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Examining School Safety and Security: A Situational Crime Perspective

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Examining School Safety and Security: A Situational Crime Perspective

by

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Abstract

In recent years, an interest in focus of research addressing school safety and security has increased; however, this literature lacks a cohesive theoretical perspective for addressing solutions to school crime and violence. The purpose of this study was to perform a systematic review of the literature on school safety and security. Then, analyze this literature in light of the situational crime prevention perspective. A literature search using Web of Science yielded 45 eligible studies. Results indicated that each of the 45 articles could be organized into one of the five mechanisms of Situational Crime Prevention: increasing effort, increasing risk, removing excuses, reducing provocations, and reducing rewards. The results of the current study indicate that the application of Situational Crime Prevention is important to consider for future studies involving school safety and security measures in schools to prevent crime and violence.

Keywords: school safety, school security, school shootings, situational crime prevention, student violence, student behavior

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SCP - Situational Crime Prevention

LEO - Law Enforcement Officer

SRO - School Resource Officer

CAP - Child Access Prevention

SCS - School Crime Survey

SSOCS - School Survey on Crime and Safety

Chapter 1: Introduction

Schools in the United States are characterized as protected environments for education. This should include, of course, an environment that is without delinquency and violence. Violence and delinquency in schools disrupts multiple components of the education system from the education processes itself, to individual experiences, to spill-over issues within communities. (Brookmeyer, 2006; Goldstein, 2008). However, through the use of certain school safety measures, schools can increase their protective measures to help create a violence-free learning environment. This, in turn, can improve the wellbeing of not only students, but of teachers and staff, as well as within the communities in which schools reside.

School safety has the ability to promote the protection of students from a wide variety of issues such as bullying, fighting, gang-related violence and assaults, harassment, and other types of violence. This protection can be applied throughout the school day and includes a wide range of physical measures of protection, such as security cameras and metal detectors that aid in monitoring student activity and curb willingness to commit crimes (Watkins, 2015). Within the criminological literature, a body of research has focused not only on studying these mechanisms of crime, but also on how to curb one's willingness to commit crimes. General crime prevention focuses on editing and removing opportunities to commit crimes in particular circumstances by analyzing criminal behaviors (Freilich, 2019). In particular, Situational Crime Prevention (SCP) focuses on stopping the overall opportunity to commit crime (Shariati, & Guerette, 2017).

Numerous types of behaviors have been assessed in relation to identifying types of Situational Crime Prevention mechanisms and techniques that reduce crime and violence. However, school safety and security has yet to be studied under the particular lens of situational crime prevention. As such, the purpose of the current study is two-fold. First, this study provides

a systematic review of the extant literature on high school safety and security. Second, situational crime prevention is applied in the context of school violence, not only to strengthen this body of research, but also for the development of policies to help reduce the occurrence of these events. As such, the current study will add to the existing literature by addressing the use of situational crime prevention in determining effective methods to researching school safety.

Chapter 2: Review of the Literature

School Safety and Security

Violence and delinquent behavior in schools has been highly publicized for many years. However, events receiving the most attention have usually centered around acts of extreme violence or shootings in schools across the nation. These acts have prompted school administrators, government officials, as well as the public in general, to assess not only why such acts occur, but also how to prevent these acts from occurring in the first place. Despite the tremendous importance of addressing these large-scale questions, there exists a lack of thorough understanding of the scientific foundation of literature that addresses school safety and security research (Astor, 2010).

Current School Crime and Victimization

School violence represents a national crisis. During the 2015–16 school year, 79% of public schools recorded that one or more incidents of violence, theft, or other crimes had taken place on school grounds or school-sponsored events, amounting to 1.4 million crimes. In 2019, among students ages 12–18, there were approximately 827,000 total victimizations (i.e., theft and nonfatal violent victimizations) at school (NCES, 2019). This represents an alarming total victimization rate of 33 victimizations per 1,000 students at school. Additionally, acts of school crime and violence are not isolated to student victimizations. For instance, in the same survey referenced above, approximately 10% (~374,000) of teachers nationwide reported that students had threatened them with injury. Another 6% (~220,000) of teachers reported that a student had physically attacked them while at school (NCES, 2019).

Regarding extreme acts of violence, in 2019, eight people were killed and forty-three others were injured in twenty-five school shootings that occurred on school grounds (Decker,

2020). It should be noted that these numbers are from elementary, middle, and high school campuses and do not include events that occurred at colleges or universities. Even though school shootings represent a relatively small proportion of school crime, these acts of violence have long-lasting traumatic impacts on families, schools, and communities. In addition to sustained physical injuries, youth exposed to violence can suffer a wide range of other negative health behaviors and outcomes (CDC, 2017). According to the Center for Disease Control's Youth Risk Behavior Survey, in 2017, approximately 6.0% of high school students were threatened or injured with a weapon, such as a gun, knife, or club, on school property during the past year. That same year, approximately 7.0% of high school students did not go to school at least once because they felt unsafe either at school or on their way to or from school (CDC, 2017). The study of school safety and security measures remains crucial not only for the direct prevention of violence in schools, but for the physical and psychological well-being of everyone touched by acts of school crime and violence.

In light of these statistics, schools have taken actions to implement programs, procedures, and other measures in an effort to curb school violence. These safety and security methods can include physical practices such as limiting access to school campuses and providing malefactors or additional psychological practices such as the increased counseling programs. For instance, the National Center for Education Statistics (NCES) found that in the 2015- 2016 school year, over 94% of public schools reported the use of controlled access to school buildings through use of door locks and monitors only during school hours, with only 4% of schools requiring random metal detector checks upon entry. Additionally, 81% of schools reported using security cameras, whereas only 25% reported the use of drug sniffing dogs to monitor contraband in schools. The NCES study also discovered that public primary schools and public middle schools were more

likely to enforce controlled access to school buildings and ID requirements for faculty and staff in comparison to public high schools. The data found that 68% reported requiring faculty and staff to wear ID badges, but only 7% of schools required student ID (U.S. Department of Education, National Center for Education Statistics, 2019).

