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An Examination Of Risk Factors For Suicidality Among Adolescents In The United States

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AN EXAMINATION OF RISK FACTORS FOR SUICIDALITY AMONG ADOLESCENTS IN THE UNITED STATES

A Dissertation

by

KAVIYA SHANKAR

Submitted to the Office of Graduate Studies of
Prairie View A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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Major Subject: Juvenile Justice

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May 2024

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ABSTRACT

An Examination of Risk Factors for Suicidality Among Adolescents in the United States

(May 2024)

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Suicide is considered a significant public health issue, identified as the second leading cause of early mortality in the United States among adolescents (CDC, 2023). The National Institute of Mental Health (2023) defined it as "death induced by self-directed destructive behavior with intent to die" (p. 4). For youth aged 10-14 suicide increased by 36% from 2000 to 2021 in the United States. In recent decades, suicide among adolescents has increased despite estimates of stable or dropping suicide rates in developed countries. Every year, 703,000 youth worldwide commit suicide, and many more attempt (WHO, 2022).

This study used a nationally representative sample of adolescents from the 2021 High School Youth Risk Behavior surveys. Data were examined with a General Strain theoretical framework utilizing logistic regression, and linear regression to understand the impact of empirical risk factors, physical, dating, sexual victimization, bullying, and cyberbullying on youth mental health issues, physical well-being that includes exercises and workouts, and suicidality among high school students. During the early months of the COVID-19 pandemic (2020 into 2021), youth experiences of physical and sexual violence/victimization may have increased, given their isolation. While dating violence

increased, it is not clear how this impacted suicides. Youth likely experienced more cyberbullying, given their increased interactions online.

This study revealed significant relationships between various forms of victimization, that is physical, sexual, dating violence, bullying, and cyberbullying, and the mental health and physical well-being of high school students, which in turn influenced their risk of suicidality. The regression analyses highlighted that these forms of victimization were predictors of increased mental health issues, which were directly linked to higher suicidality rates among adolescents. The findings are consistent with the literature, as victimization indicators are expected to be related to mental health issues and physical wellness. Sexual victimization was more impactful than physical victimization and dating victimization on mental health and cyberbullying was more impactful than more traditional bullying on mental health. Relatedly mental health issues significantly affected high school students' physical wellness. This study's results offer empirical details that should be informative for policymakers in prioritizing their efforts to reduce youth health risk and victimization.

Keywords: suicidality, victimization, mental health issues, physical wellness, adolescents.

AN EXAMINATION OF RISK FACTORS FOR SUICIDALITY AMONG ADOLESCENTS IN THE UNITED STATES

DEDICATION

This dissertation is dedicated to my Appa, Shankar; my Amma, Uma; and my sister, Bhuvanasree, for always being there for me. To Vijaykrishnan, thank you for being my distant yet closest companion and sending virtual hugs that feel warmer. Special thanks to Anbu Anna for believing in me, Sherie Sam for keeping me going for every laugh and eye-roll at my good jokes and ravings, and her family for constant encouragement. To my Grandfathers (Perumal and Ayyasamy), Aathuma, Gomathi, Iyyappan, Elamurugu, Soundararajan, Ravi, Baskar, Kannan, and Praisy and family. To my incredible friends Muthu, Navya, Divya, Grace, R.S., Lavanya, Anamika, Maliha, Arpitha, Monica, Varsha, and Mokka family members for your friendship and comfort.

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CHAPTER I

INTRODUCTION

In the United States, suicide is the second cause of death of youth 10-14 (CDC, 2023). Yet not enough is known about the factors that lead adolescents to commit suicide (Ruch et al., 2019). Relatively few studies have examined the significant risk factors of multiple variables associated with various aspects, including physical and mental health and victimization of high school students with suicide. Youth who have suffered physical, sexual, and dating violence are two to three times more likely to attempt suicide (Labuhn et al., 2021).

Limited research focuses on the impact of repeated violence experiences linked with suicide (Franklin et al., 2017). Therefore, to develop comprehensive juvenile suicide prevention approaches, it is imperative to have a deeper knowledge of suicidality and concurrent victimization (Yang, 2023). Using a nationally representative sample of adolescents YRBS (Yang et al., 2021; 2020), this study examined physical, dating, and sexual victimization, bullying, and cyberbullying effects on mental health, physical well-being, and adolescents' suicidality, that is suicide plan and suicide attempt, during the lockdowns of the COVID-19 pandemic. Suicidality is “the risk of suicide, usually indicated by suicidal ideation or intent, especially as evident in the presence of a well-elaborated suicidal plan” (VandenBos, 2007 p. 1048).

According to Ehlman et al. (2022), suicide ranked as the country's 10th most common cause of death in 2018. Suicide rates among 14–18-year-olds increased

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This dissertation follows the style of the Publication Manual of the American Psychological Association 7th edition.

dramatically between 2009 and 2018. Therefore, youth mental distress and suicidal actions have emerged as serious concerns within public health (Casey et al., 2011; Hawton et al., 2013). Suicide is the second leading cause of death among high school students after accidents. Traditional suicide rates are more significant for men than women in all age categories. However, new CDC figures show that suicide rates among 15-to-19-year-old girls more than doubled from 2007 to 2015, compared to a 31% increase in boys. A separate analysis shows that suicide rates for 10–14-year-old girls tripled from 1999 to 2014 (Ruch et al., 2019).

Prior to the pandemic, many studies discussed the significance of suicide. For example, Ehlman et al. (2022) concentrated on US public health issues presented by suicidal adolescents and young adults aged 10–24. However, recent times have seen alterations and limitations in the lives of young individuals. Economic difficulty within the family, restricted access to healthcare and educational opportunities, and social and recreational activities may all contribute to a decrease in stress management, a rise in disputes, and intrafamilial violence (Fegert et al., 2020). All these variables may increase teenage anxiety and despair.

However, Manczak et al. (2019) stated that spending more time together at home might strengthen intrafamilial bonding. School closures may have lowered academic and peer stress. These positive factors may have reduced teenagers' anxiety and depression in the early pandemic and reduced their suicide risk (Orben et al., 2020). Yet, adolescents, those 10–24 years old, who tend to be very peer-oriented may suffer most from physical and social isolation. Social contact is delicate throughout adolescence (Sawyer et al., 2018). Given these points, this study addressed the belief that teenagers are

hypersensitive to social cues and the detrimental impacts of social isolation (Blakemore & Mills, 2014). According to the CDC, high school students reported having ongoing depressive or hopeless thoughts in 2021 (CDC, 2023).

Depression, anxiety, loneliness, and diminished social support due to the COVID -19 epidemic and lockdowns may have raised teenage suicide risk (Bridge et al., 2023). The suicide rate fell in 2019 and 2020 before almost reaching its 2018 high in 2021. The rate over this timeframe indicated a notable increase in African American adolescent suicide rates, which went from 8.2 per 100,000 in 2018 to 11.2 per 100,000 in 2021. With a suicide rate of 36.3 per 100,000 in 2021, American Indian and Alaska Native adolescents had significantly greater rates of suicide. In 2021, the rate for White children was 12.4 per 100,000, the rate for Hispanic or Latino youth was 7.9, and the rate for Asian youth was 9.4. (Pappas, 2023).

While puberty causes hormonal and biochemical changes, adolescence also involves significant psychological and social changes (Sawyer et al., 2018). Socialization and peer relationships become crucial throughout adolescence. Compared to children under 10, teenagers spend more time with peers and develop more complicated interactions with them (Somerville, 2013). Peer acceptance and influence become more important throughout adolescence. Adolescence improves cognitive capacities through self-referential processing, executive control, and mentalizing, helping youth to understand and accept others' points of view (Foulkes & Blakemore, 2016). Despite considerable research efforts about mental health issues, understanding the causes, warning signs, and effective prevention strategies for youth suicide remains incomplete, highlighting a significant gap in the knowledge.

The initial months of the COVID-19 pandemic saw high rates of depression, anxiety, and other mental health issues for adults (Aknin et al., 2022). However, there are fewer concentrated studies on children and adolescents (John et al., 2020). While recent research suggests that suicide rates vary by country, in the United States, increased social isolation and mental and economic distress correlated with higher rates of suicidal behavior (Bersia et al., 2022; Dsouza et al., 2020; Gruber et al., 2021; Holmes et al., 2020; Isumi et al., 2020; Mamun & Griffiths, 2020).

Mental health and COVID alone did not impact suicidality among adolescents. However, research mainly focuses on the risk factors associated with mental health that predict suicidal ideations (Klonsky et al., 2016; Morneau-Vaillancourt et al., 2023). Other variables that make people consider suicide ideas to trying to kill themselves are still mostly unclear (Klonsky et al., 2016; Nock et al., 2008). The unknown variables highlight a significant shortfall in the existing knowledge on suicidality.

According to Farrokhi et al. (2024) and Pathania et al. (2023), physical well-being also matters in suicidal ideation. Some physical well-being may include acknowledging the need to exercise, consume nutritious meals, obtain sufficient sleep, avoid sickness and injury, or effectively manage chronic health disorders. Mental and physical health influence an individual's holistic well-being. Physical activity is any movement of the body that requires energy and is produced by the muscles (Caspersen et al., 1985). Substantial evidence indicates that engaging in physical activity demonstrates efficacy in diminishing various significant risk factors associated with suicide (Parker at al., 2021).

Although mental health and suicide are closely interconnected, it is crucial to recognize that not everyone with mental health issues experience suicidal thoughts or

behaviors. While a direct predictive relationship between physical exercise and suicidal thoughts has not been shown, previous research has indicated notable connections between this health habit and many mental health indicators among adolescents (Arat & Wong, 2017; Parker et al., 2021). Thus, this study explored how physical wellness may mediate any connection between the negative impact of youth victimization and suicidality.

Apart from physical and mental well-being, the experience of victimization also plays a significant role in suicidality. Notably, adolescence and early adulthood are developmental stages during which individuals may have heightened vulnerability to suicidal ideation and behavior. Studies, such as those conducted by Arango et al. (2016) and Modecki et al. (2014), suggested that those youth who experience a sense of oppression and do not have a sense of belonging may exhibit a lack of fear towards physical harm or death. This was especially true if they had experienced victimization by different types of violence repeatedly.

Several studies found a correlation between dating violence, sexual victimization, and youth suicidality (Henry et al., 2013; Litwiller & Brausch, 2013). Further, victims of bullying and dating violence have a higher likelihood of experiencing specific outcomes related to suicidality (Fedina et al., 2023). Due to the significant neurobiological, physiological, and social changes that occur during adolescence, these prior victimization experiences may have a strong mental impact that is influenced by their social environment and interactions with peers (Abrutyn & Mueller, 2014; Blakemore & Mills, 2014; Greydanus et al., 2013).

Many studies categorized adverse childhood experience as a significant predictor of suicidal ideation, which includes emotional, physical, and sexual maltreatment as well as neglect (Brodsky & Stanley, 2008; Fuller-Thomson et al., 2016; Thompson et al., 2018). Favril et al. (2020) conducted a systematic review of a meta-analysis of 35 studies examining the prevalence and risk of suicide. The risk factors included singleness, violent offenses, prior incarceration, and psychological issues like trauma in a case of victimization. These factors were associated with self-harm in females more than males.

There is a notable disparity in suicide mortality rates based on gender. The prevalence of suicide attempts is higher among female adolescents, at nine percent, compared to male youth at five percent (Kann et al., 2018). However, the reverse gender trend is the case for adults. A significant public health concern is the correlation between adolescent dating violence and an increase in suicidal behavior (Greydanus et al., 2013). Nevertheless, depression remains one of the most significant risk factors for suicide (Hawton et al., 2013). This lack of a complete understanding is particularly alarming considering the increasing rates of suicide among young people, which emphasizes the urgent need for more targeted research and intervention strategies.

Significance of the **Study**

The purpose of the present study was to examine the experiences of various victimizations, including physical, sexual, dating victimizations, bullying, and cyberbullying, on physical and mental well-being and how these related to suicidality nationwide for high school students early during the COVID-19 pandemic lockdown. With the rise of social isolation and other public health issues during the pandemic 2020

and 2021, it is important to understand how the lockdown's unique dynamics affected youth suicidality.

Theories

This study draws upon the foundational ideas of Strain theories. While these theories are not tested, they provide valuable insight to examine and understand the risk factors of suicidality. The study reflects ideas from three theorists. First, Durkheim (1897), whose book *Suicide: A Study in Sociology*, investigated the connection between various social variables and suicide. His concept of *anomie* or strain referred to an absence of norms or a collapse of societal standards and values (Malik & Malik, 2022). According to Durkheim, people were more likely to commit suicide if they felt they were not fully integrated into society or if they were not integrated at all. Durkheim also stated that suicide is a rational choice for those persons who conclude that death is the best option for their future. Second, Merton (1938) expanded on how societal structure can lead to deviant behavior according to individuals' experience of strain. Third, the General Strain Theory (GST) proposed by Agnew in 1992 builds on earlier strain theories, offering a detailed perspective on how strain relates to deviant behavior.

Agnew (1992) expanded the concept of strain beyond mere socio-structural and economic goals to include strain from challenging circumstances and negative influences like physical and mental abuse, victimization, or discrimination. The General Strain Theory (GST) highlights the significance of strain in triggering negative emotions and the subsequent coping strategies adopted by individuals, particularly youth (Eitle, 2010). This background is instrumental in understanding the complexities surrounding adolescent suicidality. The particular stressors and challenges young people face, such as

interpersonal conflicts, have all been shown to impact suicidality (Eitle, 2010). Suicide attempts are both an emotion-driven response to the incapacity to escape from stress and the unpleasant feelings that go along with it (Walls et al., 2007).

These ideas led to the Strain Theory of Suicide (STS) (Ivanich & Teasdale, 2017). STS states that "conflicting and competing pressures in an individual's life" precede suicide (Zhang & Lester, 2008, p.67). Zhang (2005) developed the Strain Theory of Suicide as a means to elucidate the socio-psychological factors that lead to instances of suicidal conduct. The STS posits that individuals may resort to suicidal behavior as a means to alleviate or eliminate psychological distress caused by pressures and conflicts arising from a misalignment between their behaviors and societal values (Zhang & Song 2006).

Adolescents exposed to various forms of victimization might experience psychological distress arising from a disconnect between their personal aspirations and ethical principles (David-Ferdon et al., 2021). Based on the General Strain Theory hypothesis of suicide, when adolescents encounter distress without adequate coping mechanisms, they may undergo coping strain. According to Merton's study conducted in 1957, these particular strains have the potential to contribute to the development of mental diseases. They may serve as precursors to other deviant actions, including suicide and other deviance. According to Zhang and Lester (2008), there exists a correlation between strain and suicide, whereby mental problems may serve as an intermediary factor that amplifies the connection between strain and suicide.

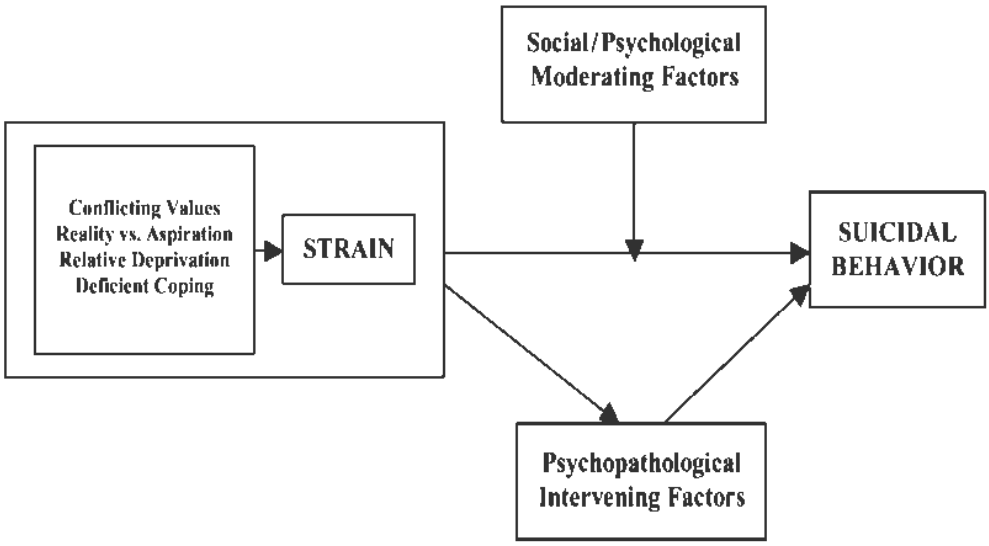
Many studies, such as those conducted by Bao et al. (2023), Islam et al. (2020), and Wilson et al. (2023), could not distinguish between the different types of bullying

victimization and were unable to provide conclusive evidence on the relationships between suicidality and bullying victimization. According to Nixon (2014), there is a higher likelihood of poor mental health and suicidality among teenagers who report experiencing cyberbullying. Adolescent Behaviors and Experiences Survey (ABES) data during the pandemic indicated that 37.1% of teens in the US reported having poor mental health, 19.9% with suicide ideation, and 9.0% having attempted it in the year prior (Breuner & Bell, 2023). Most of the previous studies focused on a single additive measure were cumulative victimization subsequently increased mental health symptoms, including suicide risk.

