | 0         | 0.0%       |
| Asian                         | 10        | 3.6%       |
| Hispanic                      | 3         | 1.1%       |
| Native Hawaiian or            | 2         | .7%        |
| Other Pacific Islander        | 0         | 0.0%       |
| Other                         | 12        | 4.3%       |
| Total                         | 276       | 100.0%     |

In Table 4.4, the range, mean, median and standard deviation of all variables in the second analysis are presented. The variable of emotional intelligence had a range of 0-175, as emotional intelligence was a continuous variable with high scores indicating higher rates of emotional intelligence. The original researchers and subsequent literature did not indicate a range of scores for low, medium and high levels of emotional intelligence; however, the researchers suggest that higher scores indicate higher emotional intelligence (Petrides, 2009). The emotional intelligence variable also had a mean of 105.96 and standard deviation of 57.18. When considering the

variable suicidal behavior, it should be noted that it had a range of 0-4, as there are five options: no suicidal behavior = 0, suicidal ideation = 1, suicidal communication = 2, suicidal attempts = 3, and all of the above = 4. The variable was then collapsed into a binary variable (Yes for suicidal behavior and No for no suicidal behavior) before the analysis was completed. The reason for this process is the research question and researcher was specifically looking at suicidal behavior as a whole variable, not at the individual behavioral level. Combining these behavioral factors into one factor also increased the suicidal behavior sample used in the analysis. The suicidal behavior variable had a mean of .09 and standard deviation of .41. Lastly, the depression variable had a range of 0-53, mean of 8.27 and standard deviation of 9.79. In terms of the range, the Beck's Depression Inventory suggests that total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe (Whisman & Richardson, 2015). Therefore, given that the sample had a mean of 8.27, generally speaking the sample fell within the minimal range, indicating low levels of depression overall. However, given the range (0-53), some of the sample fell within each level of severity.

Table 4.4

*Descriptive Statistics of Research Question Two Variables*

|                    | Emotional Intelligence | Suicidal Behavior | Depression |
|--------------------|------------------------|-------------------|------------|
| Range of Scores    | 0-175                  | 0-3               | 0-53       |
| Mean               | 105.95                 | .09               | 8.27       |
| Standard Deviation | 57.18                  | .41               | 9.79       |

When considering the original 276 who indicated experiencing cyberbullying, 224 indicated they had never engaged in any form of suicidal behavior. As such, 52 both identified as cyberbullied and indicated they had engaged in suicidal ideations, suicide-related-communication, or attempts. Those descriptive statistics are provided in Table 4.5 below.

Table 4.5

*Percentage of the Sample Reporting Suicidal Behavior and Cyberbullying*

|                       | Frequency | Percentage |
|-----------------------|-----------|------------|
| Suicidal Behavior     | 52        | 18.8%      |
| Non-Suicidal Behavior | 224       | 81.2%      |
| Total                 | 276       | 100.0%     |

**Preliminary Statistical Analyses**

All data were screened for errors prior to analysis. Tabachnick and Fidell (2001) suggest using the Chi-Square critical values table as a means of determining if there are outliers, after conducting Mahalanobis distance and determining if the value exceeds the established critical value. This process was completed and data screening led to the identification of no outliers, meaning that no data was outside the Chi-Square critical value. Additionally, less than 5% of the data were missing in the 891 sample. Since this can be considered a proportionally small quantity (Tabachnick & Fiddell, 2013), no further analysis was performed and the data were retained in their original form. Additionally, Durbin-Watson, Mahalanobis distance, and multicollinearity were considered across the entire sample of data. Results found that the Durbin-Watson statistic, used to detect the presence of autocorrelation in the residuals from a regression analysis, was 1.90, which indicates that the predictor residuals are independent of one

another. Mahalanobis distance analysis, which provides a way to measure how similar some set of conditions is to a known set of conditions and accounts the covariance among variables, revealed a maximum score of 8.80. After consulting the chi-square chart with  $df = 2$  at the .01 level, 9.21 was determined to be the acceptable maximum score. This analysis indicates that there are no statistical outliers. In regards to multicollinearity, or the degree to which two predictor variables in a regression are correlated, results were .97 using cyberbullying, suicidal behavior and emotional intelligence as the predictor variables, which indicates that the variables are highly correlated with one another, meaning there is substantial difficulty in determining which variables significantly contribute to the model. However, it should be noted that multicollinearity does not reduce the predictive power or reliability of the model as a whole, yet only individual predictors.

