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EXAMINING THE MODERATING ROLE OF PROMOTIVE FACTORS ON THE
RELATIONSHIP BETWEEN BULLYING VICTIMIZATION AND SUICIDAL
BEHAVIOR

A Dissertation

Submitted to the School of Education

Duquesne University

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

By

Rachel N. Simonds

December 2019

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Rachel N. Simonds

2019

**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

Presented by:

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August 20, 2019

**EXAMINING THE MODERATING ROLE OF PROMOTIVE FACTORS
ON THE RELATIONSHIP BETWEEN BULLYING VICTIMIZATION
AND SUICIDAL BEHAVIOR**

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ABSTRACT

EXAMINING THE MODERATING ROLE OF PROMOTIVE FACTORS ON THE RELATIONSHIP BETWEEN BULLYING VICTIMIZATION AND SUICIDAL BEHAVIOR

By

Rachel N. Simonds

December 2019

Dissertation supervised by Laura M. Crothers, D.Ed.

Bullying is one of the most common challenges that youth in the United States face that can often have negative impacts on children's lives and mental health. One potential negative outcome of bullying victimization is increased risk for suicidal behavior, including suicidal ideation and suicide attempts. Implementing interventions and supports for youth involved in bullying has the ability to decrease risk for suicidal ideation and suicide attempts.

Previous literature supports that those involved in bullying are at an increased risk for both suicidal ideation, and suicide attempts. Evidence supports promotive factors that help minimize negative outcomes those who are involved from bullying. Separately, literature supports promotive factors which help minimize suicidal ideation and suicide attempts for at-risk youth. Limited research, however, has examined potential

moderators for the specific relationship between bullying victimization and suicidal behavior.

This study aims to add to the literature base by examining promotive factors, both internal and external, which may potentially moderate the relationship between bullying victimization and both suicidal ideation and suicide attempts. Utilizing a cross-sectional, survey design with secondary data, this study provided evidence for self-efficacy and school support as moderators between the relationship between bullying victimization and suicidal ideation. Results of the study show that other potential moderating factors failed to moderate the relationship between victimization and suicidal behavior.

DEDICATION

To my Mom and Dad, for always believing in me and pushing me to do my best, I cannot ever thank you enough for all the love, support, kindness, and encouragement you have given me throughout this process, graduate school, and my life. You have never doubted my potential and you believed in me every step of the way. I could not have reached my goals or have had these successes without both of you and your endless support. I love you both. Thank you for everything.

To my sister, Amanda, thank you for always being by my side, even when we are miles apart. You have been with me every step of the way, always encouraging me to keep going, making me laugh, and helping me stay positive. I am so grateful for all your support. I love you.

To my grandparents and family, who are looking after me from near and far, you have always encouraged me to do my best and always believed that I could be successful at anything I choose to do. Your love and support have helped me accomplish so much and helped to shape the person I am today. Thank you for always supporting my growth and my dreams. I love you all.

To my friends, I am so grateful for all your support in this journey and in all my achievements. You helped me relax when I was stressed and smile when I needed it most. You drive me to be a better person, to work harder, and to laugh harder as well. I don't know what I would do without the kindness, love, support, and friendship that you have given me. I love you and I am so thankful to have each of you in my life.

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Chapter I: Introduction

Of the various hardships that children can experience throughout their development that can impact their mental health, bullying can be one of the more common. According to Nansel et al. (2001), 19% of United States (U.S.) students report being involved in bullying as a perpetrator, while 17% of students report involvement as a victim of bullying either inside or outside of school. Similarly, the Centers for Disease Control and Prevention (CDC, 2016) report that 20% of adolescents are victims of bullying. Previous research has demonstrated that bullying involvement is related to negative outcomes in multiple domains, including: academic, health, emotional, and psychological well-being.

One of the most serious potential consequences of bullying involvement is suicidal behavior, including suicidal ideation, which involves perseverative thoughts regarding suicide, as well as suicide attempts or completion. Kowalski and Limber (2013) found significant correlations between suicidal ideation and involvement in traditional bullying or cyberbullying, or online victimization, as either victim or perpetrator. Victims and perpetrators alike are at-risk for increased levels of suicidal ideation, and this association must be seriously considered in order to improve efforts to decrease suicide rates for children and adolescents.

Another worrisome trend for youth are suicide rates, which have been rapidly increasing over the last decade. The CDC (Curtin, Warner, & Hedegaard, 2016) reported that for individuals aged 10-14, the suicide rate increased by 200%, and for individuals aged 15-24, the suicide rate increased by 53% from 1999 to 2014. With such an alarming increase in suicide rates for youth, it is essential to understand what factors may be

impacting suicidal behaviors, including risk factors that may increase or protective factors that decrease the potential for suicidal behavior. Children and youth involved in bullying, whether as a victim or a perpetrator or both, are at increased risk for suicidal behavior (CDC, 2014).

Moreover, it is important to determine what supports may help those involved in bullying to properly cope with their negative experiences and potentially decrease suicidal behavior. Resilience is defined by Fergus and Zimmerman (2005) as “the process of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with the risks” (p. 399). Resiliency may consist of internal factors, or assets, and external factors, or resources. If psychologists and educators can identify the promotive factors to assist youth who are involved in bullying from engaging in suicidal behaviors, then the proper supports could be offered to these students.

Significance of the Problem

Bullying involvement, whether as victim, as perpetrator, or as both, puts youth at an increased risk for suicidal ideation, suicide attempts, and suicide completion. Therefore, it is imperative that the promotive factors are emphasized in prevention and intervention efforts to decrease youth suicide rates. When such assets and resources are identified, prevention and intervention efforts can include these factors in order to help minimize suicidal behavior for children and adolescents who are involved in bullying. As youth suicide rates are increasing (Curtin, Warner, & Hedegaard, 2016), it becomes more important to identify factors that can help individuals cope effectively with their negative experiences of bullying.

Theoretical basis. Multiple theories have been proposed to explain bullying behavior; however, the social-ecological framework allows for an analysis of all potential factors, both internal and external, within an individual's environment that may be influencing involvement in bullying behavior. These factors include individual traits, an individual's interactions with others around them, and the larger impacts of society. Swearer and Doll (2001) posit that bullying exists as an ecological phenomenon that is repeated over time, in which internal and intra-individual variables influence involvement. These variables can be part of an individual, family, peer, school, or community context in which any of these factors, or a combination of them, may impact an individual's level of involvement in bullying behaviors either as a victim, bully, or bully-victim. It is crucial to utilize a theoretical framework that considers all potential influences on behavior, so that intervention and treatment plans can be modified to address each individual factor.

Multiple factors, both internal and external, may also be influencing suicidal behavior. Theorists of the interpersonal-psychological model of suicide outline the etiology and development of suicidal behavior. Joiner (2005) argues that the three different factors of thwarted belongingness, perceived burdensomeness, and acquired capability interplay to create suicide risk. The intensity of loneliness and isolation from others that an individual is experiencing is thwarted belongingness. Perceived burdensomeness can be defined as the perception or belief that one is a burden to others such as friends and family. Acquired capability is an individual's ability to complete a lethal self-injurious behavior. Individuals acquire this ability by continuously fighting

their instincts to stay alive by engaging in suicidal behaviors including suicidal ideation, self-harming behavior, and suicide attempt.

Joiner (2005) suggests that if an individual is experiencing high levels of perceived burdensomeness and thwarted belongingness, his or her desire to complete suicide will increase and he or she will experience suicidal ideation; however, that individual will not attempt suicide until he has attained high levels of acquired capability. The interpersonal-psychological theory of suicidal behavior allows for an analysis of both internal factors and external factors that are influencing an individual's engagement in suicidal behaviors. Again, when considering the influences both internal and external to the individual, intervention methods may be constructed for both contexts for the maximal potential to decrease suicidal behaviors and prevent suicide completion.

Key relevant literature. Limited research has been conducted in which the potential promotive factors that moderate the relationship between bullying and suicidal behavior are considered. Flouri and Buchanan (2002) analyzed the role of parental involvement in suicide for adolescents ages 14 to 18 living in Western Europe. Lower parental support was significantly correlated with a higher number of suicide attempts. Additionally, individuals who had made an attempt to end their lives were less likely to report living with both their mothers and fathers. Individuals who had attempted suicide reported significantly higher levels of familial conflict than individuals who had not attempted suicide (Flouri & Buchanan, 2002). Another study examined the influences of different types of supports on suicidal behavior in a population of adolescents admitted to a partial hospitalization program (Miller, Esposito-Smythers, & Leichtwies, 2015). The supports examined were parental support, school support, and social support. Results

indicated that parental support significantly predicted suicide attempts after controlling for school and social support such that lower parental support predicted a higher number of suicide attempts (Miller et al., 2015).

Sharaf, Thompson, and Walsh (2009) considered the effects of familial support, peer support, and self-esteem on suicidal behavior in a population of adolescents at risk for dropping out of school ages 14 to 21. Suicide risk was negatively correlated with all protective factors of peer support, familial support, and self-esteem, such that high levels of each protective factor indicated lower risk for suicide. Additionally, familial support moderated the relationship between self-esteem and suicide risk. The authors suggest that for adolescents with low family support, the relationship between self-esteem and suicide risk is greater.

Borowsky, Taliaferro, and McMorris (2013) examined both risk factors as well as the protective factors that influence suicide completion for children and adolescents involved in bullying in 6th through 12th grade. Researchers considered bullies, victims, and bully-victims separately to see if their protective factors differed. For all three types of involvement, both higher levels of parental connectedness as well as higher perceived caring by peers were found to comprise protective factors correlated with lower levels of suicidal behavior. Results also indicated that an additional protective factor for bullies was a strong connection to adults other than parents. Victims were found to have additional protective factors of strong connections to adults other than parents, enjoying school, and feeling safe in school, all related to lower levels of suicidal behavior (Borowsky et al., 2013). Another analysis, however, failed to find similar results. Arango, Opperman, Gipson, and King (2016) examined social connectedness as a

potential protective factor for perpetrators and victims of verbal, relational, and physical bullying. Social connectedness did not moderate the relationship between perpetration or risk for any type of bullying examined. These authors (Arango et al., 2016) suggest that their non-significant results were due to sampling procedures in which a screening process was conducted for high levels of bullying involvement and low levels of social connectedness, failing to produce a large variance in their sample and limiting the potential of a significant mediatory relationship.

One analysis considered victimization in comparison to homophobic victimization for adolescents in Wisconsin (Poteat, Meresih, DiGiovanni, & Koenig, 2011). While the lesbian, gay, bisexual, transgender, or questioning (LGBTQ) youth are a specific subset of the population who are at high risk, it can be helpful to consider this subset of the population as this may reveal important information regarding bullying involvement and suicidal behaviors. The potential for parental support to moderate the relationship between each type of victimization and suicidal ideation was examined. Results reveal that parental support was a significant mediator of the relationship between victimization and suicidal ideation for heterosexual individuals of all races or ethnicities such that victims were less likely to report suicidal ideation alongside of high parental support. Parental support, however, was not able to moderate the relationship between homophobic victimization and suicidal ideation for lesbian, gay, bisexual, transgender, or questioning (LGBTQ) youth, indicating that parental support is not a strong enough protective factor to reduce the experiences of suicidal ideation for LGBTQ youth. It may be that for adolescents, at this stage of development, peer support is valued greater than

parental support, and therefore parental support is not enough to moderate this relationship.

Problem Statement

The purpose of this research is to identify the promotive factors, both assets and resources, which moderate the relationship between bullying involvement and suicidal behavior. That is, I wish to identify which promotive and protective factors help to alleviate the negative consequences of bullying involvement, as perpetrator, victim, or both, which may manifest in suicidal behavior including suicidal ideation, suicide attempt, and suicide completion.

Research Questions and Hypotheses

Research Question 1: What is the relationship between bullying victimization and suicidal behavior? It is hypothesized that there will be a strong, positive relationship between bullying victimization and suicidal behavior, where those who endorse more victimization will exhibit increased suicidal behaviors.

Research Question 2: What external promotive factors moderate the relationship between bullying victimization and suicidal behavior? It is hypothesized that home support, school support, and peer caring relationships, will moderate the relationship between bullying victimization and suicidal behavior.

Research Question 3: What internal promotive factors moderate the relationship between bullying victimization and suicidal behavior? It is predicted that self-efficacy and empathy both will moderate the relationship between bullying victimization and suicidal behavior.

Summary

Bullying is a growing concern for students in American schools, which can result in negative consequences for students who experience bullying, inside or outside of school. One of the most concerning potential consequences of bullying involvement is suicidal behavior, which occurs on a continuum. Suicidal behavior can include thoughts about wishing one was dead, thoughts about wanting to end one's own life, considering ending one's own life and planning how one might do that, attempting to end one's own life, and most severely, completing suicide. Those who are involved in bullying are at greater risk for engaging in suicidal behaviors, which might ultimately result in a child or adolescent ending their own life. Some promotive factors, however, have been found to moderate the relationship between bullying involvement and the negative consequences which may result. It is possible that there are promotive factors which specifically moderate the relationship between bullying involvement and suicidal behavior, and therefore decrease the likelihood that an individual involved in bullying will engage in suicidal behavior. It is imperative that those promotive factors be identified so that professionals within schools, and other mental health professionals working with youth can target these promotive factors as part of their intervention strategy, in efforts to decrease suicidal behavior in youth who are experiencing bullying.

Chapter II: Literature Review

Historical Background

Of problems encountered in childhood, bullying is a common one, with approximately 19% of American students reporting being a perpetrator and approximately 17% of students reporting being a victim of bullying (Nansel et al., 2001). When surveying high schoolers, the Center for Disease Control and Prevention (CDC, 2016) found that 20% of adolescents were victims of bullying. Bullying poses risks for students involved as both perpetrators and victims, including negative impacts upon academic, behavioral, health, emotional and psychological well-being, which will be discussed later in this paper.

Various definitions of bullying have been proposed by different researchers. Olweus (1993) states that “A person is being bullied when he or she is exposed, repeatedly over time, to negative actions on the part of one or more other students” (p. 9). Farrington (1993) argues that “Bullying is repeated oppression, psychological or physical, of a less powerful person by a more powerful one” (p. 381). Smith and Sharp (1994) simply state that bullying is “the systematic abuse of power” (p. 2), while Rigby describes bullying as consisting of a power imbalance, physical or psychological, repeated oppression, and potentially involving a group of individuals. Koo (2007) points to the similarities within these definitions, including an act of aggression, though not necessarily physical, an imbalance of power, and a repetitive nature. Taken together, then, bullying can be defined as intentional aggression that is repeated over time in which a perpetrator inflicts harm, whether physical or psychological, on a victim in which there exists an imbalance of power between the perpetrator and victim.