These security measures varied by size of the student population. For example, schools with student bodies of 1,000 enrolled or more showed an increase of student ID requirements and less uniform policies. Schools with less than 300 students showed higher percentages of requiring staff ID badges over those with larger populations. Uniform policies were enforced by 23% of schools with 300-499 students, 25% of schools with 500-999 students, and only 16% of schools with less than 300 students and schools with over 1,000 students. The data also showed similar patterns with controlled access measures to school buildings. Strict dress codes were reported as widely enforced, with 58% of schools with 500-999 students and schools with 1,000 or more reported enforcements, 49% of schools with 300-499 students reported enforcement, and 47% of schools with less than 300 students reported enforcement. Only 21% of schools required student uniforms whereas 53% of schools required a strict dress code (U.S. Department of Education, National Center for Education Statistics, 2019).

This population breakdown allows researchers to further break down safety and security measures in order to determine the most effective solutions to violence prevention in schools when compared to violence reports from the same sample groups. This same study also found that school safety and security measures have seen an overwhelming increase in the use of techniques focused on monitoring and preventing violent behavior. Reports also illustrated that public schools increased the use of security cameras by 62% from a mere 19% in 1999-2000 to

81% in 2015-16. Additionally, the percentage of public schools using controlled access to buildings, such as metal detectors, increased from 75% to 94% during the same period.

While physical school safety measures are important, there is also a need for safety plans for specific events that may take place at schools. Additionally, NCES found that in the 2015-2016 school year, 96% of public schools reported having written procedures for natural disasters whereas 94% reported plans for bomb threats or incidents. The data found that 92% of schools reported having procedures in place in the event of a shooting for 2015-16; an increase compared to the 79% of reported schools in 2003-04.

These schools were also surveyed on student preparedness through the use of drills for emergency procedures as well as students' general knowledge of other safety practices and procedures. The study found that 95% of schools drilled students on emergency lockdown procedures, 92% on evacuation procedures, and 76% on shelter-in-place procedures. For the 2017 survey, 99% of students ages 12-18 reported an acknowledgement of previously mentioned security measures in use at their schools. In that same year 95% of students reported school use of a written code of conduct. This 95% ranks higher than all other measured safety and security methods and procedures, meaning that despite advances and widespread security measures, students take more notice of following written instructional (U.S. Department of Education, National Center for Education Statistics, 2019).

These numbers clearly indicate an increase in school security measures to aid in the reduction of violence that impacts student behavior. Notably, the increase in these measures also illustrates the importance of providing adequate attention and research efforts to the development of school security measures that are proven to be effective. There exists a moderate body of research on school safety and security that show increases in certain security trends, however the

research regarding the application of effective measures to school safety and security is much more limited in nature. The literature that does exists, which is reviewed in the following section, can generally be broken down in the following ways: aspects of physical safety measures in schools, student behavior in relation to security, security procedures, and policy structure.

Current School Safety and Security Measures

Physical Measures. Physical safety generally refers to physical presence of safety and security measures in schools such as school officials, school resource officers, community support, surveillance methods, and metal detectors (Cornell, Dewey & Mayer, 2010). The current study reviewed the body of research that has been conducted on the physical safety measures in schools across the United States. Specifically, eight articles were found that analyzed the impact of physical security measures on students and criminal activity. For instance, a recent study by Johnson and colleagues (2019) sampled 54,350 students in ninety-eight Maryland schools in order to gauge perceptions of school safety by students in regards to the use of surveillance monitoring technology and school resource officers (Johnson, Wilcox, & Peterson, 2019). The authors found that student acknowledgement of security cameras produced lower perceptions of safety for African American students and inverted results for Caucasian students.

In a similar study, Watkins and colleagues (2011) analyzed student report data from the 1999-2017 National Crime Victims Survey to assess how the amount of security personnel present in schools impacts student criminal activity reporting (Watkins, & Maume, 2011). The authors found limited variation in reporting between 1999-2017, but noted that students were slightly more likely to complete criminal reports with school resource officers present. Building on the finding that office presence affected student reporting, Torres and colleagues (2009)

assessed how police presence in schools impacts criminalization of offensive conduct by students (Torres, & Stefkovich, 2009). Utilizing data from the 2017 School Security and Crime Survey, the authors wanted to determine if schools with off-duty officers working as school resource officers had higher criminal activity reports than schools that did not have off-duty officers working as school resource officers. Results revealed that there is very little to no data that supports arming teachers as a source of security.

Other studies regarding physical safety measures have assessed aspects of student experiences as well. For example, Servoss and colleagues (2017) used a sample of 10,577 10th grade students across 504 schools to determine how security levels differ across schools in relation to student experiences (Servoss, 2017). Results indicated that schools with harsher security measures maintained higher populations of African American students and reported more misbehavior with negative impacts on student attendance and performance. Similarly, Nguyen and colleagues (2020) used data from the 2015 National Crime Victim Survey to determine how security measures impact student experiences in schools (Nguyen, Yuan, & McNeeley, 2020). Results suggested that student fears are primarily associated with security in schools. Interestingly, results also revealed that students held a preference for fairness in school administration over strict rules and physical security measures.

