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Threats to School Safety: Examining Levels of Community Violence and Its Relation to School-Related Threats

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Educational Specialist
with a concentration in School Psychology
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Keywords: school safety, violence prevention, threat assessment, community violence

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Abstract

Despite significant media attention provided to school-based acts of violence, these tragic incidents are relatively rare across school environments, leading to increasing challenges in identifying students who may pose a threat. Previous approaches to school discipline, including policies such as zero tolerance, resulted in significant racial disparities among students who received disciplinary consequences inconsistent with the severity of their behaviors or threats. Alternatively, a relatively recent approach that emerged following a series of school shootings in the 1990s was school threat assessment, which focuses on prevention rather than prediction. While it is important to determine students who may pose a threat, equally important is understanding factors that contribute to threats and acts of violence in schools. Previous theories have linked both individual and community factors to violence, crime, and offending; however, no previous research has examined a possible link between rates of community violence/crime and threats of school violence. Results of the current study displayed no statistically significant relationships between community violence or threat severity and rates of threat assessments. Furthermore, school and community heterogeneity were not strong predictors of rates of threat assessments; however, community heterogeneity was correlated with rates of threat assessments. Implications for practice and future directions for research are discussed.

Keywords: threat assessment, community violence, school violence, disproportionality

Chapter One: Introduction

Statement of the Problem

Child and adolescent exposure to violence is an environmental stressor and public health concern that persists, despite decades of policy changes and prevention efforts (Burford et al., 2021). An estimated 60 percent of children are exposed to violence across settings such as homes, schools, and local communities. Furthermore, in the United States, approximately 40 percent of children are victims of physically violent acts, and 25 percent have witnessed violence in the home or the community (Finkelhor et al., 2015). Exposure to such violence has been associated with detrimental outcomes for vulnerable populations, including children and adolescents and those living in poverty. Such outcomes include an increased likelihood of physical concerns, mental health concerns, academic difficulties, and increased risk for engaging in criminal behaviors (American Academy of Family Physicians, 2022).

For over three decades, government and school officials have faced the challenge of how to keep students safe across K-12 settings. While serious threats such as gunfire on school grounds are relatively uncommon (Everytown for Gun Safety, 2022), during the 2017 to 2018 school year, over 80 percent of schools reported at least one incidence of violence, theft, or crime (NCES, 2018). Although these statistics appear alarming, this base rate of serious school-related incidences is relatively low compared to the violent acts in community settings. For example, between 2009 and 2020, 61 percent of mass shootings occurred in homes, while only 11 percent of documented mass shootings have occurred in schools (Everytown for Gun Safety, 2022). Despite the low base rate of occurrence of serious school-related crimes (e.g., school shootings),

the media has drawn excessive attention to these occurrences (Cornell, 2020), ultimately overlooking the smaller day-to-day violence (Boggess, 2013). This media attention has raised significant concern among students, parents, and school faculty regarding threats to student safety (Kim et al., 2020; McMahon, 2022).

It is well-established that rates of school violence can be impacted by various factors such as poverty, child maltreatment, school climate, and lack of social support (Turanovic & Siennick, 2022). Furthermore, school structure may play a significant role, wherein some schools may experience higher crime rates than others, even within the same district, similar to how crime is more frequent in some neighborhoods than others (Boggess, 2013). Since schools do not exist as separate entities from their surrounding communities, students' exposure to violence in the community likely influences their violent or aggressive behaviors in the school setting (Calvete & Orue, 2011).

To address concerns about school threats and school safety, the Federal Bureau of Investigation (FBI) initially examined a possible profiling approach to risk assessment, examining the characteristics of students who were most likely to be a threat to the school environment (Sewell, 2000). Creating such a profile based on students who previously completed mass shootings posed a significant challenge, given the heterogeneity of the characteristics that these students possessed and the limited base rate of occurrence of serious threats (Sewell & Mendelsohn, 2000).

Previous policies in schools surrounding student threats, such as zero tolerance, resulted in exorbitant disciplinary measures, particularly among students from marginalized backgrounds (Teske, 2011). While well-intentioned, such policies encouraged school officials to act under the assumption that every child who made a threat would be likely to carry out the threat (NCES,

2019). Given the limitations of a profiling approach, threat assessment models have been adapted for K-12 schools to focus on prevention rather than prediction while acknowledging students who pose a threat rather than those who make threats (O'Toole, 2000). Over the past several years, large urban school districts in Florida have initiated the process of training threat assessment team members (e.g., principals, assistant principals, school mental health professionals, school resource officers, teachers, etc.) in the Comprehensive School Threat Assessment Guidelines (CSTAG). Created by Dr. Dewey Cornell, this evidence-based framework has been tested and proven effective through empirical research across grade levels (Nekvasil & Cornell, 2015; Maeng et al., 2019). This approach has reduced racial and ethnic disparities in threat identification and resulting disciplinary measures addressing a significant limitation of prior zero-tolerance approaches (Just Children & Cornell, 2013).

Although empirical studies have examined threat assessment guidelines across schools, there has been relatively minimal focus on community violence and the potential relationship to the behaviors students demonstrate in school. Similar racial discrepancies exist when examining rates of individuals arrested for non-violent crimes in the community to the rates of students receiving disciplinary actions for their behaviors in schools. Among the highest racial disparities include African American and Black individuals, who comprise approximately 13% of the U.S. population but are arrested at rates ranging from 33-36% depending on the severity of their crimes (Beck, 2021). Additionally, African American and Black children and adolescents are arrested twice as often as their White peers (Schleiden et al., 2020). Comparatively, White individuals comprise 60% of the U.S. population, but only 39% of individuals arrested for serious non-fatal crimes (Beck, 2021).

One underlying factor likely contributing to such discrepancies, are implicit biases associated with those who commit crimes or violent acts. Implicit bias has been defined as a collection of negative beliefs about a particular group that individuals are not consciously aware of but ultimately result in discriminatory behavior toward the group (Kang et al., 2012). Previous studies have indicated that race-based stereotypes of Black or African American individuals were correlated with criminality and violent behavior (Ebehardt et al., 2004). Further, on implicit bias tests (e.g., the Implicit Association Test) judges have demonstrated implicit biases toward individuals from marginalized groups (Levinson et al., 2010) associating these individuals with guilt when examining ambiguous evidence. While behavioral threat assessment aims to reduce disproportionate disciplinary outcomes for students from marginalized backgrounds, it is imperative to examine underlying factors contributing to the need for threat assessment in schools.

Definitions of Key Terms

Community Violence

Community violence comprises incidents that occur between individuals who are not related to one another, outside of the home environment, most often in public locations (CDC, 2021).

Crime

A crime is an act that causes physical and/or psychological harm to an individual or property and is punishable by law.

School violence

School violence is youth violence that takes place on school property on the way to or leaving school, or during a school-sponsored event (CDC, 2016).

Threat

A *threat* is any intent to harm someone other than the individual, that is conveyed physically, verbally, non-verbally (e.g., gestured), or through platforms such as social media. A threat does not have to be directly conveyed toward the intended target (Cornell, 2021).

Threat Assessment

A threat assessment is a data-driven problem-solving approach to violence prevention in schools that considers the developmental context of students, while gathering information surrounding the circumstances of the threat to determine whether they pose a threat (i.e., threat is likely to be carried out). Such threat assessments are designed to be conducted by a trained team of individuals using a structured, manualized approach (Cornell, 2021).

Threat classifications

Transient threat. A non-serious statement, action or gesture that do not express lasting or true intent to cause harm to an individual. Examples include jokes, figures of speech, or emotionally heightened responses as the result of a particular situation which quickly dissipate (e.g., loss during a game). Transient threats can usually be resolved with an explanation, apology, and statement that indicates that the individual does not have any intent to harm the intended victim.

Substantive threat. A statement or action that indicates continued intent to harm an individual beyond the context of the initial statement, gestures, etc.

Serious substantive threat. Threats indicating continued intent to harm with the absence of a weapon, including threats to hit, fight, or beat up.

Very serious substantive threat. Threats indicated by continued intent to cause serious injury marked by an individual who threatens to kill, rape, or the use of a weapon to inflict injury.

Purpose of the Current Study

Existing threat assessment research has primarily focused on implementation of models to determine whether a student poses a threat, once an indicator of a threat is present. Although some studies across the literature have examined a link between community violence and school-related violence, there are no known studies to date that have directly examined the relationship between community violence (i.e., crime) and rates of threat assessment in K-12 schools. Results of this secondary analysis will build on the current understanding of variables that may contribute to the need for school-based threat assessment procedures, by highlighting influential individual and community level variables. The purpose of the current study is to determine (1) whether rates of community violence are correlated with rates of threat assessments in a large urban public school district, (2) if rates of community violence are related to threat severity, (3) whether schools' racial/ethnic heterogeneity predicts the rate of threat assessment in schools, and (4) whether community heterogeneity predicts the rate of threat assessments in schools.