Bullying involvement has been shown to relate to risk factors in the academic, behavioral, health, emotional, and psychological domains. Of these risks, arguably, the most troubling is suicidal behavior. Suicidal behavior can include suicidal ideation, or thinking of and perseverating about suicide, suicide attempt, and suicide completion. The relationship between bullying and suicide has been supported by previous literature, in which significant correlations were found between suicidal ideation and all involvement in bullying including traditional victimization, traditional perpetration, as well as online victimization and perpetration, also known as cyberbullying (Kowalski & Limber, 2013). These associations with bullying can impair an individual's psychological health and potentially lead him or her to consider, attempt, or complete suicide.

According to the CDC, in 2005, the third leading cause of death for Americans ages ten to 24 was suicide. More recently, the CDC (Curtin, Warner, & Hedegaard, 2016) found that the rates of suicide for individuals ages 10 to 24 significantly increased from 1999 to 2014. Specifically, the suicide rate for individuals ages 10-14 increased by 200%, while the suicide rate for individuals 15-24 increased by 53%, showing that suicide is a growing problem for children and adolescents. Recently, media outlets have reported stories of suicide cases that have been linked to bullying. The CDC (2014) posits that youth who are involved in bullying are at risk for suicidal behavior, with those who are both perpetrators and victims, or bully-victims, at the highest risk for negative outcomes, including suicidal ideation. Though a direct causal relationship between bullying and suicidal behavior has not been established by previous research, these serious negative associations cannot be ignored. It is important to understand that those involved in bullying, in any form, are at a higher risk for suicidal ideation or suicidal

behavior in comparison to those not involved in bullying. It is through such recognition, first, then that proper supports can then be given to those individuals involved in bullying in an attempt to prevent youth suicide.

The CDC encourages suicide prevention methods that focus on connectedness as defined by “the degree to which a person or group is socially close, interrelated, or shares resources with other persons or groups” (p. 3) and includes “connectedness between individuals; connectedness of individuals and their families to community organizations; and connectedness among community organizations and social institutions” (p. 3). Promoting school connectedness and positive relationships with adults is specifically recommended to help prevent youth suicide related to bullying (CDC, 2014). These external supports can be defined as resources of resilience. Fergus and Zimmerman (2005) define resilience as “the process of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with the risks” (p. 399).

Different factors can influence one’s resilience and ability to cope with negative events and risks that an individual may encounter. It is important to then understand what promotive factors, including assets and resources, contribute to one’s resilience, which would allow him or her to combat the negative experiences of bullying. If these factors can be identified, then intervention and prevention methods that address bullying can be adopted to support the development of resilience for children and adolescents who are involved in bullying. By building resilience in youth, such individuals are then more likely to cope with their experiences of bullying and avoid the potential negative consequences, including suicidal ideation and suicidal attempt.

Relevant Theory

Bullying behavior has been explained through several different theories, including social learning theory, in which Bandura (1997) describes bullying as a learned behavior from observation of others' behavior and the consequences they receive; general strain theory, in which Agnew (1992) argues that bullying results from stressors that increase negative emotions, causing pressure for the individual to engage in corrective action, including bullying; and group socialization theory, in which Harris (1995) posits that bullying occurs as a natural result of individuals being placed in a group. Espelage and Swearer (2004), however, propose a social-ecological framework of bullying that considers internal and external factors that influence bullying.

Since different aspects of an individual's life may influence his or her participation and involvement in bullying behaviors, it is essential to examine all of the potential factors that may be contributory to peer victimization. This includes both internal influences, such as personality traits or self-esteem, as well as external factors, such as family, friends, and the school environment. Espelage and Swearer (2004) argue that bullying is influenced by variables from within and between individuals, and therefore propose the use of the social-ecological framework, which allows for analysis of bullying behaviors that considers the influences of the individual, interactions with others, and an individual's family, school, and culture. The social-ecological framework is an appropriate theory for explaining bullying behaviors because of the research supporting the idea that individual, social, and environmental factors impact the likelihood of an individual's participation in bullying (Swearer et al., 2012).

Considering different influences on an individual is also important when examining suicidal behaviors. Joiner (2005) proposes the interpersonal-psychological theory of suicidal behavior and argues that the burden an individual perceives to have on others combined with social isolation leads to suicidal ideation. Combining these factors with the ability to self-harm increases the likelihood of suicidal attempts and completions. Joiner (2005) considers the relevant influences, both individual and social, that lead to suicidal ideation and attempts in order to understand suicidal behavior and provides appropriate research which supports his hypotheses. The interpersonal-psychological theory of suicide has been supported by further research and has a strong evidence base. Both the social-ecological framework as well as the interpersonal-psychological theory of suicide and the research which supports these theories will be discussed.

Social-Ecological framework. Those espousing the social-ecological framework of bullying argue that bullying does not exist within a vacuum, but instead is influenced by the many contexts in which bullying occurs (Espelage & Swearer, 2004). Swearer and Doll (2001) describe that both internal and intra-individual variables influence bullying perpetration and bullying victimization behavior that are repeated over time as an ecological phenomena. Bullying, therefore, must be considered across the contexts that influence the bullying behaviors. These contexts include: individual, family, peer, school, and community factors. Any and/or all of these contexts may be influencing an individual's particular bullying behaviors regardless of whether he or she is acting as a perpetrator or victim. The social-ecological framework, which is based upon Bronfenbrenner's (1979) ecological systems theory, can be used to examine bullying by

considering each context that is influencing the individual's behavior (Espelage & Swearer, 2004).

According to ecological-systems theory, individuals are a part of different systems that are interrelated (Bronfenbrenner, 1979). Each system can affect and influence the individual. These systems include the microsystem, mesosystem, exosystem, and macrosystem. The individual is at the center of the multiple systems. The microsystem consists of the "individual's immoderate interaction with others" (Espelage & Swearer, 2004, p. 4). In terms of the social-ecological framework of bullying then, Espelage and Swearer (2004) describe the microsystem as consisting of the individual who is either a bully, victim, bully-victim, or bystander and his or her interactions with others. These interactions influence the individual's future bullying behaviors and actions. The mesosystem is the "interrelationship between systems in the child's life" (Espelage & Swearer, 2004). In illustration, social-ecological theorists would consider the home and school systems and how they align or disalign in their bullying policies and environments as an example of a mesosystem. The exosystem "includes influences from other contexts" and consists of additional outside influences on behavior; for example, the bullying policy of a school district (Espelage & Swearer, 2004, p. 4). And finally, the macrosystem consists of the influence of the larger cultural morals and customs, and consists of the cultural beliefs of the society within the individual lives. Each system can influence the individual's bullying behaviors, whether encouraging them or discouraging them, and the individual's actions influence the systems in return. The social-ecological framework of bullying recognizes the many the

different factors and systems that may impact an individual's experiences and actions with bullying (Espelage & Swearer, 2004).

Research that supports the social-ecological framework of bullying identifies multiple factors from different systems which influence bullying behavior. Espelage, Bosworth, and Simon (2000) conducted an analysis of the social influences on adolescent bullying behaviors in a population of middle school students with various socioeconomic statuses in the Midwestern United States. Espelage et al. (2004) hypothesized that demographic characteristics, family influences, and certain environmental influences would be related to increased levels of bullying behavior. Data indicated that males were more likely to engage in bullying behavior than female students. Regression analyses suggested that after controlling for sex, risk factors for bullying involvement included physical punishment within the home, less time spent with adults, access to guns, and negative peer influences, meaning that individuals with these experiences were more likely to engage in bullying behaviors. A multivariate regression analysis of the familial, peer, and environmental measures accounted for 26% of the variance in bullying behavior. Those students who reported spending time with adults who encouraged nonviolent conflict resolution were less likely to bully others than those who did not. Access to positive adult role models was the best predictor of absence of bullying (Espelage et al., 2004). These results indicate multiple social and environmental factors that influence bullying behavior.

Swearer, Espelage, Koenig, Berry, Collins, and Lembeck (2012) conducted an analysis to determine which individual, social, and environmental factors would predict involvement in bullying for middle school and high school students (mean age of 14.85

years). Results indicated that high levels of depression, suicidality, drug and alcohol use, delinquency, risky family behavior, and history of physical or sexual abuse were related to increased levels of bullying perpetration, with the two best predictors of bullying perpetration being delinquency and drug and alcohol use. These same factors, aside from drug and alcohol use, were related to increased levels of bullying victimization, with the two best predictors being delinquency and depression or suicidality. Lower levels of bullying perpetration were related to positive parenting, school belongingness, and safe neighborhoods (Swearer et al., 2012). These findings suggest that different levels of factors including: individual, familial, peer, school, and environmental factors all have the potential to influence bullying involvement.

Interpersonal-Psychological theory of suicidal behavior. Joiner (2005) proposes the interpersonal-psychological theory of suicidal behavior, in which he outlines the etiology and development of suicidal behavior. Joiner argues that suicide risk is a result of the interplay of three different factors, including thwarted belongingness, perceived burdensomeness, and acquired capability. Thwarted belongingness can be defined as the level of loneliness and isolation an individual is experiencing from others. This may manifest in isolation from one's family, one's group of friends, or a group with which an individual wishes to identify. Perceived burdensomeness is "the view that one's existence burdens family, friends, and/or society" (Joiner et al., 2009, p. 635). When one believes that she is a burden to others, it instills the belief that her death will be beneficial to her friends and family and will be a relief of that burden. Acquired capability exists when an individual has the ability to complete a lethal self-injurious behavior. Joiner et al. (2009) argues that "suicide entails a fight with self-preservation

motives” (p. 635). An individual engages in this battle repeatedly when she is experiencing suicidal ideation, and an individual’s capacity to complete a self-harming act increases as she continuously fights her instinct to stay alive. According to the interpersonal-psychological theory of suicidal behavior, when a person is elevated in these three areas, she is at high-risk for suicidal behavior. Specifically, Joiner (2005) postulates that the combination of perceived burdensomeness and thwarted belongingness increases the desire to complete suicide. In the interpersonal-psychological theory of suicidal behavior, one will not attempt suicide until she has acquired the capability to act on her desires in either a lethal or near-lethal manner (Joiner, 2005).

Joiner et al. (2009) completed two studies to find evidence to support the arguments of the theory. The first study examined whether the interaction of thwarted belongingness and perceived burdensomeness predicted suicidal ideation. The sample consisted of 815 participants, ages 19 to 26. Rosenberg’s General Mattering Scale (DeForge & Barclay, 1997) was used to measure perceived burdensomeness and thwarted belongingness, while familial support was measured using a modified version of the Provision of Social Relations Scale (Turner, Frankel, & Levin, 1983). Suicidal ideation was assessed using the Michigan Composite International Diagnostic Interview (CIDI; Kessler et al., 1994). The results supported Joiner et al.’s (2009) hypothesis and the interaction of thwarted belongingness and perceived burdensomeness significantly predicted suicidal ideation above and beyond all other variables. This finding supports the interpersonal-psychological theory of suicidal behavior in that the combination of both perceived burdensomeness and thwarted belongingness was found to predict suicidal ideation.

Joiner et al. (2009) conducted a second study, in which the researchers analyzed the interactions between all three main variables of the theory: perceived burdensomeness, thwarted belongingness, and acquired capability. Participants included 313 individuals (average age = 22.17 years) who had been referred to another study regarding treatments for suicidal young adults. Measures included an interview which determined recent suicide attempt and serious suicidal ideation, as well as items selected from the Suicide Probability Scale to measure perceived burdensomeness and thwarted belongingness (Cull & Gill, 1988). Results indicated that the interaction of perceived burdensomeness and thwarted belongingness did not predict suicidal attempt; however, it was found to predict suicidal ideation as it did in the previous study. Additionally, when considering the interaction of perceived burdensomeness, thwarted belongingness, and lifetime number of suicide attempts, this interaction significantly predicts current suicide attempt status, and shows that without considering number of previous attempts, the interaction of thwarted belongingness and perceived burdensomeness alone is not enough to predict current attempts. These findings support Joiner's (2005) argument that perceived burdensomeness and thwarted belongingness taken together can predict suicidal ideation; however, acquired capability, the number of experiences of risky or lethal behaviors, along with belongingness and burdensomeness predict suicidal behavior.

Framework for resilience. As discussed earlier, resilience involves coping with negative experiences by using available resources (Fergus & Zimmerman, 2005). Through successful utilization of these resources, an individual can avoid the consequences that come with the risk or negative experience he or she is facing. Both

risk and promotive factors must be present to have resilience. The combination of promotive factors can help an individual arrive at a positive outcome, or at minimum, reduce the potential negative outcome. Fergus and Zimmerman (2005) argue there are promotive factors of assets, which come from within an individual, and resources, which are external. Assets are defined as “the positive factors that reside within the individual, such as competence, coping skills, and self-efficacy” (Fergus & Zimmerman, 2005, p. 399), while resources are defined as “positive factors that help youth overcome risk, but they are external to the individual” (Fergus & Zimmerman, 2005, p. 399). Therefore, assets and resources both aid an individual in avoiding risk; however, assets are factors that are internal to the individual, while resources are external. Resources are part of one’s social environment. For example, an individual’s parents, friends, or teachers, can be helpful resources for an adolescent facing bullying. Resilience then, is not an individual trait that is stable, but instead is a result of the combination of intrapersonal and social factors that are part of an individual’s environment or systems.

Three different models of resilience have been identified: compensatory, protective, and challenge (Fergus & Zimmerman, 2005). Each model explains a different mechanism by which promotive factors work to change the outcome that would be expected based on an individual’s risk exposure. In a compensatory model of resilience, a promotive factor directly counteracts a risk factor, meaning that the promotive factor has a direct effect on an outcome which is independent from the risk factor. The protective factor model of resilience involves promotive factors that lessen the impact of a risk on a negative outcome. Two different protective models are posited in the current literature.