As depicted in Figure 1, the Strain Theory of Suicide, introduced by Zhang in 2005, offers a comprehensive framework to understand the complex dynamics leading to suicidal behavior. However, the interconnection between these varied forms of victimization and their collective impact on an individual has not been thoroughly established in the existing literature. Thus, this study aimed to fill a critical gap by providing insights into how these complex victimization experiences influence overall physical wellness and mental health issues outcomes, explicitly addressing an area that has been relatively overlooked in previous research.

Figure 1

Strain Theory of Suicide by Zhang



The conceptual model diagram in Figure 1 illustrates a theoretical framework for understanding suicidal behavior by Zhang (2005). The framework posits that suicidal behavior can be the result of *strain*, which is caused by factors such as conflicting values, the gap between reality and aspirations, relative deprivation, and deficient coping mechanisms. This *strain* then interacts with social/psychological moderating factors and psychopathological intervening factors. These two sets of factors can influence the likelihood of suicidal behavior occurring. The arrows indicate the direction of influence, suggesting that while strain can lead directly to suicidal behavior, the impact is moderated or mediated by social/psychological and psychopathological factors.

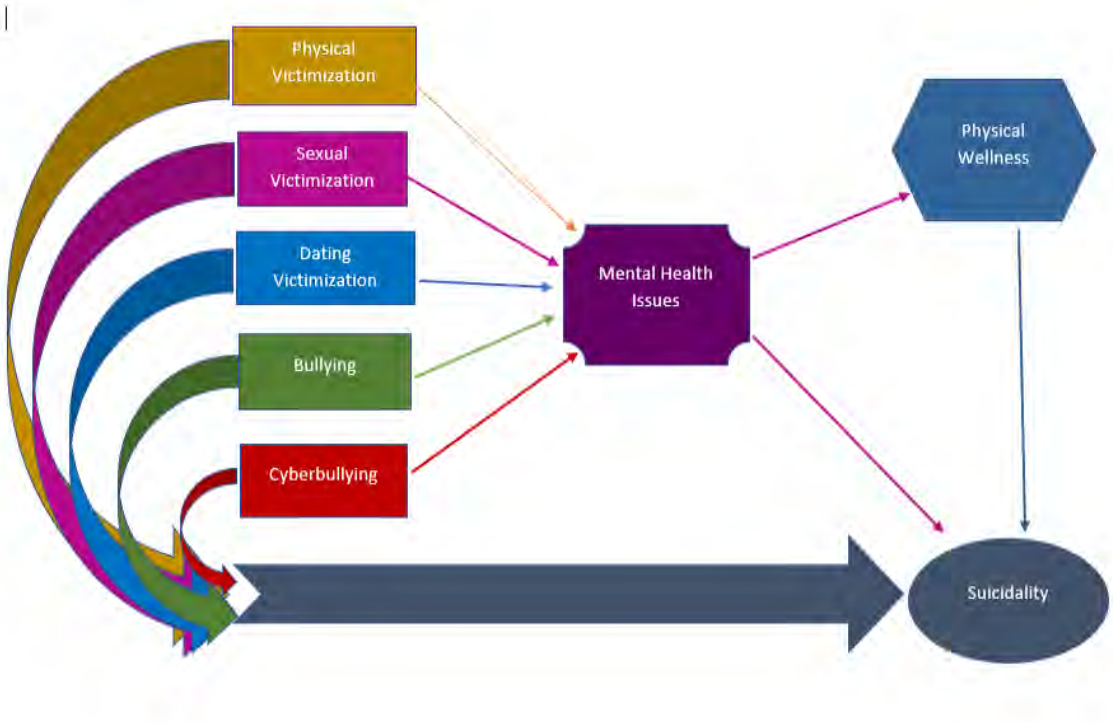
Research Questions and Hypotheses

The expected model of youth suicidality in Figure 2 builds on Zhang's (2005) model. It outlines a structured pathway for understanding the relationship between different types of victimization such as physical, sexual, dating, bullying and

cyberbullying. Victimization experiences may have an effect on a person's physical and mental health, which may then influence suicidality.

Figure 2

Expected Model of Youth Suicidality



Hence, research questions:

1. What is the relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying on youth mental health issues (MH Issues)?

Hypotheses:

a. There is a positive relationship between physical victimization and MH issues.

b. There is a positive relationship between sexual victimization and MH issues.

c. There is a positive relationship between dating violence and MH issues.

d. There is a positive relationship between bullying and MH issues.

e. There is a positive relationship between cyberbullying and MH issues.

2. Do experiences of (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying impact physical wellness directly or indirectly through mental health issues?

   Hypothesis: There is a positive relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, (e) cyberbullying and physical wellness indirectly through mental health issues.

3. What is the relationship between mental health issues and physical wellness?

   Hypothesis: There is an inverse relationship between mental health issues and physical wellness.

4. What is the relationship between physical wellness and suicidality?

   Hypothesis: There is an inverse relationship between physical wellness and suicidality.

5. What is the relationship between mental health issues and suicidality?

   Hypothesis: There is a positive relationship between mental health issues and suicidality.

6. Do victimizations relate to suicidality without intervention from mental health issues and, or physical wellness?

   Hypothesis: Victimizations will have an indirect relationship with suicidality through mental health issues and, or physical well-being.

Organization of the Study

This chapter described the topic's importance, the study's purpose, the theoretical framework, and the significance of the study. Chapter II describes the literature on youth

suicidality as influenced by youth victimization, mental health, and physical wellness. Chapter III describes the research design, including the dataset utilized, measures, variables, and analytical methods employed. Chapter IV presents the study's empirical findings, providing concrete evidence to support or refute the proposed hypotheses. This chapter offers insights into the relationships between different forms of victimization, mental health issues, physical wellness, and suicidality among youth. Chapter V critically discusses these findings related to the Strain Theory of Suicide (Zhang, 2005), General Strain Theory (Agnew, 1992), and the existing literature. Chapter V also presents the study's limitations and suggestions for future research.

Summary

In this chapter, the topic's importance given recent trends in the rates of youth suicide was presented. The purpose of the study was clearly outlined, aiming to fill critical gaps in the existing literature by examining how various forms of victimization impact mental health and physical wellness, ultimately influencing youth suicidality during the COVID-19 pandemic. Furthermore, Chapter I introduced the theories, especially the Strain Theory of Suicide, laying the groundwork for understanding the complex relationships involved in suicidal behavior among adolescents.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the literature and concepts employed in the current study. It describes empirical works that support the hypothesized relationships in the theoretical explanation of suicidality among high school students as a significant public health concern. It explores the roles of various forms of victimization as they relate to physical wellness, mental health, bullying, cyberbullying, and suicidality among male and female high school students. Understanding these interconnected factors is essential for developing effective prevention and intervention strategies.

Suicidality

Suicidal ideation or suicidality encompasses a wide range of thoughts and obsessions about suicide and death, making it difficult to establish a universally accepted definition (Ivey-Stephenson et al., 2020). This lack of consensus in defining suicidality poses difficulties for researchers, educators, and medical professionals, particularly when comparing study results. Despite the extensive clinical guidelines for evaluating and managing suicide risk, there is no universally accepted clinical standard for diagnosing and treating individuals at risk. This lack of standardization hinders the ability to compare research results and is frequently cited as a limitation in meta-analyses concerning suicidality (Ivey-Stephenson et al., 2020). Healthcare records usually oversimplify suicidal ideation by using a binary "yes/no" approach, even though it can range from distressing obsessions with self-annihilation to fleeting thoughts of wanting to sleep forever (Harmer et al., 2024).

Im et al. (2017) attempted to predict suicidality by looking at both attempted and successful suicides and their risk factors, especially age and gender. Specific risk factors were more pronounced in teenagers than adults. The study revealed gender disparities, with more women reporting suicide ideation and more men attempting suicide. Age also matters. Mid-adolescence is when suicide ideation peaks, and adolescents who start suicidal ideation at age 15 are more likely to attempt suicide (Im et al., 2017).

It is crucial to remember that suicide is preventable (Cha et al., 2018), and adolescence provides a significant chance for intervention, possibly saving many years of life. Christine et al. (2017) stated that most people who consider or attempt suicide start thinking about it before their mid-20s. Cha et al. (2018) discussed how suicide fatalities rise mainly throughout early childhood to young adulthood. Thus, understanding how the adolescent suicide risk unfolds is necessary for early intervention (Cha et al., 2018).

Studies by Nock et al. (2008) and Wolff et al. (2017) evaluated the literature on youth suicidal ideation, attempts, and fatalities. Research into the epidemiology, mechanisms, treatment, and prevention of suicide provides a comprehensive framework for understanding, defining, and addressing this critical issue. Studies focusing on suicidal thoughts and behaviors among teenagers are prevalent, reflecting the dynamic and evolving nature of this field. Notable contributions by Cha et al. (2018), Wolff et al. (2017), and Nock et al. (2008) underlined the continuous shifts in the understanding of adolescent suicidality, highlighting the complexity and the need for ongoing research in this area.

To have an idea about the time before and after the COVID-19 pandemic situation, Sara et al. (2023) compared times before and after in terms of self-harm or

suicidal ideation presentations in emergency departments among 10- to 24-year-olds. An annual rate of 8.4% before COVID-19 increased to 19.2% annually after COVID-19, primarily due to a notable rise in presentations from adolescent girls between the ages of 13 and 17. However, males in the 10- to 24-year-old age range did not indicate a discernible increase. Remarkably, the post-COVID expansion was more noticeable in urban and socioeconomically affluent locations. The results underscore the need to comprehend the consistent rise and the novel pandemic implications, specifically impacting teenage girls during their pivotal formative years.

Experiences of Victimization and Suicidality

Research has established a link between childhood trauma and abuse and the development of suicidality. According to studies by Salmon et al. (2022), Macalli et al. (2021), and Turanovic and Siennick (2022), sexual assault victimization, physical abuse during childhood, and bullying by peers were significant risk factors for both suicidal ideation and attempts. These findings are the concept of poly victimization, where children subjected to multiple forms of victimization exhibit exacerbated symptoms of trauma, aligning with the *dose-response theory* that suggests an increased risk of suicidality with greater exposure to childhood adversity (Johns et al., 2020). Youth suicide ideation is strongly correlated with mood and anxiety disorders, and adolescents with these diagnoses are more likely to have been victimized (Cash & Bridge, 2009). Failure to address young people's mental problems, particularly internalizing disorders, may contribute to the link between victimization and suicidal thoughts (Macalli et al., 2021).

Violence against youth, encompassing intimate relationship violence, sexual violence, child abuse, neglect, and resultant suicidal behaviors, presents a multifaceted challenge (Turanovic & Siennick, 2022). These forms of violence are interconnected, often share common root causes, and can occur concurrently or at different stages of life, frequently within the same household, neighborhood, or community (Cash & Bridge, 2009). Understanding the interrelated causes of violence and implementing comprehensive measures to protect individuals and communities are critical steps in addressing the full spectrum of violence effectively.

Physical Victimization

Literature is scarce on co-occurring violent and suicidal behaviors in youth. Often, the two are related to young people's early alcohol use. Markedly, there is evidence that preventive measures may be able to lower early alcohol consumption (Swahn et al., 2013). According to a study by the CDC (2004), the students who reported attempted suicide within the previous year were almost four times more likely than those who did not to have also reported physically fighting. The correlation between physical violence and suicidal ideation was particularly prevalent among ninth-grade students.

Shaikh et al's. (2019) study highlighted that adolescents presenting specific risk factors were more susceptible to engaging in both suicidal behaviors and acts of interpersonal violence. These insights underline the importance of implementing preventative measures against suicide before students reach high school, with a focus on addressing both aggressive tendencies and suicidal thoughts. Injuries, threats, intimidation, fear and vulnerability, school absenteeism, school dropout, medical expenses, and interruption of studies have all been linked to physical fighting (Li et al.,

2022). Similar patterns emerged in cases involving physical altercations and sexual violence.

For instance, Sigel et al. (2019), concluded that carrying a firearm raised the possibility of physical conflict and suicidal thoughts and actions. Based on the problem behavior theory:

> Individuals exposed to concurrent physical fighting and sexual violence will have more health-risk behaviors than individuals with only one of these exposures, and they will, in turn, have a higher risk of suicidal behaviors even though the mechanisms underlying the interaction of multiple factors in the suicide pathways are complex and difficult to conceptualize. (Li et al., 2022, p. 2)

Dell et al. (2023) conducted a cross-sectional study of non-fatal firearm injuries, a form of physical victimization, among individuals 16 years of age or older. The National Electronic Injury Surveillance System- Firearm Injury Surveillance Research (NEISS-FISS) 1993–2020 data were used, even though the study included those experiencing homelessness (PEH) in the United States. They found that 82.64% of injuries among PEH were caused by assault, which was higher than the rates in the general population. While 22.73% of patients had documented substance use, this was less than would be predicted based on prior research. The researchers noted data collection issues, identified frequent missing data on contextual factors, and raised the possibility that underestimating PEH and drug use rates in gunshot accidents may result from dependence on narrative fields, where the substance misuse could lead to suicide or self-harm or an indirect relationship between variables.

Relatedly, recent school mass shootings have drawn more attention to school safety today. The study, *Safe Schools, Thriving Students: Evidence-Based Strategies for Creating Safe and Supportive Schools* by DePaoli and McCombs (2023), highlighted that, in addition to shootings, there were other physical safety risks that children must confront at schools, including robberies, physical assaults, threats, and sexual assault. These occurrences may have long-term consequences for students' welfare, such as repercussions on mental health, increased drug use, and increased risk of suicide. There was a consensus in the study that establishing a safe school environment was crucial. Still, debate persists regarding the most effective strategies to achieve this. What is clear, however, is that there is a need to provide safety in all settings, including homes and public places, where youth may be subjected to violence (DePaoli & McCombs, 2023).

Sexual Victimization

Sexual victimization in this study by Castro et al. (2019) referred to when a minor is sexually abused for the sexual gratification or financial gain of the abuser. According to the US Department of Health and Human Services, in 2016, one in nine girls and one in 53 boys under 18 years experienced sexual abuse (Banvard-Fox et al., 2020). In 2015, the estimated economic cost of child sexual abuse in the United States was $9.3 billion. This figure encompassed expenses related to child welfare, special education, healthcare, criminal behavior, violence, suicide, and lost productivity (Letourneau et al., 2018). In addition to causing the victims' emotional pain, this kind of abuse upends family structures and engenders parental dissatisfaction (Letourneau et al., 2023).

Adolescent sexual abuse victims are more likely to have drug addiction, depression, PTSD, anxiety, poor self-esteem, somatic symptoms, concentration issues,

sleeping disorders, and suicide ideation (Castro et al., 2019). Long-term effects of childhood sexual abuse include anxiety, rage, and sexual dysfunction, among other problems. Further, as people age, suicidal thoughts can become more prevalent. Older age groups have higher suicide rates (Banvard-Fox et al., 2020).

The National Comorbidity Survey (NCS) has been conducted in several iterations, starting with the original NCS in 1990-1992. This survey revealed that 78% of females and 82% of males reported sexual abuse and met the criteria for at least one lifetime psychiatric disorder, compared to 49% and 51%, respectively, who did not report. PTSD was observed in 57% of adolescents who had suffered sexual trauma (Kessler et al., 2009). They were also at risk for sexual dysfunction, unhappiness, anxiety, fear, anger, and suicidal thoughts (Mainali et al., 2023).