As part of the first research question, a logistic regression, the statistical analyses used to conduct the analysis, were calculated using IBM SPSS Statistics package, 22.0. The logistic regression equation was conducted using the sample of 891 to determine if a history of cyberbullying behavior predicted suicidal behavior. In this analysis, suicidal behavior was the constant variable and history of suicidal behavior was the predictor variable.

Regression results indicated that the overall model fit of the single predictor (history of cyberbullying) was acceptable and significant ( $-2 \text{ Log Likelihood}=1006.58$ ;  $X^2(1) = 94.72$ ,  $p < .00$ ). The  $-2 \text{ Log Likelihood}$  is used to compare the fit of different coefficients. Given that maximization of the log likelihood is the desired outcome, the higher value is better. Furthermore, the model correctly classified 74.3% of the cases. Regression coefficients are presented in Table 4.6. Wald statistics, which is used to test the true value of the parameter based on the sample estimate, indicated that a history of cyberbullying predicts suicidal behavior.

Additionally, the odds ratios for these variables indicated significant change in the likelihood of suicidal behavior when predictors were increased by 1. In other words, a victim of cyberbullying is 12.86 times as likely to engage in suicidal behavior than a non-victim. Lastly, Nagelkerke R Square, which is used to determine the variance of predictor variables, revealed that a history of cyberbullying accounts for 14.2% of the variance of suicidal behavior.

Table 4.6

*Research Question 1: Regression for Cyberbullying predicting suicidal behavior*

|                   | <i>B</i> | <i>Wald</i> | <i>df</i> | <i>p</i> | Odds Ratio | % Correct |
|-------------------|----------|-------------|-----------|----------|------------|-----------|
| Suicidal Behavior | 2.55     | 39.30       | 1         | .00**    | 12.86      |           |
| Cyberbullying     | -1.00    | 164.30      | 1         | .00      | .37        |           |
| Model             |          |             |           |          |            | 74.3%     |

\* Significant at  $\alpha < .05$ , \*\* Significant at  $\alpha < .01$

In this sample, suicidal behavior was predicted by being victimized through cyberbullying. Putting this into different terms, of the total sample, 58 subjects indicated that they have engaged in suicidal behavior. Of the 58, 52 had a history of cyberbullying victimization. The effect size for the sample was .15, which is considered a small effect size, but clinically meaningful.

The second research question also required a logistic regression, in which the researcher examined if the construct of emotional intelligence predicted suicidal behavior in victims of cyberbullying, when controlling for depression. Given that the research question required the researcher to control for depression, the constructs of depression and emotional intelligence were evaluated in an "enter" method. This method of analysis was used as it permits the researcher

the ability to determine the amount of change that occurs between predictor variables. More specifically, this provided both the depression only and the depression and emotional intelligence results. This separation allowed for analysis between the two conditions.

Regression results indicated that the overall model fit of the two predictors (emotional intelligence and depression) was acceptable and significant (-2 Log Likelihood = 235.70;  $X^2(2) = 24.68, p < .00$ ). Furthermore, the model correctly classified 82.1% of cases. Regression coefficients are presented in Table 4.7. Wald statistics indicated that emotional intelligence and depression significantly predict suicidal behavior. Additionally, the odds ratios for these variables indicated significant change in the likelihood of depression with suicidal behavior when predictors were increased by 1. Lastly, Nagelkerke R Square reports that when combined, both depression and emotional intelligence account for 14% of the variance in suicidal behavior. In order to parse the variables, depression was entered into the analysis independent of emotional intelligence and accounted for 11.7% of suicidal behavior. Therefore, emotional intelligence accounts for 2.3% of the variance of suicidal behavior. Both depression and emotional intelligence are statistically significant at  $p < .05$ . It should be noted that the sample included both clinical and non-clinical levels of depression into the analysis as depression was characterized as a continuous variable. To give insight into the depression variable, the variable had a range of 0-53, mean of 8.27 and standard deviation of 9.79. In terms of the range, the Beck Depression Inventory suggests that total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe (Whisman & Richardson, 2015).