First, a protective-stabilizing model, proposed by Luthar, Cicchetti, and Becker (2000), involves resources or assets which completely eliminate the relationship between the risk and outcome when the promotive factor is present. A protective-reactive model is when the promotive factor reduces, but does not eliminate, the relationship between the risk and outcome (Luthar et al., 2000). The final model of resilience is named the challenge model. Within the challenge model, risk and promotive factors are considered as a continuum where a certain lower to moderate level of the factor allows an individual to learn how to cope with the risk factor. When individuals are exposed to too much of the factor, however, it becomes impossible for the individual to overcome the negative consequences. Each model of resilience explains the method by which a promotive factor helps an individual to overcome a risk factor in order to diminish, eliminate, or avoid a negative outcome that is expected based upon exposure to the risk factor.

The previous literature has demonstrated multiple promotive factors which protect youth from negative consequences. Both individual as well as environmental factors have been shown to be protective factors that protect individuals from substance use. Wills et al. (1999) found that a positive affect had a buffering effect upon reducing risk of substance use, including smoking cigarettes, drinking alcohol, and using marijuana for adolescents aged 12 to 15 who experienced emotional distress. Internal locus of control as well as a positive affect were also found to be assets which protected urban youth with stress from engaging in substance use (Scheier, Botvin, & Miller, 1999). Internal locus of control and positive affect would then be considered assets which protect against substance use.

Resources can also help prevent substance use for youth. Individuals who participated in extracurricular activities were found to be less likely to engage in substance use encouraged by their peers (Crosnoe, 2002). Additional resources that protect against smoking use are family connectedness and parental involvement in school (Fleming, Kim, Harachi, & Catalano, 2002). Mindfulness, defined as “a state of being aware of ongoing physical, cognitive and psychological experience in a non-judgmental, accepting, and self-empathetic manner” has also been found to be an asset which protects Chinese youth who are victims of bullying from the potential consequence of depression (Zhou, Liu, Niu, Sun & Fan, 2017, p. 138). Zhou et al. (2017) also found that an overall measure of resilience partially moderated this relationship between victimization and depression. Sapouna and Wolke (2013) examined the promotive factors that can prevent delinquency related to bullying victimization and found that for adolescents in the Netherlands, victims who avoided delinquency had the promotive factors of higher self-esteem, low levels of conflict with their parents, and close friendships. These findings suggest support of the resiliency framework in that promotive factors can help adolescents avoid consequences related to their negative experiences. It is thus essential to utilize a social-ecological framework to analyze bullying and suicidal behaviors as being related to multiple factors, including individual, social, and environmental factors, all of which can influence children’s behavior.

Current Empirical Literature

The negative effects of bullying for victims. The current literature examining the effects of bullying indicates that victims’ psychological health is negatively impacted. A study conducted by Hase, Goldberg, Smith, Stuck, and Campaign (2015) examined the

effects of both traditional bullying and cyberbullying on mental health for suburban, high school age adolescents. Results indicated that both cyberbullying and traditional bullying were strongly associated with negative psychological symptoms; however, traditional bullying uniquely predicted psychological symptoms above and beyond cyberbullying (Hase et al., 2015). Card and Hodges (2008) argue that negative self-concept, internalizing problems, and externalizing problems are all consequences of victimization.

Victimization and internalizing problems. In regard to internalizing problems, anxiety, depression, and psychosomatic symptoms have been correlated with bullying victimization for early adolescent students (Campbell, Spears, Slee, Butler, & Kift, 2012). Although victims of traditional bullying and cyberbullying both reported higher levels of anxiety, depression, and psychosomatic symptoms in comparison to students uninvolved in bully-victim conflicts, victims of cyberbullying reported the highest levels of psychological distress. Craig (1998), however, found that higher levels in anxiety were reported only for victims, and not bullies. Higher levels of depression in comparison to peers uninvolved in bullying were not related to any type of bullying involvement for middle class pre-adolescent students in a small city (Craig, 1998).

Hawker and Boulton (2000) conducted a meta-analysis regarding the effects of peer victimization on psychosocial maladjustment and concluded that victims were more likely to be depressed. In a sample of 3rd, 4th, and 5th graders of a lower-middle class socioeconomic status (SES), bullying victims reported more psychosomatic complaints in comparison to others who were not participating in bullying, including difficulty sleeping, tiredness, dizziness, and feeling tense (Gini, 2008). Overall, victims of bullying reported more psychosomatic symptoms than perpetrators (Gini, 2008).

Victimization and externalizing symptoms. In regard to external symptoms, results from Nansel, Overpeck, Pilla, Ruan, Simons-Morton, and Scheidt (2001), with a sample of adolescents in grades 6 through 10, in both public and private schools, suggest that victims of bullying were more likely to engage in fighting behaviors and smoke cigarettes than those who were not involved in bullying. A meta-analysis conducted by Ttofi, Farrington, and Losel (2012) found that victimization increased individuals' later risk of violence and aggression in comparison to those uninvolved with bullying, to the extent that victims were one-third more likely to engage in violence or aggression later in life.

Victimization and academic problems. Bullying victimization has also been shown to relate to poor academic outcomes. Card and Hodges (2008) argue that victims of bullying are more likely to have lower academic achievement, enjoyment of school, and attendance because they perceive school as unsafe. Poor academic achievement as well as poorer perceived school climate was found to be related to being victimized for adolescents across the United States in 6th through 12th grade (Nansel et al., 2001). Victims in grades 5 through 10 were found to have significantly poorer academic performance and more negative attitudes toward school than those peers who were uninvolved (Renshaw, Roberson, & Hammons, 2016). According to teacher reports of elementary students of lower-middle SES students, bullying victims are more likely than peers not involved in bullying to experience behavioral difficulties within school, including conduct problems (Gini, 2008). Therefore, those who experience victimization are less likely to perform well academically, enjoy school, attend school, and be comfortable in school.

Victimization and interpersonal problems. Additionally, bullying is related to negative social outcomes. Campbell et al. (2012) found that cyberbullying victims reported more social difficulties than non-victims of bullying. For adolescents in public and private schools in the United States, victims had weaker relationships with their classmates in comparison to uninvolved peers (Nansel et al., 2001). Victims of bullying had more difficulty making friends than those not involved in bullying behavior (Nansel et al., 2001). Carl and Hodges (2008) also suggest that a result of bullying is to have fewer or no friendships. According to Hawker and Boulton's meta-analysis (2000), those who experience peer victimization are more likely to experience loneliness. The authors also state that the current literature supports a positive correlation between social anxiety and peer victimization. Another consequence of victimization is poor social status (Carl & Hodges, 2008). When considering social self-perceptions, victims are more likely to have a more negative social self-concept and believe they are not socially competent, are unaccepted by peers, and have poor friendships (Hawker & Boulton, 2000). Considering these studies together, involvement in bullying is related to poor social outcomes of difficulties in creating and maintaining friendships, decreased social status, and increased loneliness.

The negative effects of bullying for perpetrators. There are negative consequences involved with the perpetration of bullying as well, in the areas of internalizing problems, externalizing problems, emotional/social problems, academic problems, and somatic symptoms.

Bullying perpetration and internalizing problems. Early adolescent students who were perpetrators of bullying reported more internalizing problems of anxiety,

depression, and psychosomatic symptoms than individuals not involved in bullying (Campbell et al., 2012). Gini (2008) conducted an analysis of the psychosomatic implications of bullying involvement in lower-middle SES elementary students. Results suggest that perpetrators of bullying report feeling tense and having more sleeping problems when compared to those uninvolved in bullying (Gini, 2008). Bullies and cyberbullies in grades 8 through 10 were found to be more likely to be endorsing depressive symptomatology (Bonanno & Hymel, 2013). Bullying behavior at age 9 was related to high levels of and depressive symptoms (Losel & Bender, 2011).

Bullying perpetration and externalizing problems. Bullying perpetration has been found to be related to increased violent and aggressive behaviors. Bullies in grades 6 through 10 were more likely to display externalizing symptoms of fighting behaviors, drinking alcohol, and smoking cigarettes than individuals not involved in a bully-victim relationship (Nansel et al., 2001). Similarly, consistent bullying perpetration during the ages of 7 to 19 was found to be related to higher levels of aggressive behavior and delinquent behavior (Lee, Liu, & Watson, 2016). Additionally, bullies were found to display more impulsive and defiant behaviors. For elementary, middle school, and high school students enrolled in public schools in Maryland, those who were frequent bullies endorsed more retaliatory attitudes than those uninvolved in bullying. Bullies were also more likely to endorse aggressive-impulsive behavior than their victim counterparts (O'Brennan, Bradshaw, & Sawyer, 2009). These findings indicate that bullying perpetration is related to more aggressive behaviors for youth.

Bullying perpetration was also found to be related to later externalizing behaviors, demonstrating the longevity of the potential outcomes of involvement in bullying

perpetration. Perpetrators during late adolescence were more likely to be involved in nonviolent and violent antisocial behavior at the ages of 18 and 19 years old (Hemphill, Tollit, & Herrenkohl, 2014). Moreover, those who began bullying later in life, or late-onset perpetrators, were more likely to display aggressive behaviors than those uninvolved in bullying. Those who desisted perpetration did not significantly differ in the trajectory of their aggressive behaviors (Lee et al., 2016). A meta-analysis conducted by Ttofi, Farrington, and Losel (2012) found that perpetration increased individuals' later risk of violence and aggression than those uninvolved with bullying, to the extent that perpetrators were two-thirds more likely to engage in violence or aggression later in life.

Bullying perpetration and academic problems. Similar to victimization, perpetrators in grades 6 through 12 reported poorer perceived school climate and lower academic achievement than those uninvolved in bullying (Nansel et al., 2001). Similarly, Renshaw, Roberson, and Hammons (2016) concluded that perpetrators were found to have significantly lower academic performance and poorer attitudes toward school than those uninvolved in bullying.

Bullying perpetration and interpersonal problems. Perpetration has social implications as well. Bullies from public and private schools in the U.S. had poorer relations with their peers than individuals who were not involved in bullying; however, they reported having greater ability in making friends than victims (Nansel et al., 2001). Pabian and Vandebosch (2015) found that involvement in traditional bullying as a perpetrator predicted increased levels of social anxiety measured six months later in early adolescent Belgium students. Bullies in middle school were more likely to report friendships as less important than victims and those uninvolved in bullying (O'Brennan,

Bradshaw, & Sawyer, 2009); however, despite their beliefs about friendships, they did report having as many friends as victims and uninvolved peers.

The negative effects of bullying for bully/victims. Involvement in bullying as both a victim and perpetrator results in particularly adverse outcomes. Kowalski and Limber (2013) found that for rural adolescents in grades 6 through 12 with a mean age of 15 years, anxiety and depression were particularly high among students who were both perpetrators and victims of bullying in comparison to those uninvolved in bullying, especially for males. Gini's (2008) examination of psychosomatic issues for elementary students revealed that individuals who were both perpetrators and victims reported increased sleeping problems, tiredness, dizziness, and feeling tense. Bully/victims reported significantly more psychosomatic symptoms overall than individuals not involved in a bully-victim relationship. Furthermore, bully-victims in grades 7 through 9 rated significantly higher symptoms of depression, low self-esteem, and failure anticipation, than those who were not involved in bullying (Ozdemir & Stattin, 2011).

An analysis conducted by O'Brennan, Bradshaw, and Sawyer (2009) found that bully-victims reported more internalizing symptoms, including sadness, loneliness, and fear than bullies, victims, or those uninvolved in bullying. Bully-victims also reported more problems in relationships with peers and lower perceived school climate than those not involved in bullying. According to O'Brennan, Bradshaw, and Sawyer (2009), bully-victims reported more negative consequences than victims and perpetrators. Bully-victims were more likely than victims to endorse aggressive-impulsive behaviors and retaliatory attitudes. Both middle school and high school bully-victims rated having friends as less important and reported having less friends than those not involved in

bullying. O'Brennan, Bradshaw, and Sawyer (2009) conclude that bully-victims are at most risk for internalizing problems, difficulties in their relationships with peers, and feeling unsafe in their school environment. Additionally, those involved in bullying as both perpetrator and victim had significantly poorer academic performance and had more negative attitudes toward school than those not involved in bullying (Renshaw, Roberson, & Hammons, 2016). These findings suggest that bully/victims may experience unique consequences in addition to the effects of bullying experienced by those who are only a victim or perpetrator.

Bullying and suicide for victims. Previous research indicates that increased bullying victimization is related to higher reported levels of suicidal ideation. Hay and Meldrum (2010) found that in a sample of mid-adolescent students from a low SES area, both traditional bullying and cyberbullying victimization were significantly, positively related to suicidal ideation and self-harming behaviors. Klomek, Marrocco, Kleinman, Schonfeld, and Gould (2007) found similar results with a sample of upper-middle SES high school students in New York State. Individuals involved in bullying as victims were found to be at higher risk for depression and suicidal ideation, whereas increased frequency of victimization increased the likelihood of depression and ideation. Further, authors report that for males, those who were frequently victimized were more likely to report symptoms of depression and suicidal ideation. A third analysis considered three, nationally representative samples. Kaminski and Fang (2009) conducted an analysis to examine the relationship between peer victimization and suicidal ideation in three separate, nationally-representative samples of adolescents. After controlling for age, sex, race/ethnicity and symptoms of depression, frequency of victimization was significantly

related to suicidal ideation as well as suicidal behavior such that, as frequency of victimization increased, individuals were more likely to report suicidal ideation and suicidal behavior (Kaminski & Fang, 2009). Taken together, these findings suggest that across various populations, bullying victimization is related to increased suicidal ideation.

Previous literature also supports that bullying victimization is related to increased suicide attempts. Klomek et al. (2007) found that for upper-middle SES high school students, those who reported increased bullying victimization, reported more suicide attempts. In a longitudinal analysis regarding the long-term effects of bullying for students in Finland (Klomek et al., 2009) found that for males, frequent victimization was related to increased suicidal attempts and completed suicides in comparison to those uninvolved in bullying. This relationship, however, was moderated by conduct and depression. For females, frequent victimization was found to be related to later suicide attempts. In a longitudinal analysis regarding the long-term effects of bullying for students in Finland (Klomek et al., 2009) found that for males, frequent victimization was related to increased suicidal attempts and completed suicides in comparison to those uninvolved in bullying. This relationship, however, was moderated by conduct and depression. For females, frequent victimization was found to be related to later suicide attempts and completed suicides and conduct; however, depression did not moderate this relationship. Overall, these findings suggest that victimization is linked to increased suicide attempts.