Martin et al. (2004) emphasized gender disparities in child sexual abuse (CSA) and suicidality. They noted that the psychological impact can last long into adulthood. Radell et al.'s (2023) longitudinal retrospective study showed that survivors of sexual abuse may experience severe psychological disruption that brings an elevated risk of suicidality. Martin et al. (2004) also found a robust correlation between CSA and suicide attempts, mainly when psychopathology plays a mediating role.

Similarly, Bikmazer et al. (2022) examined teens with a history of child sexual abuse (CSA) in terms of their suicidal behaviors and non-suicidal self-injury (NSSI) with dissociative symptoms. Dissociative symptoms were much greater among 100 adolescents involved in NSSI, even though there was no significant difference between those with and without suicide attempts. There was a relationship between increased incidence of NSSI and suicide attempts and genital contact as a form of sexual abuse. In a

regression analysis, both a history of psychiatric treatment and non-suicidal self-injury (NSSI) were independently associated with suicidality. Additionally, suicide attempts and dissociative symptoms, as reported by parents, were separately connected to NSSI (Bikmazer et al., 2022).

Relatedly, Grant et al. (2022) examined a nationally representative dataset and found that students who identified as lesbian, homosexual, bisexual, or uncertain about their sexual orientation had a markedly increased risk of suicide. Drug use, sexual activity, and involvement in acts of violence or behaviors connected to violence in schools were associated with a higher risk of suicidality (Olshen et al., 2007). However, race and grade level were not important risk factors. The results highlight the significance of devising strategies to lessen the detrimental effects of sexual, violent, drug-related, and health-related behaviors on the mental health of adolescents (Grant et al., 2022).

Dating Violence Victimization

Adolescence is often the time of first romances and, for some, sexual experiences. However, negative effects, such as aggression, can be experienced in these partnerships. Adolescents are more likely than adults to be victims of intimate relationship violence. Women are particularly vulnerable to physical or sexual abuse at the hands of intimate partners or known criminals (Abrams, 2023). About 20% of female adolescents in high school reported being physically or sexually assaulted on a date. Girls between the ages of 16 and 24 had the highest risk of intimate partner violence (IPV), which was three times greater than the national average (Belshaw et al., 2012).

Suicidal thoughts are more common among victims of dating violence than in the general population (Wolford-Clevenger et al., 2016). Meanwhile, studies have

investigated the connection between dating violence and suicidal thoughts within the framework of an empirically validated suicide theory (Chu et al., 2017). According to an interpersonal-psychological perspective of suicide, suicidal thoughts are close antecedents to unfulfilled interpersonal demands, such as thwarted belongingness and perceived burdensomeness. Such interpersonal requirements may be frustrated by relationship violence, which raises the likelihood of suicidal thoughts (Chu et al., 2017; Wolford-Clevenger et al., 2016).

The co-occurrence of peer victimization and dating violence among teenagers was investigated by Smith et al. (2021). They hypothesized that depression-related beliefs and actions might be suicide factors. They found a connection between dating violence victimization of youth and peer victimization in school, using a genetically informed design with 806 twins. The results corroborated this theory by showing that common genetic vulnerabilities linked to symptoms of depression accounted for a significant fraction of the connection. To avoid being victimized by friends or romantic partners, the research emphasized how critical it is to treat early signs of depression (Smith et al., 2021).

Olshen et al. (2007), Baiden et al. (2021), and Abrams (2023) investigated the correlation between instances of dating violence in the recent past, a lifetime history of sexual assault, and suicide attempts among teenagers. Their findings indicated that among urban teenage females, the presence of a lifetime history of sexual assault did not exhibit an independent association with suicide attempts. In contrast, Baiden et al. (2021) found a substantial correlation between teenage male suicide attempts and the experience of sexual assault. The observed gender disparity is significant and justifies more inquiry.

This research also examined sexual orientation and found that adolescents who were classified as homosexual, lesbian, bisexual, or uncertain had a higher likelihood of reporting suicide attempts compared to their heterosexual counterparts (Olshen et al., 2007). Given that dating violence is a pattern of abusive, coercive, and controlling conduct in an intimate relationship, it may include physical abuse, sexual assault, and psychological hostility. Dating violence is regularly associated with adverse outcomes, such as depression and Post-Traumatic Stress Disorder (PTSD), and these have been connected to many health repercussions (e.g., headaches, back pain, and digestive issues) (Mazza et al., 2021).

Yanez-Peñúñuri et al. (2023) investigated the association between dating violence (DV) and the mental health of both victims and offenders among people aged 12 to 29 in a systematic literature analysis. It included 27 studies, 10 of which were longitudinal, published from 1981 to 2021. The results pointed to a substantial negative influence of dating violence on the mental health of adolescent victims; the most often mentioned outcome was depression, followed by anxiety, suicidal thoughts, low self-esteem, and poor emotional well-being. Indeed, other studies such as those conducted by Mazza (2021), Gasperecz et al. (2023), and Piolanti et al. (2023) over an extended period have shown links between victimization from physical, psychological, and sexual dating violence and a range of mental health consequences, such as anxiety, depression symptoms, post-traumatic stress disorder, and thoughts of suicide. They highlighted the need for developing, implementing, and evaluating preventative methods for dating violence. Gasperecz et al. (2023) also concluded that in adolescence and early adulthood,

victims of bullying, dating violence, and abuse are more likely than their peers to experience suicidality.

Bullying and Suicidality

Bullying is a well-established risk factor for suicidality among adolescents (Kim et al., 2018). Male students often experience direct physical or verbal bullying, which can lead to feelings of isolation and hopelessness (Klomek et al., 2009). In contrast, female students may encounter more relational aggression, such as social exclusion and rumors, which can have equally detrimental effects on mental health (Crick & Grotpeter, 1995).

Educational researchers and institutions, such as the US Department of Education and various bullying prevention organizations, define bullying at school as persistent acts of physical, verbal, or social hostility that occur in a learning environment, either on or off school grounds. Physical bullying includes acts such as kicking, striking, stealing, and causing property damage. Social bullying involves spreading rumors, shaming others, alienating others, and utilizing digital methods for intimidation. Verbal bullying comprises actions like name-calling, mocking, threats, and nasty insults. According to studies, bullies often behave aggressively and believe using violence as a legitimate form of communication. They could harass others in self-defense or strength because they have underlying fears. Many bullies also have impulsive behaviors (Shireen et al., 2014).

Bullying and suicidal thoughts have a complex connection that is impacted by many variables, including anxiety, depression, abuse, low self-esteem, loneliness, and poor academic achievement (Duah, 2024). The co-occurrence of these risk variables raises the possibility of suicidal thoughts. Bullying and other behavioral and emotional

stress experienced as a child may have long-lasting effects that persist into adulthood (Alavi et al., 2015).

Hong et al. (2023) investigated the connection between African American children in Chicago's Southside communities, ages 12 to 17, who experienced bullying and suicide. According to Bao et al. (2023), suicide ideation was not directly linked to bullying victimization. However, there was a positive correlation discovered between bullying victimization and emotional distress, which was linked to suicide ideation. Neighborhood factors moderated the connection between bullying victimization and suicide ideation, with emotional discomfort acting as a mediator. The results of Okobi et al. (2023) highlighted how important it is to address suicidal ideation and bullying victimization as significant issues for African American adolescents. In this context, the research emphasized cost-effective preventative and intervention techniques (Hong et al., 2023).

Approximately 20% to 56% of youth are victims or perpetrators of bullying (Hertz et al., 2013). Bullying rates vary by age, kind, and evaluation period. Middle schoolers are more inclined to bully than high schoolers. Hinduja and Patchin (2010), in their study of 2,000 middle school students, found that those who were victims of school bullying had a 1.7 times higher likelihood of having attempted suicide than those not involved in bullying. Moreover, the impact of social isolation and bullying, including cyberbullying, has been increasingly recognized as significant contributors to adolescent suicidality. Liu et al. (2023) found a strong correlation between experiences of bullying, both in-person and online, and an elevated risk of suicidal thoughts and behaviors among

adolescents, emphasizing the critical need for creating supportive and inclusive school environments.

Verbal bullying is more prevalent than physical or cyberbullying and lasts longer, even a year. Having been bullied is common among homosexual children. Bully victims are also more likely to witness family violence, experience family violence, and commit suicide (Hertz et al., 2013). There has been inconsistent reporting in the literature regarding the frequency of bullying during the COVID-19 pandemic. Studies by Gohal et al. (2023) and Turanovic and Siennick (2022) indicated that bullying was declining, except for cyberbullying. Others raised worries about a marked uptick in bullying, especially in the digital realm. The possible detrimental effects of the pandemic on children's and teenagers' well-being need immediate action and remedies (Forsberg & Thorvaldsen, 2022).

A recent study by Da et al. (2023) discussed peer interactions as a significant contributing factor to bullying. Concerns over the COVID-19 pandemic's effects on bullying have been expressed, particularly concerning how isolation brought on by the pandemic may disrupt peer connections, perhaps resulting in a decline in peer support and an increase in bullying incidences. While some research has been done during the pandemic, further comparison studies that looked at the variations in bullying prevalence before and during the COVID-19 era are needed (Da et al., 2023). Compared to their peers who are not engaged in bullying, young people who are active in bullying, whether as aggressors or victims, are more likely to experience sadness, anxiety, and suicidal thoughts and actions (Gohal et al., 2023).

The relationship between bullying and suicidal thoughts may be a more significant correlation between bullying victims and perpetrators. However, when depression is taken into account, the correlation seems to be most important for bully perpetrators (Copeland et al., 2013). Regarding bully victims, there are also conflicting findings (Brunstein- Klomek et al., 2007). At the same time, some studies found no differences in suicidal thinking or actions between bullied children and uninvolved youth, victims, or perpetrators (Espelage & Holt, 2013; Gordon, 2022). According to Tu et al. (2022), males are more likely to encounter physical victimization. At the same time, girls are more likely to experience relational victimization, which may have longer-lasting impacts.

Cyberbullying and Suicidality

The internet has a pervasive impact on people's lives, particularly youths' inclination for online social media. Therefore, the rise of digital technology has introduced cyberbullying as a unique risk factor (Hinduja & Patchin, 2010). In the United States, 20% of high school students reported experiencing bullying in person at school in 2019, while 16% claimed to have been the victim of cyberbullying the year before (NIH, 2022). Cyberbullying is defined as deliberate and persistent acts of aggression committed by individuals or groups against victims who cannot defend themselves by the CDC (CDC, 2023) and the Olweus Bullying Prevention Program. The remote nature of cyberbullying makes it difficult for those who engage in it to see the harm they do to their targets. Cyberbullying victimization rates range from 5.3% to 31.5% worldwide, according to particular figures. Among students, prevalence rates are as high as 14.6% and 17.3% (Álvarez-García et al., 2016).

Cyberbullying can be particularly damaging, as it is pervasive and difficult to escape (Hinduja & Patchin, 2010). Both male and female high school students can fall victim to cyberbullying, which has been associated with increased suicidality (Liu & Graves, 2011). Studies emphasize the need to address and understand the dynamics of cyberbullying in the context of the increasingly influential role of cyberspace in people's daily lives.

Older adolescents, usually between the ages of 15 and 17, have a higher propensity to perpetrate cyberbullying in comparison to younger adolescents (aged 10-14 years). Nonetheless, there are no appreciable variations in the prevalence of cyberbullying based on age. While younger people may attempt to address bullying via physical confrontation, older people are more likely to take their bullying online (Zhu et al., 2021).

The frequency of cyberbullying at the time of the COVID-19 epidemic was higher compared to traditional bullying (António et al., 2023). In contrast, conventional school bullying became less viable under lockdown measures. The pandemic's limitations, which curtailed in-person contact among children and adolescents, may have raised the possibility of engaging in cyberbullying and cyber victimization to new levels.

Siah et al. (2022) investigated the association between adolescent cyber victimization and suicidal behavior, with an emphasis on the mediating roles played by psychological issues and perceived social support. The results showed that being a victim of cyberbullying was associated with a risk of stress, anxiety, and sadness, which raised the possibility of suicidality. Álvarez-García et al. (2016) emphasized the protective effect of perceived social support, indicating that family and close friends' support might

lessen the risk of suicidal behavior in students who have been the victims of cyber victimization.

A 2019 study of 4,972 American middle and high school students found a significant association between digital self-harm and an increased risk of suicidal ideation and attempts, suggesting the importance of health professionals and caregivers in addressing the underlying mental health issues that can lead to these behaviors (Patchin et al., 2023). Weir, (2023) noted that amidst rising concerns about the impact of social media on youth mental health there was a clear need for protective measures. Weir (2023) stressed the importance of a balanced approach to social media, recognizing its potential benefits for teen socialization while advocating for digital literacy and safe usage practices to mitigate risks from cyberbullying, exposure to harmful content, and exacerbating mental health issues.

Mantey et al. (2023) examined the relationship between digital screen time per day and suicidal thoughts in high school adolescents in the United States, taking victimization by cyberbullies into account as a mediating factor based on YRBS data (2011–2019). They found that 15.4% of students experienced cyberbullying, and 40.5% of students reported increased digital screen use. They used structural equation models to show that higher digital screen time and adverse mental health outcomes, such as depressive symptoms, suicidal thoughts, planned suicide attempts, and prior suicide attempts, were significantly mediated by cyberbullying. This mediation is consistent across a range of demographic variables. It highlights the significance of evaluating the quality of digital screen time rather than quantity when assessing its influence on adolescents' mental health (Mantey et al., 2023).

Zhou et al. (2023), in a longitudinal study, investigated the connection between early adolescents' cyber-victimization and suicidal thoughts, looking at the moderating effects of mindfulness and perceived social support as well as the mediating function of despair. A year later, suicidality was predicted by cyber-victimization, with despair acting as a complete mediating factor, according to the data from 1,110 individuals. Furthermore, the predictive impact of cyber-victimization on despair was mitigated by mindfulness.

Still, the effect of hopelessness on suicidal ideation was mitigated by perceived social support. Reducing despair, cultivating mindfulness, and offering social support should lessen the harmful effects of cyber-victimization on suicidal thoughts (Eroglu et al., 2022). These are critical points for intervention plans aimed at addressing the adverse effects of teenage cyber victimization on mental health (Zhou et al., 2023). The research emphasized that educators, parents, school administrators, nurses, and other healthcare professionals must identify depression in young people early to avoid suicidality after bullying victimization (Nguyen et al., 2023).

Yosep et al. (2023) examined 12 articles to explore the effectiveness of school-based nursing interventions in preventing and reducing student bullying. The interventions, which included game programs, physical activities, training, and peer-group programs, encompassed strategies such as psychoeducation, empathy training, counseling, and self-management. The findings indicated that collaborative efforts between healthcare professionals and schools could significantly reduce bullying incidents. The interventions addressed the immediate effects of bullying and aimed to

foster a supportive and empathetic school environment, pointing out the importance of a multidisciplinary approach in tackling this issue.

Physical Wellness and Suicidality

The role of physical wellness in suicidality among male and female high school students is complex and multifaceted (Okada et al., 2023). Physical wellness encompasses various aspects of a person's physical health, including diet, exercise, sleep, and overall well-being. While physical wellness on its own may not directly cause suicidality, it can significantly influence an adolescent's mental health and overall susceptibility to suicidal thoughts and behaviors.

A study by Grasdalsmoen et al. (2020) stated that even though regular physical activity has been shown to have several health advantages, a sizable segment of the world's population does not participate in enough physical activity. More than one in four people globally do not reach the recommended levels of physical exercise, which comprises at least 150 minutes of moderate to vigorous physical activity (MVPA) per week. Exercise not only helps with avoiding non-communicable illnesses like Type 2 diabetes and cardiovascular disease but several studies have also shown that exercise is good for mental health, especially when it comes to problems like depression (Grasdalsmoen et al., 2020; Lavie et al., 2019; Schuch & Vancampfort, 2021; Singh et al., 2023).

Mather et al. (2009), in a Canadian national study of persons 15 and older (N= 36, 984), found that obesity was positively related to suicide ideation. Regular physical activity has been linked to improved mental health, reduced stress, and enhanced mood

(Rebar et al., 2015). Physical activities can help high school students cope with academic and social pressures, potentially reducing the risk of developing suicidal thoughts.