Chapter Two: Literature Review

History of School Violence

During the 1990s, a series of school shootings sparked the attention of government officials, regarding the best ways to prevent school violence. In 1999, a school shooting took the lives of 12 students and one teacher at Columbine High School in Colorado, drastically altering future approaches to school violence prevention (King & Bracy, 2019). Following this tragedy, government agencies at the local, state, and federal levels were faced with the challenge of determining how to stop current students in K-12 schools from entering and harming themselves and others. The post-Columbine era brought together individuals from a variety of agencies, including those from the U.S. Secret Services who held no previous role in maintaining school safety, as well as the U.S. Department of Education (Flannery et al., 2021). Through partnership, they created the *Safe School Initiative* (https://www.schoolsafety.gov), which aimed to determine (1) Whether it was possible to determine if school-based attacks had been planned, and (2) If so, what measures could be implemented to prevent future attacks from (re)occurring (Modzeleski & Randazzo, 2018). Additionally, the post-Columbine era is marked by increases in state laws and policies aimed at preparation and prevention efforts including those that target school climate, students' character development, social emotional learning, and multi-tiered systems of support (MTSS) frameworks (Temkin et al., 2020).

Prior Approaches to Addressing School Violence

Previous policies surrounding school discipline have not demonstrated efficacy in providing a method to reduce levels of school violence and increase school safety. In the 1990s,

disciplinary policies were primarily centered around zero tolerance, which were initially developed as an approach to drug enforcement (Skiba & Rausch, 2006). Under the Clinton administration, these policies were later adapted to fit K-12 settings. Students in possession of a firearm faced a minimum of one year suspension/expulsion for public schools to continue receiving funding (Martinez, 2009). Across school settings, zero tolerance approaches advocated for the use of set predetermined consequences that were typically punitive in nature and did not consider the effects of the severity of the threat, external circumstances, or the context of the situation (American Psychological Association, 2008). The underlying assumptions of zero tolerance policies suggested that removing all students who may cause disruption in the school environment would help to create a positive school climate and increase safety (Ewing, 2000). Although the policy was originally created to enforce drug violations, over time it evolved across school settings to include offenses such as possession of weapons, drugs, alcohol, and eventually included fighting, truancy, bullying, disrespect, and dress code violations (Martinez, 2009). Despite evidence from the American Psychological Association (2008) arguing that zero tolerance policies were not effective and instead increased racial disparities in the disciplinary measures taken against students from systemically marginalized groups, these policies continued throughout the education system for decades.

Prevalence of School Violence

As severe incidences of school violence and school shootings typically receive significant media attention, individuals are likely to overestimate the prevalence of these occurrences (McLeigh, 2015). Furthermore, inconsistent definitions of the term *school shooting* have created varying estimates of the rates of school shootings across researchers and government organizations (Freillich et al., 2022). Such inconsistencies across the literature include mass

shootings, rampage shootings, targeted violence, and active shootings among others (Poland & Ferguson, 2021). As school shootings are only one type of violent incident, the exact number of incidents in schools remains variable by data source. Without an objective source to track these data, officials heavily rely on media reports, with current prevalence estimates suggesting 103 school shootings across K-12 settings from 2011 to 2018 (Cornell, 2020). As there are currently over 130,000 schools across the United States (National Center for Education Statistics, 2012), this suggests that shootings occur in approximately 1 out of every 10,000 schools, with the average school expecting a shooting every 10,000 years. Given statistics of mass shootings (defined as four or more fatalities) outside of school settings, recent data suggest that mass shootings are approximately ten times more likely to occur separate from the school environment (Cornell, 2020). Similar limitations in operational definitions have been extended to include the realm of school violence and the ways in which these rates have been recorded, emphasizing the need for more extensive research among large school districts to gage a more accurate estimate.

Theories of School Disorder and Misconduct

Throughout the literature, two primary sets of factors (i.e., individual and community factors) are believed to contribute to the presence of violence in schools and school disorder.

Individual Factors

At the individual level *social control theory* (See *Figure 1*) suggests that delinquency and offending may occur as a result of poor social bonding which comprises commitment to shared goals, prosocial relationships with others, participation in socially appropriate activities, and belief in conventional values (Costello, 2017). Although schools may provide ample opportunities for social bonding, students with limited interpersonal skills or poor academic trajectories may not become attached to the school community as educational goals become

seemingly irrelevant and these students become alienated from their peers, a concept recognized as control theory (Welsh, 2003). In schools, informal social control is created through positive bonds between both students and staff members (Leneskie & Block, 2016). Attachment to other individuals is likely to decrease delinquency given that reactions to criminal incidents would likely not be tolerated (Costello, 2017). Several individual factors linked to school disorder include race, gender, and age. Pegurero and colleagues (2019) note a complicated intersectional relationship between demographic factors which can uniquely impact a student's educational experience. For example, experiences with academic expectations as well as exposure to school violence and misconduct vary by race and gender. While females may exhibit significant educational goals, they demonstrate increased risk of dropout with females from racially/ethnically marginalized backgrounds more likely to report that schools are disorderly and unsafe (Crenshaw et al., 2015; M.W. Morris, 2016). Alternatively, male students from marginalized backgrounds are more often viewed as aggressive and problematic, which leads to increased monitoring and disciplinary sanctions from teachers and administrators, and poor social bonding, contributing to their perceptions that schools are unjust (Portillos et al., 2012; Rios, 2011). This is consistent with the overrepresentation of individuals from marginalized backgrounds undergoing law enforcement action (Epp et al., 2016). Teacher and administrator perceptions vary for non-marginalized students who are often viewed as non-threatening, resulting in fewer disciplinary sanctions.

Community Factors

At the community level, violence and crime is not randomly distributed across all neighborhoods, rather many individuals can identify both "good" and "bad" areas (O'Brien et al., 2022). One possible explanation, *social disorganization theory*, extends beyond the residents of

such varying neighborhoods to suggest additional contributing factors (*See Figure 1*). Basic principles of *social disorganization theory* propose that communities exist along a continuum from disorganized to organized wherein the most disorganized communities tend to experience low levels of consensus on important values (e.g., crime), a lack of social bonds among its' members (e.g., neighbors), limited interaction among residents, and higher crime rates (Wickes, 2017). Ultimately, this theory suggests that social disorganization is an inability of a community to recognize shared values of residents and solve common problems (Kubrin & Mioduszewski, 2009). A lack of common norms leads to higher instances of crime and violence (Armstrong et al., 2013). Four factors, poverty, racial and ethnic heterogeneity, residential mobility, and family disruption have been theorized to have an indirect impact on crime and delinquency and social disorganization (O'Brien et al., 2022). While the relationship of poverty, residential mobility, and family disruption to crime is positively correlated, the relationship between racial/ethnic homogeneity and crime is less clear (Boggess, 2013; Graham, 2006). Furthermore, there is an absence of research exploring the impact of these variables on rates of school violence.

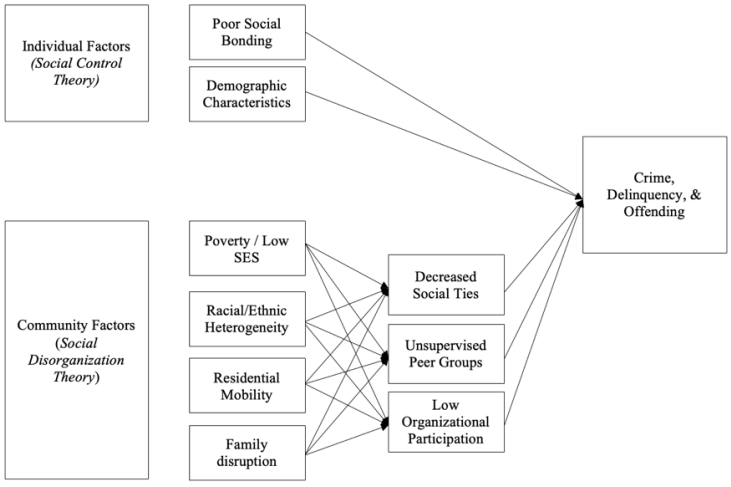

Figure 1. *Social Control and Social Disorganization Models*

Additional Factors Impacting Schools

Beyond social control theory and social disorganization theory, two additional school related factors have been hypothesized in the literature to have a relationship with rates of violence. One variable potentially influencing rates of school violence is the ratio of students to teachers present within a school. Previous research has concluded that greater rates of violence occur in schools with high student to teacher ratios (Baird et al., 2017). Many of these schools with high student to teacher ratios are often located in urban areas, which tend to have higher crime rates than more rural neighborhoods (Burdick-Will & Logan, 2017).

Another concern is attendance rates of students at schools located in high crime neighborhoods. For many students, access to transportation to and from school is limited, with parents relying on buses or students being able to walk to their local school. Over the past few years, Florida has seen significant bus driver shortages, leading to more students having to walk to school. In Hillsborough County alone, over 90,000 students rely on school buses to attend school. Most concerning is that without access to this service, attendance rates are often lower due to students feeling unsafe to walk through high crime neighborhoods to attend school. This is particularly true of students whose route to school requires them to walk along streets with high rates of violent crime (Burdick-Wills et al., 2019).