Interestingly, specific types of bullying may be more impactful on individuals' mental health. Klomek, Marrocco, Kleinman, Schonfeld, and Gould (2008) analyzed the relationships between various forms of peer victimization, depression, and suicidality for

high school adolescents in an upper-middle SES area. Results indicated that female victims of bullying focused on religion or race were more likely to report symptoms of depression and attempt suicide than females who were not victims. Male victims of frequent, religion- or race-related bullying were more likely to report symptoms of depression and suicidal ideation when compared to males who were not victims of religion- or race-related bullying. Female victims of bullying related to appearance and speech or physical victimization, as well as male victims who were frequently bullied in this manner, were more likely to report symptoms of depression, suicidal ideation, and suicide attempt than their same sex counterparts who were not bullied in this manner.

Both male and female victims of rumors were more likely to report symptoms of depression, suicidal ideation, and suicide attempts than males and females who did not have rumors spread about them. Female victims of bullying which consisted of sexual jokes, gestures, or comments were more likely to report symptoms of depression and attempt suicide than other females who were not victims of sexually-related bullying. Frequent victimization of sexually-related bullying for females was also associated with suicidal ideation. In comparison to males who were not victims of sexual comments, jokes, or gestures, males who were victims were more likely to report increased levels of depression, while both infrequent and frequent victimization were related to increased suicidal ideation (Klomek et al., 2008).

Dempsey, Haden, Goldman, Sivinski, and Wiens (2011) examined the relationships in a southeastern U.S. early adolescent sample between relational victimization, overt victimization and suicidal ideation. Findings suggest that only overt victimization was significantly related to suicidality, such that middle and high school

students who experienced more frequent overt victimization experienced higher levels of suicidal ideation. Additionally, female victims of overt aggression had higher levels of suicidal ideation than male victims (Dempsey et al., 2011). Hinduja and Patchin (2010) analyzed cyberbullying, traditional bullying, and suicidal ideation and attempts among middle schoolers. Results indicate that both traditional and cyberbullying victimization were related to increased suicidal ideation and suicide attempts compared to those uninvolved in bully-victim conflicts. Victims experienced more suicidal ideation and suicide attempts than perpetrators, suggesting that bullying can be more impactful for victims in terms of suicidal behaviors. Kim and Leventhal (2008) conducted a systematic review of previous research regarding the relationship between bullying and suicide and argue that regardless of the limitations in the previous literature, for youth, victimization increases the risk of suicidal ideation and suicide attempt. These results suggest that different types of bullying may affect individuals differently; however, many types of victimization are related to increased suicidal behavior.

Researchers have considered potential mediators or moderators of this relationship between bullying victimization and suicidal behavior, specifically negative emotions and depression. Kodish et al. (2016) examined specific aspects of the relationship between bullying and suicidal behavior, including the potential moderating role of depression, in a mid-adolescent northeastern Pennsylvania sample. The authors concluded that verbal bullying, physical bullying, cyberbullying, and cumulative bullying, or the combination of one or more types of bullying, were all related to an increased suicide risk, such that those who experienced more bullying were at an increased risk for suicide. Individuals who were bullied and also reported symptoms of

depression were at an increased risk for suicide than those who were victims and did not report symptoms of depression. Kodish et al. (2016) argue that depression moderates the relationship between bullying and suicide risk. Bauman, Toomey, and Walker (2013) also found that depression mediated the relationship between cyber victimization and suicide attempts for females, but not for males. Depression was not found to moderate the relationship between traditional victimization and suicide attempts. Klomek et al. (2009), found that conduct and depression mediated the relationship between victimization and later suicide attempts for males. For females, frequent victimization was found to be related to later suicide attempts and completed suicides and conduct; however, depression did not mediate this relationship. While Hay and Meldrum (2010) argued that negative emotions were found to moderate the relationship between victimization and self-harm and suicidal ideation. Their results indicate that the relationship between bullying and suicidal ideation and self-harm is partially moderated by negative emotions, which were also significantly related to suicidal ideation and self-harming behaviors. The relationship between bullying and self-harm and suicidal ideation was still significant after controlling for negative emotions, however, which is why the authors conclude a partial mediation of negative emotions exists (Hay & Meldrum, 2010). Considered together, these findings show inconclusive results about whether depression moderates the relationship between victimization and suicidal behavior, and that it may be dependent upon other factors such as type of victimization, and gender.

Bullying and suicide for perpetrators. In addition to victimization, bullying perpetration has also been found to be related to increased risk for suicidal behaviors.

Klomek et al. (2007) found that bullying perpetration was related to increased risk for depression, suicidal ideation, and suicide attempts, such that higher levels of perpetration were related to higher levels of risk for high school students of an upper-middle SES. Males who perpetrated frequently were more likely to report symptoms of depression and suicidal ideation, while males who infrequently perpetrated did not report more symptoms of depression, suicidal ideation, or suicide attempts. Female frequent perpetrators were also more likely to report symptoms of depression, suicidal ideation, and suicide attempts compared to those uninvolved in bullying (Klomet et al., 2007). Similarly, Klomek et al. (2009) concluded from a longitudinal analysis, that males who reported frequent perpetration were more likely to report increased suicide attempts and completed suicides than individuals who were not involved in bullying. Hinduja and Patchin (2010) as well as Kim and Levnantal (2008) also conclude that bullying perpetration, of various types of bullying, is related to conducted an analysis of middle school bullying involvement as it related to suicidal ideation and attempts. Both traditional and cyberbullying perpetrators were more likely to report suicidal ideation and suicide attempts compared to those not involved in bullying behaviors. Additionally, Kim and Leventhal (2008) conclude from a systematic review of bullying involvement and suicidal behavior that involvement in bullying as a perpetrator increases the risk of suicidal ideation and attempt. These results suggest that perpetration of bullying is related to increased levels of suicidal behaviors.

Again, the potential mediator of depression was considered. Bauman, Toomey, and Walker (2013) examined bullying perpetration, depression, and suicidal behavior among high school students. For both females and males, depression was found to be a

significant mediator of the relationship between traditional bullying perpetration and suicide attempts. For both sexes, depression was not found to significantly moderate the relationship between cyberbullying perpetration and suicide attempts (Bauman et al., 2013). The potential for depression to mediate the relationship between bullying perpetration and suicidal behavior, then, appears to be dependent upon the type of perpetration.

Bullying and suicide for bully/victims. Bully/victims additionally have a unique risk of engaging in suicidal behaviors. Bully-victims were found to engage in significantly more self-harming behaviors, which resulted in damage, than those who were uninvolved in bullying (Ozdemir & Stattin, 2011). Klomek et al. (2007) argue that bully/victims in high school are at higher risk for depression, suicidal ideation, and suicide attempts in comparison to individuals who are not involved in bullying. Males who were both perpetrators and victims were more likely to be depressed and report symptoms of suicidal ideation than those who were uninvolved in bully-victim conflicts. Females who were both perpetrators and victims were more likely to report symptoms of depression and suicidal ideation than those not participating in bullying behavior. A systematic review of the previous literature revealed that adolescent bully/victims were at increased risk for suicidal ideation and suicidal attempt when compared to individuals who are uninvolved with bullying. Together, these findings suggest that bully/victims are at increased risk for suicidal ideation and suicide attempts in comparison to those who do not participate in bullying.

Resiliency and promotive factors. Promotive factors can protect adolescents from the negative influences on their lives, including bullying. Donnon (2010) measured

various aspects of resiliency, including both external and intrinsic factors, and aggressive behaviors in middle and high school students in Calgary, Canada. Although resiliency was measured as a whole for analysis, individual aspects of resiliency examined included parental support, peer relationships, community cohesiveness, commitment to learning at school, school culture, cultural sensitivity, self-control, self-concept, social sensitivity, and empowerment. A significant negative relationship was demonstrated between resiliency and aggression, showing that the more resilient an individual is, the less he or she engages in aggressive actions (Donnon, 2010). Parental support and number of friends were found to predict involvement with bullying in a nationally-representative sample of the U.S., utilizing data collected from the Health Behavior in School-aged Children study (Wang, Ionnotti, Tonja, & Nansel, 2009). Data demonstrated that students with high parental support were less likely than students with low parental support to be involved in any type of bullying, as perpetrators or victims, including physical, verbal, relational, or cyber bullying. Those who had more friends were less likely than those who had few friends to be victims of physical, verbal, or relational bullying; however, the number of friends did not predict victimization through cyberbullying. These results suggest that parental support and the number of friends can help reduce bullying victimization (Wang et al., 2009).

Fergusson, Beautrais, and Horwood (2003) examined the relationships between various vulnerability and promotive factors and later suicidal ideation and attempts for New Zealand youth throughout the ages of 14 to 21. Quality of maternal care, parental attachment, self-esteem, academic success, and school enjoyment were all found to be significantly negatively correlated with suicidal behavior, including both suicidal ideation

and suicide attempt, such that a high level in these factors predicted lower rates of suicidal behavior. Participants with the highest overall resiliency scores had high self-esteem, avoided relationships with deviant peers, and were successful academically. These results suggest that parental attachment and care, self-esteem, and success in school can positively influence individuals and protect them from suicidal ideation and suicide attempt (Fergusson et al., 2003). Similarly, findings suggest that college students, (mean age = 20.06 years, 75% female) with high levels of perceived social support were less likely to engage in suicidal ideation (Kleiman, Riskind, & Schaefer, 2014). O'Donnell, O'Donnell, Wardlaw, and Stueve (2004), however, examined potential promotive factors that may prevent suicide for urban, African American and Latino middle school students, and found that only family closeness was a protective factor. Both peer support and school attachment were not found to significantly reduce the risk of suicidal ideation or suicide attempts (O'Donnell et al., 2004). Overall, previous research suggests that multiple promotive factors may help in reducing suicidal ideation and suicide attempts among youth.

Resiliency and promotive factors from suicide. The previous literature demonstrates the mediatory role of resiliency when considering suicidal behavior. Family support, positive school climate, positive peer group characteristics, and a positive view of the future were found to lessen the risk of suicide in adolescents in Michigan with a history of physical abuse (Perkins & Jones, 2004). Research by Kleiman and Beaver (2013) examined meaning in life as a promotive factor affecting suicidal behavior for undergraduate students with a mean age of 21.2 years. Results from this investigation indicate the presence of meaning in life, as well as a search for meaning

in life for an individual predicted decreased suicidal ideation over an eight-week period. The presence of meaning in life also predicted lower odds of attempting suicide in a lifetime. Additionally, Kleiman and Beaver (2013) studied the mediatory role of meaning in life between the interpersonal-psychological theory of suicide variables, perceived burdensomeness and thwarted belongingness, and suicidal ideation. Data indicated that meaning in life acts as a partial mediator between perceived burdensomeness and suicidal ideation, and a full mediator between thwarted belongingness and suicidal ideation (Kleiman & Beaver, 2013). Thus, when considering meaning in life, the relationship between perceived burdensomeness and suicidal ideation is still significant, but weakened. The relationship between thwarted belongingness and suicidal ideation, however, is no longer significant when also considering meaning in life.

A multitude of research has shown that social support or peer support can be a protective factor for individuals at high risk for suicidal behavior. Kleiman et al. (2014) analyzed the mediating effects of social support and positive life events in the relationship between negative life events and suicidal ideation for college students. Results demonstrate that both social support and positive life events moderated the impact of negative life events, such that individuals with high levels of negative life events showed less suicidal ideation if they had high levels of social support or high numbers of positive life events. The authors argue that having both high social support and positive life events gives the best protection against suicidal ideation (Kleiman et al., 2014).

Social support has been found to be a protective factor in preventing suicide among a nationally-representative sample of adults over the age of 17 (Kleiman & Liu,

2013). Utilizing data from the National Comorbidity Study-Replication (NCS-R; Kessler et al., 2004), results show that after controlling for relevant risk factors, including demographic, psychiatric history, family, and help-seeking behavior variables, high levels of social support is found to predict a decreased likelihood of suicide attempts within a nationally-representative adult sample (Kleiman & Liu, 2013). Kleiman, Riskind, Schaefer, and Weingarden (2012) also purport that social support can moderate the relationship between impulsivity and suicide, for an ethnically-diverse sample of college students, such that individuals with high impulsivity are less likely to be at-risk for suicide if they have high social support.

Chioqueta and Stiles (2007) analyzed the relationships between psychological buffers, hopelessness, and suicidal ideation in a population of university students. Psychological buffers included in the analysis consisted of life satisfaction, self-esteem, perception of family cohesion, and perception of social support. Results indicate perceived social support predicted suicidal ideation after controlling for depression and hopelessness such that individuals with higher perceived social support reported lower levels of suicidal ideation (Chioqueta & Stiles, 2007). These findings suggest that peer support can act as a protective factor, or resource, which helps to prevent individuals from engaging in suicidal behaviors.

Internal promotive factors influence on suicidal ideation have also been considered in previous literature. Isaac, Wu, McLachlan, and Lee (2018) considered the relationship between health-related self-efficacy and suicidal behavior in Taiwanese individuals over the age of fifteen. Low health self-efficacy was found to be linked to increased suicide attempts, and future suicidal ideation. Wu and Yaacob (2017) found

that mother closeness, father closeness, and self-efficacy were negatively related to suicidal ideation, while self-efficacy was also found to partially mediate the relationship between mother closeness and suicidal ideation, and fully mediate the relationship between father closeness and suicidal ideation. A separate study which investigated self-efficacy as a potential moderator between depressive symptoms and suicidal ideation for Chinese and German students, however, concluded that self-efficacy was not able to moderate this relationship (Siegmann et al., 2018).

Research also suggests that positive peer relationships, or social support, can moderate the relationship between victimization and suicidality. Borowsky, Taliaferro, and McMorris (2013) conducted an analysis to determine the risk and protective factors for completing suicide in individuals in the 6th through the 12th grade who were involved in bullying. Results indicated that high levels of parental connectedness and higher perceived caring by friends were protective factors for bullies, victims and bully/victims, which were related to lower levels of suicidal behavior. An additional protective factor for perpetrators of bullying was strong connections to adults aside from parents. For victims, strong connections to adults other than parents, enjoying school, and feeling safe in school were also additional protective factors (Borowsky, Taliaferro, & McMorris, 2013). However, Arango, Opperman, Gipson, and King (2016) found that social connectedness moderated the relationship between neither bullying perpetration and suicide risk, nor bullying victimization and suicide risk for verbal, relational, and physical bullying. The authors suggest that their sampling procedures, which involved screening for high levels of involvement and low levels of social connectedness, may

have restricted their sample to low social connectedness individuals, thus limiting the possibility of finding a moderating relationship.