Of course, the other aspect of physical wellness is diet. A balanced diet with adequate nutrients is essential for cognitive functioning and emotional regulation. Poor nutrition can lead to mood swings and increased vulnerability to mental health issues, including depression (Jacka et al., 2017). Both male and female students may be affected by inadequate nutrition. Sleep plays a critical role in mental health. Irregular sleep patterns or insufficient sleep can contribute to mood disorders and exacerbate stress (Walker et al., 2019). Sleep disturbances can impact both male and female high school students and increase their risk of suicidality. Good physical wellness contributes to well-being and self-esteem. Feeling physically healthy can enhance a person's resilience to stressors and make it easier to seek help and support when facing challenges (Lee et al., 2012).

Male high school students who maintain good physical wellness may experience improved self-esteem and mood regulation, reducing their risk of suicidality (Ning et al., 2022). Engaging in sports or physical activities can give male students a sense of belonging and camaraderie, potentially acting as a protective factor against social isolation, a risk factor for suicidality (Brown et al., 2023). The American Psychological Association (2023) stated that females may face unique body image and appearance pressures. Maintaining physical wellness in a healthy and balanced way is essential to mitigate the risk of developing eating disorders, which can contribute to suicidal thoughts (Stice, 2002). Physical wellness programs promoting body positivity and self-acceptance can particularly benefit female students.

Therefore, physical wellness is a crucial aspect of overall health that can indirectly influence suicidality among male and female high school students. While it may not be a direct cause, poor physical wellness can contribute to mental health challenges and exacerbate stressors, making students more susceptible to suicidal thoughts and behaviors (Grasdalsmoen et al., 2020). Schools and communities should prioritize comprehensive well-being programs that address physical, emotional, and social aspects to promote mental health and reduce the risk of suicidality among high school students (Guthold et al., 2018).

Vancampfort et al. (2018) found that the relationship between teenage suicide thoughts and physical activity levels was complex and not well-understood. They thought that it was potentially influenced by confounding factors such as hyperactivity, which may be associated with underlying conditions like eating disorders or attention-deficit/hyperactivity disorder. These complicate the link between exercise and mental health. Physical activity might enhance body image and lessen depression in teenagers. Cross-sectional relationships between suicide ideation and issues like depression may become less pronounced when these factors are controlled (LaRocca et al., 2023). The kind of physical exercise, along with group activities and social support are likely critical factors in lowering the risk of suicide (Ning et al., 2022).

Physical exercise may help reduce suicide ideation, according to the data currently available from intervention trials. However, it is still unclear what kind and how much physical activity is best. Pursuant to research by Ning et al. (2022), high school students in the US who engaged in physical exercise had a lower risk of suicide.

Teenagers who engaged in regular physical exercise had a much-decreased likelihood of having suicidal thoughts.

Increased physical exercise is a beneficial strategy for avoiding suicidal ideation because, according to a comprehensive review, it lowers suicidal ideation in both adults and adolescents. Although the exact processes behind its putative positive benefits are still being investigated, there may be connections to better mood, sleep, and overall quality of life (Kim et al., 2019). It is hypothesized that suicidality may negatively correlate with neurobiological changes from physical exercise (Ning et al., 2022).

Gu (2022) and Ames et al. (2022) found a correlation between consistent engagement in physical exercise and decreased depressive symptoms among adolescents. This reflects the process whereby physical activity facilitates the secretion of endogenous chemicals known as endorphins, which can enhance a person's emotional state. Lubans et al. (2012) found a significant reduction in depression symptoms among teenagers who engaged in a well-organized physical exercise program. Engaging in physical exercise has been shown to assist adolescents in coping effectively with stress, which is a prominent determinant of mental health concerns that can lead some youth to contemplate suicide (Kandola et al., 2016). Further engaging in physical activities can enhance self-esteem, especially among teenagers who see advancements in physical fitness and body image (Babiss & Gangwisch, 2009).

On the contrary, Fabiano et al. (2023) noted that high-intensity physical activity in girls was associated with an increased risk of suicidality. Although a clear causal relationship between physical activity and suicidal thoughts is not clear, empirical studies have demonstrated a significant correlation between physical activity and many

indicators of mental well-being among adolescents (Dammeyer & Nunez, 1999). Nevertheless, the available research indicates that promoting consistent physical exercise among teenagers might positively impact adolescents' mental well-being and reduce the likelihood of suicidality.

The prevalence of obesity among adolescents has become a significant concern in recent years. Physical activity plays a pivotal role in weight management, as it helps adolescents maintain a healthy body mass index (BMI) and reduce the risk of obesity-related conditions such as Type 2 diabetes (Farpour-Lambert et al., 2018). Engaging in physical activities helps burn excess calories, build lean muscle, and regulate appetite, all contributing to maintaining a healthy weight. Physical exercise has been widely acknowledged as a fundamental aspect of a well-balanced lifestyle, providing advantages to people of all ages. The significance of consistent physical exercise among teenagers should not be underestimated (Granero-Jiménez et al., 2022). Adolescence is a pivotal stage characterized by significant physical and psychological growth. It is a suitable phase for cultivating enduring behaviors that foster overall physical and mental health (Romeo, 2013).

Iwatate et al. (2023) studied the possible confounding influence of psychosocial variables on the independent relationship between physical wellness and suicidality among adolescents in the United States. They looked at demographics, psychosocial characteristics such as feeling depressed or hopeless, drug use, bullying, and sexual abuse, and recent suicide behaviors like attempt, ideation, and plan, using the YRBS 2019 data. While the prevalence of obesity was 15.5%, the rates of suicidality were 8.90%, 18.75%, and 15.71%, respectively. Adolescents who were obese were more likely

than those who were not to try, consider, or plan suicide after controlling for psychosocial factors, indicating an independent relationship. The study recommended further investigation into these associations' causes and temporal aspects.

Vancampfort et al. (2018) concluded that physical activity guidelines could have a preventative impact on risk behaviors associated with suicide. They suggested that future research look into age- and gender-specific suggestions. Such shortcomings in the literature give the present study more significance in understanding the relationship between physical activities and suicide. It is important to note that the relationship between physical wellness and suicidality is complex, and multiple factors can interact to increase or decrease risk. Therefore, a holistic approach to well-being that considers individual differences and needs is essential.

Boone et al. (2023) studied the association between young adults and involvement in extracurricular activities (ECAs) and their health, suicidality, and suicide attempts. Data from 583 Southeastern University participants were examined in parallel mediation models. The findings indicated that perceived social support fully mediated the positive impact of extracurricular activity involvement on wellness. However, this association was not observed in the context of suicidality, and suicidal behavior. (Harmer, 2020). The findings suggested that participating in extracurricular activities may enhance college students' health by fostering social support and acknowledging the role of stress in university life (Boone et al., 2023).

Numerous physical activities include social contact which may serve as a remedy for the adverse effects of isolation and loneliness, both of which are associated with an increased likelihood of suicidal thoughts. The significance of team sports in fostering

social relationships and enhancing mental well-being among teenagers was highlighted by Eime et al. (2013). Thus, a confounding impact on mental health could be the presence or absence of peer social support facilitated by the social aspects of sports engagement.

Additionally, consistent engagement in physical exercise has been shown to contribute to optimizing sleep patterns, a critical factor in maintaining mental well-being (Mahindru et al., 2023). There exists a correlation between inadequate sleep quality and a heightened likelihood of experiencing suicidal thoughts (Ehlers et al., 2023). A study by Stewart et al. (2020) revealed a positive correlation between physical exercise and improved adolescent sleep quality. However, it is crucial to acknowledge that more investigation is required to establish a definitive correlation between physical activity and the mitigation of suicidal thoughts.

Mental Health and Suicidality

Mental health is a critical determinant of suicidality, encompassing a range of emotional and psychosocial factors. Many studies have demonstrated a strong connection between poor mental health and an increased risk of suicidal ideation, attempts, and completed suicides among high school students (Berny et al., 2024; Bridge et al., 2006; Cahill et al., 2024; Lewinsohn et al., 2001; Ndetei et al., 2022; Shain et al., 2016; Yao et al., 2023). Depression and anxiety disorders are among the most prevalent mental health conditions among high school students (Merikangas et al., 2010). These conditions are consistently associated with heightened suicidality risk (Mann et al., 2005). Substance abuse, including alcohol and drug misuse, is closely linked to mental health issues and an increased risk of suicidality (Swahn et al., 2013). Substance use can exacerbate underlying mental health conditions and contribute to suicidality.

In research by Kalin (2021), depression and anxiety disorders were identified as two of the most common mental health conditions affecting young individuals. Anxiety disorders generally manifest during childhood, whereas depression often emerges later, in adolescence or early adulthood (Sun et al., 2023). These conditions coexist, with pathological anxiety typically preceding the onset of depression. Among teenagers, the lifetime incidence of anxiety disorders can reach up to 32% (Shain et al., 2016), while the 12-month prevalence of severe depression in adolescents is estimated at approximately 13% (Kalin, 2021). The prevalence of these disorders is similar among boys and girls during childhood. However, during puberty and subsequent development, females are nearly twice as likely as males to be diagnosed with severe depression and anxiety (Kalin, 2021).

Previous research showed that students had significant sadness, anxiety, and distress (Dammeyer & Nunez, 1999). Most students did not misuse substances, but they did experience minor melancholy, anxiety, nervousness, tension, and loneliness. Dammeyer and Nunez (1999) found a relationship between suicidal behavior, body image, and food control issues. These results have significant implications for students' mental health. The researchers suggested that school orientations should include information on emotional and behavioral responses and relevant evaluations and treatment alternatives. Also, they suggested universal screening to identify at-risk students, those with depression, anxiety, negative emotions, and drug use for further assessments of suicidality. Accomplishing these measures will require more comprehensive care and outreach. The study also suggested that innovative methods like

internet-based initiatives should be used to promote help-seeking (Dammeyer & Nunez, 1999).

In prevention planning, it is important to remember that gender affects sadness and anxiety, with women reporting greater levels than men (Center et al., 2003). Studies have shown that male high school students may be less likely to seek help for mental health problems due to societal stigma, potentially placing them at greater risk (Schwartz & Meyer, 2010). In contrast, female students may have higher rates of help-seeking but may still face unique pressures that affect their mental well-being (Nolen-Hoeksema, 2001).

Ong et al. (2021) studied the suicide of US youth given mental health status. Mental health issues in American children are increasing, and many encounter psychological traumas, a risk factor for mental health disorders and suicide. Suicide attempts are a known predictor of suicide. Many suicide victims had previously been treated for suicide attempts, highlighting the need to target this high-risk population for prevention. Overall, their study sought to identify and assess risk factors for suicide attempts in various age groups to improve age-appropriate suicide prevention programs and policies, given escalating suicide rates among children and young people with mental health issues.

Research by Brent et al. (2008), Perez et al. (2016), Kiani et al. (2021), Van Brunschot and Humphrey (2022), and Thomas (2021) indicated that youth from divorced or separated families had a higher likelihood of engaging in suicidal behavior or attempting suicide, highlighting the significant impact of family structure on mental health outcomes in adolescents. Even after controlling for demographic characteristics,

suicide victims are more likely than controls to originate from a non-intact family of origin (Kiani et al., 2021). Suicide-attempting adolescents were more likely than non-attempters to have had at least three parent figure changes from age 5 to 15 (Auger et al., 2023). The weight of evidence demonstrates that whereas divorce and separation raise the likelihood of psychopathology, including suicidal behavior, in young people, death does not (Sander et al., 2020).

Parental loss by death and divorce may have diverse causes and effects (Beautrais et al., 1996; Gould, 1996). The role of familial and social factors in adolescent mental health and suicidality has gained attention in recent research. A comprehensive analysis by Patel and Smith (2024) indicated that adolescents experiencing conflict or discord within family settings, or those with a history of familial mental health disorders, were at a heightened risk for both mental health issues and suicidality.

Overall, many challenging family circumstances are associated with suicidality. (Harold & Sellers, 2018; Stansfeld et al., 2016). According to Curtin (2020), co-occurring disorders, such as drug misuse, are common in adolescents and may make diagnosis and treatment more challenging as only one concept is typically studied at a time. It is critical to lessen stigma, increase care accessibility, improve education, and create evidence-based preventive and intervention plans tailored to adolescents' needs. However, it is essential to comprehend what fosters resilience to cope with all situations or mental states.

Apart from gender, Rasberry et al. (2018) also examined different sexualities using information from the Youth Risk Behavior Surveys conducted in 2015 and 2017. This study explored the relationship between alcohol use, minority stress, and suicidal

thoughts and behaviors (STBs) among Latinx, Black, and White sexual minority youth (SMY). They examined whether experiencing both minority stress and suicide attempts affects alcohol consumption differently for Latinx and Black SMY compared to White SMY, integrating Minority Stress Theory and Bagge and Sher's Theoretical Framework of the Alcohol–Suicide Attempt Relation. The findings corroborated the theories that higher alcohol use was connected to victimization and that higher alcohol consumption was linked to plans for suicide attempts. The intricate interactions of minority stressors and their varying effects on alcohol use among racial/ethnic SMY groups are highlighted by these results, underscoring the need for more studies to distinguish risk variables from protective ones (Rosales et al., 2023).

Gender differences in help-seeking behavior and societal pressures play a significant role in understanding suicidality. Male students' reluctance to seek help can hinder early intervention efforts (Canetto & Sakinofsky, 1998). Meanwhile, female students may face pressures related to body image and relationships, impacting their mental health (Wade et al., 2009). Variations in cognitive and behavioral problems might be the reason for gender disparities in suicide behavior. Male youth suicide rates may be related to higher rates of externalizing disorders, such as deviant behavior, conduct disorder, and drug addiction disorder.

Granted, men tend to select more extreme means of ending their lives (Freeman et al., 2017). On the other hand, internalizing illnesses such as anxiety and mood disorders are more common among women. Generally, the sorts of emotional and behavioral issues that males and females experience vary, with externalizing disorders being more frequent in men and internalizing disorders more common in women. These disparities in

emotional and behavioral issues may account for gender differences in suicide rates (Freeman et al., 2017).

Gaylor et al. (2023) compared data from 2019 and 2021 to look at changes in high school students' suicidal thoughts and acts. During this time, there was a rise in the frequency of suicide attempts, intentions, and severe considerations among female students. Still, among male students, the overall incidence of suicidal thoughts and acts did not change. Given what is known about victimizations, mental health, physical wellness, and suicidality, this study examined cross-sectional national data for 2021 to offer insights on how well these theoretical connections were sustained during pandemic movement restrictions toward informing suicide prevention efforts.

Summary

This comprehensive literature review described the recent empirical research on the multifaceted aspects of suicidality among high school students, highlighting it as a pressing public health issue. It delved into various forms of victimization including bullying, cyberbullying and sexual and dating violence, and their profound impacts on adolescents' physical and mental health, thereby elevating the risk for suicidal thoughts and behaviors. Despite comprehensive investigations into these areas, gaps remain, especially in understanding the sophisticated interactions between physical activity levels and suicidality, the impact of cyberbullying in the digital age, and the multifaceted effects of family dynamics and societal pressures on youth mental health. This study addresses these gaps by providing a more holistic analysis of suicidality's risk factors, focusing on the understudied aspects of digital victimization and the protective role of physical wellness, specifically during the COVID-19 pandemic.

CHAPTER III

METHOD

This chapter outlines the origin of the data, the methodologies employed for gathering information, the key features of the participants, the measures, the strategies implemented to ensure the integrity of the data, and the analytical techniques applied, including multivariate regression. The focus of this investigation is on a variety of risk factors such as victimization (physical, sexual, and dating), bullying, cyberbullying, and the physical and mental health of individuals and their connection to the likelihood of suicidal behaviors among young people.

Research Design

This present study was a quantitative research design that addressed six research questions. The research questions were based on General Strain Theory (GST), which suggests that individuals engage in deviance due to experiencing strains or stressors that lead to negative emotions such as physical, sexual, and dating victimization, bullying, cyberbullying, mental health issues, and physical wellness, compelling them to commit crimes herein, suicidality as a form of coping or retaliation (Agnew, 1992). Research question one investigated the impacts of various forms of victimization, that is physical, sexual, dating violence, bullying, and cyberbullying, on youth mental health (MH), positing that these experiences are directly correlated with MH problems. It was analyzed with simple linear regression. The second research question investigated whether mental health issues mediated the adverse effects of victimization on physical wellness. This is based on the premise that victimization can lead to mental health problems, which, in turn, adversely affect physical health.

The fourth and fifth questions delved into the relationship between physical wellness and suicidality and between mental health problems and suicidality. The sixth research question assessed the potential for victimization to contribute to suicidality through its effects on psychological and physical health. It hypothesized that victimization may indirectly influence suicidality by exacerbating mental health and physical wellness issues. Questions four, five, and six were analyzed using logistic regression.