Table 4.7

*Research Question 2: Regression Results for Research Question 2*

|            | <i>B</i> | <i>Wald</i> | <i>df</i> | <i>p</i> | Odds Ratio | % Correct |
|------------|----------|-------------|-----------|----------|------------|-----------|
| Depression | .51      | 22.56       | 1         | .00**    | 1.67       |           |
| TEQ_TOTAL  | -.06     | 4.54        | 1         | .03*     | .99        |           |
| Constant   | -1.89    | 21.52       | 1         | .00      | .15        | 82.1%     |

\* Significant at  $\alpha < .05$ , \*\* Significant at  $\alpha < .01$ , TEQ\_TOTAL=Emotional Intelligence

In this sample, suicidal behavior was predicted by being victimized through cyberbullying. Putting this into different terms, of the total sample, 58 subjects indicated that they have engaged in suicidal behavior. Of the 58, 52 had a history of cyberbullying victimization. The effect size for the sample was .15, which is considered small but clinically meaningful.

### Summary

In this chapter, I presented the statistical analysis conducted on the gathered data for this research study. Logistic regression analysis was used to evaluate: 1) the predictive nature of a history of cyberbullying upon suicidal behavior; and 2) the prediction of emotional intelligence regarding suicidal behavior in victims of cyberbullying when controlling for depression.

Research question one was significant and accounted for 14.2% of the variance in suicidal behavior, and research question two was also significant and accounted for 2.3% of the variance in suicidal behavior. Interpretations from the data analysis will be detailed in the next chapter and used to answer the previously described research questions.

## CHAPTER V: DISCUSSION

In this chapter, the analyses that were executed in response to the research questions will be reviewed. Specifically, the research questions: (1) does a history of cyberbullying predict suicidal behavior; and (2) are there relationships among cyberbullying, suicidal behavior, emotional intelligence, and depression, in which statistically significant findings were achieved for both questions, will be discussed. At the beginning of this study, the researcher hypothesized that: (1) a history of cyberbullying would predict suicidal behavior, and that (2) emotional intelligence would predict suicidal behavior in victims of cyberbullying, when controlling for depressive symptoms. In this chapter, the results of this study will be discussed and contextualized in relation to the extant psychological literature base.

Research regarding the topic of cyberbullying has found that victims of cyberbullying experience negative effects to their emotional and psychological wellbeing; namely depressive symptoms and suicidal behavior. Patchin and Hinduja (2006) found that many victimized youth report feeling angry, frustrated, sad, and depressed after victimization. Other research has linked a variety of social maladies with cyberbullying behavior, including alcohol and drug use, hate crimes, planned or executed bombings, planned school shootings, suicide, and even murder (Hinduja & Patchin, 2009; 2012). This apparent association between cyberbullying and suicidal behavior seem both compelling and alarming, and establish a necessary rationale for examining the predictive factors that may potentially lessen the impact of the acts of victimization. Furthermore, there is often a confluence with the number or degree of risk factors. Essentially, the more risk factors that are present, the higher likelihood there is of negative outcomes. Thus, if an individual has more risk factors (e.g., cyberbullying victimization, depressive symptoms) then he or she may be more likely to engage in suicidal behavior than someone who has fewer risk factors (Berman, Jobes, & Silverman, 2006). This study was one of the first of its kind to

add to the related research that has been conducted on this topic, and should be a tentative initial step to expanding the literature base to consider predictive factors.

### **Research Findings**

This study used a survey that was advertised via email to a predominantly Caucasian college-age sample to gather information regarding whether a history of cyberbullying behavior was predictive of a history of suicidal behavior. Participants were solicited from a convenience sample of young adults enrolled in a private Catholic university in the mid-Atlantic region of the US. The study was designed to answer two questions: 1) Does a history of cyberbullying behavior predict suicidal behaviors; and 2) Does emotional intelligence predict suicidal behaviors in victims of cyberbullying when controlling for depressive symptoms?

Results indicated that a history of cyberbullying accounts for 14.2% of the variance in suicidal behavior, a statistically significant finding. Results also revealed that for those who identified as both cyberbullied and with a history of suicidal behaviors, emotional intelligence accounts for 2.3% of the variance in suicidal behavior, also a statistically significant finding. Further, effect size for these analysis were small, effect size= .15, however, when dealing with such complex constructs, even a small effect size is meaningful. Given these findings, in this sample of 891, a history of cyberbullying victimization is a significant factor when accounting for suicidal behaviors. Furthermore, while emotional intelligence accounts for a small, 2.3%, but statistically significant amount of the variance in suicidal behavior in victims of cyberbullying, the overall attribute of emotional intelligence represents an important protective factor against suicidal behavior. Given that suicidal behavior can have a life or death outcome, even small variance adds significant value in reducing suicidal behavior.