Linking Community and School Violence

Schools are situated within the context of a broader local community environment, increasing the likelihood that rates of school violence may closely resemble those of the surrounding community (Welsh et al., 2000). For example, students have the potential to transport community norms into schools that may be located outside of their immediate living environment (Boggess, 2013). While in some cases this could be seen as beneficial for strong

communities that share common values (e.g., social bonding), this can be detrimental in cases where students live in socially disorganized communities and are therefore exposed to high rates of crime and violent offending (Patton et al., 2012). Previous research has emphasized the significance of building strong school and community partnerships (Epstein, 2018), however, there is a more limited understanding of whether schools represent their own unique community with values separate from those of the surrounding neighborhoods. As a result, it is possible that schools may act as a positive influence for students, despite being located in high crime communities.

Community Predictors of School Crime and Violence

Poverty and Socioeconomic Status (SES). Studies across the current literature support the idea that low-income communities experience significantly higher rates of crime and violence compared to more affluent communities (Burford et al., 2021; Webster & Kingston, 2014). A report by Cantor (2002) indicated that high schools with the greatest rates of violence were situated in communities with high social disadvantage and residential mobility; however, research directly linking community to school violence is limited and the directional relationship between poverty and crime remains unclear. One theory suggests that disadvantaged communities with concentrated poverty may be vulnerable to higher crime and disorder resulting from a breakdown in social norms permitting delinquent behavior (Sampson, 2020). Webster and Kingston (2014) note that the longer children and adolescents live in poverty, the more likely that they were to engage in criminal/violent behavior.

Residential Mobility. Children and adolescents moving homes throughout the course of their lifetime is not uncommon, yet these experiences can be tumultuous for children who are required to navigate new social, cultural and physical environments (Vogel et al., 2017).

Previous studies have indicated that moving can lead to detrimental outcomes in school including increased attrition rates (Gasper et al., 2012), decreased wellbeing and mental health (Oishi & Talheim, 2012), decreased academic performance (Cordes, et al., 2019), and delinquency (Schmidt et al., 2018). Adolescents with high residential mobility may be at increased risk of demonstrating externalizing behaviors (Fowler et al., 2014), engaging in higher rates of violence (Haynie and South, 2005), having disrupted relationships with peers during a vulnerable period of development (Zhang, 2021), and increased rates of school suspension (Boom, 2011).

Family Disruption. Over 24 million children and adolescents in the United States reside in single parent households (U.S. Census Bureau, 2023). It is estimated that approximately 50 percent of children will witness divorce or separation of their parents (Centers for Disease Control, 2023). Children living in single parent households or those in which divorce or separation have occurred are significantly more likely to engage in delinquent behaviors. One possible reason for this relationship is decreased levels of child and adolescent supervision, allowing children to be more susceptible to peer influence. Other possible contributing factors include parental mental health concerns leading to the inability to care for a child, witnessing domestic violence between parents in the home, a lack of relationship or strained relationship with parents who are often absent at work to support the family (Singh & Kiran, 2012).

Racial and Ethnic Heterogeneity. Socially disorganized communities (i.e., those with racially diverse populations) exhibit weaker social ties among neighbors, which essentially limits the ability of community residents to monitor and control criminal behaviors (Kim & Wo, 2022). Although community factors such as racial and ethnic composition have been linked to social disorganization and violent crime within communities (Kim & Wo, 2022), the relationship in

schools is less clear. Previous research has concluded that demographically heterogeneous communities typically demonstrate higher levels of crime (Kubrin, 2013), given minimal contact between residents of differing backgrounds; however, contradicting results have been reported in school environments (Chang, 1999; Graham, 2006; Maume et al., 2010). For example, communities surrounding the immediate location of the school may be more influential in predicting school disorder and crime than students' imported communities (Welsh et al., 2000). Increased racial and ethnic heterogeneity has aided in facilitating friendships of students from various backgrounds (Chang, 1999), and has been linked to decreases in student victimization (Felix & You, 2011; Graham, 2006). As students attending local schools come from surrounding communities and neighborhoods, one question that remains is whether the racial and demographic makeup (heterogeneity) of the community in which the school is situated serves as a strong predictor of school-related incidents of crime/violence To date, no current studies have examined the relationship between factors related to community violence (e.g., racial and ethnic heterogeneity) and their relationship to school threat assessment; however, developing an understanding of the relationships between these variables may provide crucial insight into the complex nature of ways to prevent violence in schools.

A Public Health Approach

In the United States each year approximately 50 million children attend school in K-12 settings (United States Census Bureau, 2019), creating a drastic need for physically and psychologically safe spaces to foster academic and social emotional development (Durlak & Weissberg, 2011). Previous approaches to violence prevention such as the first model developed by the U.S. Secret Service, U.S. State Department, and U.S. Marshal Service were designed to protect government officials from targeted acts of violence (Modzeleski et al., 2018); however,

this threat assessment framework was insufficient in schools, given the need for further consideration of developmental context. Following decades of unsuccessful attempts to develop a profile of students who pose the greatest risks in schools (McGee & DeBernado, 1999), and concerns with racial profiling, violence risk assessment shifted from prediction to a public health approach emphasizing prevention strategies **(**Otto & Douglas, 2010), 2020**).** One common misconception surrounding a preventative approach, is that effective prevention relies on accurate predictions, such as knowing which individuals will carry out an act of violence (Cornell, 2020). Alternatively, other health-related threats have been prevented through universal safety measures aimed at the general population. Some examples of this approach include implementing fire safety measures, encouraging drivers to wear seatbelts (Boakye & Nambisan, 2020), and promoting health and nutrition efforts to decrease the likelihood of childhood obesity (Lytle, 2012). While it is difficult to predict which individuals may be affected by a fire, car crash, or illness, taking preventative measures can help to minimize the risk and number of impacted individuals.

Threat assessment provides one approach and preventative strategy to mitigating potential violence across school settings. A threat assessment is an assessment which occurs when a student threatens to harm another individual in order to determine whether the student poses a threat; however, it is not utilized as an alternative strategy to crisis response. The assessment utilizes a decision tree to evaluate the level of threat and determine appropriate follow-up procedures (Cornell, 2021). The process comprises five steps including evaluation, attempts to resolve the threat as transient, response to substantive threats, safety evaluation, and follow-up/monitoring of the safety plan. (See Appendix B for further detail and examples of the threat assessment process).

A threat assessment is necessary when a student threatens to harm someone verbally, non-verbally, or through social media. Although many students make threats that they do not ultimately carry out, such statements and actions serve as a possible warning sign for an impending act of violence. Threat assessment frameworks rely on problem solving and conflict resolution centered around the behaviors that caused a student to initiate a threat (Allen et al., 2008). Ultimately, the goal of threat assessment is to prevent levels of violence across school settings from escalating, eventually resulting in the student causing harm to others or themselves. The risk assessment process shifts the focus away from static contributors to behavior (e.g., demographic information), to dynamic contributors such as situational factors and intention (Cornell, 2021). Traditionally, behavioral threat assessment has not focused on potential impacts to communities; however, initiation of the threat assessment process has the potential to mitigate acts of violence stemming from conflicts in school. The threat assessment process provides school mental health professionals and administrators an opportunity to intervene thereby preventing these acts from being carried out in community settings (Kelly, 2018).

Introduction to the Comprehensive School Threat Assessment Guidelines (CSTAG)

The development of the first threat assessment guidelines applicable to school settings began months after the tragedy at Columbine High School. Many top FBI profilers reviewed data surrounding previously completed or foiled school shootings and found that student attackers possessed limited shared characteristics, which reduced the likelihood of identifying students who posed the greatest risk of future harm. The FBI noted that the use of checklists to identify students would likely over-identify students, while missing signs present from others. Alternatively, they discovered that many of the student attackers conveyed their intentions preceding their incidents – a concept often identified as leakage (Cornell & Allen, 2011;

Goodrum, 2018). This discovery led to the initial concept of threat assessment, suggesting that investigations into reported premeditated plans of violence could prevent attacks from occurring (Reddy et al., 2001). Original threat assessment guidelines were designed through a collaboration between the FBI, Secret Service, and U.S. Department of Education, as they conducted surveys to determine existing policies in place across school districts to address student threats (Cornell & Allen, 2011). Over time, threat assessment has evolved to address the meaning and context of students' threatening statements and behaviors. In contrast to previous approaches, the current model considers developmental factors and student intentions, and provides an alternative approach to zero tolerance disciplinary policies (Cornell & Allen, 2011).