Research Questions

1. What is the relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying on youth mental health issues (MH issues)?

   Hypotheses

   a. There is a positive relationship between physical victimization and MH issues.
   b. There is a positive relationship between sexual victimization and MH issues.
   c. There is a positive relationship between dating violence and MH issues.
   d. There is a positive relationship between bullying and MH issues.
   e. There is a positive relationship between cyberbullying and MH issues.

2. Do experiences of (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying impact physical wellness directly or indirectly through mental health issues?

Hypothesis: There is an inverse relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying and physical wellness indirectly through mental health issues.

3. What is the relationship between mental health issues and physical wellness?

   Hypothesis: There is an inverse relationship between mental health issues and physical wellness.

4. What is the relationship between physical wellness and suicidality?

   Hypothesis: There is an inverse relationship between physical wellness and suicidality.

5. What is the relationship between mental health issues and suicidality?

   Hypothesis: There is a positive relationship between mental health issues and suicidality.

6. Do victimizations relate to suicidality without intervention from mental health and, or physical wellness?

   Hypothesis: Victimizations will have an indirect relationship with suicidality through mental health issues and, or physical well-being.

Data Source – Youth Risk Behavior Survey (YRBS)

This study utilized Youth Risk Behavior Survey (YRBS) 2021 data for high school students. The entire dataset however was collected by the Centers for Disease Control and Prevention (CDC) from 1991 through 2021. The survey was administered biennially to measure youth and adolescents' health-related behaviors, emerging issues, and experiences (CDC, 2023). The Department of Education and CDC collaboratively collect YRBS as a part of the Youth Risk Behavior Surveillance System (YRBSS), a

cross-sectional survey to monitor the leading cause of death, disability, and addiction risk factors among high school students. The sample is a demographically diverse subset of students in Youth Risk Behavior Survey (YRBS) 2021 data for high school students throughout all 50 states of the United States and the District of Columbia. The present study data were obtained from the 2021 Youth Risk Behavior Survey (YRBS), which had a sample size of 17,232 participants. For the current study, only 7,684 cases were included because suitable modifications were applied to the variables in the initial analysis, eliminating some instances.

Data Collection

For data collection, the Centers for Disease Control and Prevention (CDC) engaged the ICF Macro, Incorporation, and Westat, two external contractors, to provide comprehensive assistance across all phases of the national Youth Risk Behavior Surveillance System (Brener et al., 2013). A survey coordinator was also designated for each YRBSS site, who worked in collaboration with the participating schools to ensure the quality execution of the survey. The survey was implemented using a three-stage cluster sampling design. The CDC used the PC Sample, a unique software tool created by the CDC and Westat that created two-stage cluster samples of schools and classes within sampled schools for every location to pick the YRBS samples effectively. Classes were chosen randomly, and schools were selected with a probability proportionate to the number of students enrolled.

Every school followed local protocols to get parental consent before administering the YRBS. The primary sampling units (PSUs) or sample frames were stratified during the first step to adequately represent Black and Hispanic students within

each PSU. The selection of PSUs was based on a probability proportionate to the amount of school enrollment within each stratum. Finally, selections were made at each school consisting of one or two complete classes of a mandatory topic from each grade level, ranging from ninth to 12th grade. The survey protocols were devised to safeguard students' confidential and voluntary participation. Students completed the self-administered questionnaire during a single class session, proctored by school staff. They immediately recorded their replies in a computer-scannable booklet or on a computer-scannable answer sheet.

The YRBS focuses on six areas of prioritized health-risk behaviors, which include behaviors that are associated with injuries/violence, tobacco use, alcohol/other drug use, high-risk sexual behaviors, poor eating habits, and physical inactivity (CDC, 2016). The Survey -YRBS has 99 multiple-choice questions (CDC, 2023). Child-serving institutions employ this tool for multiple objectives, such as increasing awareness, developing programs, improving professional growth, legislation, and responses to improve youth outcomes.

Characteristics of the Data

Available YRBS data reflect youth survey responses from 1991 to 2021 for over 5 million high school students. The surveys are typically administered biennially, often in the spring semester. However, the Youth Risk Behavior Survey (YRBS) 2021 was carried out during the fall semester due to the COVID-19 pandemic.

The schools were chosen methodically, using a random starting point, with a probability proportionate to the enrollment in grades 9 through 12. A total of 209 schools were included in the sample. There was some decrease in participation in the Youth Risk

Behavior Survey (YRBS), which may be attributed to COVID-19 safety measures implemented at the schools.

Response Rates of the Youth Risk Behavior Survey (YRBS) 2021

The response rates of the YRBS were:

1. School Response Rate: 152 of 209 selected schools completed the survey. This means 72.7% of schools responded. About 72.7% of schools asked consented to participate in the poll.

2. Student Response Rate: 17,508 of 21,791 selected students completed surveys. After the data editing, 7,684 cases were usable for the current study. The calculated student response rate was 79.1%. About 79.1% of sampled students submitted or had usable questionnaires following data processing.

3. Overall Response Rate: The overall response rate was 57.5%. It is calculated by multiplying the school response rate by the student response rate, which gives the survey response rate. This accounts for schools' participation and students' completion of usable surveys (79.1% student response rate) times 72.7% (school response rate) = 57.5%). This total response rate indicates data effectiveness and representativeness when assessing survey findings. The fall 2021 statistics are the first YRBS data obtained after the COVID-19 pandemic began. While many schools had returned to in-person education by then, the effects of the lockdown on families likely impacted school-related YRBS factors.

The current response is comparatively lower than in preceding years, which might be attributed to the difficulties in administering a school-based survey during the ongoing COVID-19 epidemic. Therefore, the response rates of schools and students in 2021,

precisely 72.7% and 79.1%, respectively, exhibited a modest decrease compared to the preceding two cycles of the Youth Risk Behavior Surveillance (YRBS).

YRBS Overall Participants

In the sample (N = 17,232), roughly half of the student population consisted of males, accounting for 51.7%. The distribution of students across different grade levels was as follows: grade 9 accounted for 26.6%, grade 10 accounted for 25.4%, grade 11 accounted for 24.3%, and grade 12 accounted for 23.5%. Concerning race and ethnicity, the majority of students, namely 50.7%, identified as White, followed by 25.4% Hispanic students; then 12.1 % African-American students, 5.7% identified as multiracial students, Asian students represented 4.9% of the student population, American Indian/Alaska Native (AI/AN) students accounted for 0.7% and, Native Hawaiian/Other Pacific Islander (NH/OPI) students constituted 0.5% of the students.

The 2021 survey also included the sexual orientation of students. It noted that 75.5% of the participants described themselves as heterosexual, 3.2% identified as gay or lesbian, 12.1% identified as bisexual, 5.2% identified as questioning, and 3.9% identified as other. Additionally, 1.8% of the participants replied, "I do not know what this question is asking." The proportion of students identifying with a sexual orientation other than heterosexual has shown a consistent upward trend, rising from 11% in 2015 to 26% in 2021. The observed rise in the proportion of LGBQ+ individuals among YRBS 2021 participants might perhaps be attributed to modifications in the survey's question phrasing, which now included students who identify as questioning, "I am uncertain about my sexual identity (questioning)," or those who express their sexual orientation using other terminology.

The majority of students (57%) said that they had not engaged in any sexual activity during their lifetime. Approximately 34.6% of students reported having sexual contact exclusively with individuals of the opposite sex. In contrast, 6.0% indicated engaging in sexual contact with both genders, and 2.4% reported having sexual contact exclusively with individuals of the same sex.

Validity and Reliability of the Data

Many studies have concluded over the years that health-related cognitive and other related variables impact self-reports. Additionally, the inclusion of measures assessing violent and suicide tendencies in surveys administered to adolescents may provoke sensitive responses. Brener et al. (2013) determined that the self-reported health-risk behaviors, as assessed in the Youth Risk Behavior Survey (YRBS), were impacted by cognitive and environmental variables. However, these influencing factors were shown not to compromise the validity of the YRBS.

Additionally, two studies have been undertaken to examine the test-retest reliability of the national Youth Risk Behavior Surveillance (YRBS) questionnaire, one done in 1992 and the other in 2000. The first research was administering the 1991 Youth Risk Behavior Survey (YRBS) questionnaire to 1,679 children in grades 7 to 12. This process occurred on two dates within a 14-day interval between administrations (Brener et al., 1995). Approximately 75% of the 54 self-reporting questions were deemed to have a high level of reliability, with a kappa value ranging from 61% to 100% (Barrios et al., 2000).

In another study, the psychometric characteristics of the Youth Risk Behavior Survey (YRBS) questions were assessed for convergent validity, criterion validity,

internal consistency, and temporal stability. The study findings revealed stronger positive associations between the use of marijuana and other substances ($\rho = 0.537$), as well as between alcohol consumption and tobacco use ($\rho = 0.418$) (Brener et al., 1995). Overall, the students consistently provided reliable reports over some time. However, additional examination of 11 specific items was recommended due to their kappa's value below 61% and showing substantial discrepancies in prevalence estimates (Brener et al., 2003). Consequently, questions that raised doubts were modified or removed from subsequent surveys (CDC, 2004). The study demonstrated criterion validity by seeing substantial variations in domain scores based on gender. The scale has satisfactory internal consistency, as shown by Cronbach's alpha coefficient of 0.770. Most domains (82%) exhibited an intraclass correlation coefficient of 0.75 or higher. In comparison, 64.1% of the items had a kappa value of 0.60 or above (Lima et al., 2020).

The suicide questions in the Youth Risk Behavior Surveillance (YRBS) survey had a strong positive correlation with one another. Additionally, these items demonstrated a substantial association with associated psychological categories such as sadness and anxiety (Barrios et al., 2000). Recently, concerning discriminant validity, the items assessing suicidality in the Youth Risk Behavior Survey (YRBS) had higher correlations with items that measured comparable actions than similar constructs (McKinnon, 2023).

The instrument exhibits criterion validity, internal consistency, and temporal stability, all demonstrating good levels (Ricks et al., 2023). For instance, there was a higher degree of correlation between items linked to suicidal thoughts in the YRBS survey and similar items in other measures, compared to the correlation observed

between YRBS items related to suicide attempts and corresponding items in different measures (Lima et al, 2020). Overall, the YRBS survey demonstrates a high level of reliability and validity when used for the assessment of health risk factors. The Youth Risk Behavior Survey (YRBS) used a weighting factor to get a sample that accurately represents the population of interest (Ricks et al., 2023).

Endogenous (Outcome) Variable- Suicidality

Suicidality means “the risk of suicide, usually indicated by suicidal ideation or intent, especially as evident in the presence of a well-elaborated suicidal plan” (VandenBos, 2007, p. 1048). The Youth Risk Behavior Survey (YRBS) provides the most extensive dataset on suicide thoughts and attempts among young individuals in the United States (May & Klonsky, 2010; Gaylor et al., 2023). YRBS data has four items related to suicidality. As seen in Table 1, the first and second items focus on suicide attempt 1. "During the past 12 months, did you ever seriously consider attempting suicide?" it is ordinal level with “yes” or “no” as categories. 2. "During the past 12 months, did you make a plan about how you would attempt suicide?" it is ordinal level with “yes” or “no” as categories. The following two items focus on suicide itself. 3. "During the past 12 months, how many times did you actually attempt suicide?", ordinal level with five categories, “0 times, 1 time, 2-3 times, 4-5 times, and 6 or more times”. 4. "If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?", ordinal level with three categories, “yes,” “no” and “I did not attempt suicide during the past 12 months”.

For the analysis purpose, suicide and attempted suicide responses were categorized as 0 = no and 1 = yes. Responses to the question of whether any suicide

attempt resulted in medical care were classified as 1 = yes and 0 = no/did not attempt, respectively, for the number of suicide attempts (0 = 0 times, 1 = 1 time to 6 or more times). Many studies classify and group items this way (Baiden & Tadeo, 2020; Gaylor et al., 2023; Harper et al., 2023; Mantey et al., 2023).

Research by Pontes et al. (2020), Messias et al. (2014), and May and Klonsky (2010) highlighted the complexity of the term "suicidality" as a dependent variable. These studies suggest that suicide planning should be considered a component of suicidal ideation. They proposed combining both ideation and planning into a single variable. Therefore, the variable represents the preparatory actions individuals might take before attempting suicide. Additionally, the CDC (2016) defined suicide as self-directed violence, that includes the act of planning one's death.

Control Variables

The control variables were age, sex, grade, sexuality, and BMI. For age, according to the data, "How old are you?", (1. 12 years old or younger 2. 13 years old 3. 14 years old 4. 15 years old 5. 16 years old 6. 17 years old 7. 18 years old or older) are the options, ordinal level with categorical; Gender: "What is your sex?" with option 1. Female 2. Male – Nominal level with categorical variable. The following control variable is grade, "In what grade are you?" (1. 9th grade, 2. 10th grade, 3. 11th grade, and 4. 12th grade). The next is "Sexuality, which of the following best describes you?" (1—heterosexual (straight), 2. gay or lesbian, 3. bisexual, 4. I describe my sexual identity in some other way, 5. I am not sure about my sexual identity questioning, 6. I don't know what this question is asking).

The BMI was calculated under the ratio level with the combination of two questions, "How tall are you without your shoes on?" and "How much do you weigh without your shoes on?" The formula to calculate the body mass index (BMI) is weight (kg) ÷ height ^{2} (meters).

Exogenous (Indicator) Measures

This study had four exogenous measures (victimizations), two factors (mental health issues and physical activity), and the endogenous variable of suicidality. The selected independent variables for this study were physical activities, mental health, experience of victimization (which includes physical victimization, sexual victimization, dating violence victimization, bullying, and cyberbullying) as seen in Table 1.

Table 1

Study Variables

Variable Name	Measures	Level of Measurement	Category
Age	How old are you?	Ordinal	Categorical
Gender	What is your sex?	Nominal	Categorical
Grades	In what grade are you?	Ordinal	Categorical
Sexuality	Which of the following best describes you?	Nominal	Categorical
BMI= *weight (kg) ÷ height^{2} (meters*)	How tall are you without your shoes on? (Note: Data are in meters	Ratio	Continuous
	How much do you weigh without your shoes on? (Note: Data are in kilograms.)	Ratio	Continuous
Suicidality	During the past 12 months, did you ever seriously consider attempting suicide?	Binary	Categorical (Yes/No)
	During the past 12 months, did you make a plan about how you would attempt suicide?	Binary	Categorical (Yes/No)

	During the past 12 months, how many times did you actually attempt suicide?	Ordinal	Categorical (5 categories)
	If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?	Ordinal	Categorical (3- did not, Yes, No)
Physical Activities	During the past seven days, how many days were you physically active for a total of at least 60 minutes per day?	Ordinal	Categorical
	During the past 7 days, on how many days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weightlifting?	Ordinal	Categorical
	In an average week when you are in school, on how many days do you go to physical education (PE) classes?	Ordinal	Categorical
Mental Health Issues	During the past 30 days, how often was your mental health not good?	Ordinal	Categorical
	During the COVID-19 pandemic, how often was your mental health not good?	Ordinal	Categorical
	During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?	Nominal	Categorical
Experience of Violent Victimization			
Physical Fight-Victimization	During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?	Ordinal	Categorical
Sexual Victimization	Have you ever been physically forced to have sexual intercourse when you did not want to?	Nominal	Categorical
	During the past 12 months, how many times did anyone force you to do sexual things that you did not want to do?	Ordinal	Categorical
Dating Violence-Victimization	During the past 12 months, how many times did someone you were dating or	Ordinal	Categorical

	going out with force you to do sexual things that you did not want to do?		
	During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose?	Ordinal	Categorical
Bullying	During the past 12 months, have you ever been bullied on school property?	Nominal	Categorical
Cyberbullying	During the past 12 months, have you ever been electronically bullied?	Nominal	Categorical

Pre-Analysis

In this study the pre-analysis included data cleaning, data transformation, assumption checking, and descriptive statistics that included correcting for missing values, converting variables or adjusting their scales to meet the assumptions. It also included seeing whether the data met the assumptions to ensure the quality and integrity of the data for analysis.

Suicidality

The dependent variable, suicidality, was measured by four items: a combination of attempted suicide and suicide itself. For analysis, the variables were combined to create an index value and recoded into '0'- No and '1'- Yes—the proportion of those who had and had not experienced suicidality. Only 7,472 provided valid responses on this topic.