Although the proposed research questions resulted in varying predictive efficacy, both hold significant promise for future research directions and cast a necessary light on the topic. One compelling aspect of the current research study is the finding that of the 891 subjects to answer the questionnaires, 58 or 6% of the sample endorsed engaging in suicidal behavior. This percentage is consistent with national averages. Of those 58 subjects, 52 also had a history of cyberbullying victimization, indicating that 89.6% of the participants who were self-identified victims of cyberbullying also reported a history of suicidal behavior. Although these findings are from only one study these results do illuminate the importance of considering suicidality alongside those reporting the experience of cyberbullying. Since the vast majority of participants in this study who endorsed engaging in suicidal behavior were also cyberbullied, it is possible that decreasing cyberbullying could potentially decrease suicidal behavior. Further, it may be possible to increase emotional intelligence skills in some individuals to decrease suicidal behaviors; it is recognized that this would likely be less useful as there were very few individuals that fell into this category. Taking all three variables studied in this investigation into consideration, cyberbullying, emotional intelligence, and suicidal behavior are constructs that have significant relations with each other. For example, the research findings suggest that reducing cyberbullying victimization and increasing intervention strategies that focus on emotional intelligence may have more potential diminish the likelihood of suicidal behaviors.

Another important discussion point is how these findings directly impact work in the field of school psychology. School psychologists often work with children and adolescents who have been victims of cyberbullying or are contemplating suicidal behavior. The knowledge that a history of cyberbullying victimization may be predictive of a range of suicidal behaviors is important when planning how to help victims. Furthermore, an understanding of the protection

that emotional intelligence can convey for some victims of cyberbullying may provide an efficacious direction for intervention development.

### **Limitations**

One of the most important limitations of this study is that the data gathered were obtained entirely from self-report instruments. Self-report measures have the advantage of providing access to the internal states of the subjects in a study, while other types of measures may provide only limited insight into such constructs. Additionally, one of the obvious drawbacks to the use of self-report instruments is that the responses contain only data regarding the subjects' perspectives, which renders a study vulnerable to subject effects or socially desirable responses. Therefore, some of the participants in this study may have provided socially appropriate answers. Such a risk may be even more likely when participants are answering questions about taboo or socially illicit topics. On the other hand, non-self-report measures are also vulnerable to distortions or different perspectives. Regardless of the informant, there are dangers of using data obtained from either purely an external or personal perspective. Another problem with using data derived only from self-report measures is the issue of shared method variance, which can result in exaggerated correlations.

Another limitation of this study was the method in which the data were collected. Collecting data through an online survey in comparison to paper-and-pencil methods may create altered responses, in which participants may have responded under unsupervised states and felt less pressure to tell the truth. Additionally, the researcher was looking to survey individuals with varying levels of depression; however, those whom are depressed may have been less likely to respond to the survey, given symptomatology associated with depression (loss of energy, lower levels of motivation). While these are all potentialities of online, unsupervised data collection,

there are also many benefits, such as completing the surveys without time pressure or in a context that is comfortable for the participant. After considering the benefits and weaknesses of online versus in-person surveying, it is possible that data obtained in a paper-and-pencil context may have resulted in increased internal validity, when compared to an online survey modality.

Additionally, the data were obtained from subjects attending a religiously affiliated, private university in the mid-Atlantic region, which may suggest that the information provided through this study is not representative of all college students. For example, while 92% of students attending this Catholic university describe themselves as affiliated with a religion, only 75% of the general university population responds similarly. Such affiliation may have affected the subjects' perceptions of topics such as cyberbullying and suicidal behaviors, in particular, as these are likely controversial topics that may have induced strong feelings in the participants of this study.

For example, according to the theology of the Roman Catholic Church, suicide or any acts of suicidal behavior are considered to be sinful or unforgiveable. Historically, the Catholic Church denied a Catholic funeral mass or burial to those who had committed suicide, but have since relaxed their practices in response to suicidal behavior in some settings. Nevertheless, Catholic doctrine may have represented a significant deterrent in subjects answering questions honestly, as honest answers may have been in conflict with their religious beliefs. Furthermore, even though participants could not be linked to their answers, the fact that the study was initiated by a Ph.D. student from the same university in which the participants attended could have potentially impacted individuals' responses about such a sensitive subject.