In a similar analysis, Mowen analyzed the 2002 Education Longitudinal Survey (ELS) to determine how physical survey measures in school impact both student experiences as well as parental involvement (2015). Results indicated that the use of security guards and metal detectors produced lower levels of parental involvement in terms of discussing safety protocols with their children. An additional study by Mowen and Freng (2019) further analyzed the 2002 ELS to determine how security impacted parent and student feelings of safety in schools. Their research

found that students and parents in lower socio-economic households reported feeling less safe, even with higher levels of security. Likewise, school staff's impact on physical security was examined in Yacek's study. His research centered on various school instructors, law enforcement officer, and state law makers to determine the effects of physically arming educators in public schools. Results indicated that there is very little to no ethical data that supports arming teachers as a source of security, meaning that this physical measure did not support an increase in safety. Additionally, Yacek found that both student and parent experiences are negatively hindered by the use of guns in classrooms by teachers (2018).

     Student Behavior Measures. The impact of safety and security measures on student behaviors and activities is also an important part of the school system because it aids in reducing inner-scholastic violence and improving student wellbeing. Numerous studies have been conducted that relay various information detailing the impact of certain security measures on behaviors. The current study reviewed the existing body of research involving school safety and security, finding fourteen articles that examined how different safety methods impacted student behaviors in schools. For instance, a study by Cornell and colleagues (2009) surveyed 280 high schools in Virginia to determine the impact of threat assessment programs on reducing violence in schools (Cornell, Sheras, Gregory, & Fan, 2009). Results indicated that of the 280 schools, 95 reported use of state specific threat assessment guidelines, 134 used local threat assessment guidelines, and 54 used no threat assessment guidelines. The study also found that schools using the state specific guidelines reported less bullying and a greater willingness from students to seek help from school staff members. In a similar study, Madgis (2016) analyzed literature on school shooting patterns in relation to instances of bullying versus random occurrences (Madgis, 2016). Results found that patterns of school shootings are typically centered on student experiences with

bullying and the lack of assessment procedures for reports of student violence and could reduce with more awareness programs.

Similar to student violence reporting, self-control measures are also important when analyzing violent behavior in schools. In a study conducted by Johnson and colleagues (2019), student data was analyzed to determine how psychological differences in students impacted their ability to carry weapons and commit violent behaviors (Johnson, Wilcox, & Peterson, 2019). Results indicated that measures of self-control in students played a major role in reducing violent behavior. Moreover, the authors found that low-self-control remained the only significant psychological variable in student weapon carrying capacity. However, it is important to mention that these results also revealed am inverse relationship; namely, as school security measures increased, the ability for students to carry weapons decreased.

Other studies regarding student behavior with school violence have assessed aspects of weapons and student performance. For instance, a study conducted by Barboza (2018) analyzed survey data and maps from the Boston crime base from 2012-2015 to determine how locations of schools are impacted by gun and other weapon violence (Barboza, 2018). The results showed that spatial distance of gun violence is six times more likely within a 400m radius from schools centered in low income neighborhoods with higher populations of minority students. Additionally, the results indicated that violent behavior increased in students as gun violence occurred closer to schools and created issues for student performance.

Continuing the exploration of student performance in relation to levels of security in schools, a study conducted by Bracy (2011) determined how students perceive and experience security measures in schools based on levels of violence (Bracy, 2011). Results determined that students perceive security measures as a factor in creating a safe environment; however, they feel

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that school administration creates powerless students by enforcing strict policies without proper fairness. In a similar study assessing student performance, Tanner-Smith and colleagues (2016) analyzed data from the 2009 School Crime Supplement to the National Crime Victimization Survey and the School Survey on Crime and Safety to determine how physical security impacts student motivation (Tanner-Smith, Fisher, Addington, & Gardella, 2018). Results indicated that there is little to no impact from security measures on student performance, post-secondary education decisions, and attendance.

Similar literature has also assessed socio-economic status and student behavior. For example, a study conducted by McIntyre (2000) analyzed multiple court cases dealing with 4th Amendment search and seizure rights for American students in order to determine if differences in communities and student ethnicity impact infringement on privacy rights (McIntyre, 2000). The results noted that broad scopes of the 4th Amendment laws tend to harm student experiences in the classroom because they allow staff and instructors to perform invasive searches that would otherwise not be considered necessary if not conducted in schools; specifically, students in low socio-economic households. In a similar study conducted by Hong and Eamon (2012), the authors used a sample of students aged 10-15 years olds in the United States to determine how economic levels of students' impact safety and security measures in schools (Hong, & Eamon, 2012). Results indicated that older male students from low income households tended to categorize schools as unsafe over students from higher economic statuses. In a similar study conducted by Kupchik and Ellis (2008) fairness in school staff is analyzed through national surveys of minority students to determine how minority students perceive security measures in schools. The results indicated that African American students raised in lower socio-economic areas perceived security procedures and measures less fair than their Latino and white

counterparts and determined that a lack of motivation for academic success was rooted in unequal treatment by school staff.

In addition to socio-economic factors as they relate to safety, security, and student behavior, previous studies have also considered student exposure to crime. A study conducted by Tanner-Smith and colleagues (2018) sampled the SSOCS to determine how student exposure to crime is linked to level of security measures in different areas of socio-economic status (Tanner-Smith, Fisher, Addington, & Gardella, 2018). Results showed that multiple measures of security reduced student exposure to property crimes; however, violent behavior and drug use exposure increased with less safety measures in place across low socio-economic statuses. Additionally, a study conducted by Steinka and colleagues (2016) analyzed SSOCS and SCS data in relation to patterns of security changes in schools with different levels of student violence (Steinka-Fry, Fisher, & Tanner-Smith, 2016). The results found patterns of changes in student violence with the most prominent change occurring in high minority populated schools centered in areas of low socio-economic status.