Of the valid responses, 5,431 individuals, accounting for 70.2% of the total sample, reported not experiencing suicidality. The missing value indicated that most of the population surveyed did not report suicidality concerns. On the other hand, 2,041 individuals, representing 26.4% of the total and 27.3% of the valid responses, indicated

that they had experienced suicidality. While smaller than the non-suicidality group, this segment still represents a significant portion of the population.

Mental Health

The variables of mental health in this study were mental health challenges, the pronounced impact of the COVID-19 pandemic, and a concerning level of sadness or hopelessness. First, 21.4% reported never facing mental health challenges, suggesting a segment of resilience or perhaps a lack of recognition of such issues. Conversely, a slight majority encountered mental health issues at varying frequencies, with 21.9% rarely, 27.6% sometimes, and a combined 29.2% most of the time or always dealing with such challenges. This distribution underscores the widespread nature of mental health concerns, revealing that more than half of the respondents experience these issues at least occasionally.

Second, the impact of the COVID-19 pandemic on students' mental health was starkly divided, with 37.1% falling into one category, likely indicating lesser impact, and a significant 62.9% into another, suggesting a greater effect. This split might reflect the diverse ways in which the pandemic has influenced individuals, from exacerbating existing mental health issues to new ones.

Lastly, a substantial 43.4% of the students reported feelings of sadness or hopelessness. The remaining 56.6% of students did not report such feelings, which could indicate either a robust mental health status or a variety of coping mechanisms and support systems in place. For analysis, the variables were combined to create an index value.

Physical Wellness/Activity

Physical wellness had a combination of physical activity levels, muscle-strengthening exercise frequency, and physical education (PE) attendance among a surveyed group of 7,732 individuals. For physical activity of at least five days a week, the distribution spanned from 0 to 7 days, with 24.2% of respondents active for seven days and 15.7% reporting no activity. Regarding muscle-strengthening exercises performed on three or more days, 43.7% of the valid responses indicated they engaged in such activities, whereas 56.3% did not. PE attendance shows a wide variance, with 56.2% of respondents not attending any PE classes and 21.4% attending five days a week, indicating a significant disparity in PE participation. For analysis, the variables are combined to create an index value.

Physical Victimization

This was measured by being threatened at school. Most respondents, 93.5%, reported never being threatened at school. A small fraction experienced it one or more times, with an increase in frequency associated with a decrease in the number of reports, culminating in 0.5% reporting 12 or more instances.

Sexual Victimization

This was measured by two items: first, ever been physically forced to have sexual intercourse. Most of the surveyed population, 91.2%, reported they had never been forced into sexual intercourse, while 8.8% affirmed they had experienced this form of violence. The following measure was sexual violence; a significant majority, 88.4%, stated they had never experienced sexual violence. Reports of one-time incidents and repeated

incidents were relatively low. For analysis, the variables are combined to create an index value.

Dating Violence Victimization

This had two items: sexual and physical dating violence. Over 52% reported no instances of sexual dating violence. In comparison, 41.1% indicated they did not date. Instances of violence were less common among those who dated, with a decrease in frequency as the severity increased. Second, 54% of those who dated reported no physical violence, with 41.1% not dating at all. Reports of physical violence were fewer and decreased with increasing frequency. For analysis, the variables are combined to create an index value.

Bullied at school

84.8% reported no experiences of being bullied at school, while 15.2% acknowledged such experiences.

Cyberbullying/ Electronic bullying

Reflecting patterns similar to bullying, 84.2% of respondents reported they had not experienced electronic bullying. In comparison, 15.8% confirmed they had experienced cyberbullying.

Analyses

This study investigated the association between suicidality and its risk factors. The analysis was done with four separate regression analyses, two linear regressions, and two logistic regressions to examine the relationship between suicidality and predictors. All the analyses were performed using IBM's SPSS version 29 package. Before the analysis, the data were prepared by pre-analysis screening, including missing data,

outliers, normality, linearity, and homoscedasticity. A descriptive analysis was conducted to examine the data. Listwise deletion is a simple and easier way to resolve missing data issues which can help maintain statistical power and precision of estimates. Also, listwise deletion can reduce bias in the analysis under the assumption that the missing data mechanism is completely at random (MCAR). In such cases, the deleted cases are statistically similar to the cases with complete data (Kang, 2013).

Assumptions for Regression

Simple linear regression is a statistical method used to model the relationship between variables by fitting a linear equation to observed data. Several key assumptions underpin the inferences' validity from a simple linear regression analysis. The assumptions of linear regression analysis are: 1. Linearity: the relationship between the independent and dependent variables is linear. 2. Independence: the residuals are independent, indicating that the residuals of any other observation do not influence the residuals for one observation. 3. Homoscedasticity: the variance of the error terms is constant across all levels of the independent variable. 4. Normality: the error terms are normally distributed. 5. Multicollinearity: in simple linear regression, this assumption typically pertains to the independence of the independent variable. Also, assuring that the model does not omit relevant variables or include irrelevant ones is essential.

However, unlike linear regression, logistic regression does not assume a linear relationship between the dependent and independent variables but instead models the probability that the dependent variable belongs to a particular category. This mainly includes binary outcomes. The dependent variable is binary (dichotomous), meaning it

only has two possible outcomes (yes/no, 1/0): observation independence, no perfect multicollinearity, and linear logit (Hosmer et al., 2013).

Demographic Data

A total of 7,684 cases were included in the analysis, which reflects the most complete cases given the variables in this study. The categorized student's age ranges from 12 years old or younger to 18 years old or older; of these, 3,661 (47.6%) identified as female and 3,964 (51.6%) as males, with the gender distribution presenting a near-even split, indicative of balanced gender representation in the study population. The age distribution highlighted a significant concentration of participants in the 14-17 age range.

The grade level distribution among the students was evenly spread across 9th to 12th grades. Specifically, 1,910 (24.7%) were in 9th grade, 1,918 (24.8%) in 10th grade, 1,909 (24.7%) in 11th grade, and 1,941 (25.1%) in 12th grade. In terms of sexual identity, a majority of 5,558 (71.9%) students identified as heterosexual, that is straight, indicating a significant representation of this demographic. Other main categories included 259 (3.3%) identifying as gay or lesbian and 865 (11.2%) as bisexual as shown in Table 2.

The dataset provided a rich foundation for exploring developmental, social, and educational dynamics characteristic of adolescents in the US. The balanced gender distribution, comprehensive grade, and inclusive representation of sexual identities enhance the study's relevance and applicability to a broad spectrum of adolescent experiences.

Table 2

Sample Demographics

Demographics	Frequency	Percentage (%)
Gender		

Female	3661	47.3
Male	3964	51.3
Age		
14 years old	1384	17.9
15 years old	1901	24.6
16 years old	1938	25.1
17 years old	1918	24.8
Grade		
9th grade	1910	24.7
10th grade	1918	24.8
11th grade	1909	24.7
12th grade	1941	25.1
Sexual identity		
Heterosexual (straight)	5558	71.9
Gay or lesbian	259	3.3
Bisexual	865	11.2

Summary

This chapter described the research design as quantitative. This included a review of the YRBS sampling and data collection process. The YRBS is a national dataset. Hence, data for 2021 were utilized to investigate how independent variables were related to suicidality. They were analyzed using simple linear regression and logistic regression techniques in IBM SPSS Version 29. The descriptive statistics of the demographic characteristics of the 7,684 student participants showed a balanced gender representation and a significant concentration of participants in the 14-17 age range. The majority identified as heterosexual, with a smaller representation of gay or lesbian and bisexual students.

CHAPTER IV

RESULTS

This chapter presents the findings from analyses conducted to explore the complex relationships between various forms of victimization, physical, sexual, dating, bullying, and cyberbullying, and their impact on the mental health and physical well-being of high school students, ultimately assessing their association with suicidality. Utilizing the 2021 High School Youth Risk Behavior Survey responses, the research employed ordinary least square regression and logistic regression using IBM SPSS Version 29.0 to examine these relationships.

Given the complex nature of the theoretical framework, this section methodically describes the outcomes, beginning with descriptive statistics that summarize the sample's demographic characteristics, including sex, race, age, and BMI, as reflective of the adolescent population in the United States. Correlations between all the independent and dependent variables are discussed. The correlation analysis served as a foundational step that informed model selection and specification, helped diagnose potential issues, and contributed to the overall reliability and validity of the research findings. Therefore, Pearson correlation coefficients were used in this study to measure the strength and direction of the linear relationships between pairs of variables, as can be seen in Figure 3. Significance levels were determined using a two-tailed test. Table 3 presents the Pearson correlation coefficients among observed and latent constructs in the study. Each construct is correlated with the others to assess the strength and direction of their relationships.

Next, linear regression results show the association between independent and dependent variables. Similarly, logistic regression analyses reveal the magnitude and

direction of the associations between the forms of victimization studied and the mental health outcomes of adolescents. In the context of the ongoing public health concern regarding adolescent suicidality, these results offer critical insights into the risk and protective factors at play. The analysis underscores the significant impact of various victimization experiences on the mental health challenges faced by adolescents. The direct and indirect effects of victimization on suicidality contribute to a more comprehensive understanding of adolescent mental health and the pivotal role of physical and psychological well-being in safeguarding against the threat of suicide among high school students.

Figure 3

Pearson Correlation of Observed and Latent Constructs

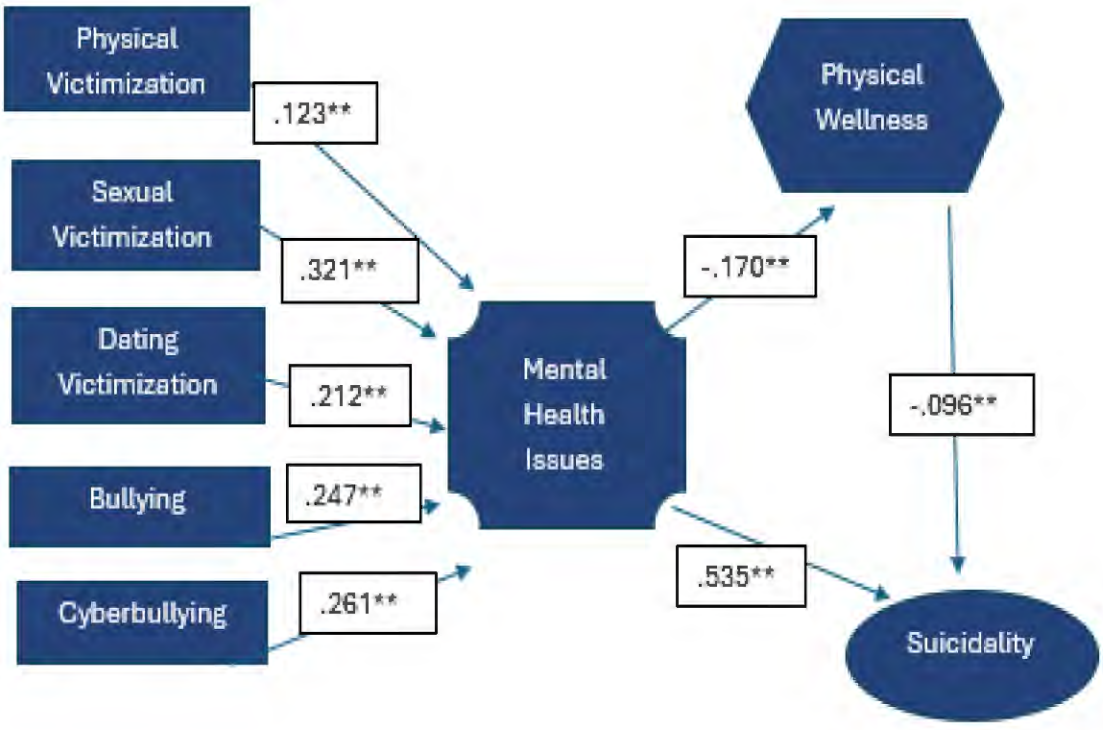


Table 3 presents the Pearson correlation of the observed and latent constructs. A significant positive correlation was found between suicidality and combined mental health issues ($r = .535$, $p < .001$, $N = 7374$), indicating that as mental health issues increase, the likelihood of suicidality also increases. Conversely, physical wellness showed a small but significant negative correlation with suicidality ($r = -.096$, $p < .001$, $N = 7348$), suggesting that higher levels of physical wellness are associated with lower suicidality. Physical victimization was positively correlated with suicidality ($r = .175$, $p < .001$, $N = 7411$), sexual victimization ($r = .195$, $p < .001$, $N = 7465$), and dating victimization ($r = .192$, $p < .001$, $N = 7599$), indicating that experiences of victimization are linked to an increased risk of suicidality. Sexual victimization showed a strong positive correlation with dating victimization ($r = .635$, $p < .001$, $N = 7458$), highlighting a significant overlap between these types of victimization experiences.

Table 3

Pearson Correlation of Observed and Latent Constructs

Variable name	1	2	3	4	5	6	7	8
Suicidality	--							
MH	.535**	--						
PW	-.096**	-.170**	--					
PV	.175**	.123**	.017	--				
SV	.371**	.321**	-.042**	.195**	--			
DV	.274**	.212**	-.002	.192**	.635**	--		
Bullying	.246**	.247**	-.033**	.239**	.254**	.208**	--	
Cyberbullying	.257**	.261**	-.040**	.198**	.291**	.238**	.485**	--

** Correlation is significant at the 0.01 level (2-tailed).

MH- Mental Health Issues, PW- Physical Wellness, PV- Physical Victimization, SV- Sexual Victimization, DV- Dating Victimization

Bullying was positively correlated with suicidality ($r = .246$, $p < .001$, $N = 7463$), physical victimization ($r = .239$, $p < .001$, $N = 7591$), and cyberbullying ($r = .198$, $p < .001$, $N = 7460$), emphasizing the relationship between bullying behaviors and various forms of victimization and mental health issues. Cyberbullying also showed significant positive correlations with mental health issues ($r = .261$, $p < .001$, $N = 7536$) and sexual victimization ($r = .291$, $p < .001$, $N = 7451$), indicating that online bullying is associated with both mental health challenges and experiences of sexual victimization.

These correlations show a complex relationship between mental health, physical wellness, and various forms of victimization, including bullying and cyberbullying, highlighting the need for comprehensive approaches to address these interconnected issues. Exploring the correlation among variables before the specification of a model is essential for mitigating the risk of misinterpreting relationships within the model.

Examination of Risk Factors for Suicidality Among Adolescents

Research question 1: What is the relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying on youth mental health? The first research question contains five hypotheses. These hypotheses were examined using the first regression model, which investigates the relationship between various forms of victimization and combined mental health issues (MH combined) among a sample of 7,732 individuals. A linear regression was conducted. The independent variables included in the model were Physical Victimization, Sexual Victimization Combined, Dating Victimization Combined, Bullying, and Cyberbullying. The dependent variable was MH combined. The regression model was significant, F (5,

7268) = 245.873, $p < .001$, explaining 14.5% of the variance in MH combined ($R^2 = .145$, Adjusted $R^2 = .144$), with a standard error of the estimate at 1.009.

As indicated in Table 4 the regression coefficients indicated that Sexual Victimization Combined (B = .543, SE = .030, β = .257, $p < .001$) had the most substantial positive association with MH combined, followed by Bullying (B = .375, SE = .038, β = .123, $p < .001$) and Cyberbullying (B = .365, SE = .038, β = .121, $p < .001$). Physical Victimization also showed a significant positive relationship with MH combined (B = .123, SE = .052, β = .027, $p = .018$). In contrast, Dating Victimization Combined did not significantly predict MH combined (B = -.036, SE = .041, β = -.012, $p = .381$).

Therefore, examining the relationship between various forms of victimization and youth mental health problems, the statistical analysis revealed significant findings. *Hypothesis 1a:* Physical victimization showed a positive relationship with mental health problems, as indicated by a B value of .123 and a significant p-value of .018, supporting the hypothesis that physical victimization is associated with increased mental health problems. Similarly, in *Hypothesis 1b*, sexual victimization had a substantial positive correlation with mental health issues, demonstrated by a high B value of .543 and a p-value of less than .001, strongly supporting the notion that sexual victimization severely affects youth mental health. Contrarily, *Hypothesis 1c*, dating violence victimization, did not show a significant positive relationship with mental health problems, evidenced by a negative B value of -.036 and a non-significant p-value of .381. This finding suggests that within this sample, dating victimization may not be a significant predictor of mental health issues, thereby not supporting the anticipated positive relationship.