Previous literature supports the role of parental support in protecting individuals from suicidal ideation and suicide. Flouri and Buchanan (2002) examined parental involvement and its role in adolescent suicide for individuals ages 14 to 18 in Western Europe, mostly England. Individuals who had made an attempt to end their life reported significantly lower parental involvement than those who had not made an attempt and were also less likely to report living with both their mother and father. Those who had attempted suicide also reported significantly higher levels of familial conflict than those who did not attempt (Flouri & Buchanan, 2002). Miller, Esposito-Smythers, and Leichtwies (2015) examined the role of different supports including school support, social support, and parental support in adolescent suicidal ideation and suicide attempts for mid-adolescent individuals who were admitted into a partial hospitalization program. Parental support significantly predicted suicide attempts after controlling for school and social support such that lower parental support predicted increased number of attempts (Miller et al., 2015).

Sharaf, Thompson, and Walsh (2009) examined the influences of self-esteem and familial support in suicidal behavior for adolescents ages 14-21 who were at-risk for dropping out of school. Self-esteem, familial support, and peer support were all significantly, negatively correlated with suicide risk, suggesting that those with high levels of self-esteem, familial support, and peer support were at lower risk for suicide than those with low levels of these three protective factors. Regression analysis indicated that the relationship between self-esteem and suicide risk, however, is moderated by

familial support. Sharaf et al. (2009) also concluded that the relationship between self-esteem and suicide risk is greater for youth with low family support.

Familial or parental support, however, may not be an effective mediator for all populations of youth who are being bullied. Poteat, Mereish, DiGiovanni, and Koenig (2011) examined victimization, homophobic victimization, and suicidal ideation in early adolescent students in Wisconsin. Data indicated that parental support moderated the relationship between victimization and suicidal ideation for heterosexual individuals, regardless of race or ethnicity, such that individuals who were victimized were less likely to report suicidal ideation if they had high parental support. This moderating role of parental support, however, was not found for lesbian, gay, bisexual, transgender, or questioning (LGBTQ) youth. These results suggest that for LGBTQ youth, additional promotive factors, aside from parental support, are needed to moderate the relationship between bullying victimization and suicidal ideation (Poteat et al., 2011). Overall, previous literature indicates that parental support can act as a protective factor against suicide for adolescents.

Purpose of Current Study

Research suggests that both bullying and suicide remain current and urgent issues for the children and adolescents of America. The previous literature has provided evidence that involvement in bullying, as either perpetrator, victim, or both, is related to negative outcomes, including increased risk of suicide. Additionally, more frequent involvement is related to increased risk of suicide and suicidal ideation. Researchers have started to examine the promotive factors that can protect individuals involved in bullying from completing suicide. Evidence for parental support, social support, self-

esteem, positive life events, positive outlook on the future, positive school climate, and school success as protective factors against suicide has been found within previous research. Further research, however, must be conducted to determine if these protective factors moderate the specific relationship between bullying and suicidal behavior in order to determine the best assets and resources which can help individuals involved in bullying.

Summary

Approximately 20% of adolescents in the United States are victims of bullying (CDC, 2016). Bullying can be defined as intentional aggression, that is repeated over time, in which a perpetrator inflicts harm, whether physical or psychological, on a victim in which there exists an imbalance of power. Bullying involvement has been shown to relate to negative outcomes in various domains including academic, behavioral, emotional, and psychological, for those who are victims, perpetrators, or both. One of the most serious concerns is the potential for those involved in bullying to engage in suicidal behaviors, including suicidal ideation, suicide attempts, or suicide completion. Promotive factors, however, both internal and external, have been found to be related to lower levels of suicidal behavior. Those factors include: parental support, self-esteem, academic success, school enjoyment, social support, meaning in life, self-efficacy and positive life events (Chioqueta & Stiles, 2007; Kleiman & Beaver, 2013; Kleiman et al., 2014; Perkins & Jones, 2004; Wu & Yaacob, 2017). Borowsky, Taliaferro, and McMorris (2013) found that the protective factors of parental connectedness and perceived caring by friends moderated the relationship between bullying involvement and suicidal behavior for bullies, victims, and bully/victims, and for bullies, connections to

another adult other than a parent was also related to a decrease in suicidal behavior. Other studies, however have found that social connectedness and parental support may not be enough to moderate the relationship between bullying involvement and suicidal behavior (Arango et al., 2016; Poteat et al., 2011).

Considering these findings, it is essential to determine which promotive factors, both internal and external, moderate the relationship between bullying and suicidal behavior. Moreover, it is essential to understand which promotive factors moderate the relationship between bullying and suicidal ideation in order to improve upon efforts to prevent children and adolescents who are involved in bullying from having suicidal thoughts and completing suicide. Therefore, the current study will examine various promotive factors and their potential to moderate the relationship between bullying and suicidal ideation.

Chapter III: Methods

Research Questions

The purpose of this study was to identify the promotive factors that moderate the relationship between bullying involvement and suicidal behavior. In this study, I aimed to identify the resiliency factors that moderated the relationship between bullying victimization and suicidal ideation and suicide attempts. With this information, strategies for intervention can be developed to help students who are experiencing victimization by targeting specific resiliency factors, and potentially decrease their likelihood of engaging in suicidal behavior. The research questions for this study were as follows:

Research Question 1: What is the relationship between bullying victimization and suicidal behavior?

Research Question 2: What external promotive factors moderate the relationship between bullying victimization and suicidal behavior?

Research Question 3: What internal promotive factors moderate the relationship between bullying victimization and suicidal behavior?

Research Design

The design of this study was a cross-sectional, survey design, as all variables were measured on one occasion. This study utilizes existing secondary data and variables were used as measured in the existing dataset. As mentioned, the purpose of this study was to determine what promotive factors moderate the relationships between bullying involvement and suicidal behavior by measuring bullying involvement, promotive factors, and suicidal behavior in all participants at one time utilizing a survey with measures for each variable. The *California Healthy Kids Survey (CHKS)* was selected as

a measure due to the evidence-based nature of the survey and sound psychometric properties of the scales utilized within it. Additionally, the *CHKS* is administered to a wide and diverse, representative sample of students within the state of California, allowing for a rich sample of data for which to conduct analyses. Of note, however, is that the *CHKS* does not measure bullying perpetration, only bullying victimization. Consequently, I analyzed the relationship between bullying victimization, suicidal behavior, and the promotive factors that can moderate this relationship. I did not further analyze these factors for individuals who are perpetrators of bullying. The data collected were analyzed to determine the relationships between the bullying victimization variables and suicidal behavior variables. Data were then re-analyzed to determine these relationships after controlling for the resiliency variables. Because measures are collected at one time, a cross-sectional design was employed.

Participants

Participants included secondary school students, primarily in in grades 9 and 11 in the state of California. The *CHKS* biennial administration of the core survey and resilience and youth development supplement is required of all schools within California that receive federal Title IV funding or schools that receive Tobacco Use Prevention and Education grants. The California Department of Education (CDE) requires that the *CHKS* be administered to 9th graders but does recommend including 11th graders as well. The CDE requires that a representative sample of 9th graders are examined, so the number of students surveyed in each school varies, however a district must survey all 9th graders if there are 900 or fewer students enrolled at that grade level. Parental consent was obtained, and the survey was completed on an anonymous and voluntary basis (Regional

Education Laboratory at WestEd, 2007). Only participants in schools who also completed the resilience and youth development and safety supplemental modules were included in this study. Of the students who completed the 2017-18 *CHKS*, 3,315 students some completed the Core, Resiliency, and Safety and Violence modules that were required for this study. Two thousand, two hundred sixty-two of these students completed all required questions. All 2,262 of these students were secondary students from one school district in southern California. This district educates approximately 10,000 middle and secondary school students. The area that this district serves can be described as a combination of rural, suburban, and rapidly developing communities.

Of the participants, 1,019 identified as male (46.6%), 1,127 as female (51.5%), and 42 participants failed to select a sex. Of the sample, 1,064 of the participants were in 11th grade (48.6%), 1,037 in 9th grade (47.4%), 30 in 10th grade (1.4%), 20 in 12th grade (0.9%), and 29 identified as being in a non-traditional grade (1.3%). Fourteen hundred twenty-six of the participants identified as Latino, which accounts for 65.2% of this sample. In regard to race, 1,154 (52.7%) identified as mixed race, 478 (21.8%) as White, 97 (4.4%) as Asian, 87 (4%) as African American, 58 (2.7%) as American Indian of Alaskan native, and 22 (1%) as Native Hawaiian or Pacific Islander, while 292 participants did not select a race.

Measures

The independent variable in this study was bullying victimization, which was measured with fifteen items, each on a four-point Likert-scale (A= 0 times up to D=4 or more times). These items analyze verbal and physical bullying victimization as well as sexual harassment. These items also address victimization due to different personal

characteristics (e.g. race, religion, gender etc.) A total victimization score was derived as a continuous variable with a minimum total score of 15, and a maximum total score of 60. Utilizing an analytic sample of 9th and 11th graders who took the *CHKS* in the 2010-2011 school year, with 11 out of the same 15 items, internal consistency reliability was determined to be strong with a Cronbach's α value of 0.81 (California Safe and Supportive Schools, 2011).

Both external and internal promotive factors were examined as potential mediators of the relationship between victimization and suicidal behavior. The Regional Educational Laboratory at WestEd (2007) analyzed the psychometric properties of the resilience and youth development module of the *CHKS*, from which these resiliency factors are derived. Both reliability and construct validity measures were utilized to ensure the strong psychometric properties of the surveys. Two samples were derived for analyses including a main sample and a validation sample. The main sample included 12,000 students in seventh, ninth, and twelfth grade from the 2003 to 2005 administrations of the Healthy Kids Survey. Respondents were randomly sampled to include equal numbers from each gender and ethnicity (Chinese American, African American, Mexican American, and white European American). The validation sample was derived with the same procedures, not including the 12,000 participants from the main sample. Reliability was measured using both internal consistency estimates with Cronbach's alpha. Test-retest reliability was measured with a sample of 90 students in 9th grade who were assessed twice in two weeks with the measure in the 2004-2005 school year. Again, using the main and validation samples, construct validity was also measured by analyzing the relationship between the *CHKS* resiliency measures and

theoretically related constructs that included substance use, school violence, and school-related behavior (Regional Educational Laboratory at WestEd, 2007).

The first external resiliency factor examined was school support. School support was measured using six items on a four-point Likert-scale. These six items address whether the child believes that there is an adult within the school system who believes in and cares about him or her. Internal consistency reliability was measured utilizing Cronbach's α with a value of 0.90 for all secondary students, demonstrating high reliability. Test-retest reliability was found to be adequate ($r = 0.54$).

Secondly, home support was analyzed as a promotive factor, which was assessed with six items, again measured on a four-point Likert-scale. These items address the presence of a caring adult within the child's home who talks with and sets expectations for the child. The reliability of this measure of home support was found to be sufficient with Cronbach's $\alpha = 0.89$ for all secondary students. Additionally, test-retest reliability was found to be sufficient ($r = 0.68$).

The third promotive factor examined was the presence of caring relationships with peers. Peer caring relationships were measured by three items, which utilized a four-point Likert-scale. These items assessed for the presence of caring, helpful friendships. Internal consistency reliability for peer caring relationships was found to be high (Cronbach's $\alpha = 0.90$). Test-retest reliability was moderately high ($r = 0.73$).

Two internal promotive factors were measured. The first was self-efficacy, which was measured with four items that utilized a four-point Likert-scale. These items provide an analysis of an individual's ability to solve problems and put forth effort. Self-efficacy

internal consistency reliability was found to be sufficient (Cronbach's $\alpha = 0.82$). Test-retest reliability was found to be adequate ($r = 0.58$).

The second internal resiliency factor measured was empathy. Empathy was measured using three items on a four-point Likert-scale. These items address an individual's attempt to understand others' feelings and experiences. High internal consistency reliability was found for the empathy variable (Cronbach's $\alpha = 0.85$). Test-retest reliability was found to be sufficient ($r = 0.57$).

Two dependent variables are considered; suicidal ideation, and suicide attempts. Each was measured by combining several items described below. Within the safety and violence supplemental module, four items address various levels of suicidal behavior. The first item asks, "During the past 12 months, did you ever seriously consider attempting suicide?" which addresses suicidal ideation, or thoughts about ending one's own life. Participants can respond yes or no. The second item asks, "During the past 12 months, did you make a plan about how you would attempt suicide?" which addresses increased intensity of suicidal ideation, where the individual is considering how and he or she would end his or her life. Again, the participants would respond yes or no. These two items were combined to create the dependent variable of suicidal ideation, with a minimum total score of two and a maximum total score of four.

The third item from the safety and violence supplemental module addresses how many times the participant has attempted suicide on a four-point Likert-scale (A= 0 times, B= 1 time, C= 2 or 3 times, and D= 4 or more times). In the fourth item, the individual is asked whether he or she required medical attention after a suicide attempt, if applicable. These third and fourth items were combined to create a continuous variable

of suicide attempts, with possible scores ranging from two to seven, of suicidal behavior in order to conduct regression analyses. For the third item, which addresses number of suicide attempts, one point was assigned for a response of “0 times,” two points were assigned for a response of “1 time,” three points were assigned for a response of “2 or 3 times,” and four points were assigned for a response of “4 or more times.” For the fourth item, one point was assigned if the participant responded, “I did not attempt suicide,” two points were assigned if they responded “No,” and three points were assigned if they responded, “Yes.” For the dependent variable of suicide attempts, a participant could have a possible minimum score of two, and a maximum score of seven.