The CSTAG framework comprises five unique components, distinguishing the model from other recommended threat assessment procedures (Cornell, 2020b). First, CSTAG is a manualized approach providing explicit instructions and a decision tree for determining the appropriate steps and level of risk (See *Appendix B* for outlined steps of each phase). Second, it provides classifications for the severity of threats, including transient (not serious) and substantive (serious). Third, training is provided through several interactive professional development sessions or workshops. Fourth, the emphasis shifts from punitive disciplinary measures to non-punitive approaches and minimizing the rates of suspension. Finally, comprehensive mental health assessments accessible through (https://www.fldoe.org/core/fileparse.php/19958/urlt/8-3.pdf) are recommended when threats are determined to be serious. Overall, the CSTAG framework was designed to allow school personnel to quickly establish whether threats are serious, and ultimately focus on those that are determined to be substantive (posing serious or very serious continued risk). Furthermore, unlike

other threat assessment frameworks, CSTAG provides guidelines for implementing monitoring plans for cases in which students were determined to pose substantive threats.

Throughout the threat assessment process, the responsibility of evaluating student threats falls on the threat assessment team. It is recommended that such teams comprise at least three individuals from various disciplines to collect data from various sources (e.g., the student, parent(s), peers, teachers, etc.). Most commonly, school-based threat assessment teams include a combination of administrators (e.g., school principal or assistant principal), mental health professionals (school psychologist, school counselor or a school social worker) and in suspected serious cases a school resource officer (Cornell, 2020). See *Appendix A* for sample questions used throughout this process.

Study Rationale

School violence has the potential to impact students' behaviors and academic performance in the classroom (Banerjee, 2016). Currently, there are few studies directly addressing exposure to levels of community violence and its association with school related violence (Bradshaw et al., 2009). Furthermore, no studies identified in the literature directly examine a possible link between community violence and school-based threat assessment. Given the need for alternatives to profiling, and the more recent use of threat assessment frameworks in schools, it is important to examine the link between children's exposure to violence and potential links to incidents that require the implementation of threat assessment procedures across K-12 settings.

The current study aims to examine (1) whether rates of community violence are correlated with rates of threat assessments in a large urban public school district, (2) if rates of community violence are related to threat severity, and (3) whether school or community

racial/ethnic heterogeneity predicts the rate of threat assessment in schools. It was hypothesized that as rates of community violence increased, rates of threat assessments in schools would increase. Next, it was hypothesized that greater rates of community violence would lead to higher classifications of threat severity. Finally, it was hypothesized that as racial and ethnic heterogeneity increased in communities, the rate of threat assessments would increase. Alternatively, as racial and ethnic heterogeneity increased in schools, there would be a lower rate of threat assessments conducted in schools. The results of this study can be used to inform best practices in school threat assessment implementation across school settings, particularly as it relates to equitable decision making in threat identification and classification for students who may pose a threat to others in K-12 school environments. Furthermore, results of this study may be used to inform school and district level professionals about schools that may be more susceptible to experiencing community violence, increasing the need for additional support services and intervention.

Purpose of the Study

The purpose of this study was to strengthen the knowledge base surrounding the extent to which rates of community violence have an impact on school threats of violence, by examining the rates of threat assessments in a large public school district (Newman et al., 2003). Although studies have examined the impact of the threat assessment process on student perceptions of school safety (Nekvasil & Cornell, 2015), as well as community violence in relation to school violence (Limbos & Casteel, 2008), no known studies have examined the potential relationship between community violence and threat assessment. Furthermore, this study aimed to provide additional insight into the complex nature surrounding the relationship between school and

community heterogeneity and rates of school violence, by determining if such a relationship exists between heterogeneity and threat assessment.

Chapter Three: Methods

This study analyzed pre-existing data from K-12 students in Hillsborough County in Florida. Threat assessment data were collected at the district level following input of threat assessment administration outcomes by each school threat assessment team. This study examined relationships between school and community characteristics (i.e., community violence and racial/ethnic composition) and their relationships with rates of threat assessments using a series of Pearson correlations.

Participants

The data set comprised a sample of 529 threats made by students in grades K-12, in 99 schools, located across 24 zip codes in Hillsborough County during the 2021-2022 academic school year. These data stem from a larger data set comprising all threats (i.e., 1275) made in Hillsborough County Public Schools during the 2021-2022 academic year; however, for the purpose of this study, only threats made in schools located outside of the City of Tampa or Temple Terrace were included given limitations in obtaining crime data for these areas. Schools in the current sample were primarily located in suburbs within a 25-mile radius of the City of Tampa. Hillsborough County Public Schools currently represents the third largest public school district in Florida and the seventh largest public school district in the United States. These data reflect students on whom threat assessments were conducted including demographic characteristics (i.e., age, grade, race), school name, and the threat classification (i.e., not a threat, transient, serious substantive, or very serious substantive) following the threat assessment process (*See Appendix C*)**.** An underlying assumption of the study was that students for whom

data were not reported, did not undergo a threat assessment within the school setting. During the 2021-2022 school year, Hillsborough County Public Schools reported that approximately 70 percent of students in the district came from systemically marginalized backgrounds. These students comprised 63 percent of the total number of students within the schools included in this study.

Variables

Threat Assessment

A threat assessment is an assessment of intent to harm another individual by determining whether a student poses a threat of violence and has the means to act on this intent (Cornell & Sheras, 2005 cited by NASP, 2015). The assessment occurs when a student threatens to engage in a violent act or threatening behavior. The assessment process (Cornell, 2020) comprises several phases including evaluating the threat, attempts to problem solve and resolve threats as transient, responding to substantive threats (e.g., warning those potentially impacted and implementing precautions), safety planning, and monitoring on an ongoing basis those who pose threats classified as serious substantive or very serious substantive (*See Appendix B*).

Threat Severity

Threat severity is the outcome of a threat assessment which can be classified under four categories defined as not a threat, transient threat, serious substantive threat, and very serious substantive threat. A threat assessment outcome may indicate "not a threat" when a possible threat was reported but there was no information to corroborate such reports of a threat. A transient threat is a threat that does not reflect a genuine intent to harm another individual (e.g., humor, anger, or frustration). A serious substantive threat reflects serious intent to harm others, often including planning and preparation to act on the intent. Very serious substantive threats

involve those which convey intent to harm and include the use of a weapon. For the purpose of the current study, threat severity was dummy coded (CITE) as level 1-4 corresponding with each threat level in increasing severity respectively. As data for the current study were analyzed at the school level, the mode of the threat severity for each school was assigned for that school. For schools where no mode was present (e.g., one transient, one serious substantive, and one very serious substantive threat), the average value was selected (e.g., 2). For schools with an even number of threats wherein the average would not directly correspond with an assigned dummy coded value, the lower of the two values was selected as to not overestimate the level of threat at the school (e.g., for a school with one non-threat and one transient threat, the school was assigned a value of 1).

Rate of Threat Assessments Conducted

Rates of threat assessments conducted is the aggregated number of threat assessments that were conducted by all schools in a specified zip code divided the total number of students in the schools within the specified zip code and then multiplied by 1,000 to determine the rate of threat assessments per 1,000 individuals.

Racial and Ethnic Heterogeneity

Racial and ethnic heterogeneity is a measure of racial and ethnic diversity. For the purpose of this study, this was calculated using a Herfindahl index (Gibbs & Martin, 1962) based on the population demographics of each school or zip code tabulation area (communities). The index was calculated for each school or zip code tabulation area by subtracting the sum of the squared proportions of each racial group from one. For further information regarding this calculation see Boggess (2013). Racially and ethnically marginalized groups in this study

included those of Asian, Black, Hispanic, Indian, Native Hawaiian or multi-racial descent. Individuals who did not indicate their racial background were marked as "not reported."

Rates of Community Violence

In this study, community violence refers to rates of violence calculated by zip code in Hillsborough County, FL. This information is publicly available through the Hillsborough County Sheriff's Department, allowing the data to be filtered to include/exclude specific types of crimes. The types of crimes selected for inclusion in the overall violence rate comprised those classified as violent crime (i.e., arson, assault, battery, burglary, murder (homicide), and robbery). A rate was calculated by aggregating the total number of crimes in each zip code and dividing the total by the population of each zip code respectively then multiplying by 1,000 to determine the rate per every thousand individuals. The method of calculating crime rates in this manner is typical across the criminology literature, in an attempt to standardize the scores and account for differences in population (Boivin, 2022).

Poverty

In the current study, this variable at the community level is defined as the ratio of individuals living in poverty by zip code tabulation area as indicated by the American Community Survey (U.S. Census Bureau, 2021). At the school level this is defined as the ratio of students eligible for free or reduced-price lunch.

Residential Mobility

A measure of how often individuals move residences. In the current study this is indicated by those who have moved within the past year according to the 2021 ACS.

Family Disruption

Is an event that alters the structure or makeup of a family. This variable was calculated by examining rates of individuals who are separated, separated but still married, divorced, or widowed.

Attendance Rate

The ratio of students who had less than a 90 percent attendance rate throughout the academic year.

Instrumentation

The primary measure is the Comprehensive School Threat Assessment Guidelines (CSTAG) used to conduct the threat assessments throughout the Florida school district in the proposed study (See *Appendix A* for sample questions). These guidelines have been recognized as evidence-based across several empirical studies (see Cornell et al., 2004; Strong & Cornell, 2008).