Furthermore, both bullying and cyberbullying were significantly associated with mental health problems. Bullying had a positive B value of .375 with a p-value of less than .001, and cyberbullying mirrored this significance with a B value of .365 and a p-value of less than .001. These results support the hypotheses that both bullying (Hypothesis 1d) and cyberbullying (Hypothesis 1e) are positively related to mental health problems among youth. These results suggest that sexual victimization, bullying, and cyberbullying are significant predictors of mental health issues, with sexual victimization showing the strongest association. The lack of a significant relationship for Dating Victimization Combined might indicate its lesser impact on MH within this sample or the possibility of complex interactions not captured by this model.

Table 4

Regression Analysis Predicting Mental Health Issues from Victimizations, Bullying and Cyberbullying

Predictor	B	SE	β	t	p
Constant	1.359	.014		100.171	< .001
Physical Victimization	.123	.052	.027	2.357	.018
Sexual Victimization Combined	.543	.030	.257	17.905	< .001
Dating Victimization Combined	-.036	.041	-.012	-.877	.381
Bullying	.375	.038	.123	9.771	< .001
Cyberbullying	.365	.038	.121	9.561	< .001

B = Unstandardized coefficients; SE = Standard Error; β = Standardized coefficients; N = Sample Size.

***Research question 2*:** Do experiences of (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying impact physical

wellness directly or indirectly through mental health Issues? This research question has one hypothesis: there is a positive relationship between (a) physical victimization, (b) sexual victimization, (c) dating violence, (d) bullying, and (e) cyberbullying and physical wellness indirectly through mental health issues.

To examine the relationship between experiences of victimization and physical wellness, both directly and indirectly by mental health issues, a linear regression analysis was conducted. The hypothesis posited that these forms of victimization would be positively related to physical wellness through their indirect effects on mental health issues. Therefore, two models were constructed: one including mental health issues as a predictor (with MH Issues) and the other excluding mental health issues (without MH Issues) to discern the variance in predictive value attributed to mental health concerns.

The regression analysis results, considering mental health issues, indicated that mental health significantly mediated the relationship between victimization experiences and physical wellness. Specifically, when mental health issues were included in the model (Model 1), the analysis showed a significant prediction of physical wellness, $F (6, 7153) = 39.450$, $p < .001$, with an R^2 value of .032. This suggests that the model, including mental health issues, explained 3.2% of the variance in physical wellness scores.

In contrast, when mental health issues were excluded from the model (Model 2), the prediction of physical wellness was still significant, $F (5, 7249) = 7.478$, $p < .001$, but with a lower R^2 value of .005, indicating that only 0.1% of the variance in physical wellness scores was accounted for. This demonstrates a diminished predictive power in the absence of mental health considerations. The results are summarized in Table 5,

which compares the effects of the victimization variables on physical wellness with and without considering mental health issues.

Table 5 presents findings that indicate that the presence of mental health issues significantly influenced the relationship between victimization experiences and physical wellness. For example, sexual victimization's negative impact on physical wellness becomes more pronounced when mental health issues are not considered, suggesting that mental health issues play a critical mediating role in the relationship between victimization and physical wellness.

Similar to the hypothesis, there is a positive relationship between experiences of victimization and physical wellness indirectly through mental health issues. The results support this hypothesis, demonstrating that mental health issues mediate the impact of victimization experiences on physical wellness. However, the direct effects of victimization on physical wellness, particularly in the absence of mental health considerations, highlight the complex relationship between these factors.

Table 5

Regression Analysis Predicting Physical Wellness Directly and Indirectly through Mental Health Issues

Variable	B- With MH Issues	B- Without MH Issues	SE- With MH Issues	SE- Without MH Issues	Beta - With MH Issues	Beta - Without MH Issues	p- With MH Issues	p- Without MH Issues
Constant	1.952	1.739	0.020	0.013			< .001	< .001
Mental Health Issues	-.156	-	0.011	-	-.177	-	< .001	-
Sexual Victimization	-.038	-.123	0.029	0.029	-.020	-.066	.191	< .001
Dating Victimization	.094	.098	0.038	0.039	.037	.039	.014	.011
Physical Victimization	.139	.123	0.049	0.049	.035	.031	.005	.013
Bullying	.002	-.053	0.036	0.036	.001	-.020	.963	.149
Cyberbullying	-.009	-.071	0.036	0.036	-.004	-.027	.794	.049

Note: $R^2 = .032$ for Model 1; $R^2 = .005$ for Model 2. SE = Standard Error. Beta = Standardized Coefficients.

Research question 3: What is the relationship between mental health problems and physical wellness? The one hypothesis is that there is an inverse relationship between mental health issues and physical wellness.

For this research question, a linear regression analysis was performed to investigate the influence of mental health issues (MH combined) on physical wellness (PW Combined). The analysis indicated that mental health issues significantly predicted physical wellness, $F(1, 7300) = 218.431$, $p < .001$. Specifically, there was a .150 unit decrease in physical wellness scores for each unit and an increase in mental health issues, controlling for other factors. This model accounted for 2.9% of the variance in physical wellness scores, as indicated by an R^2 value of .029. As shown in Table 6 these results suggest a modest but significant negative relationship between mental health issues and physical wellness.

Table 6

Regression Analysis for Mental Health Issues Predicting Physical Wellness

Predictor	**B**	**SE**	**β**	**t**	**p**
Constant	1.952	.020		99.686	< .001
MH combined	-.150	.010	-.170	-14.779	< .001

B = Unstandardized coefficient; SE = Standard Error; β = Standardized coefficient; R^2 = .029; Adjusted R^2 = .029.

This result supports the hypothesis that mental health issues and physical wellness are inversely related, suggesting that individuals with higher levels of mental health problems tend to have lower levels of physical fitness. These findings underscore

the interconnectedness of mental and physical health, highlighting the importance of addressing mental health issues as part of holistic health and wellness interventions. ***Research question 4:*** What is the relationship between physical wellness and suicidality? The hypothesis: There is an inverse relationship between physical wellness and suicidality and ***Research question 5:*** What is the relationship between mental health problems and suicidality? The hypothesis: There is a positive relationship between mental health problems and suicidality combined. To answer these, a logistic regression analysis was conducted to examine the impact of mental health (MH combined) and physical wellness (Physical Wellness Combined) on the likelihood of suicidality. Therefore, the dependent variable, suicidality, was recorded as binary (No = 0, Yes = 1) and MH combined. Physical Wellness Combined (indexed) were treated as categorical variables, with the following coding for physical wellness: 0 (reference), 1, 2, 3; and for MH combined: 0 (reference), 1, 2, 3.

As shown in Table 7 the logistic regression model was significant, χ^2 (6) = 2391.559, $p < .001$, indicating that the predictors significantly explained the variance in suicidality. The model accounted for between 28.1% and 40.6% of the variance in suicidality, as indicated by Cox & Snell and Nagelkerke R Square values, respectively. The model's classification accuracy was 80.5%, with 85.9% for predicting non-suicidality (No) and 66.0% for predicting suicidality (Yes). Overall accuracy of 72.6%. The significant predictors included MH combined levels 1 (B = 1.902, SE = 0.237, $p < .001$, Exp(B) = 6.700), 2 (B = 3.328, SE = 0.232, $p < .001$, Exp(B) = 27.885), and 3 (B = 4.797, SE = 0.230, $p < .001$, Exp(B) = 121.100). For Physical Wellness Combined, only

level 1 was a significant predictor (B = -.233, SE = 0.103, p = .024, Exp(B) = 0.792), indicating a decrease in the odds of suicidality.

The logistic regression analysis revealed that higher levels of mental health issues significantly increase the likelihood of suicidality, with particularly high odds for those at the highest level of mental health concern (MH combined level 3). Conversely, participants with better physical wellness (level 1) showed a slight reduction in the likelihood of suicidality.

These findings underscore the importance of addressing mental health issues as a critical factor in suicidality prevention efforts. Further research should explore how physical wellness influences suicidality and the potential for integrated mental and physical health interventions.

Table 7

Logistic Regression Analysis Predicting Suicidality

Variable	B	SE	Wald	df	p	Exp(B)
MH combined						
MH Issues 1	1.902	0.237	64.266	1	< .001	6.700
MH Issues 2	3.328	0.232	205.240	1	< .001	27.885
MH Issues 3	4.797	0.230	433.128	1	< .001	121.100
Physical Wellness Combined						
Physical Wellness 1	-0.233	0.103	5.087	1	.024	0.792
Physical Wellness 2	-0.126	0.103	1.510	1	.219	0.881
Physical Wellness 3	-0.168	0.112	2.242	1	.134	0.845
Constant	-4.072	0.241	285.762	1	< .001	0.017

χ^2 (6) = 2391.559, p < .001; The reference category for MH combined is 0, and for Physical Wellness Combined is 0.

Research question 6: Do victimizations relate to suicidality without intervention from mental health and, or physical wellness? This had one hypothesis: Victimizations will have an indirect relationship with suicidality through mental health and, or physical well-being.

The findings are from a logistic regression analysis examining the relationship between various forms of victimization, that is physical, sexual, dating, bullying, and cyberbullying, and suicidality, which reflects the hypothesis that victimizations have an indirect relationship with suicidality mediated by mental health and physical well-being. After accounting for missing cases (n = 403, 5.2%), the analysis included 7,329 participants. This model also used a binary-coded (No = 0, Yes = 1) dependent variable. Independent variables consisted of physical victimization, sexual victimization combined, dating victimization combined, bullying, and cyberbullying, each with specific coding but categorical and binary variables.

The logistic regression model was statistically significant, χ^2 (7) = 1232.268, $p < .001$, suggesting that the predictors distinguished between participants who reported suicidality and those who did not. The model explained between 15.5% and 22.5% of the variance in suicidality, as evidenced by the Cox and Snell and Nagelkerke R Square values, respectively. The Hosmer and Lemeshow test yielded a chi-square of 15.447 with two degrees of freedom, indicating a significant fit ($p < .001$), which suggests the model's good fit with the observed data. The overall prediction accuracy of the model is 77.9%, with 94.9% for predicting non-suicidality and 31.6% for predicting suicidality. This represents a considerable improvement in predictive ability compared to the baseline model, which had a 73.0% overall prediction accuracy.

As shown in Table 8 significant predictors of suicidality included physical victimization (B = .679, SE = .118, $p < .001$, Exp(B) = 1.973). This indicated that individuals reporting one or more instances of physical victimization were about twice as likely to report suicidality compared to those with no such experiences. Both categories of sexual victimization were significant predictors, with the first category showing an odds ratio of 4.565 (B = 1.518, SE = .092, $p < .001$) and the second, odds ratio of 6.117 (B = 1.811, SE = .155, $p < .001$), suggesting increasing likelihoods of suicidality with more severe experiences of sexual victimization. Dating victimization also appeared as a significant factor, with the first category associated with a 1.487 increase in the odds of suicidality (B = .397, SE = .125, $p = .002$) and the second category related to a 1.634 increase (B = .491, SE = .229, $p = .032$). Bullying (B = .664, SE = .085, $p < .001$, Exp(B) = 1.942) and cyberbullying (B = .641, SE = .084, $p < .001$, Exp(B) = 1.898) were both significant predictors, indicating nearly double the odds of suicidality for victims. Therefore, the above findings emphasize the significant impact of various forms of victimization on the likelihood of suicidality.

Table 8

Logistic Regression Analysis Predicting Suicidality Based on Forms of Victimization

Variable	B	SE	Wald	df	p	Exp(B)
Physical Victimization	.679	.118	33.406	1	< .001	1.973
Sexual Victimization						
SV1	1.518	.092	272.387	1	< .001	4.565
SV2	1.811	.155	136.652	1	< .001	6.117
Dating Victimization						
DV1	.397	.125	10.067	1	.002	1.487
DV2	.491	.229	4.582	1	.032	1.634
Bullying	.664	.085	61.495	1	< .001	1.942
Cyberbullying	.641	.084	58.868	1	< .001	1.898
Constant	-1.614	.036	2025.359	1	< .001	.199

χ^2 (7) = 1232.268, p <.001; The reference category for each categorical variable is its absence or the baseline level (e.g., No physical victimization, No sexual victimization, No dating victimization, Not bullied, Not cyberbullied).

The results indicate that various forms of victimization are significantly associated with increased odds of suicidality, supporting the hypothesis of a relationship between victimization and suicidality. Specifically, sexual victimization shows the strongest association with suicidality, significantly increasing the odds, followed by physical victimization, bullying, and cyberbullying, with dating victimization showing a significant but weaker relationship.

Summary

The multivariate regression analyses explained relationships between variables. The first regression model highlighted sexual victimization, bullying, and cyberbullying as significant predictors of mental health issues. A subsequent model demonstrated a significant negative relationship between mental health issues and physical wellness. Further, the logistic regression analyses examined the impact of mental health and physical wellness on suicidality. It highlighted the importance of addressing mental health issues and the interconnections between victimization, mental health, and physical well-being in efforts to prevent suicidality among high school students.

CHAPTER V

DISCUSSION

This chapter discusses the summary of the significant relationships shown through the study between various forms of victimization and suicidality, examining the roles of mental health and physical wellness. It presents the theoretical guidance of these findings, given the strengths and limitations of strain theory to understand suicidality among adolescents. Additionally, this chapter delves into the nuanced effects of the pandemic on these dynamics, considering how social isolation, increased online interactions, and disruptions in routine may have exacerbated or altered traditional risk pathways. Furthermore, the discussion extends to the practical implications of these findings for policymakers, educators, mental health professionals, and communities. It offers recommendations for interventions that prioritize holistic approaches to adolescent mental health, incorporating strategies to mitigate victimization and promote physical wellness as preventative measures against suicidality. Lastly, the chapter identifies gaps in the current research, proposing avenues for future studies to explore other social contexts in understanding and preventing suicidality among adolescents, particularly post-pandemic.

Summary of Findings

The study analyzed data from 7,684 high school students, showing a gender-balanced demographic primarily aged 14-17, with most identifying as heterosexual and smaller groups identifying as gay, lesbian, or bisexual. Correlation analysis found significant links between suicidality, mental health issues, physical wellness, and

various forms of victimization, particularly noting strong associations between suicidality and mental health and between different victimization types.

Multivariate regression analyses identified sexual victimization, bullying, and cyberbullying as key predictors of mental health problems and highlighted a significant negative relationship between mental health issues and physical wellness. Logistic regression analysis further explored how mental health and physical wellness impacted suicidality, emphasizing the serious role of addressing mental health and understanding the connections between victimization, mental health, and physical well-being in preventing suicidality among adolescents. Mental health emerged as a critical mediator, suggesting that it could mitigate the impact of victimization on suicidality. This study was conducted to answer six research questions:

1. What is the relationship between a) physical victimization, b) sexual victimization, c) dating violence, d) bullying, and e) cyberbullying on youth mental health?
2. Do experiences of a) physical victimization, b) sexual victimization, c) dating violence, d) bullying, and e) cyberbullying impact physical wellness directly or indirectly through mental health?
3. What is the relationship between mental health problems and physical wellness?
4. What is the relationship between physical wellness and suicidality?
5. What is the relationship between mental health problems and suicidality?
6. Do victimizations relate to suicidality without intervention from mental health and, or physical wellness?

Contributions to the Literature

The results are consistent with previous research indicating that adolescents experiencing these forms of victimization are at a heightened risk of suicidality. This consistency with prior research emphasizes the urgent requirement for interventions tailored to reduce these forms of victimization. For instance, studies by Labuhn et al. (2021) and Franklin et al. (2017) previously highlighted the correlation between victimization experiences and increased suicidality, emphasizing the need for comprehensive strategies to mitigate these risks.

Further, the research by Espelage et al. (2019) demonstrated that the experience of dating violence specifically contributes to a variety of mental health issues, including depressive symptoms and suicidal ideation, thereby indicating the complex interplay between interpersonal violence and mental health outcomes. Additionally, Exner-Cortens et al. (2013) found that adolescents involved in violent dating relationships were significantly more likely to report suicidal thoughts and behaviors, suggesting that the trauma associated with such victimization had profound effects on adolescent well-being. Turner et al. (2016) explored the mechanisms through which physical victimization, particularly in school environments, exacerbated feelings of isolation and helplessness, contributing further to the risk of suicide.