Procedures

Data were collected in the 2017-2018 school year by participants in high school across the state of California. As stated above, schools within California who receive title IV are required to administer the *CHKS*. For the purposes of this research, 9th and 11th grade data were utilized. The survey is required to be administered in class that is required for the students enrolled in that grade. Passive parental consent is required by the state of California. The *CHKS* allows for either print or online administration, to be selected by the district. Online and paper administration instructions are provided, which emphasize the importance of training proctors prior to administration (Online Administration Instructions and Assurance of Confidentiality). The administration instructions require that students be seated so that no one else in the room can view their responses. Survey administrators sign a pledge of confidentiality so that they do not disclose any information regarding individual respondents. Administrators read from a script from the Online Administration Instructions and Assurance of Confidentiality or

the Paper Administration Instructions and Assurance of Confidentiality, both of which emphasize that:

The survey is anonymous and confidential. No one will ever be able to connect you with your answers. Your answers are private. Participation is voluntary. You are here because your parents or guardians gave their permission for you to participate, but you don't have to take the survey or complete any questions that you do not want to answer (p. 13).

Surveys were then completed and, for paper administration, were collected and placed in an envelope which was sealed in sight of the students.

Data Analysis and Design

Regression analyses were utilized to address the research questions posed by the researcher. Preliminary analyses were conducted to establish that the assumptions of multiple regression analyses were upheld. This included the assumptions of linearity, normality, multicollinearity, homoscedasticity, and for multiple regression analyses, multicollinearity would be determined based on the whether the variance inflation factors with values below 10 (Stevens, 2001) and tolerance values with values above 0.10 (Norusis, 1998).

The first research question posed by the researcher was: 1) What is the relationship between bullying victimization and suicidal behavior? In order to answer this research question, a simple linear regression analysis was conducted analyzing the relationship between bullying victimization and suicidal behavior to understand how much variance in suicidal behavior was predicted by bullying victimization.

The second research question posed by the researcher was: 2) What external promotive factors moderate the relationship between bullying victimization and suicidal behavior? In order to address this research question, five sets of hierarchical multiple regression analyses were conducted that analyzed the relationship between victimization and both suicidal ideation, and suicide attempts, for each moderator. Prior to conducting a moderator regression analysis, each predictor variable, independent variable and moderator variables, were centered, as recommended by Aiken and West (1991). That is, that a hierarchical regression was conducted considering the relationship between bullying victimization and suicidal ideation, with each external promotive factor as a potential moderator, separately. Then, a hierarchical multiple regression was utilized to analyze the relationship between bullying victimization and suicide attempts, for each potential external moderator separately. This allowed determination of whether the external promotive factors were found to moderate the relationship between bullying victimization and suicidal ideation, and suicide attempts, by considering the interaction effects. Hierarchical multiple regression was employed such that bullying victimization, and the potential moderator was entered into the model in step one, using the enter method, and the interaction term for the analysis, in step two. Each moderator was entered into two hierarchical regression models, one for each dependent variable, suicidal ideation, and suicide attempts. An alpha level of 0.05 was used to determine statistical significance.

The third research question was: 3) What internal promotive factors moderate the relationship between bullying victimization and suicidal behavior? Again, hierarchical multiple regression analyses were conducted to determine whether the internal resiliency

factors moderated the relationship between bullying victimization and suicidal ideation, as well as the relationship between bullying victimization and suicide attempts. Again, statistical significance was determined using an alpha level of 0.05.

Summary

The *CHKS* data were utilized in order to address the research questions in which I aimed to identify promotive factors, both internal and external, that moderate the relationship between bullying involvement and suicidality. Though the *CHKS* utilizes psychometrically-sound-instruments to measure the variables included in this study, one limitation of utilizing the *CHKS* is that it does not measure bullying perpetration. Therefore, only bullying victimization can be measured and analyzed in its' relationship to suicidal behavior. The independent variable involved in this study is bullying victimization and the two dependent variables, considered in separate analyses, are suicidal ideation and suicide attempts. The external promotive factors, or resources, that were analyzed as potential moderators included home support, school support, and peer support. The internal promotive factors, or assets, included self-efficacy and empathy. Regression analyses were used in order to determine which promotive, or resiliency, factors, moderated the relationship between bullying victimization and both suicidal ideation and suicide attempts. From these analyses, it was determined which promotive factors may increase an individual's resilience and help those who are being bullied be less likely to engage in suicidal behavior. With this knowledge, professionals who work with youth can focus intervention efforts to build these promotive factors, and hopefully decrease risk for suicidal behavior.

Chapter IV: Results

Outliers

Outliers were determined by calculating Mahalanobis distance, considering the relationship between each set of variables including bullying victimization, suicidal ideation, suicide attempts, and each moderator variable separately, and removing all participants with scores above the cutoff of 18.467, resulting in a final sample size of 2,188.

Preliminary Analyses

Descriptive statistics were calculated for each variable and can be found in Table 1, including the mean, median, and standard deviation for each variable.

Table 1

Descriptive Statistics

<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>SD</i>
<i>Bullying Victimization</i>	18.67	16.00	4.97
<i>Home Support</i>	3.01	3.00	0.92
<i>School Support</i>	2.70	2.67	0.82
<i>Peer Support</i>	3.17	3.33	0.94
<i>Self-Efficacy</i>	3.06	3.00	0.78
<i>Empathy</i>	3.17	3.33	0.83
<i>Suicidal Ideation</i>	2.29	2.00	0.63
<i>Suicide Attempts</i>	2.24	2.00	0.67

In Table 2, I report the correlations between the variables within the study. It should be noted that correlation coefficients were calculated for each moderator variable, and correlation coefficients were not calculated for the relationships between moderator variables, as they were only considered in separate analyses. Note also that the correlation coefficient between suicidal ideation and suicide attempts was calculated;

however, these dependent variables were again, only considered in separate analyses, not simultaneously.

Table 2

Correlations Coefficients for the Relationships Between Variables

	<i>Bullying victimization</i>	<i>Suicidal ideation</i>	<i>Suicide attempts</i>
<i>Bullying victimization</i>	1.00	0.29	0.22
<i>Home support</i>	-0.12	-0.21	-0.16
<i>School support</i>	-0.04	-0.06	-0.06
<i>Peer support</i>	0.00	-0.01	-0.03
<i>Self-efficacy</i>	-0.06	-0.14	-0.13
<i>Empathy</i>	0.06	-0.07	-0.02
<i>Suicidal ideation</i>	0.29	1.00	0.61
<i>Suicide attempts</i>	0.22	0.61	1.00

Assumptions

First, assumptions of multiple regression analyses were considered including normality, linearity, homoscedasticity, and multicollinearity. When testing for normality, it was found that none of these variables were normally distributed in this sample. The skewness and kurtosis values for each variable can be seen in Table 3 below. The moderator variables of home support, school support, peer support, self-efficacy, and empathy, all have skewness and kurtosis values between -1 and +1, indicating a relatively normal distribution (Mertler & Vannatta, 2013). Bullying victimization, suicidal ideation, and suicide attempts, however, had skewness and kurtosis values above +1, with suicide attempts demonstrating the highest values (*skewness* = 2.944, *kurtosis* = 7.911). Tabachnick and Fidell (2007) argue that more severe skewness and kurtosis values may be seen in larger samples; however, they do not significantly diverge from normal to make a substantial impact in the analysis.

The Kolmogorov-Smirnov statistic was also utilized as a measure of normality. As seen below, all of the Kolmogorov-Smirnov statistic values were significant at $p < .001$, indicating non-normal distributions. Authors following the central limit theorem, however, argue that, “in large samples, the estimate will have come from a normal distribution regardless of what the sample or population data look like,” and “For significance tests of models to be accurate the sampling distribution of what’s being tested must be normal. Again, the central limit theorem tells us that in large samples this will be true no matter what the shape of the population. Therefore, the shape of our data, shouldn’t affect significance tests provided our sample is large enough” (Field, 2018, p. 176). Additionally, for secondary students, suicidal ideation and suicide attempts are both typically a low base rate occurrence, and therefore we would expect the distribution to be skewed. One potential correction for this skewness would be a log transformation. Analyses were conducted with and without log-transformed variables and yielded generally similar results which did not differ in their interpretation. Therefore, the results from the non-log transformed data are reported below.

Table 3

Tests of Normality Including Skewness, Kurtosis, and Komogorov-Smirnov Statistic

<i>Variable</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>K-S</i>	<i>p</i>
Bullying victimization	1.583	2.019	0.23	< .001
Home support	-0.561	-0.778	0.171	< .001
School support	-0.052	-0.827	0.094	< .001
Peer support	-0.839	-0.452	0.263	< .001
Self-efficacy	-0.636	-0.11	0.137	< .001
Empathy	-0.862	0.021	0.179	< .001
Suicidal ideation	2.008	2.476	0.487	< .001
Suicide attempts	2.944	7.911	0.502	< .001

Linearity and homoscedasticity were measured for each multiple regression analysis separately, meaning each moderator and dependent variable pair separately, and were examined by examining the residuals plots. Each plot demonstrated heteroscedasticity, as the points were clustered toward the left of the plot (Mertler & Vannatta, 2013). This result would be expected, as homoscedasticity is related to normality. Indeed, Mertler and Vannatta (2013) state that the violation of the assumption of homoscedasticity is not “fatal to an analysis” (p. 36). The residual plots demonstrated acceptable linearity, as the plots demonstrated a rectangular shape that was not curved (Mertler & Vannatta, 2013).

Multicollinearity was assessed utilizing the tolerance and variance inflation factor (*VIF*) scores for each regression analysis. The lowest tolerance value was 0.974 and the highest *VIF* value was 1.027, indicating that there is not an issue of multicollinearity.

Research Question One

The first research question posed in this research was: 1) What is the relationship between bullying victimization and suicidal behavior? Results from a simple, linear regression demonstrated a small, but significant relationship between bullying victimization and suicidal ideation ($\beta = 0.29, p < .001$), where bullying victimization accounted for 8.3% of the variance in suicidal ideation, $F = (1, 2186) 197.76, p < .001$. Table 4 shows the model summary, while Table 5 reports the coefficients for the model.

Table 4

Model Summary for Bullying Victimization and Suicidal Ideation

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R² adj</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization	0.288	0.083	0.083	0.083	197.763	<.001	1	2,186

Table 5

Coefficients for Final Model of Bullying Victimization and Suicide Attempts

	B	<i>SE B</i>	β	<i>t</i>
Bullying victimization	0.037	0.003	0.288	14.063*

Note. * indicates significance at the $p < .001$ level

A second linear regression model was employed to determine the relationship between bullying victimization and suicide attempts. Similarly, bullying victimization was found to be positively related to suicide attempts ($\beta = 0.22, p < .001$), where bullying victimization accounted for 4.8% of the variance in suicide attempts, $F = (1, 2186)$ 110.52, $p < .001$). Table 6 shows the model summary and Table 7 shows the coefficients for the model. These results indicate that higher levels of bullying victimization predict higher levels of both suicidal ideation and suicide attempts.

Table 6

Model Summary for Bullying Victimization and Suicide Attempts

<i>Step</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ² <i>adj</i>	ΔR^2	<i>F</i> <i>chg</i>	<i>p</i>	<i>df</i> ₁	<i>df</i> ₂
1. Bullying victimization	0.219	0.048	0.048	0.048	110.512	<.001	1	2,186

Table 7

Coefficients for Model of Bullying Victimization and Suicide Attempts

	B	<i>SE B</i>	β	<i>t</i>
Bullying victimization	0.03	0.003	0.219	10.512*

Note. * indicates significance at the $p < .001$ level

Research Question Two

The second research question aimed to identify the external promotive factors that moderated the relationship between bullying victimization and both suicidal ideation and suicidal behavior. In order to answer this research question, six separate hierarchical

multiple regression analyses were conducted to consider each resilience factor's potential moderator effects on the relationship between bullying victimization and both suicidal ideation and suicide attempts.

Results indicate that home support did not moderate the relationship between bullying victimization and suicidal ideation ($\beta = -0.04, p = .06$). In Table 8, the model summary for suicidal ideation is presented, while in Table 9, the coefficients for the final model are presented. Home support also failed to moderate the relationship between bullying victimization and suicide attempts ($\beta = -0.04, p = .07$); the model summary is presented in Table 10, and the coefficients are presented in Table 11.

Table 8

Model Summary for Potential Moderator Effects of Home Support on the Relationship Between Bullying Victimization and Suicidal Ideation

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R²_{adj}</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, home support	0.335	0.112	0.112	0.112	138.362	<.001	2	2,185
2. Bullying victimization x home support	0.337	0.114	0.113	0.001	3.473	0.063	1	2,184

Table 9

Coefficients for Final Model of Home Support as a Potential Moderator of the Relationship between Bullying Victimization and Suicidal Ideation

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Model 1</i>					
Bullying victimization	0.034	0.003	0.267	13.176	<.001
Home support	-0.119	0.014	-0.173	-8.514	<.001
<i>Model 2</i>					
Bullying victimization	0.033	0.003	0.262	12.791	<.001
Home support	-0.117	0.014	-0.171	-8.395	<.001
Bullying victimization x home support	-0.005	0.003	-0.038	-1.864	0.063

Table 10

Model Summary for Potential Moderator Effects of Home Support on the Relationship Between Bullying Victimization and Suicide Attempts

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R² adj</i>	<i>ΔR²</i>	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, home support	0.258	0.067	0.066	0.067	77.923	<.001	2	2,185
2. Bullying victimization x home support	0.261	0.068	0.067	0.001	3.327	0.068	1	2,184

Table 11

Coefficients for Final Model of Home Support as a Potential Moderator of the Relationship Between Bullying Victimization and Suicide Attempts

	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.027	0.003	0.203	9.756	<.001
Home support	-0.100	0.015	-0.137	-6.573	<.001
<i>Step 2</i>					
Bullying victimization	0.027	0.003	0.198	9.408	<.001
Home support	-0.098	0.015	-0.135	-6.457	<.001
Bullying victimization x home support	-0.005	0.003	-0.038	-0.824	0.068

School support, however, was found to moderate the relationship between bullying victimization and suicidal ideation, ($\beta = -0.04$, $p = .05$). Coefficients of the model are reported in Table 13. Bullying victimization and school support accounted for 8.4% of the variance in suicidal ideation, seen in Table 12 ($R^2 = 0.084$, $F = (2, 2185) 101.60$, $p < .001$). The interaction of victimization and school support accounted for 0.2% of the variance in suicidal ideation ($R^2\Delta = 0.002$), while the final model accounted for 8.6% of the variance ($R^2 = 0.086$, $F = 3, 2184) 69.16$, $p < .001$). It should be noted

that the main effect of bullying victimization is still significant in the final model ($\beta = 0.283, p < .001$), suggesting that while moderation is evidenced, complete moderation did not occur. Based on the results, as seen in Tables 14 and 15, school support failed to moderate the relationship between bullying victimization and suicide attempts ($\beta = -0.01, p = .70$).