Incident reporting of violent behavior is also discussed with student behavior as a main factor in determining crime in schools. For instance, a study conducted by Lesneskie and Block (2017) used the SSS to study how certain reporting factors can either predict or lower school violence and their impact on student behaviors (Lesneskie, & Block, 2017). The results found that no single factor is able to explain violence in schools; however, a reduction of violence can be achieved by combining school security measures, parental and community involvement, and school climate programs to encourage adequate student reporting on delinquent behaviors. In a similar study, Kingery (2001) assessed self-reporting incident systems as outlined in the Guns-Free Schools Act (Kingery, 2001). The analysis showed that there is a need for improvement in

incident reporting of student violent behavior in schools; however, it must be completed with student and staff honesty. These studies illustrate how security is a multi-faceted component of student behavior.

      Procedural Measures. Several studies have also specifically focused on safety and security procedures for school violence. The current study reviewed the existing body of research involving school safety and security procedures, finding eleven articles that evaluated safety and security procedures in various high schools and their impact on student violence and criminal activity. For example, a study conducted by Daniels and colleagues (2010) gathered interviews from three principals, four school resource officers, three assistant principals, and one district crisis coordinator across four different schools to create procedures for a diverse aversion task force in schools (Daniels, Volungis, Pshenishny, 2010). Results indicated that creating a safe school environment and developing open relationships with students in schools are the best possible factors for developing procedures in averting the majority of school shootings. In a similar study on force procedures, Fein and Isaacson (2009) studied school leaders from seven schools with histories of shootings to determine ineffective and effective responses to shootings events (Fein, & Isaacson, 2009). The authors noted that intense emotional work is one of the most effective procedures to follow in crisis intervention training that aim to avert school shootings and other student violence. A study conducted by Chrusciel and colleagues (2015) studied a variety of law enforcement officers and school principals to determine how effective school resource officers and school staff procedures would be at violence prevention and shooting response (Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015). The results showed that both LEOs and principals agreed that SRO procedures are the most effective tools for school safety and shooting prevention.

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Creating procedures for violence assessment is also commonly mentioned throughout school safety and security literature. For example, a study conducted by Reddy and colleagues (2001) sampled three general high school threat assessment plans in comparison to the United States Secret Service threat assessment plans. These plans assess public acts of violence in order to determine what factors create the most effective procedure that could be used in shooting prevention in schools (Reddy, Borum, Berglund, Vossekuil, Fein, & Modzeleski, 2001). The results focused on creating a deductive school based violence assessment program that mimics the Secret Service threat assessment plan for public acts of violence. The studies resulted in a focus on procedural aims for violence aversion in schools.

Procedural developments for security focus on many aspects, such as school size, support, and prior violent history. A study conducted by Baird and colleagues (2017) analyzed data from twenty-two school shootings that occurred between 1995-2014 to determine how size, student support, and student-teacher ratio impact shootings (Baird, Roellke, & Zeifman, 2017). They found that smaller schools with detailed procedures are less likely to be victims of mass violence despite the majority of mass shooters developing from small schools. Likewise, Agnich (2015) sampled 282 cases of mass murders in schools across 38 nations to determine the most effective security procedures to analyze the relationship between mass murders and gun violence in schools with varying populations (Agnich, 2015). Results indicated that the most effective security procedures in mass school attacks are found in schools with smaller populations. In a similar study, Wike and Fraser (2009) sampled six programs along with media reports and shooting data to determine if any of the six programs indicated effective procedures for shooting prevention in schools (Watkins, & Maume, 2011). Results indicated that programs focusing on psychological development and social conditions in the school environment would be the most

effective to reduce student vulnerability and reduce levels of stressors that could aggravate violence.

The discussion of programming based on identification procedures of violence is also discussed among the school safety and security literature. A study conducted by Fredland (2008) sampled numerous anti-violence procedures in schools to identify characteristics of shooters in schools (Fredland, 2008). Results determined that the majority of current programs and laws focusing on violence prevention focus on the wrong procedural steps for identifying characteristics of violent students. In other words, current procedures tend to identify troubled students over directly disobedient students likely to have violent outbursts. Similarly, Crawford and Burns (2016) analyzed school targeted shooting that took place from 1900-2012 where suspects were stopped prior to firing shots to determine the most beneficial procedures in identifying school shooting suspects (Crawford, & Burns, 2016). The analysis determined that the majority of attacks were prevented by student reporting to school staff and law enforcement officers, highlighting the importance of reporting procedures to create effective means of prevention. Additionally, a study conducted by Lenhardt and colleagues (2018) analyzed eighteen shootings from 1996-2012 to determine what improvement procedures would be the most beneficial for risk management strategies in violent school attacks (Lenhardt, Graham, & Farrell, 2018). Their results showed that improvements in mental health programs and threat approaches could create beneficial preventative programs that could recognize potential threats and improve overall safety.

Policy Implementation Measures. A sizable body of research has been conducted on the effectiveness of school policies set in place to aid in violence prevention and student experience. The current study reviewed the existing body of research involving school safety and

security policy data, finding fourteen articles that focused their research on school policies. For instance, zero tolerance policies are often used throughout schools to create immediate responses to violence. A study conducted by Lindle (2008) analyzed literature and policies set in place by lawmakers coupled with various student feedback about strategy implementation to determine if zero tolerance policies are effective in reducing violence (Lindle, 2008). Results revealed that open strategy was proven more effective than zero tolerance policies because open strategies promote an increase in student well-being over immediate punishment. A similar study conducted by Sughrue (2003) sampled Virginia high school students who were punished as a result of zero tolerance policies in schools to determine the overall effectiveness of such policies (Sughrue, 2003). The results appeared to be split in advocating for effectiveness and ineffectiveness of zero tolerance policies; however, the author argued that zero tolerance policies are mostly ineffective because they do not completely curb violence past individual removal of students from particular schools.