The findings from Mitchell et al. (2017) revealed that sexual victimization, due to its highly traumatic nature, significantly increased the likelihood of developing severe mental health conditions that could lead to suicidality. Together, these studies highlighted the impact of physical and sexual victimization and dating violence on adolescent mental health and suicidality. They collectively underline the importance of

developing targeted, evidence-based interventions that not only aim to prevent such victimization but also support the mental health of survivors, addressing the root causes and consequences of these experiences to reduce adolescent suicidality.

Apart from the influence of victimization, the demographic variables were also consistent with the literature. This study suggested that gender and sexual identity were significant factors in suicidality, with females and presumably heterosexual individuals showing lower odds of suicidality compared to their counterparts. According to Letourneau et al. (2018) these were gender differences in suicidality, with males showing a higher likelihood of engaging in serious suicide attempts. Another longitudinal study found gender-specific protective factors, with secure attachment and higher family function being protective for only females (Bakken et al., 2024). The present study found that females were less likely to experience suicidality compared to males, with an odds ratio indicating that suicidality is approximately 26.5% lower for females. These highlight the need for gender-focused strategies in both understanding and preventing suicide which can be more impactful.

Furthermore, in the present study, the collective assessment of sexual identity categories indicated a significant relationship with suicidality. When examined separately the categories did not demonstrate a statistically significant impact on suicidality. However, the heterosexual category had a B coefficient of .033 and an odds ratio (Exp(B)) of 1.034 with a Sig. of .942, indicating that this category had a very weak and not statistically significant association with suicidality. Many studies consistently show that individuals from sexual minority groups, for example, gay, lesbian, bisexual, often report higher rates of suicidality and mental health issues compared to their

heterosexual counterparts (Haas et al., 2011; Hong et al., 2023; LaRocca et al., 2022; Parchem et al., 2024). Future research could benefit from integrating these findings with qualitative insights to understand the underlying mechanisms and develop targeted interventions.

Discussing the influence of bullying and cyberbullying on suicidality among adolescents reflects Nixon's (2014) findings on the evolving domain of adolescent victimization, where cyberbullying emerges as a contemporary channel to suicidality. Kowalski and Limber (2013) highlighted the psychological consequences of cyberbullying, noting its inevitable nature, contributing to an increased sense of vulnerability and isolation among victims. This phenomenon was further explored in Hinduja and Patchin's research (2010), where the anonymity afforded by digital platforms exacerbated the intensity of bullying incidents, making cyberbullying a potent risk factor for adverse mental health outcomes, including suicidality.

Another longitudinal study by Gini and Espelage (2014) provided compelling evidence of the causal link between bullying victimization and subsequent increases in suicidal ideation and attempts, emphasizing the long-lasting effects of such experiences. Similarly, Selkie et al. (2016) stressed the unique challenges posed by cyberbullying, including the difficulty in escaping online harassment and the often, insufficient adult intervention, which collectively intensified the distress experienced by victims. The research by Copeland et al. (2013) further supported these findings by demonstrating the strong associations between bullying involvement, as either a victim or perpetrator, and later suicidal thoughts and behaviors, pointing to the complex dynamics of bullying interactions and their profound impact on adolescent well-being.

These studies suggest a need for comprehensive anti-bullying programs that address both traditional and digital forms of bullying. The implementation of effective strategies to reduce the impacts of bullying and cyberbullying, include promoting digital literacy, supportive school environments, and ensuring accessible mental health resources for affected adolescents. Further regarding the physical wellness connection to suicidality directly and indirectly, the findings are supported here as was found to be the case by Richardson et al. (2013). They found that regular physical activity was associated with reduced depressive symptoms and enhanced mood among adolescents, which could indirectly lower the risk of suicidal ideation and attempts. Furthermore, a systematic review by Mammen and Faulkner (2013) corroborated the protective effects of physical activity against depression, a major risk factor for suicidality, in both adults and adolescents. This suggests that the relationship is often indirectly associated with suicidality.

On the other hand, mental health had a direct relationship with suicidality. Studies by Klonsky et al. (2016), Nock et al. (2008), and the present study highlighted the significant role of mental health issues as strong predictors of suicidality. This is consistent with earlier research by Gould et al. (2003), who emphasized the need for early detection and intervention for mental health disorders to prevent suicidal behavior in adolescents. The significance of accessible mental health services King et al. (2009) suggested that school-based mental health programs can significantly reduce suicide risk factors among students.

Additionally, research by Czyz et al. (2013) pointed to the efficacy of crisis intervention strategies, such as safety planning and follow-up care, in mitigating suicide

risk among adolescents presenting with suicidal ideation or attempts. These studies also clearly suggest mental health care, incorporating early screening, preventive interventions, and crisis management to address the high prevalence of suicidality, especially among adolescents. Together, these initiatives should aim at community and individual levels to foster a supportive environment for youth mental health and physical well-being.

Support for Strain Theories

The findings of this study provide strong empirical support for the strain theory of suicide (STS) and general strain theory (GST), suggesting that victimization and the consequential strain play a significant role in precipitating suicidality among adolescents. This complex relationship is influenced by mental health. Agnew's (1992) GST noted that relationships like mistreatment or victimization can lead to negative emotions, which, if not adequately coped with, can result in deviant behavior, including suicidality.

The findings highlight the impact of victimization, physical, sexual, and through bullying, on suicidality, supporting this theory's concept. Victimization acts as a source of strain and facilitates a sequence of negative emotional states, resulting in suicidal ideation or attempts. Aseltine et al. (2000) argued that stressful life events, strains, significantly predict increases in depressive symptoms and suicidal ideation among adolescents, aligning with the findings on the mediating role of mental health issues.

Additionally, as discussed in Chapter 1, a study by Zhang and Lester (2008) viewed suicide as a response to the psychological strain arising from two or more conflicting social pressures, including the inability to achieve goals, the removal of

positive stimuli, and the presentation of negative stimuli. The significant correlations the study observed between various forms of victimization and suicidality show this theoretical intention, including the mediating effect of mental health in the relationship between strain and suicidality. This highlights the complexity outlined in the STS and GST that demonstrates how these experiences serve as potent negative stimuli of psychological strain. According to the literature, interventions focusing on resilience-building, mental health education, and accessible psychological services can mitigate the impact of strain on mental health and, consequently, on suicidality (King et al., 2009; Klomek et al., 2011).

This study contributes to understanding the risk factors for suicidality among adolescents. Future research should continue to explore the complex interactions between victimization, mental health, physical wellness, and suicidality, with a focus on developing interventions that address these risk factors. It remains unclear exactly how physical wellness influences suicidality. For example, there is no consensus in the literature regarding whether the impact of physical wellness is more social or biological.

Comparing 2019 and 2021 Data

Studies such as Hemberg et al. (2024), Essler et al. (2024), Orban et al. (2024) mentioned the significant gaps in research concerning the mental health outcomes and long-term effects of the COVID-19 pandemic on adolescents and young adults. However, considering adolescence, it is a crucial transition period from childhood to adulthood. These are characterized by several developmental milestones that propose unique challenges and opportunities for growth. Therefore, even the short-term effects are important to understand.

Regarding whether there was increased suicidality post-pandemic this section analyzes data from the Youth Risk Behavior Survey (YRBS) from the years 2019 and 2021 using 2019 as a baseline. For the purpose of comparing the Youth Risk Behavior Survey (YRBS) data from the years 2019 and 2021, it was necessary to include only those variables that are common to both datasets. Given that the 2019 YRBS dataset lacks some of the variables present in the 2021 dataset.

Table 9

Comparison of Logistic Regression Coefficients for YRBS 2019 and 2021

Variables	B- 2019	B- 2021	SE- 2019	SE- 2021	p- 2019	p- 2021
Mental Health Issues	2.369	2.393	0.072	0.073	<.000	< .001
Sexual Victimization	0.597	0.759	0.070	0.073	<.000	< .001
Dating Victimization	0.155	0.291	0.097	0.102	.112	.004
Physical Victimization	0.589	0.559	0.118	0.129	<.000	< .001
Bullying	0.590	0.419	0.083	0.092	<.000	< .001
Cyberbullying	0.263	0.383	0.091	0.091	<.004	< .001

Note: $R^2 = 0.390$ for 2019; $R^2 = 0.424$ for 2021; B = Unstandardized coefficient; SE = Standard Error.

The comparison between the YRBS 2019 and 2021 models reveals that the higher R^2 value in 2021 data. Notably, the coefficient for mental health issues has a slight increase from 2.369 in 2019 to 2.393 in 2021. There was also a significant rise in the coefficient for sexual victimization, escalating from 0.597 in 2019 to 0.759 in 2021.

Furthermore, dating victimization, which increased from 0.155 in 2019 to 0.291 in 2021; concurrently, its p-value dramatically changed from .112 (non-significant) in 2019 to .004 (significant) in 2021, indicating a more pronounced influence of COVID – 19 or any extraneous factor in 2021 survey. The physical victimization and bullying suggested a weakened impact on suicidality, whereas cyberbullying rose from 0.263 in 2019 to 0.383 in 2021, with its significance level strengthening the relationship from $p < .004$ to $p < .001$.

Studies have indicated that the COVID-19 pandemic led to elevated rates of suicide attempts and suicidal ideation among adolescents, with contributing stressors including missed special events, financial difficulties, familial conflicts, and alterations in living conditions (Brausch et al., 2023; Thompson et al., 2021; Zhu et al., 2023; Grzejszczak et al., 2024). These elements intensified distress and mental health concerns, apparently leading to increased suicidal thoughts. Becker et al. (2024) discussed how the excessive use of digital media and smartphones was connected to negative outcomes like poor mental health and cyberbullying. During the COVID-19 pandemic, the increase in screen time correlated with heightened psychiatric emergencies among children and adolescents. While physical interactions were reduced due to social distancing measures, there was an increase in online interactions where much of the dating and social engagement shifted to digital platforms (Taquet et al., 2021). This transition may have led to new forms of victimization, such as cyber sexual harassment, which could have overlapped with cyberbullying as this it is not always captured by traditional measures of sexual and dating victimization but could contribute to the observed increases.

Limitations of the Study

This study's limitations include a reliance on self-reported data in the Youth Risk Behavior Survey (YRBS) which has the potential for recall and social desirability bias. Further, the YRBS employs a nationally representative sample of high school students in the United States. Its generalizability may be limited by factors such as non-response bias and the exclusion of adolescents not attending school. National data were incomplete as Minnesota, Oregon, and Washington do not participate. In 2021, 45 states, 1 US territory, 1 tribal government, and 28 school districts received funding through a cooperative agreement with the Division of Adolescent and School Health, part of the National Center for HIV, Viral Hepatitis, STD, and TB Prevention, to conduct a Youth Risk Behavior Survey (YRBS).

Additionally, cultural, socioeconomic, and geographical diversity within the sample might obscure the subtle connections between risk factors and suicidality. Furthermore, the cross-sectional design of the YRBS limits the ability to infer causality between the identified risk factors and suicidality. Also, the design restricts understanding of the temporal dynamics between victimization, mental health, physical wellness, and their cumulative impact on suicidality over time. Nonetheless, this study's findings are meaningful in indicating that sexual victimization is more impactful than other forms and that both traditional and cyberbullying can be particularly harmful.

Future Research and Recommendations

First, future studies can prioritize longitudinal designs to explore the temporal relationships between risk factors and suicidality. Such studies can provide insights into the causality and evolution of suicidal ideation and behaviors in response to

victimization, mental health challenges, and changes in physical wellness over time. Second, a qualitative study can give a valuable perspective on the individual experiences of victimization and mental health challenges. In-depth interviews and focus groups can uncover unforeseen understandings of linking these experiences to suicidality, informing more targeted and effective interventions.

Third, identifying risk factors for suicidality is essential for understanding protective factors toward developing comprehensive prevention strategies. Future studies should explore factors such as resilience, social support, and access to mental health services that may moderate the impact of risk factors on suicidality among adolescents. Fourth, the effectiveness of interventions targeting the identified risk factors for suicidality would also advance this literature. Fifth, experimental and quasi-experimental studies can evaluate the impact of bullying prevention programs, mental health interventions, and initiatives promoting physical wellness on reducing suicidality among adolescents.

Finally, given the role of cyberbullying as a modern pathway to suicidality, future research may explore the evolving setting of digital interactions among adolescents via the Metaverse and other artificial intelligence platforms. Those studies might examine the impact of social media use, online behaviors, and digital literacy on suicidality. Understanding how exactly physical wellness may mediate mental health issues is also necessary.

Conclusion

The complex interplay between victimization, mental health, physical wellness, and suicidality highlights the need for multidisciplinary approaches to understanding and addressing suicidality among adolescents. It highlights the urgency of collective efforts by policymakers, educators, mental health professionals, and the community at large to safeguard the well-being of youth. By embracing a holistic approach to prevention and intervention, there is a hopeful prospect for significantly reducing the incidence of suicidality among adolescents. These findings suggest a need for urgent actions to make a tangible difference in the lives of young individuals through dedicated research, policy, and practice. These suggestions align with aspiring to a future where the specter of suicidality is no longer a prevalent threat to the well-being and potential of adolescents.

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APPENDICES

Appendix A: *IRB Approval for Study*

PRAIRIE VIEW A&M UNIVERSITY

A Member of the Texas A&M University System

To: **Camille Gibson, Ph.D.**, Principal Investigator
Kaviya Shankar, Co-Investigator

From: Marco L. Robinson, M.A.Ed.
Director, Research Regulatory Compliance
Office of Research Compliance

Date: December 20, 2023

Re: IRB #2023-120
An Examination of Risk Factors for Suicidality Among Adolescents in the United States

After review of your application, it has been determined the proposed activities described do not meet the definition of research with human subjects according to federal regulations and IRB approval is not needed.

Thank you for the time and effort put into preparing and submitting your application. If you have any further questions, please call the Office of Research Compliance at (936) 261-1553.

Marco Robinson

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Appendix B: *Definition of Terms*

1. *Suicidality:* According to the American Psychological Association (APA), suicidality is defined as "the risk of suicide, usually indicated by suicidal ideation or intent, especially as evident in the presence of a well-elaborated suicidal plan (VandenBos, 2007).
2. *Physical Wellness*: Refers to physical health. In this study, it is a composite measure of Body Mass Index and reported physical activity.
3. *Mental health:* According to the World Health Organization, "Mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community" (WHO, 2022).
4. *Bullying:* The CDC defines bullying as "any unwanted aggressive behavior(s) by another youth or group of youths, who are not siblings or current dating partners, that involves an observed or perceived power imbalance, and is repeated multiple times or is highly likely to be repeated" (CDC, n.d.)**.**
5. *Cyberbullying:* Threatening behavior toward another, often a peer delivered by way of technology.
6. *Victimization***:** Refers to youth self-report of having experienced abuse. In this study it refers to a) physical victimization, b) sexual victimization, c) dating violence, d) bullying, and e) cyberbullying.

Kaviya Shankar

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EDUCATION

- Master of Science in Criminology and Criminal Justice Science, Department of Criminology, University of Madras, India, 2019
- Diploma in Juvenile Justice and Juvenile Psychology, Department of Criminology, University of Madras, India, 2019
- Bachelor of Science in Forensic Science, Jain University, Bengaluru, India, 2017

TEACHING EXPERIENCE

- Graduate Teaching Assistant, Department of Justice Studies, Prairie View A&M University, Texas
    - Introduction to Criminal Justice (Fall 2023 and Spring 2024)

RESEARCH EXPERIENCE

- Graduate Research Assistant, Department of Justice Studies, Prairie View A&M University, Texas, 2021 - 2023

- Research Assistant in a research project, *'Situational Analysis of Children Released from Special Home and Children Discharged from Children's Home'* conducted by UNICEF in collaboration with Social Defense and the Department of Criminology, University of Madras, 2019

PUBLICATIONS

Kethineni, S., Moeyaert, M., **Shankar, K**., & Sundaravadivelu, D. (2024). Sexual Violence in Public Schools in the United States. *Journal of School Violence*, 1–13. https://doi.org/10.1080/15388220.2024.2309560

Sam, S. S., & **Shankar, K.** (Pending for 2024). A System in Crisis: Prescriptions for Texas Juvenile Justice, *Journal of Contemporary Juvenile Justice*.

ACADEMIC SERVICE

Reviewer, Journal of Family Strengths

Reviewer, IGI Global