Table 12

Model Summary for Potential Moderator Effects of School Support on the Relationship Between Bullying Victimization and Suicidal Ideation

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R²_{adj}</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, school support	0.292	0.085	0.084	0.085	101.600	<.001	2	2,185
2. Bullying victimization x school support	0.295	0.087	0.086	0.002	4.009	0.045	1	2,184

Table 13

Coefficients for Final Model of School Support as a Potential Moderator of the Relationship Between Bullying Victimization and Suicidal Ideation

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.036	0.003	0.286	13.973	<.001
School support	-0.035	0.016	-0.046	-2.251	0.024
<i>Step 2</i>					
Bullying victimization	0.036	0.003	0.283	13.801	<.001
School support	-0.035	0.016	-0.045	-2.198	0.028
Bullying victimization x school support	-0.006	0.003	-0.041	-2.002	0.045

Table 14

*Model Summary for Potential Moderator Effects of School Support on the Relationship**Between Bullying Victimization and Suicide Attempts*

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R² adj</i>	<i>ΔR²</i>	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, school support	0.225	0.051	0.050	0.051	58.403	<.001	2	2,185
2. Bullying victimization x school support	0.225	0.051	0.050	0.000	0.153	0.695	1	2,184

Table 15

*Coefficients for Final Model of School Support as a Potential Moderator of the**Relationship Between Bullying Victimization and Suicide Attempts*

	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.029	0.003	0.217	10.416	<.001
School support	-0.042	0.017	-0.051	-2.457	0.014
<i>Step 2</i>					
Bullying victimization	0.029	0.003	0.217	10.358	<.001
School support	-0.042	0.017	-0.051	-2.445	0.015
Bullying victimization x school support	-0.001	0.003	-0.008	-0.392	0.695

Results indicate that the final external promotive factor analyzed, peer support, failed to moderate the relationship between bullying victimization and suicidal ideation, as the main effect of peer support was not found to be significant ($\beta = -0.03, p = .18$).

Table 16 shows the model summary for peer support as a potential moderator, and in Table 17 the coefficients are presented. Similar non-significant results, presented in Tables 18 and 19, were found when considering peer support as a potential moderator for the relationship between bullying victimization and suicide attempts ($\beta = -.03, p = .19$).

Table 16

*Model Summary for Potential Moderator Effects of Peer Support on the Relationship
Between Bullying Victimization and Suicidal Ideation*

<i>Step</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ² <i>adj</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df</i> ₁	<i>df</i> ₂
1. Bullying victimization, peer support	0.289	0.084	0.083	0.084	99.833	<.001	2	2,185
2. Bullying victimization x peer support	0.294	0.087	0.085	0.003	6.931	0.009	1	2,184

Table 17

*Coefficients for Final Model of Peer Support as a Potential Moderator of the
Relationship Between Bullying Victimization and Suicidal Ideation*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.037	0.003	0.288	14.066	<.001
Peer support	-0.019	0.014	-0.028	-1.352	0.176
<i>Step 2</i>					
Bullying victimization	0.037	0.003	0.287	14.029	<.001
Peer support	-0.017	0.014	-0.026	-1.262	0.207
Bullying victimization x peer support	-0.007	0.003	-0.054	-2.633	0.009

Table 18

*Model Summary for Potential Moderator Effects of Peer Support on the Relationship
Between Bullying Victimization and Suicide Attempts*

<i>Step</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ² <i>adj</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df</i> ₁	<i>df</i> ₂
1. Bullying victimization, peer support	0.221	0.049	0.048	0.049	56.137	<.001	2	2,185
2. Bullying victimization x peer support	0.225	0.051	0.050	0.002	4.446	0.035	1	2,184

Table 19

Coefficients for Final Model of Peer Support as a Potential Moderator of the

Relationship Between Bullying Victimization and Suicide Attempts

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.030	0.003	0.219	10.515	<.001
Peer support	-0.020	0.015	-0.027	-1.313	0.189
<i>Step 2</i>					
Bullying victimization	0.030	0.003	0.218	10.478	< .001
Peer support	-0.019	0.015	-0.026	-1.240	0.215
Bullying victimization x peer support	-0.006	0.003	-0.044	-2.109	0.035

Research Question Three

In research question three, I considered what internal promotive factors moderate the relationship between bullying victimization and suicidal ideation, as well as the relationship between victimization and suicide attempts. Four sets of hierarchical multiple regressions were conducted to answer this research question, considering each internal resilience factor, self-efficacy and empathy, and the potential moderating effect on the relationships among bullying victimization and both suicidal ideation and suicide attempts. The results, shown in Tables 20 and 21, indicate that self-efficacy moderated the relationship between bullying victimization and suicidal ideation ($\beta = -.05, p = .01$). In step one, bullying victimization and self-efficacy accounted for 9.7% of variance ($R^2 = 0.097$) in suicidal ideation, $F = (2, 2185) 117.89, p < .001$. The interaction term between bullying victimization and self-efficacy accounted for an additional 0.3% of variance ($R^2\Delta = 0.003$) in suicidal ideation, $F = (3, 2184) 80.92, p < .001$. In the final model, there is still a significant main effect of bullying victimization ($\beta = 0.28, p < .001$), indicating that complete moderation did not occur. Self-efficacy was not found to moderate the

relationship between bullying victimization and suicide attempts ($\beta = -0.03, p = .13$). In Table 22, I report the model summary for self-efficacy as a potential moderator of the relationship between bullying victimization and suicide attempts. Similarly, in Table 23, I report the coefficients for this model.

Table 20

Model Summary for Potential Moderator Effects of Self-efficacy on the Relationship Between Bullying Victimization and Suicidal Ideation

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R²_{adj}</i>	ΔR^2	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, self-efficacy	0.312	0.097	0.097	0.097	117.888	<.001	2	2,185
2. Bullying victimization x self-efficacy	0.316	0.100	0.099	0.003	6.391	0.012	1	2,184

Table 21

Coefficients for Final Model of Self-efficacy as a Potential Moderator of the Relationship Between Bullying Victimization and Suicidal Ideation

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.036	0.003	0.281	13.783	<.001
Self-efficacy	-0.098	0.017	-0.120	-5.911	<.001
<i>Step 2</i>					
Bullying victimization	0.035	0.003	0.276	13.500	<.001
Self-efficacy	-0.097	0.017	-0.119	-5.856	<.001
Bullying victimization x self-efficacy	-0.008	0.003	-0.052	-2.528	0.012

Table 22

*Model Summary for Potential Moderator Effects of Self-efficacy on the Relationship**Between Bullying Victimization and Suicide Attempts*

<i>Step</i>	<i>R</i>	<i>R²</i>	<i>R² adj</i>	<i>ΔR²</i>	<i>F chg</i>	<i>p</i>	<i>df₁</i>	<i>df₂</i>
1. Bullying victimization, self-efficacy	0.249	0.062	0.061	0.062	72.394	<.001	2	2,185
2. Bullying victimization x self-efficacy	0.251	0.063	0.062	0.001	2.280	0.131	1	2,184

Table 23

*Coefficients for final Model of Self-efficacy as a Potential Moderator of the Relationship**Between Bullying Victimization and Suicide Attempts*

	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.029	0.003	0.212	10.219	<.001
Self-efficacy	-0.102	0.018	-0.119	-5.716	<.001
<i>Step 2</i>					
Bullying victimization	0.028	0.003	0.209	10.034	<.001
Self-efficacy	-0.102	0.018	-0.118	-5.680	<.001
Bullying victimization x self-efficacy	-0.005	0.003	-0.031	-1.510	0.131

Results also indicate that empathy failed to moderate the relationship between bullying victimization and suicidal ideation ($\beta = 0.01, p = .49$). The model summary can be seen in Table 24, and coefficients in Table 25. Similarly, Tables 26 and 27 show the model summary, and the coefficients of the analysis considering empathy as a moderator for the relationship between bullying victimization and suicide attempts. These results indicate that empathy did not moderate the relationship between victimization and suicide attempts ($\beta = 0.01, p = .73$).

Table 24

*Model Summary for Potential Moderator Effects of Empathy on the Relationship Between**Bullying Victimization and Suicidal Ideation*

<i>Step</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ²		<i>F chg</i>	<i>p</i>	<i>df</i> ₁	<i>df</i> ₂
			<i>adj</i>	ΔR^2				
1. Bullying victimization, empathy	0.292	0.085	0.084	0.085	101.815	<.001	2	2,185
2. Bullying victimization x empathy	0.292	0.085	0.084	<.001	0.469	0.494	1	2,184

Table 25

*Coefficients for Final Model of Empathy as a Potential Moderator of the Relationship**Between Bullying Victimization and Suicidal Ideation*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.036	0.003	0.285	13.916	<.001
Empathy	0.037	0.016	0.048	2.337	0.020
<i>Step 2</i>					
Bullying victimization	0.036	0.003	0.285	13.884	<.001
Empathy	0.037	0.016	0.048	2.363	0.018
Bullying victimization x empathy	0.002	0.003	0.014	0.685	0.494

Table 26

*Model Summary for Potential Moderator Effects of Empathy on the Relationship Between**Bullying Victimization and Suicide Attempts*

<i>Step</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ²		<i>F chg</i>	<i>p</i>	<i>df</i> ₁	<i>df</i> ₂
			<i>adj</i>	ΔR^2				
1. Bullying victimization, empathy	0.222	0.049	0.048	0.049	56.604	<.001	2	2,185
2. Bullying victimization x empathy	0.222	0.049	0.048	<.001	0.119	0.730	1	2,184

Table 27

*Coefficients for Final Model of Empathy as a Potential Moderator of the Relationship
Between Bullying Victimization and Suicide Attempts*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
<i>Step 1</i>					
Bullying victimization	0.030	0.003	0.221	10.593	<.001
Empathy	-0.027	0.017	-0.034	-1.617	0.106
<i>Step 2</i>					
Bullying victimization	0.030	0.003	0.221	10.574	< .001
Empathy	-0.027	0.017	-0.033	-1.601	0.110
Bullying victimization x empathy	0.001	0.003	0.007	0.346	0.730

Summary

This study aimed to identify promotive factors which moderated the relationship between bullying involvement and both suicidal ideation and suicide attempts. Utilizing the *CHKS*, regression analyses were conducted in order to consider both internal and external promotive factors which may moderate these relationships. Results indicate that the external factors of home support and peer support failed to demonstrate moderations. School support, however, moderated the relationship between bullying victimization and suicidal ideation, yet failed to moderate the relationship between bullying victimization and suicide attempts. In regard to internal factors, self-efficacy was found to moderate the relationship between victimization and suicidal ideation. Self-efficacy did not moderate the relationship between victimization and suicide attempts. Empathy was not found as a significant moderator. Overall, only self-efficacy and school support were found to moderate the relationship between bullying victimization and suicidal ideation, while no promotive factor was found to moderate the relationship between bullying victimization and suicide attempts.

Chapter V: Discussion

Summary of Results

Previous literature demonstrates that the relationship between bullying involvement, as perpetrator, victim, or both, is related to negative outcomes for youth. One of the most serious potential outcomes of involvement in bullying includes an increased risk of suicidal behavior, which can include suicidal ideation and suicide attempts. Indeed, more frequent involvement in bullying is related to an increased risk of suicidal behavior. Previous literature has shown that certain promotive factors can serve as protective factors from suicide including: parental support, social support, self-esteem, positive life events, positive outlook on the future, positive school climate, and school success (Chioqueta & Stiles, 2007; Flouri & Buchanan, 2002; Kleiman & Beaver, 2013; Kleiman & Liu, 2013, Kleiman et al., 2014; Miller, Esposito-Smythers, & Leichtwies, 2015; Perkins & Jones, 2004; Sharaf, Thompson, & Walsh, 2009). Limited research has been conducted that specifically considers the role of protective factors in the relationship between bullying victimization and suicidal ideation. Of the research conducted that does consider this unique relationship, results are inconclusive in regard to specific promotive factors, which can be both internal and external, which moderate this relationship, though parental support, adult support, peer support, and social connectedness were considered (Arango et al., 2016; Borowsky, Taliaferro, & McMorris, 2013; Poteat et al. 2011).

Understanding how promotive factors, both internal and external, influence this relationship, has important implications for intervention efforts of school and mental health professionals. If factors can be identified to help prevent youth involved in

bullying from experiencing suicidal ideation, or attempting suicide, then these factors can be promoted as targets of intervention in order to reduce the risk of suicidal behavior. The purpose of this study, then, was to investigate the promotive factors, both internal and external, which may moderate the relationship between bullying victimization and suicidal ideation, as well as the relationship between bullying victimization and suicide attempts.

In the first research question, I analyzed the relationship between bullying victimization and suicidal behavior, considering suicidal ideation and suicide attempts separately. I hypothesized that bullying victimization would have a positive relationship with both suicidal ideation and suicide attempts. Results indicated a small, positive relationship between bullying victimization and both suicidal ideation and suicide attempts, indicated by standardized coefficients of 0.29 and 0.22, respectively. Bullying victimization predicted 8.3% of variance in suicidal ideation and 4.8% of variance in suicide attempts. These results demonstrate a significant relationship between bullying victimization in both suicidal ideation and suicide attempts such that those who experience more victimization report higher levels of suicidal ideation and more suicide attempts. These results were consistent with previous literature such that in previous research, traditional bullying victimization was found to have a significant relationship with suicidal ideation with a standardized coefficient of 0.23 (Hinduja & Patchin, 2015); and another study, in which authors found a standardized regression coefficient of 0.39 for bullying victimization (Hay & Meldrum, 2010). Overall, the results align with previous literature in finding that bullying victimization is related to increased risk for suicidal ideation and suicide attempts (Bauman, Toomey, & Walker, 2013; Dempsey et

al., 2011; Kaminski & Fang, 2009; Kim & Levanthal, 2008; Klomek et al., 2007; Klomek et al., 2008; Klomet et al., 2009).