Threat Assessment Data

The threat assessment data in this study comprise information regarding student demographic characteristics (gender, race, and grade level), school name, the date that the threat assessment was carried out, and the final classification of threat severity. Threats were classified as a non-threat, transient (not serious), or serious/very serious substantive (posing a continuous threat). Serious substantive threats were defined as those that involved threats to hit, fight or beat up. Very serious substantive threats included those that involved threat to kill, rape, or cause serious harm with a weapon (See Chapter 1 for definitions and examples of threat classifications).

Community Violence/Crime Data

Data regarding incidents of community violence and crime includes incidents reported from the Hillsborough County Sheriff's Office (HCSO), which is publicly available through the interactive crime map (https://gis.hcso.tampa.fl.us/publicgis/crimemapping/). HCSO crime data include the date of the reported incident, crime type, general location (street address) and zip code. Although all of the schools in the study were located within the Hillsborough County school district, the geographic locations of many of these schools spans across areas (City of Tampa) whose crime data are under the jurisdiction of the Tampa Police Department. Given difficulties with data consistency and accessibility of data from the Tampa Police Department, crime data from these zip codes were excluded as well as the schools in such corresponding areas.

United States Census Bureau Data

U.S. Census data provide information about the makeup of individuals in various geographic locations across the United States. Census data were used to provide information about the demographic breakdown of communities surrounding each school where threat assessments were conducted. Such demographic data were gathered through the American Community Survey (ACS) administered in 2021. Data on the ACS are aggregated at by zip code tabulation areas (ZCTA). Characteristics of interest in this survey were racial and ethnic makeup, socioeconomic status measured by rates of individuals living in poverty, residential mobility indicated by a change in residence during the past year, and family disruption measured as individuals over the age 15 who were married but separated, separated, widowed, or divorced.

Data Collection Procedure

As this research study is a secondary analysis, data were collected from multiple sources. Data regarding student demographics and the number of completed threat assessments were collected through Hillsborough County Public Schools. Threat Assessment Team members at each school are responsible for entering information regarding completed threat assessments and outcomes into a database that can be accessed by district mental health professionals.

Information regarding the rates of community violence in each relevant school zip code was collected and reported through the Hillsborough County Sheriff's Office. Community demographic information was gathered through the results of the 2021 ACS, available from the U.S. Census Bureau website (https://www.census.gov/data/tables.html).

Data Analysis

The initial data set obtained for the study were hierarchical in nature with individual student threat assessment nested within schools, and schools nested within zip codes. As a result, there was a need for consideration of the multi-level structure. Data in the current study were analyzed at the school level, such that each of the 99 schools serves as a unique participant or case. All analyses were conducted using SPSS version 28.

To address the first research question regarding a relationship between rates of community violence and rates of threat assessments in schools, the variables were transformed from frequency counts to create an average rate of community violence (i.e., violent crimes) by zip code as well as an average rate of threat assessments in schools within each corresponding zip code. To calculate the rate of community violence for each zip code, the total number of crimes in the zip code tabulation area was divided by the total population of the zip code tabulation area (See Bovin, 2022). Each of the transformed variables was reviewed for any

violations of normality and linearity using a histogram (normality) and scatterplot (linearity). Descriptive statistics were calculated for each variable and a Pearson Product Moment Correlation was used to assess for the correlation among the variables of interest.

To analyze the relationship between community violence and threat severity a one-way analysis of variance (ANOVA) was used to assess group difference between threat severity classifications and rates of community violence. As the data were analyzed at a school level, when possible, a mode threat assessment severity score was assigned to each school. To do so, for schools which did not report any threats, they were coded as zero, schools where the most common classification was "not a threat" were coded as one, transient as two, serious substantive as three, and very serious substantive as four. For schools with no mode threat assessment severity classification, when possible, an average was taken (e.g., a school with one transient, one serious substantive, and one very serious substantive threat was assigned a score of two). For schools with an even number of threats (e.g., two) and no mode threat classification, the lower of the two values was selected as to not inflate threat severity classifications for the individual school. The rate of community violence by zip code tabulation area was then assigned to each school located within that zip code. The one-way ANOVA was then conducted to analyze whether there were any significant group differences in rates of community violence.

To address the third research question regarding whether racial/ethnic heterogeneity of schools predicts rates of threat assessment in schools, an ordinary least squares regression was utilized to assess the impact of multiple predictor variables on the rate of threat assessments conducted. The predictor variables accounted for in the model included school heterogeneity, school poverty rate, attendance rate, family disruption, and residential mobility. School heterogeneity for each school was calculated using a Herfindahl index (see Boggess, 2013; Gibbs

& Martin, 1962). School poverty was calculated by evaluating the percentage of students eligible to receive free and reduced lunch. These data are available through the National Center for Education Statistics Common Core of Data which can be accessed at https://nces.ed.gov/ccd/schoolsearch/index.asp. Attendance data were calculated by taking the number of students who had an attendance rate below 90 percent and dividing this by the total number of students in the school. The variable was calculated in this manner in an attempt to standardize the percentage while accounting for the different number of students at each school. These attendance data can be accessed through individualized school improvement plans found at https://www.hillsboroughschools.org. Family disruption was calculated by taking the ratio of individuals married, divorced, widowed, or separated, and dividing by the total number of individuals over the age of 15, as the American Community Survey begins tracking these data beginning at the age of 15. Finally, Residential mobility was calculated by aggregating the total number of individuals who had reported moving in the previous year and dividing by the total number of individuals in the zip code tabulation area. Family disruption and residential mobility were included in the regression model in alignment with social disorganization theory (i.e., community factors typically influencing rates of crime and delinquency). By adding these variables to the regression model, it was possible to determine the extent to which these variables contributed to the variance in threat assessment rates without discounting the impact of school heterogeneity. Following the ordinary least squares regression, a variance inflation factor was calculated to check for any concerns of multicollinearity which would impact the redundancy of the variables included in the regression model.

In order to evaluate the final research question an ordinary least squares regression was used to determine whether community heterogeneity served as a strong predictor of rates of

threat assessments in schools. Four predictor variables were used in the model including community heterogeneity, poverty, family disruption, and residential mobility. Community heterogeneity was calculated using a Herfindahl index (see Boggess 2013; Gibbs & Martin, 1962). Data on community demographics were obtained from the U.S. Census American Community Survey. Poverty was calculated as the number of individuals living in poverty divided by the total number of individuals within the zip code tabulation area reported by the ACS. Family disruption and residential mobility were calculated in the same manner previously described in question three. After running the regression model, a variance inflation factor was once again calculated to assess for any concerns of multicollinearity.

Chapter 4: Results

Missing Data

The current data set utilized contained no missing values with the exception of race indicated as "not reported" in Table 2, therefore modifications or adjustments were unnecessary.

Inclusion Criteria

A sample of 529 threat assessments across 99 schools were included in the current study as they met the following criteria. Threats occurred in a Hillsborough County Public school located inside the jurisdiction of the Hillsborough County Sherriff's office. For this reason, all threats made in schools located in the City of Tampa or Temple Terrace were excluded as crimes in these areas are reported to the City of Tampa Police Department and Temple Terrace Police Department respectively. All threats included were those made by students in grades Kindergarten through twelve.

Descriptive Statistics

Data regarding the descriptive statistics of the individual student participants as well as school level data regarding each of the variables of interest are noted in Tables 1, 2, 3, and 4 below. The demographic variables (*see Table 1*) were normally distributed, indicated by skewness and kurtosis values within the recommended acceptable ranges [skewness less than or equal to the absolute value of 3; kurtosis an absolute value less than 10] (Chou & Bentler, 1995; Kline, 2005). Two of the variables of interest (i.e., school and community racial and ethnic heterogeneity) were normally distributed with skewness and kurtosis falling in the recommended ranges previously noted. However, rates of community violence and threat assessments

conducted in schools demonstrated extreme skewness and kurtosis values outside of the acceptable range. To account for these unacceptable values, scatterplots of the residuals were examined to check for normality. For both variables the residuals were normally distributed allowing for analyses to proceed. Additionally, correlations (Havlicek & Peterson, 1976), and ANOVA (Blanca Mena et al., 2017) have been found to be relatively robust to violations of normality, while Ordinary Least Squares regression does not require variables to be normally distributed.

Table 1.

Descriptive Statistics of the Sample of Students with Completed Threat Assessment

	n	M	SD	*sk*	*ku*
Age	529	11.05	3.165	.280	-.516
Grade	529	5.09	2.99	.259	-.655
Gender*	529	1.23	.42	1.27	-.389
Race*	529	3.67	1.46	.086	-1.6

*Note: The variables of Gender and Race were recoded as the following: Gender - 1=male, 2=female; Race – 1=Asian, 2=Black, 3=Hispanic, 4=Indian, 5=White, 6=Not Reported. Refer to Table 2 for frequency counts.

Table 2.