While limited specific research exists delineating the relationship between religious beliefs and cyberbullying, one study found that religion does have a mediating relationship

between cyberbullying victimization and suicidal behavior but did not eliminate it entirely (Slovak, Crabbs, & Stryffeler, 2015). Catholic leaders have emphasized the grave importance of the power of technology, especially in the young, and imparted that it should only be used if the moral component (e.g., tendency toward good) drives its use (Murray, 2014). Additionally, Catholic doctrine tells us that people should be helpful to each other, to the extent they are able to do so. As such, it may be inferred that cyberbullying and other forms of victimization would be contrary to the teachings of the Catholic Church. Therefore, the existence of religion may have had a mediating impact on the results obtained from a religiously-affiliated sample.

Regarding external validity, it is necessary to report that the findings from this study cannot be easily generalized to the entire population, as the data were obtained from college students at a private Catholic university located in the mid-Atlantic region. Although emotional intelligence accounted for 2.3% of the suicidal behavior variance in victims of cyberbullying, a statistically significant finding, the sample was not diverse enough to make generalizations to the overall young adult population in the US. In order for the study to be generalized, it would be need to be replicated with different populations or a much broader population base. Moreover, it may be risky to assume that the findings of this study may be generalized to different age groups, without conducting such research with children and young adolescents, who are, for developmental and cognitive reasons, considerably different than adults.

When considering the results of this research, one must contextualize the findings in relation to the importance of the dependent variable, suicidal behaviors. The results of this study found that 2.3% of the variance in suicidal behavior of victims of cyberbullying is accounted for by emotional intelligence. While this is a modest amount, the findings of this research has implications that should not be discounted. Suicidal behavior is a universal human problem that

impacts millions of people each year, and although this behavior does not always result in completed suicides, it is troubling nevertheless. The potential for the reduction of suicidal behavior, however modest, is a cause for further review.

In order to decrease risks, one must have or obtain protective factors that can mediate the stresses of everyday life. Emotional intelligence is one of the protective factors that guard against suicidal behavior, and while this study shows that EQ only predicts a small amount of suicidal behavior, any predictive ability is valuable. Additionally, emotional intelligence is a construct that through intervention efforts, can be increased, thus validating its importance. If example, if someone has low emotional intelligence, but is able to increase his or her EQ (knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, handling relationships), he or she would be in a better position to handle the interpersonal struggles of life that may have previously contributed to suicidal behavior. Nevertheless, the low amount of variance predicted by emotional intelligence suggests that this may not be an avenue for meaningful intervention in addressing the propensity for suicide among college students.

### **Recommendations for Future Research**

The findings from this study have provided future direction regarding suicidal behavior in college-age victims of cyberbullying. The study represents one of the first attempts in determining the predictive or protective factors for suicidal behavior in this population. Researchers have indicated that there is a relationship between levels of emotional intelligence and suicidal behavior (Nock & Cha, 2009), but a gap in the literature exists regarding specific, at-risk populations, such as those who have been cyberbullied. Furthermore, as research has established that individuals who have experienced cyberbullying are more likely to engage in suicidal behavior after cyberbullying has occurred, it seems important to understand the reasons

why such individuals may be vulnerable to suicidality (Hinduja & Patchin, 2009, 2012). While the research literature acknowledges that this link between cyberbullying and suicide is not causal, it is necessary to understand that being cyberbullied puts adolescents and young adults at greater risk for suicidal behavior.

Future research should continue to explore which predictive or protective factors have an impact on suicidal behavior in victims of cyberbullying. Although emotional intelligence accounted for a small amount of the variance in suicidal behavior, protective factors that account for a more substantial variance in suicidality will help to establish a better foundation for developing intervention strategies, and ultimately may be helpful in reducing the number of individuals that engage in suicidal behaviors. It should be noted that thoughts of suicidal behavior are complex, and thus intervention strategies will likely need to accommodate such complexity through the use of multiple strategies stemming from different theoretical orientations. One or two constructs will never fully predict suicidal behavior in all people, so it is helpful to develop an incremental understanding of suicidality through consideration of the numerous risk and protective factors that relate to this devastating set of behaviors.

The first research finding demonstrates that a history of cyberbullying behavior is a risk factor for future suicidal behavior. While there may not be a direct link or causal relationship between the two, the results indicate that there is a greater likelihood that suicidal behavior will happen in victims of cyberbullying than if they were not victims at all. This is an important step in understanding risk factors and should be taken into consideration whenever one is conducting a risk assessment and cyberbullying is a factor.