A study conducted by Thompkins (2000) analyzed samples of historical gang data in relation to zero tolerance policies to determine how such school policies benefit student safety in of tragedy prevention (Thompkins, 2000). The results indicated that there is little to no data to support the effectiveness of physical security measures to prevent gang violence, but suggested that an increase in accountability policies could curb the recruitment and violence stemming from gang activity in schools. In a similar study conducted by Anderson and Sabia (2018), data from the Youth Risk Behavior Survey and CAP laws between 1993-2013 was analyzed to determine how policies impact high schoolers and levels of violence directly (Anderson & Sabia, 2018). Results determined that 13% of policy laws were associated with decreasing gun carrying

among teenagers and an 18% decrease in student reporting harmful behavior with weapons in school.

Harsher policies have also been analyzed throughout the literature as well. For instance, a study conducted by Addington (2019) examined how harsh polices post-Columbine impacted student experiences on behavioral appropriation (Addington, 2019). The results illustrated bias in harsher policies and called for modern revisions to create responsible and inclusive security measures in order to protect minority females from unequal punishment in schools. A similar study conducted by Dunbar and colleagues (2019) analyzed disciplinary policies to determine how school demographics influence preferences for security methods in schools (Dunbar, Kupchik, Hughes & Lewis, 2019). Results indicated that culturally sensitive policies formed from psychological approaches should be implemented into schools in order to preserve student dignity and promote positive behavioral changes.

Continuing the exploration of how safety and security policy impacts student violence based on race and other characteristics, a study conducted by Crawford and Burns (2016) sampled data from the 2006 SSOCS results narrowed by age and race to determine how policy levels change in minority schools over predominately white schools (Crawford, & Burns, 2016). The results illustrated that minority schools had higher security with counterproductive results, which lead to more bullying and gang activity in school as acts of rebellion against racially insensitive polices. A similar study conducted by Kupchik (2009) sampled two southern states and four schools with crime prevention policies in place to determine if minority students are targeted more so than white students (Kupchik, 2009). The results indicated that there are few cultural discrepancies in policies and found that the majority of policies in place at minority

schools are also in place at majority white schools; however, the study did not consider staff fairness.

A study conducted by McNeal and Dunbar (2010) sampled ninety students in 11-12th grade across fifteen Midwest high schools to determine how urban students are affected by zero tolerance policies set forth by states to protect students (McNeal & Dunbar, 2010). Results showed that students felt unsafe in schools with zero tolerance polices because they create a source of minority targeting that distracts from education experiences. In a similar study conducted by Nickerson and Martens (2008), the authors analyzed principal responses on crime and safety in schools from NCES survey data to determined how security enforcement policies are represented across student demographics (Nickerson & Martens, 2008). The results found that security enforcement is highly related to crime disruption across different student demographics from different ethnic backgrounds. Similarly, Stallings and Hall (2019) took data collected from the 2006 SSOCS to determine how policies in schools, characteristics of students, and neighborhood locations impacted both violence levels and policy development and shooting aversions (Stallings & Hall, 2019). They found that counterproductive polices were used by school prevention efforts and stated that equal protective measures were not in place across schools.

Appropriate student monitoring polices are also discussed in the school safety and security literature regarding various topics such as risk management and weapon use. A study conducted by Barzman and colleagues (2018) successfully recruited 103 students ages 12-18 from 74 schools to determine appropriate methods of risk measurement reporting in schools. Their results found that appropriate risk management should be focused on rehabilitative efforts to create polices for student bonding and emotional development. Base level gun policies are still

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widely discussed among school security policy data. For instance, a study conducted by Ghianni and colleagues (2019) sampled 926 student responses on the Youth Risk Behavior Surveys from 1999-2015 across 45 states to determine how state gun control laws impact threat levels, student attendance, and student performance (Ghiani, Hawkins, & Baum, 2019). The study found that harsher gun laws curbed males carrying weapons on school grounds, but also discovered that the gun laws specifically targeted towards minorities impacted their attendance in schools. These studies highlight the importance of updated policy reviews for safety and security measures throughout schools in the U.S.

Gaps in the Literature

The current study gathered and assessed literature related to high school safety and security, noting that the extant body of work was generally grouped by analyzing this topic in regards to physical measures, student behavior, school climate, or policy. Although many of these studies yielded positive results regarding the implementation and influence of various safety and security measures, this body of research is disjointed. It lacks a unified theoretical perspective by which to examine school safety and security research.

Interestingly, six articles out of forty-seven articles reviewed have a broad focus on the use of reducing provocations in their efforts to address school safety and security. Essentially, reducing provocations means that provoking sources of problem behaviors and individuals are eliminated and/or removed (Shariati, Auzeen & Guerette, Rob, 2017). When applied to schools, reducing provocations usually centers around programs that eliminate motives for antisocial behavior and bullying (Watkins, 2015). When applied to more severe acts of violence, for example, these reductions aim to prevent school shootings by eliminating emotional arousal and frustrations and stress. Interestingly, these techniques and ideas are very similar to the

perspective of situational crime prevention (SCP). However, situational crime prevention is not mentioned, at all, within the school safety and security literature. This could perhaps be the case as many existing criminological theories focus on the behavioral motivation of criminal behavior, whereas situational crime prevention shifts that focus to consider the opportunity in an environment to commit a crime (Clarke, 1997). The current study suggests, then, that the existing body of literature be assessed in light of the situational crime prevention perspective in order to create a theoretically cohesive measure for determining solutions to school crime and violence.