Demographic Characteristics of the Sample of Students with Completed Threat Assessment

Characteristic	n	%
Gender		
Female	123	23.2
Male	406	76.8
Race		
Asian	3	0.6
Black	168	31.8
Hispanic	115	21.7
Indian	1	0.2
White	199	37.6
Not Reported	43	8.1
Grade Level		
Elementary (K-5)	316	59.7
Middle (6-8)	134	25.3
High (9-12)	79	14.9

Table 3.

Descriptive Statistics of Variables

	n	M	SD	*sk*	*ku*
Community Violence Rate	99	9.15	9.46	3.4	12.70
Threat Assessment Rate	99	7.32	12.76	4.41	23.273
School Heterogeneity	99	.62	.11	-2.02	5.54
Community Heterogeneity	99	.57	.10	-.82	-.10
Attendance Rate	99	.18	.13	.74	.42
Student-Teacher Ratio	99	16.62	3.76	-.201	1.428
Free or Reduced Lunch	99	.59	.23	-.52	-.82
Poverty	99	121.42	56.99	.18	-1.27
Residential Mobility	99	143.79	27.39	-.09	-.11
Family Disruption	99	705.18	53.36	.93	2.27

Table 4.

Classifications of Threat Severity

	n	%
Threat Severity		
Not a Threat	4	4.0
Transient	77	77.8
Serious Substantive	3	3.0
Very Serious Substantive	1	1.0
Schools Where No Threats Were Reported	14	14.1

Primary Analysis

Pearson Correlation

In order to investigate whether there was a relationship between rates of community violence and rates of threat assessments outlined in research question one, prior to conducting the analysis, data were examined to ensure that the five key assumptions were met. First, both variables were measured on a ratio scale. Second, variables were checked for normality. While the skewness and kurtosis of the variables fell outside the acceptable range, evaluation of the normality of the residual values demonstrated normality for each variable. Third, each observation in the data set contained a pair of values. Fourth, the threat assessment data

contained two outliers and the crime rate data contained four outliers. While typically this value is removed, after running the analysis excluding the outlier, this did not significantly impact the results (*See Table 5*). Finally, a scatterplot was created to check for the linearity of the data. Despite an initial hypothesis suggesting a potential linear relationship between these two variables, the data did not demonstrate a clear linear pattern. In such cases it is recommended that a Spearman correlation be used to analyze such a relationship, as it is robust to violations of the linearity assumption. At the same time, following careful consideration, it was determined that the Spearman correlation was not appropriate given that the data were not measured as categorical or ordinal variables.

Table 5

Correlation of Rates of Threat Assessment and Rates of Community Violence

Variable	1	2	3	4
1. Threat Assessment	1			
2. Community Violence	.05	1		
3. Threat Assessment No Outliers	-	.06	1	
4. Community Violence No Outliers	.10	-	.05	1

Note. No correlations were found to be significant at the significance level of $p<.05$

Results of the Pearson correlation coefficient with and without outliers removed are presented in *Table 5*. When examining the relationship between rates of threat assessment in schools and rates of community violence with no outliers removed, there was a non-statistically significant positive correlation, $r(97)=.045$, $p=.657$. A similar non-statistically significant positive correlation was found when examining the relationship between rates of threat assessments and rates of community violence, when outliers for each of the variables were removed $r(91)=.051$, $p=.628$.

One-Way ANOVA

To address the second question regarding rates of community violence and threat severity, a one-way ANOVA was conducted to compare the effect of threat severity classifications on rates of community violence. Prior to conducting the ANOVA, data were evaluated to determine that they met the required assumptions (i.e., normality, homogeneity of variance, and independence). Normality of the community violence variable was assessed by examining skew and kurtosis, similarly, to question one. Previous research has indicated that ANOVA is robust to violations of normality (Blanca Mena et al., 2017), therefore, it was determined that the data could still be utilized. Homogeneity of variance was assessed by examining the Levene's statistic, $F(3,94)=1.21$, $p=.312$, and the null hypothesis was accepted, suggesting no significant differences in the variances between groups. While there is no formal test for independence, each of the values obtained for community violence was independent of those from other schools. Results of this analysis are presented in *Table 6*. This analysis demonstrated that there was not a statistically significant difference in rates of community violence between the five groups $F(4,98) = .56$, $p=.69$.

Table 6

Means, Standard Deviations, and One-Way ANOVA of Community Violence

	No Threats Reported		Not a Threat		Transient		Serious Substantive		Very Serious Substantive		F (4,98)	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Community Violence	6.77	2.95	6.53	5.47	9.81	10.47	9.67	4.13	1.11	0	.56	.02

Ordinary Least Squares Regression (OLS)

School heterogeneity. In order to examine the relationship in question three of whether school heterogeneity served as a predictor of rates of threat assessments while accounting for additional variables (i.e., attendance rates, student-teacher ratio, residential mobility, family disruption, and socioeconomic status) an ordinary least squares regression model was run. Attendance rates reflected ratios of students who had an attendance rate of less than 90 percent. Additionally, socioeconomic status was measured as a ratio of students eligible for free or reduced lunch. Prior to conducting this analysis, a correlation matrix was examined to assess whether any variables should be excluded based on a high correlation with another variable. Results of the correlation matrix are presented in *Table 7*. No variables were excluded as they did not demonstrate a strong correlation. Additionally, data were assessed for violations of assumptions of normality and homoscedasticity of the residuals using scatterplots and histograms. No violations were detected.

Table 7

Correlation Matrix of School Variables and Threat Assessment Rate

	TA	RM	FD	SH	AR	FRL	STR
TA	1						
RM	.141	1					
FD	-.078	-.135	1				
SH	.036	-.013	-.019	1			
AR	.162	-.144	-.289**	-.045	1		
FRL	.052	-.098	-.541**	.031	.518**	1	
STR	.017	.076	.177	-.047	-.004	-.292**	1

Note. TA=Rate of threat assessments, RM=Residential mobility, FD=family disruption, SH=School Heterogeneity, AR=Attendance Rate, FRL=Eligible for free or reduced lunch, STR= Student-teacher ratio. ** $p<.01$

The ordinary least squares regression model was conducted with school heterogeneity, residential mobility, family disruption, attendance rates and rates of students receiving free and reduced lunch as predictors of rates of threat assessments conducted in schools. The model used

a significance level of .05. All variables were included based on previous research suggesting a relationship with rates of violence (*See Chapter 2*). Results of the regression are depicted in *Table 8*.

Table 8

OLS Regression of School Variables as Predictors of Threat Assessment

	Model			
Variable	B	*SE B*	*β*	VIF
School Heterogeneity	5.90	12.23	.05	1.01
Attendance	20.53	11.62	.21	1.39
Free and Reduced Lunch	-3.07	7.66	-.06	1.81
Family Disruption	-.01	.03	-.03	1.49
Residential Mobility	.08	.05	.16	1.08
Student-Teacher Ratio	-.02	.37	-.01	1.09
R^2	.06			
F	.936			

Note. VIF=Variance Inflation Factor, scores <5 are considered acceptable.

Results of the model demonstrated that none of the six variables were significant predictors of rates of threat assessments conducted in schools $F(6,98)=.936$, $p=.473$. A variance inflation factor (VIF) was then calculated to assess for any concerns of multicollinearity. A typical conservative threshold for this value, is less than five (Kim, 2019), therefore all variables fell within the given threshold and were included in the model.

Community heterogeneity. Prior to running the regression model for question four, a correlation matrix was analyzed to determine whether any variables should be excluded from the model given possible redundancy with other variables. The correlations between variables are presented in *Table 9*. Based on the correlation coefficients presented in the table, no variables demonstrated very high correlations that would impact the model. Furthermore, before running the regression model, data were checked for violations of assumptions (normality and homoscedasticity of the residuals) by examining scatterplots. No violations were detected.

Table 9

Correlation Matrix of Community Variables and Threat Assessment Rate

	TA	Poverty	RM	FD	CH
TA	1				
Poverty	-.002	1			
RM	.141	-.285**	1		
FD	-.078	-.445**	-.135	1	
CH	.206*	.324**	.289**	-.786**	1

Note. N=99. TA=Rate of Threat Assessments, RM=Residential Mobility, FD=Family Disruption, and CH=Community Heterogeneity.
*p<.05, **p<.01

Question four explored whether community racial and ethnic heterogeneity served as a predictor for rates of threat assessments in schools. An ordinary least squares regression was conducted with community heterogeneity, poverty rate, family disruption, and geographic mobility as predictors for the rate of threat assessment, using a significance level of .05. The additional variables of poverty, family disruption and residential mobility were included in the model given their relation to crime according to social disorganization theory (*See Figure 1*). Results of the regression are depicted in Table 10.

Table 10

OLS Regression of Community Variables as Predictors of Threat Assessment

	Model			
Variable	B	*SE B*	β	VIF
Community Heterogeneity	46.535	22.691	.348	2.888
Poverty	-.001	.027	.-.006	1.479
Family Disruption	.048	.041	.201	2.927
Residential Mobility	.031	.053	.066	1.323
R^2	.065			
F	1.642			

Note. *N*=99. VIF=Variance Inflation Factor, scores <5 are considered acceptable.