Research has documented many other risk factors that can contribute to great the likelihood of future suicidal behavior: reduced popularity, low social integration, low self-

esteem, problematic parent-child relationship, school-related behavioral problems (Katzner, Fetchenhauer, Belschak, 2009); prior suicide attempts (Coryell, 2006); hopelessness (Coryell, 2006); mental illness (Foster et al., 1997; Wischstrom & Rossow, 2002); recent loss or crisis (Beautrais, 2003); negativity, rigidity, impulsivity or violent/aggressive behavior, fewer adequate coping mechanisms when faced with stressful events (Chagnon, 2007); social and educational disadvantage, individual and personal vulnerability, exposure to stressful life events (Beautrais, 2003); and poor problem-solving and coping skills and low self-esteem (Joiner, 2005).

Furthermore, male adolescents with a history of suicide attempt were 17.6 times more likely to report suicidal ideation than male adolescents without a history of attempt (Park, Koo, Schepp, Jang, 2006). Moreover, Beautrais and colleagues (1997) found that one of the most common precipitants of serious suicide attempts was interpersonal conflict and relationship difficulty. Speaking specifically about college-aged individuals, the often- stressful experience of college can lend itself to increased levels of difficulty with persistent academic demands, career indecisiveness, financial pressures, loneliness, and separation from support networks (Hirsch & Ellis, 1996). Therefore, future research needs to consider the considerable number of risk factors that contribute to a likelihood of suicidal behavior.

The research suggests that there are a number of different protective or predictive factors that contribute to suicidal behavior. Protective factors are characteristics that put an individual at decreased risk to engage in, or become a part of a situation that increases the probability of a negative outcome. Protective factors are not simply the absence of risk factors; rather, they are third variables that modify the intensity or direction of the relationship between a risk factor and maladaptive outcome. Research has found that positive coping skills (Hughes & Neimeyer,

1993; Josepho & Plutchik, 1994); life satisfaction (Chioqueta & Stiles, 2007); and interpersonal social support (Rigby & Slee, 1999) are protective factors against suicidal behavior.

Researchers have determined that genetic and neurobiological factors can moderate the influence of stressful life events on the likelihood of suicide attempts (Mann, 2003). Other researchers have purported that environmental factors, such as reduced accessibility to firearms (Brent, Perper, Moritz & Baugher, 1993; Shenassa, Rogers, Spalding & Roberts, 2004) and social support (Borowsky, Ireland, Resnick, 2001; Resnick et al., 1997) may temper the influence of stressful life events on suicide. Given that these factors are protective and may mediate the stressful thoughts surrounding suicidal behavior, research should focus on identifying factors that can be protective in nature.

While continuing to search for predictive factors that account for a larger portion of the variance in suicidal behavior, this study should be replicated in different populations, with different age groups. Research indicates that suicide is a leading cause of death among youth attending colleges and universities in the US; however, despite a rise in previous decades, the suicide rate has been stable or decreasing since the early 90s (Schwartz, 2006; 2011). College and university students have a significantly lower risk of suicide than peers their age not attending school (Schwartz, 2011). Given that, future research should focus on both college and non-college populations, as understanding suicidal behavior in both populations is necessary to provide assistance tailored to their unique needs.

Ultimately finding variables that can be generalized, or different variables that account for a larger amount of the variance in suicidality in each population will be critical in intervention development. Furthermore, additional studies should be accomplished using more diverse samples. Additionally, if current interventions provide a reduction in suicidal behavior,

then studies should be conducted to determine which elements in those interventions provide that relief. Lastly, if the study were to be replicated, it would be advantageous to find a larger sample, and consequently a more robust percentage of participants endorsing suicidal behavior so that the analyses will have more power to discern actual differences among the sample.

### **Summary**

In this Chapter, I presented the findings of the statistical analyses conducted on the gathered data, the limitations of the study, and the recommendations for future research. Results indicated that a history of cyberbullying accounts for 14.2% of the variance in suicidal behavior, a statistically significant finding. Additionally, emotional intelligence predicts a statistically significant, albeit small amount of variance of suicidal behavior in victims of cyberbullying, when controlling for depression. Even though emotional intelligence accounted for a statistically significant portion of the variance in suicidal behaviors in victims of cyberbullying, clearly, there are other important relationships affecting suicidality that we do not yet well understand in this population. Furthermore, due to the small number of participants that endorsed engaging in suicidal behavior, results are not easily generalizable. In essence, recreating the current study with more individuals that endorse suicidal behavior and cyberbullying would potentially more definitively answer the question of whether emotional intelligence further predicts suicidal behavior in victims of cyberbullying, when controlling for depression.

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