In a broad sense, situational crime prevention focuses on strategies that create solutions directed at curbing specific crimes. Specifically, situation crime prevention theorizes that, in order to curb crime, the environment that a crime is committed in needs to be manipulated such that the opportunity for the act to occur is removed (Shariati, Auzeen, Guerette, Rob, 2017). A study conducted by McNeal and colleagues (2010) examined how specific locations create opportunities for criminal behavior and victimization (McNeal & Dunbar, 2010). They focused their study on outcome evaluation of a collaborative program created to improve individual safety at certain small locations. Their strategy was more successful at indirectly discouraging motives for potential offenders as it raised the threat of repercussions by creating a more difficult environment for behaviors. The overall results indicate that specific details of criminal behaviors are composed of multiple factors that include victimology, offender characteristics, and environmental surroundings. These results suggest that crime prevention requires a unique, deep understanding of the behavior to set control factors that restrict opportunity, exactly what SCP aims to achieve.

As such, the current study suggests that the literature on school safety and security be analyzed through the lens of situation crime prevention. As explained in the following sections,

studies focused on aspects of safety and security can be categorized into the five mechanisms of SCP and further divided into the twenty-five techniques to provide solutions for problem solving for school crime and violence.

Situational Crime Prevention

Historically, many studies on criminal behavior focus on reasoning with offender motivations instead of prevention of the opportunity to carry out a criminal act (Clarke, 1997). However, general crime prevention strategies aim to reduce crime and violence by preventing an offender's ability to offend (Shariati, Auzeen, Guerette, Rob, 2017). Situational crime prevention strategies "seek to reduce opportunities for specific categories of crime by increasing the associated risks and difficulties and reducing the rewards" (Shariati, Auzeen, Guerette, Rob, 2017). This method focuses on analyzing specific criminal behaviors or environmental characteristics to determine situational factors that could inhibit the commission of that crime or behavior. Following an analytical approach to crime, SCP often uses techniques that propose specific restrictions on related situational factors. Essentially, this theory of crime prevention aims to reduce crime by altering the ability for the offender to actively pursue the behavior regardless of the motive. Situational crime prevention focuses on four major concepts involving rational choice, opportunity structure, the specificity of crime committed, and 25 specific prevention techniques. SCP encompasses not only criminological theory, but theoretical elements of psychology, economics, and sociology as well.

The rational choice concept of SCP focuses on a person's readiness to commit a crime in an immediate specific circumstance (Shariati, Auzeen, Guerette, Rob, 2017). Readiness of an individual can be divided into three basic versions. The first version of readiness focuses on situations that provoke an individual to take action to commit a crime. This requires the

individual to actively seek criminal opportunity. The second version utilizes distal factors that places individuals into ready behavior, meaning that they are averse to environmental opportunities where a crime could be committed. The last version asserts that individuals are present in a state of readiness – that there are means present that can facilitate completing a perceived need, essentially creating an influence a background and situational factors and individual is placed. These three versions of rationality and human choices have been explained as irrational rationality as the individual committing the crime has determined their behavior as rational to meet necessary needs. SCP uses these concepts of rational choice theory and reducing environmental readiness as a way to restrict individuals from offending in a given circumstance (Shariati, Auzeen, Guerette, Rob, 2017).

Elements of SCP also include a focus on specific crime types to identify situational opportunities that allow an offender to carry out the offensive behavior (Watkins, 2015). SCP uses identifications of opportunities to develop possible intervention methods to reduce or completely eliminate the opportunities for completed criminal behavior. Specificity measures from SCP have allowed for the creation of 25 techniques of prevention to reduce specific circumstantial crimes. Opportunity structure in SCP research focuses on applying information collected from general crimes committed to determine the best possible way to create preventative measures. This concept focuses on the organizing situations where crime occurs and breaking down the data into smaller parts to specifically detail ways in which the crime was committed. Specific data should be a "collection of information from participants in the situations in which the crime occurs, such as offenders, victims, and law enforcement personnel" (Freilich, 2019) in order to narrow it down "how the crime was committed, what facilitates its commission, and what barriers are avoided or overcome by the offender" (Freilich, 2019) to

determine the best course of action for offender prevention. Together, rationality, specificity, and opportunity structure create the baseline of the SCP framework through the use of hard and soft interventions; which is comprised of five main strategies and then further divided into 25 techniques used in reducing crime (Watkins, N.J. 2015). As seen in Figure 1, the five mechanisms of SCP, defined below, include increasing the effort, increasing the risks, reducing rewards, reducing provocations, and removing excuses.

The first mechanism, increasing the effort, calls for the input of a controlling mechanism that raises the amount of effort an individual must make to follow through with the behavior (Watkins, N.J. 2015). Specifically, the five techniques utilized in increasing the effort include target hardening, controlling access to facilities, screening exits, deflecting offenders, and controlling tools and weapons. For instance, implementing these specific techniques could be accomplished with the use of barriers, fences, street closures, and ID-checks. These are techniques used to increase the effort it takes to carry out an illegal act. When applied to school security research, increasing the effort can be analyzed, for example, with changes in security such as requiring the use of photo identification on lanyards for students.

The second mechanism, increasing perceived risks of offenders, requires authority figures to raise the punishment that an offender will face if the criminal act has been completed (Shariati, Auzeen, Guerette, Rob, 2017). Specifically, the five techniques utilized in increasing offender risks include extending guardianship, assisting natural surveillance, reducing anonymity, utilizing place managers, and strengthening formal security. Implementing these techniques might involve raising perceived risk include the use of red light cameras, parking attendants, street lighting, and automatic ticketing at subway gates. When applied to school safety and security research, increasing perceived risks could be analyzed by installing or

increasing security camera systems, employing school resource officers, or implementing the use of metal detectors.