The model demonstrated that none of the five variables of interest were significant predictors of the rates of threat assessments conducted in schools. $F(4,94)= 1.64$, $p= .170$. Following evaluation of the regression model, a VIF was calculated and examined to determine

if any of the variables demonstrated a high level of multicollinearity. All variables met the threshold of less than five (*See Table 10*), indicating no significant impact on the model.

Chapter Five: Discussion

Childhood exposure to violence over the past several decades has become a rising public health concern. Such exposure to community violence has been linked to physical concerns (i.e., physical injury or the development of chronic health concerns), mental health concerns (e.g., increased risk of anxiety, depression, and posttraumatic stress disorder) for youth (Centers for Disease Control, 2022). Previous theories have suggested that the effects of witnessing community violence can translate into additional settings, one of which is schools (Lunenberg, 2010). With rising concerns over school safety, and increasing perceptions that schools are unsafe places, one recommended approach for reducing school violence, supported by the empirical literature, is behavioral threat assessment (Louvar-Reeves & Brock, 2018). Specifically, numerous studies have supported positive outcomes following the implementation the Comprehensive School Threat Assessment Guidelines (CSTAG) approach (Cornell et al., 2012; Maeng, et al., 2020; Strong & Cornell, 2008). Although previous research has examined the relationship between community violence and school-related outcomes (Borofsky et al., 2013) no studies have directly examined potential impacts of community violence on rates of threat assessments conducted in schools. The purpose of the current study was to examine relationships between levels of community violence and threat assessment in schools. Furthermore, the study aimed to determine whether the relationship between school and community heterogeneity predicted rates threat assessment, as previous studies have noted conflicting findings between racial and ethnic heterogeneity and rates of violence in school and communities (Chang, 1999; Graham, 2006; Kim & Wo, 2022).

In order to better understand the impact of community violence on school violence, there is a need to first examine the relationship between these two variables. Thus far, across the literature empirical studies have independently examined the impacts of community violence on youth as well as the impact of school violence; however, there are no current studies linking rates of community violence to rates of threat assessments being conducted in schools. The current study provides an initial effort to examine such relationship; however, additional research in this area is justified prior to generalizing the results to school settings.

Summary and Explanation of Findings

The goal of the current study was to examine the impact of rates of community violence on rates of threat assessments conducted in public K-12 schools. Four research questions were presented: 1) Are rates of community violence correlated with rates of threat assessments in K-12 schools? 2) Are rates of community violence related to threat severity? 3) Does a school's racial/ethnic heterogeneity predict the rate of threat assessments conducted in schools 4) Does a community's racial/ethnic heterogeneity predict the rate of threat assessments conducted in schools?

The first question examined whether there was a relationship between rates of community violence and rates of threat assessments in K-12 schools in Hillsborough County. It was hypothesized that there would be a positive correlation between rates of community violence and rates of threat assessments conducted. In other words, it was hypothesized that schools located in communities with increased rates of violence would report higher rates of threat assessments. Following evaluation of these data using a Pearson correlation, $r(97)=.045$, $p=.657$, no statistically significant relationship was observed between these two variables. While this finding is surprising, one possible explanation for this finding is that while threat assessment may serve

as an effective preventative approach to reducing school violence, it may not serve as an effective indicator of rates of violence occurring in schools. Another possible explanation is that students and staff may not have the adequate training on how or to whom they should report potential threats. For example, students or teachers may not know which staff comprise the behavioral threat assessment teams, or what types of incidents should be reported, thereby limiting reports and ultimately the number of threat assessments conducted. This could have led to a significant underestimate of violent incidents occurring on school grounds. Finally, it is possible that a relationship could exist between all crimes reported by the HCSO and the numbers of threat assessments; however, this study only examined a relationship between violent crime and rates of threat assessment in schools.

Question two examined group differences across threat severity classifications (i.e., no threats reported, not a threat, transient, serious substantive, and very serious substantive) and compared these classifications to mean rates of community violence. It was hypothesized that rates of community violence would be greater for groups classified by greater threat severity. For example, schools classified as having primarily very serious substantive threats would have a higher average rate of community violence in the zip codes the schools were located in. Evaluation of the one-way ANOVA indicated no significant group difference in rates of community violence $F(4,98) = .56$, $p=.69$. For this reason, there was not enough evidence to support the initial hypothesis. One area for consideration, however, is that by selecting the less severe threat ratings (e.g., transient over serious substantive) when a clear mode or average value was not present, it is possible that this contributed to an underestimation of threat severity at some of the schools increasing the likelihood of a Type II error. Furthermore, this analysis was

limited by the sample size of the number of schools, N=99, and as a result the analysis may have been underpowered.

Question three evaluated whether school racial and ethnic heterogeneity predicted rates of threat assessments conducted using an ordinary least squares regression. It was hypothesized that school heterogeneity would serve as a strong predictor of threat assessments in schools. More specifically schools with more diverse populations would have lower rates of threat assessments, based on findings suggesting that greater heterogeneity has facilitated student friendships and decreased rates of victimization among peers (Chang, 1999; Felix & You, 2011; Graham, 2006). Several additional school level variables were included in the regression model including students eligible for free/reduced lunch (measure of poverty/SES), attendance rates, family disruption, and residential mobility Results of the regression indicated that none of the five variables served as significant predictors for rates of threat assessments conducted in schools, $F(6,98)=.936$, p-.473. While school heterogeneity did not serve as a significant predictor, there are few studies across the literature which have directly examined school heterogeneity and school violence, and therefore the relationship remains not well established. It is also important to note that the overall model accounted for only a very small percentage (i.e., 6%) of the variance in rates of threat assessments conducted, $R^2=.06$. This suggests that there are likely additional variables not utilized in this study, that may account for a higher percentage of the variability. In accordance with social control theory, it may be important to consider variables such as social bonding or organizational participation which were not included in the current model.

Question four assessed whether community heterogeneity served as a predictor of rates of threat assessments in schools. Unlike school heterogeneity however, it was anticipated that

greater rates of community heterogeneity would be linked to higher rates of threat assessments. Additional variables were included in the model (i.e., residential mobility, poverty, and family disruption) in alignment with social disorganization and community factors that have been linked to higher crime rates (Patten et al., 2012). Results of the regression analyses indicated that none of the variables included in the model were significant predictors of the rates of threat assessments conducted in schools, $F(4,94)=1.64$, $p= .170$. Similarly, to the results of question three, only 6.5 percent of the variance in rates of threat assessments was accounted for by the four predictors, $R^2=.065$. One possible explanation for this finding is that according to social disorganization theory, poverty, community heterogeneity, residential mobility, and family disruption have an influence on additional mediating variables including decreased social ties, unsupervised peer groups, and low organizational participation. Such constructs are often difficult to operationalize and measure, and data regarding these variables are not directly evaluated in the U.S. Census American Community Survey.

Limitations

Despite several strengths of the current study, several limitations also exist. First, this study was a secondary analysis of data collected from Hillsborough County Public Schools, the Hillsborough County Sheriff's Office, and the U.S. Census Bureau. As a result, there was no possible way to control for the accuracy of the data collection and the data entry processes. Similarly, there are currently no measures in place within Hillsborough County to ensure that data from threat assessments are tracked with fidelity. It was assumed that schools that did not provide threat assessment data conducted no threat assessments, given the district mandate for all threat assessment data to be entered into the district tracking software. At the same time, it is

possible that schools conducted threat assessments and did not provide their data, which may have influenced the accuracy of the resulting threat assessment data.

Second, the school district in this study comprises zip codes spanning across multiple jurisdictions (i.e., Tampa Police Department, Hillsborough County Sheriff's Office [HCSO], and the Temple Terrace Police Department). Given inconsistencies in the method of data collection for these jurisdictions, only data from the Hillsborough County Sherriff's Office was utilized in this study. As a result, exclusively schools located within the corresponding zip codes covered by HCSO were included in the data set and current study. It is also likely that many more crimes occur than those that are reported and investigated by the HCSO.

Third, given limited access to data, the sample size of 99 schools may have a significant impact on the findings presented. Additionally, analyzing data at the school level presented challenges regarding data (e.g., crime rates) that were only available based on zip code tabulation areas. Applying one zip code crime rate score may have failed to account for variance in crime rates across various neighborhoods within a zip code tabulation area; however, such data is not currently available or publicly accessible.

Fourth, although private schools located within the corresponding zip codes utilized in this study may employ threat assessment procedures, methods and procedures used for threat assessment outside the standardization and requirements of the public school district vary substantially. Therefore, utilization of individualized data for each private school would pose significant challenges in maintaining a consistent methodology (e.g., implementation of CSTAG) and would likely compromise the integrity of the data. For this reason, the generalizability of the outcomes of the current study are limited to public K-12 schools implementing CSTAG and corresponding follow-up procedures.