The second research question examined the potential moderation of this relationship between bullying victimization and suicidal behavior for three potential moderators: home support, school support, or peer support. It was hypothesized that these three promotive factors, would each, separately, moderate the relationship between bullying victimization and both suicidal ideation and suicide attempts. Results from this study indicate that neither home support nor peer support were found to moderate these relationships.

These findings deviate from previous literature that supports both parental and peer support as protective factors for those who are involved in bullying. Borowsky, Taliaferro, and McMorris (2013) found that both parental connectedness and higher perceived caring by friends served as protective factors for victims of bullying, such that those who reported higher levels of these protective factors were less likely to report suicidal ideation or suicide attempts. Poteat Mereish, DiGiovanni, and Koenig (2011), however, found that while parental support moderated the relationship between bullying victimization and suicidal ideation for heterosexual individuals, parental support was not found to moderate this relationship for LGBTQ youth. Arango, Opperman, Gipson, and King (2016), however, found that social connectedness did not moderate the relationship between bullying victimization and suicide risk, which is consistent with the results from this study. One possible explanation may be that home support and peer support, considered separately, are not enough to help prevent suicidal behavior for those who are experiencing victimization. Another possible explanation may be that those who are

experiencing victimization are already socially isolated, and therefore, are not reporting high levels of peer support.

Results from this study, however, demonstrate that school support moderated the relationship between bullying victimization and suicidal ideation, such that victims who reported higher levels of school support indicated lower levels of suicidal ideation. These results should be interpreted with caution, however, due to the small standardized coefficient of the interaction term. While significant, the standardized regression coefficient ($\beta = -0.04$, $p = .05$) indicates little overall impact on the dependent variable. Additionally, the main effect of bullying victimization was still significant in the final model, suggesting that the moderator of home support that only accounted for an additional 0.2% of variance in suicidal ideation may not have clinical significance. Still, the moderation of school support is consistent with Borowsky, Taliaferro, and McMorris's (2013) conclusion that strong connections to adults other than parents served as protective factors from suicidal behavior for victims of bullying. No other studies considered other adult support, or specifically school support, as a moderator for the relationship between bullying victimization and suicidal behavior. School support was not found to moderate the relationship between bullying victimization and suicide attempts.

It may be that while school support may serve as a protective factor for some victims of bullying in that it can predict decreased suicidal ideation, it may not provide enough support to the victims to prevent a suicide attempt, should they be experiencing ideation. In other words, while the support of an adult at school may help victims experience decreased suicidal ideation, if a victim is already experiencing ideation, the

support of an adult at school is not enough to prevent that victim from making a suicide attempt. It also may be that those who reported higher levels of suicide attempts may be experiencing more serious mental illness, and may need more significant levels of care and intervention than the help of an adult within the school to decrease the likelihood of suicide attempts.

In the third research question, I considered whether internal promotive factors moderate the relationship between bullying victimization and suicidal behavior. Results indicate that self-efficacy moderated the relationship between bullying victimization and suicidal ideation such that those who reported higher levels of self-efficacy report lower levels of suicidal ideation. Again, a small standardized regression coefficient ($\beta = -0.05$, $p = .01$) indicates that these results should be interpreted with caution when considering the clinical significance of self-efficacy as a moderator for the relationship between bullying victimization and suicidal ideation. While Siegmann et al. (2018) found that self-efficacy was not able to moderate the relationship between depressive symptoms and self-efficacy, previous literature has not examined the potential moderator role of self-efficacy when considering bullying victimization and suicidal ideation. One possible explanation for this finding is that self-efficacy and the perception of being able to solve problems with their own efforts, empowers bullying victims and allows them to believe that they have the ability to change or improve the situation that they are in as victims of bullying, and that there is hope for better experiences. The items that measure self-efficacy in the *CHKS* address the ability to work out one's problems, complete tasks, and do things well. For victims of bullying, the belief that they have the power to change their circumstances, or power to do something about a negative situation, was able to help

minimize risk for suicidal ideation. Self-efficacy allows the individual to feel empowered to handle certain challenges on their own, rather than feeling helpless in the event of a negative circumstance. It also may be that higher levels of self-efficacy are related to lower feelings of hopelessness for those who are experiencing victimization, which may result in decreased risk of suicidal ideation. Self-efficacy was not found to moderate the relationship between victimization and suicide attempts. Again, this may be due to the fact that for those who are experiencing suicidal ideation and severe suicidality, one promotive factor alone may not be enough to decrease risk of suicide attempts, and a higher level of intervention is warranted and indeed imperative for these individuals.

Lastly, empathy was not found to moderate the relationships between bullying victimization and suicidal ideation, and bullying victimization and suicide attempts. The previous literature has not examined empathy as a potential moderator in this relationship. One way to explain this finding is the hypothesis that bullying victims experiencing a higher level of empathy may experience more negative emotions if they are empathizing with others who are also having more negative experiences. In this case, they may be experiencing more negative emotions, themselves. Another possible consideration is that empathy, and the ability to understand other's feelings and experiences, does not impact one's own ability to handle his or her own adverse experiences and negative emotions.

Limitations

Limitations must be addressed when considering the findings of this investigation. The first limitation of this study was that the *CHKS* utilizes self-report data to measure all

variables within the study. When utilizing self-reports, participants may respond subjectively to questionnaires, or may respond in a more socially desirable manner, which may not be an accurate representation of an individual's true experiences. As stated above, the administration of the *CHKS* required administrators to remind participants that the responses from the survey are kept confidential, and the participants are not required to identify themselves by name, which may decrease socially desirable responses. Additionally, depending upon the school district's selection of supplemental questionnaires, the participants in this study may have been required to answer many self-report questionnaires in one sitting. With self-report, this may lead to skipped questions, or random response patterns if the participant is failing to maintain attention or focus to the task, which would again interfere with the accuracy of the reported scores. Participants with missing responses to any of the required items for all variables included in this study were removed, and not considered in this analysis. Additionally, participants representing data outliers who demonstrated more extreme, unique relationships between variables were also removed prior to conducting the statistical analyses.

A second limitation of this study is that the sample in this study is limited to students of one school district. Though the *CHKS* is required to be administered to all schools in the state of California who receive public funding, only one school district within the state asked their students to complete all required supplemental modules for this analysis, including the Core module, Safety and Violence module, and Resiliency module. This left a sample size of 2,262 secondary students from one school district in southern California for a final sample population. Of the final sample, 65.2% of the

participants identified as Latino and 52.7% of the population identified as mixed race, which is not representative of the larger population of youth in the U.S. Cultural factors unique to this population, such as familial closeness, may be impacting the relationship bullying and suicidal behavior for this population. This limits the diversity of the sample, and the ability to generalize the results to the larger population of youth in the US. Still, the participants within the sample demonstrated adequate diversity. Future researchers should attempt to conduct an analysis with a diverse sample with participants including students in schools across the US, and representative of the larger US population. Similarly, future research studies should include school districts in rural, urban, and suburban areas, as well.

A third limitation of this study is the suicidal behavior measures. Suicidal ideation was measured with two items that address whether the participant has seriously considered and planned to attempt suicide. Though other researchers utilized similar brief items to measure suicidal ideation and behavior (Bauman, Toomey, & Walker, 2013; Dempsey et al., 2011; Hay & Meldrum, 2010; Poteat et al., 2011), items that are more detailed and thus reflective of a larger experience of suicidal behavior likely provide more information about a participant's experiences and level of suicidality. While these items allow for a basic understanding of a participant's experience of suicidal ideation and suicide attempts, items that provide a more nuanced viewpoint of suicidality would be beneficial. For example, measures that consider passive death wish versus active suicidal ideation, the frequency of these thoughts, and suicidal intent would yield a richer analysis of suicidal ideation. One measure utilized in previous literature include the *Suicidal Ideation Questionnaire* (SIQ-JR; Reynolds, 1998), selected by

Klomek et al., (2008) as a measure for suicidal ideation, which considers passive death wishes, active suicidal thoughts, frequency of thoughts within the past month, and intent to attempt suicide with 15 items on a 7-point Likert scale. In the current study, suicide attempts were measured utilizing two items which addressed how many times in the last 12 months a participant attempted suicide, and what level of medical attention was needed, if any, after a suicide attempt. These questions allow for consideration of how many times someone has attempted suicide, instead of a dichotomous yes or no response, as well as providing insight regarding the severity of the attempt, by asking what level, if any, of medical attention was required for the attempt. Higher scores would then indicate more severe suicidality and lethal attempts.

A fourth limitation of this study is the violation of the normality assumptions by the variables included in this study. The variables of bullying victimization, suicidal ideation, and suicide attempts, however, would not be expected to be normally distributed in the sample. It would be expected that the majority of participants would report lower levels of victimization, suicidal ideation, and suicide attempts, and that only a smaller portion of the sample would endorse higher levels of these variables. As described above, the central limit theorem argues that for larger sample sizes, the shape of the sample distribution should not affect significance tests (Field, 2018).

Lastly, another limitation to this study was the small standardized regression coefficients found for the promotive factors that were found to significantly moderate the relationship between bullying victimization and suicidal ideation. Both school support and self-efficacy were found to be statistically significant moderators of the relationship between bullying victimization and suicidal ideation; however, both standardized

regression coefficients were small ($\beta = -0.04$; $\beta = -0.05$). Additionally, the change in variance in suicidal ideation, or the percent of additional variance accounted for by the interaction terms in their respective models was 0.2% and 0.3% for school support and self-efficacy, respectively. Taken together, these findings indicate that while statistically significant, school support and self-efficacy contributed little to the variance in suicidal ideation as moderators. These findings suggest that the clinical significance of these results is questionable. While the results indicate statistical significance, school support and self-efficacy may not be clinically helpful in reducing suicidal behavior for those experiencing bullying victimization.

Implications

The results from this study indicate that home support, peer support, and empathy were neither able to moderate the relationship between bullying victimization and suicidal ideation nor that between bullying victimization and suicide attempts. While school support and self-efficacy were found to be statistically significant moderators of the relationship between bullying victimization and suicidal ideation, the clinical significance of these results is questionable. Neither school support nor self-efficacy were found to moderate the relationship between bullying victimization and suicide attempts. These results indicate that school support and self-efficacy were able to help those who are experiencing bullying victimization be less likely to experience suicidal thoughts. Though these factors were not able to minimize risk for suicide attempts, suicidal ideation precedes suicide. That is, one experiences suicidal ideation prior to making an attempt. Joiner (2009) argues that suicidal ideation, in combination with acquired capability, leads to increased risk for suicide attempts. While results which

showed that these factors moderated the relationship between victimization and attempts would be ideal, it is encouraging that both self-efficacy and school support were able to minimize risk for suicidal ideation. If interventions can be placed to minimize suicidal ideation, then this may arrest the suicidal ideation and suicidal behavior from developing further and resulting in suicide attempts.

While these non-significant results may be due to the limitations of this study, it may be that these promotive factors, considered separately, do not moderate the relationship between bullying victimization and suicidal ideation, or suicide attempts, and that these intrinsic and extrinsic factors of resilience are not impactful in minimizing suicidal behavior for victims of bullying. For those experiencing bullying victimization, they may require much higher levels of promotive factors in order to be effective in minimizing risk for suicidal behavior. It may be that the negative experiences of bullying victimization are too great to be combatted by single resiliency factors, when considering the risk for suicide. Those suffering from bullying victimization likely require more intensive interventions, such as counseling, therapy, and/or medication management, in order to reduce risk for suicidal ideation and suicide attempts.

While disappointing, these results raise concern that students who are experiencing bullying victimization require intervention at a higher level in order to prevent suicidal behavior. For school professionals, this may mean recommending Tier III interventions which would involve individualized supports for the student that might include evidence-based interventions for suicidal behavior, such as cognitive behavioral therapy or dialectical behavioral therapy, meeting one-on-one with the school psychologist or school counselor for regularly scheduled counseling, or other necessary

individualized supports for the student. Also, school professionals may consider referring the student to receive services outside of the schools, including therapy and potentially medication management, should that be necessary considering level of impairment and mental health diagnoses. Additionally, levels of treatment may differ depending upon the degree of suicidality the adolescent is experiencing. An individual who has been experiencing suicidal ideation once per month for three months would require a lower level of intervention and supports than an individual who has a history of lethal suicide attempts and has been experiencing suicidal ideation daily for three months. Careful consideration of an individual's risk factors, protective factors, history of attempts, and frequency of suicidal thoughts is essential when recommending levels of treatment, with those experiencing more severe ideation and with a history of suicide attempts or recent attempts, requiring higher levels of intervention such as intensive outpatient programs, partial hospitalization programs, and possible inpatient hospitalization. While promotive factors of home, school, and peer support may be beneficial to those involved with bullying, it may be necessary for victims to receive further professional support in order to reduce risk of suicidal ideation and suicide attempts. Similarly, bullying victims require intrinsic capabilities beyond self-efficacy and empathy, in order to reduce risk of suicide.

Recommendations for Future Research

Further research is needed to further analyze the value of promotive factors in mitigating suicide risk for those involved with bullying. Additional study is required to investigate the promotive factors of resilience, which may moderate the relationship between bullying victimization and suicidal ideation. Limited previous literature exists

that analyzes potential moderators of this relationship and that which exists is inconclusive. First, future research should be conducted that considers all those involved in bullying including: victims, perpetrators, and those who are both victims and perpetrators. This would allow researchers to consider the different impacts of the promotive factors for each group adversely affected by their involvement in bullying.

Second, future research should be conducted with a sample that is representative to youth across the US. The current study, while having a large overall sample size, was limited to a sample of students from one school district. A diverse sample with participants of youth across the country would provide results that are more generalizable to the overall populations. Third, future research should utilize measures that includes more in-depth measures of suicidal ideation, as this factor can vary greatly from individual to individual. Measures should consider the passive versus active nature of the participants thoughts, frequency of the thoughts, and intent to commit suicide, when considering suicidal ideation. Lastly, future studies which aim to consider the impact of specific interventions would be beneficial. As proposed earlier, it may be that these factors of resilience are not enough on their own to help those involved with bullying from experiencing suicidal ideation or attempting suicide. A study that considers these promotive factors, as well as more formal interventions, including individual therapy, etc., would allow researchers to compare the impact of all factors, and consider how small or large the impact of resiliency factors on suicidal behavior may be for victims of bullying. Overall, further research that aims to identify the promotive factors that may help to decrease risk for suicidal behavior for youth involved in bullying is needed.

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