The third mechanism, reducing rewards for offenders after a crime has been committed, requires a decrease in benefits that will be received after a completed crime (Shariati, Auzeen, Guerette, Rob, 2017). Specifically, the five techniques utilized in reducing rewards include concealing targets, removing targets, identifying property, disrupting markers, and denying privileges. Implementing these techniques might involve labeling expensive items with traceable serial numbers, having off-street parking spaces, and using ink pins in sales merchandise. When applied to school safety and security research, reducing rewards for offenders could be the swift removal of gang affiliated graffiti because their tags would be removed.

The fourth mechanism, reducing provocations, requires an emotionally aware approach to removing temptations an offender may have in criminal behaviors (Shariati, Auzeen, Guerette, Rob, 2017). Specifically, the five techniques utilized in reducing provocations include reducing frustrations and stress, avoiding disputes, reducing emotional arousal, neutralizing peer pressure, and discouraging imitation. Removals in the public eye are used through methods of soothing lighting and music, fixed fares for public transport, and censor settings on cellular devices (Freilich, Gruenewald, & Mandala, 2019). When applied to school safety and security research, reducing provocations could be analyzed, for example, by separation of trouble makers in the classroom, efficient services in school resources, or quick and efficient repairs of vandalized lockers and other school property.

The fifth and final mechanism, removing excuses for offenders, requires reducing measures that offenders may use to rationalize their behavior (Shariati, Auzeen, Guerette, Rob, 2017). Specifically, the five techniques utilized in removing excuses includes setting rules,

posting instructions, alerting conscience, assisting compliance, and controlling drugs and alcohol. These techniques are typically employed by declarations of rules, age laws, public postings, and codes of conduct for behavior. When applied to school safety and security research, removing excuses could be analyzed, for example, through the use of posting codes of conduct for specific types of behavior, such as requiring a school dress code or a series of procedures for cafeteria lines during lunch hours.

Figure 1. *Mechanisms and corresponding techniques of situational crime prevention*

Increase the Effort	Increase the Risks	Reduce the Rewards	Reduce Provocations	Remove Excuses
Target hardening	Extended guardianship	Conceal targets	Reduce frustrations/stress	Set rules
Control access to facilities	Assist natural surveillance	Remove targets	Avoid disputes	Post instructions
Screen exits	Reduce anonymity	Identify property	Reduce emotional arousal	Alert conscience
Deflect offenders	Utilize place managers	Disrupt markers	Neutralize peer pressure	Assist compliance
Control tools/weapons	Strengthen formal surveillance	Deny privileges	Discourage imitation	Control drugs and alcohol

Application of Situational Crime Prevention to School Safety and Security Literature

To be sure, situational crime prevention has illustrated results in beneficial restrictions on crime (Shariati, & Guerette, 2017). An overall assessment of these studies calls for the advancement of current policies and practices in crime prevention to appropriately recognize steps offenders take to complete a crime without focusing on overall motivation. School security essentially "embodies the steps that schools take to prevent or reduce delinquent and otherwise harmful behavior in the interest of student, faculty and staff safety" (Watkins, 2015). Indeed, SCP approaches to criminal behavior aim to initiate opportunity reducing techniques prior to the behavior occurring in the first place.

It stands to reason, then, that this perspective of crime prevention can be applied to schools for the prevention of crime and violence. In fact, mechanisms of situational crime prevention are often being implemented and utilized in schools to uphold this basic definition without the schools even realizing that they are doing so. And yet, the discussion of situational crime prevention in relation to school safety and security in the extant body of literature is relatively nonexistent. However, it is important to acknowledge these gaps in the literature and to recognize that the SCP perspective can be used to group research together. By organizing the literature through this lens, researches can work to create solutions under the identified mechanisms, which would then allow for a unified approach to problem solving. As such, the current study suggests the need to examine the school safety and security literature in light of the situational crime prevention perspective. The sections below examines the school safety and security literature as organized by SCPs five main mechanisms in order to illustrate the application of SCP within school security studies.

Reducing Provocations. Johnson and colleagues' (2019) results indicate that psychological variables are the most determinate factors in student decision making regarding when and if they carry a weapon (Johnson, Wilcox, & Peterson, 2019). The authors suggested that future studies expand their data to include more schools as well as group cases of student weapon carrying on campuses. This would enable researchers to define characteristics that act as "triggers" for criminal behavior. Controlling these stressors would likely reduce the likelihood of weapon carrying. As such, this essentially aims to reduce emotional arousal. Additionally, Fredland's results focus on characteristics of troubled students over students with disobedient traits and suggests that future studies analyze the motivations behind both types of students (Fredland, 2008). By directing future studies to consider motivations for a certain behavior, this

particular study uses the SCP mechanism of reducing provocations to determine the best methods to reduce the emotional arousal of students who would be most likely to enact violence.

McNeal and Dunbar's research focused on student safety perceptions in different school environments that used zero tolerance policies. The authors found that students in urban schools often felt threatened and taunted by such policies that create stressors and frustrations in student experience and performance (McNeal, & Dunbar, 2010). It was suggested that future research expand past the zero tolerance policies to consider other polices used in both urban and non-urban schools. This data supports reducing provocations for student violence by removing sources of frustrations and stressors found as a result of harsher security policies. Kupchik and Ellis conducted similar studies to consider how overall security in schools are perceived by minority students (Kupchik, & Ellis, 2008). Their results showed that African American students reported felt targeted by school safety measures and indicated that future research should consider qualitative responses from interviews to determine specific frustrations and stressors created by security measures. Separate studies conducted by McIntyre and Mowen advocate for the use of removal of harsh policies that target minority population and provoke violence on staff and students (McIntyre, 2000; Mowen, 2015). By directing future studies to consider motivations for a certain behavior, these particular studies use the SCP mechanism of reducing provocations to determine the best methods to reduce the frustrations and stress students may face in schools.