Finally, inconsistencies across the literature in definitions of school violence as well as community violence/violent crime result in assumptions about the types of incidents included for the current study. For example, defining community violence as acts between individuals unknown to one another, excludes violent incidents occurring in community settings between friends or family members. Alternative definitions of violence have suggested that for an act to be considered violent, specified four criteria should be met, one of which is that the act was intentional (Hanby, 2017). In the case of community incidents, further information would need to be gathered from perpetrators to establish any intent. Regarding school-based violent incidents, it is well-established across the literature that many transient level threats do not include true intent to harm others. For this reason, had violence been defined in accordance with the definition presented by Hanby (2017), fewer incidents of violence likely would have been included in this study.

Implications for Practice

Despite ongoing efforts to promote safer schools and minimize rates of school violence, concerns from key stakeholders (students, teachers, families, and community members) regarding school safety remain salient. These concerns are unsurprising as school shootings during the 2020-2021 school year, the year prior to this study, rose to the highest number over the past two decades (NCES, 2022). One challenge that persists for schools is the extent to which they exist within broader communities and not in isolation. This presents a need for schools to evaluate community factors which may contribute to the rates of school violence and threat seen on school campuses.

Findings from the current study present several interesting implications for practice. While there may not be a direct relationship between community violence and rates of threat

assessments, this finding suggests that rates of threat assessments conducted may not be an accurate indicator of rates of school violence. As was previously noted, students, teachers, staff, and even parents may not have a concrete understanding of how to report threats or who to report incidents to within their own schools. Additionally, these individuals may not feel comfortable in reporting such threats out of fear of retaliation by the student who had made the initial threat.

Another salient finding from the current study is the way in which school and community heterogeneity did not predict the rate of threat assessments conducted in schools. Despite non-statistically significant findings in the regression model, community heterogeneity was positively correlated with rates of threat assessments. A potential implication of this finding is that schools located in communities with more diverse populations may benefit from additional interventions and supports, including possible Tier 1 schoolwide practices to promote improved mental health, school connectedness between students and peers/students and staff, and overall school safety.

Future Directions

The current study is the first to explore a possible relationship between rates of community violence and rates of threat assessments conducted in schools. Future research should consider the implications of variables not addressed in the current study, including student social ties to peers, school climate and connectedness, participation in school or community organizations, as well as reports of bullying/victimization, and their impact on threat assessment procedures in schools. An additional area for consideration regarding community factors potentially implicated in rates of violence, includes the role of collective efficacy in building a community culture. While this is beyond the scope of the current study, community culture has been hypothesized to play a role in rates of violence (Messner & Zimmerman, 2012).

Schools are uniquely situated in a context to build their own forms of community emphasizing shared values and commitments. To promote buy-in to this idea, whenever possible all students and staff should be involved in decision making processes including establishing clear rules and expectations. By promoting efforts to increase school safety, this may serve as a protective factor for students who view school as a safe space from the typical violence they witness in their communities. For some student, school may be the only place where they do not feel threatened, and therefore the importance of prioritizing the maintenance of such environments for students cannot be overstated.

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Appendix A: Threat Assessment Interview Questions

Review of Threat

(1) What happened that made others worried that you wanted to harm someone? What exactly did you say or do that made them worried? What did you mean by that?
(2) How would you do it? (Carry out the threat) (Probe for details of any planning or preparation). Where did the idea come from?

Relationship with Intended Victims

(1) How long have you known this person?
(2) Do you see any way that things could be improved between you and this person?

Family support

(1) Whom in your home are you close to?

Stress and Trauma

(1) What kinds of things have been going on with you lately? What sorts of things have you worried about?
(2) Have you been involved in any counseling?

Mood

(1) Have you ever felt like life wasn't worth living? Have you ever done something to hurt yourself on purpose?

Weapons

(1) You said you were going to stab (name of victim). What were you going to stab him with?

Access to Firearms

(1) Do you have a gun? Are there guns in your home?

Aggressive Behavior

(1) When you get angry what do you do? Has your temper ever gotten you into trouble?
(2) Have you ever threatened to harm anyone before?

School Discipline

(1) When was the last time you into trouble in school? What happened?
(2) Have you ever been suspended or expelled?

Delinquent Behavior

(1) Have you ever been in trouble with the law or with police before? What happened?

Exposure to Violence

(1) Do you see or hear of violence in your neighborhood?
(2) Do people argue much at home? Does anyone get physically aggressive?

Bullying

(1) Is there anyone who has threatened you recently? Is there anyone who makes you feel afraid?

Peer relations

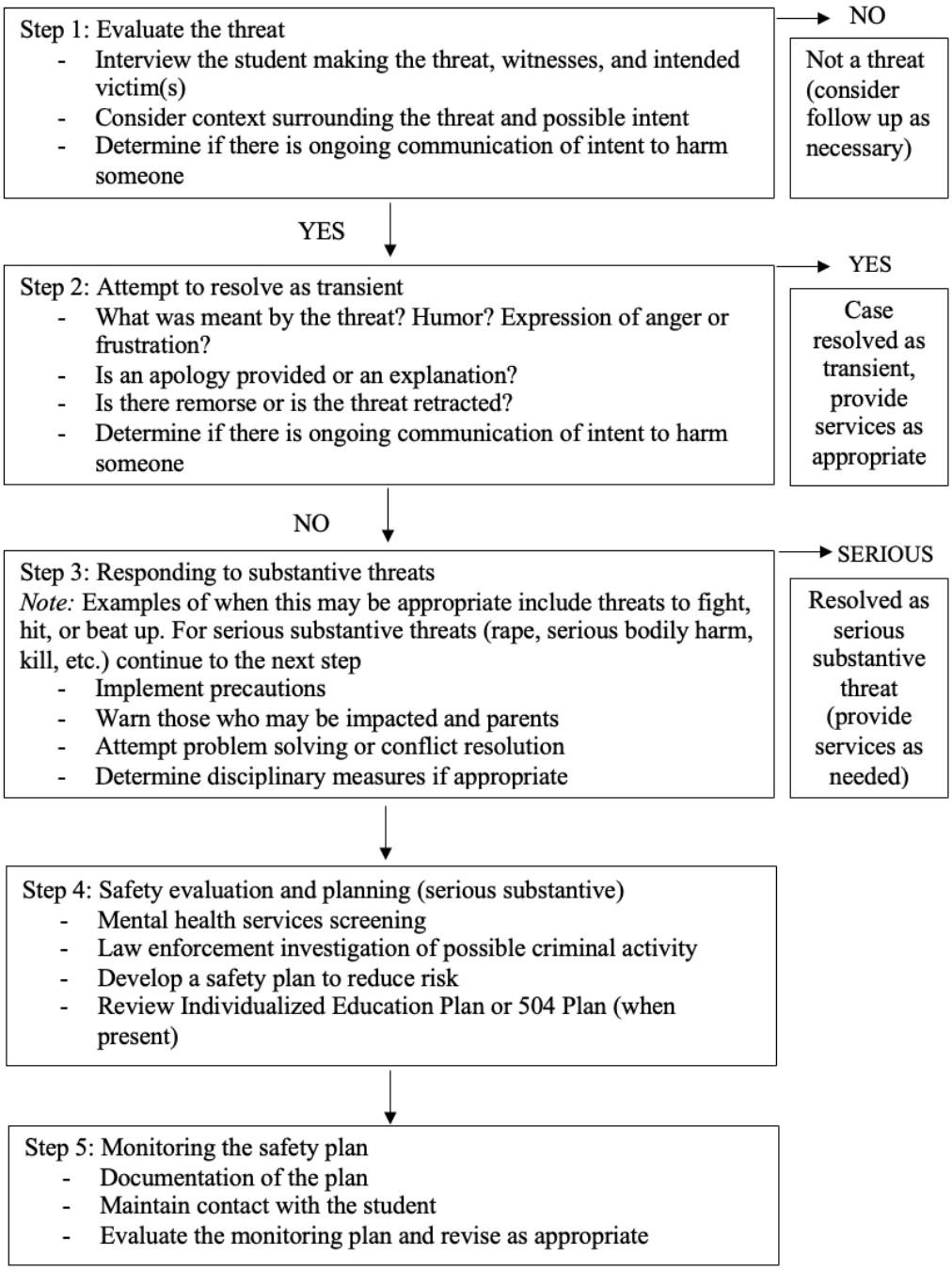
(1) What are your friends like? Have you had any trouble with your friends lately?
(2) Do you have friends who get in trouble?

Coping

(1) How do you like to spend your free time?
(2) What are your plans for the future? What would you like to do when you finish school?

**The questions above represent a sample of items taken from a mental health assessment student interview in the Comprehensive School Threat Assessment Guidelines (Cornell, 2018).*

Appendix B: School Threat Assessment Decision Tree



*Note: Decision Tree adapted from Cornell (2021)

Appendix C: Sample Hillsborough County Public Schools Data

Age	Gender	Grade	Race (Abbr)	School	Threat Level
10	M	5th	H	School Name	Not a Threat
18	M	Senior	B	School Name	Very Serious Substantive
17	F	Junior	A	School Name	Transient
15	M	Freshman	W	School Name	Serious Substantive
8	F	3rd	I	School Name	Transient