Increasing Risks. Daniels and colleagues examined how to improve relationships between teachers and students and asserted that future studies should consider schools where the student to teacher ratio is smaller (Daniels, 2010). The smaller ratio would allow for there to be an extension of guardianship with more adults present in the schools that would increase the risk of capture for students attempting mass attacks. Similarly, Cornell and colleagues proposed

future studies consider solutions that involve extending teacher responsibility in anti-bullying programs to increase presence of guardianship at events with high student attendance (Cornell, Sheras, Gregory, & Fan, 2009). Fein and Issacson proposed that schools should consider building emotional responsiveness training procedures as strategies for violence prevention (Fein, & Isaacson, 2009). An extension of guardianship would allow for students to appropriately develop accountability for their actions; this would allow for more monitoring on student behaviors that would increase the risk of a student receiving punishment if caught by a guardian.

Additionally, Thompkins' research indicates that emotional evaluation of both students and staff should take place in order to create programs that would focus on well-being and mental health, providing troubled students with extra guardianship measures in order to avoid violence and gang activity (Thompkins, 2000). Separate studies conducted by Dunbar, Johnson, and Chrusciel conclude that future studies should focus on funding measures to employ more SRO staff in schools in order to detect violence and possible threats on school grounds (Dunbar, 2019; Johnson, 2019; Chrusciel, 2015). This suggestion directly extends guardianship to protect students with trained professionals and increases legal risks if students are found conducting criminal behavior. Similarly, Watkins' findings support the use of teachers as parental support systems for students in lower socio-economic settings to decrease the risks students would face of academic failures. Separate studies conducted by Hong and Lesneskie focus on developing community relationships with students to create a positive environment that would increase repercussions if a student is found delinquent (Hong & Eamon, 2012; Lesneskie, & Block, 2017). By directing future studies to consider motivations for certain behaviors, these studies use the SCP mechanism of increasing risks to create stronger bonds between students and staff.

Lindle focused on improving strategies for placement of physical security measures and suggested that future research expand types of physical security measures to several locations around schools, such as metal detectors and cameras, in order to strengthen measures against student disobedience (Lindle, 2008). Similarly, other studies also suggest physical security measures that increase physical placement of SROs in schools (Johnson, Wilcox, & Peterson, 2019; Wike, & Fraser, 2009). A study by Crawford (2016) emphasized the importance of future studies experimenting with the use of heavier surveillance items such as metal detectors and SROs to prevent entry of weapons from neighborhoods into schools (Crawford, & Burns, 2016). Servoss also suggests that future studies focus on increasing surveillance at minority centered schools, to protect students from outsiders attempting to cause harm (Servoss, 2017). Separate studies conducted by Mowen and Steinka and colleagues produced results that indicate future studies should check assessments of the relationship of high security and student involvement (Mowen, 2015; Steinka-Fry, Fisher, & Tanner-Smith, 2016). Introducing an increase to these formal security measures would create higher chances of student violence being thwarted prior to conducting the behavior. By directing future studies to consider motivations for certain behaviors, these studies also use the SCP mechanism of increasing risks to determine the best methods to increase formal security measures in schools.

Assisting natural surveillance measures may stop the negative behavior slowly over time (Watkins, 2015). Bracy, Nickerson and Martens, and Tanner-Smith and colleagues developed separate studies that focus on increasing the natural surveillance as it allows for security measures to grow while considering the wellbeing of students as a whole (Bracy, 2011; Nickerson, & Martens, 2008; Tanner-Smith, & Fisher, 2016). By directing future studies to consider motivations for a certain behaviors, these studies also use the SCP mechanism of

increasing to determine the best methods to the assist already existing natural surveillance measures.

Removing Excuses. The most prominent organization of the articles fell under the mechanism of the removal of excuses, specifically utilizing the technique of establishing rules. By setting rules in place, schools are allowed to clearly establish student conduct and behavioral rules in order to restrict actions to a safe level. Sughrue's study suggested that future research examine zero tolerance policies across the United States to determine the level of success in implementation across different demographics (Sughrue, 2003). Reddy and colleagues found the use of a standard federal threat assessment program established in schools would be the best course of action in shootings aversions because it would clearly establish rules for prevention and allow schools to remove excuses of unclear communication (Reddy, 2001). Two separate studies conducted by Anderson and Ghiani examined the relationship of gun control policies on the level of violence in schools (Anderson & Sabia, 2018; Ghiani, Hawkins, & Baum, 2019). They concluded that harsher gun rules did establish a decrease in weapon related violence in schools that allowed students to be held accountable for violation of policies.

Other studies have focused on the importance of establishing policies or an anti-bullying procedure that would be altered based on student size and demographic in order to create clear information on student conduct (Baird, Roellke, & Zeifman, 2017). Tanner-Smith and Fisher stressed the importance of school policies on increasing attendance in schools because as polices are set in place for attendance, students lose excuses for committing crimes during school hours (Tanner-Smith & Fisher, 2016). Similar studies conducted by Barzman, Nance, Nguyen and colleagues, and Stallings and colleagues stress the importance of creating policies that improve relations with minority students in schools in order to provide equal and fair treatment to remove

excuses of unequal treatment by school staff and students (Barzman, 2018; Nance, 2014; Nguyen, 2020; Stallings, 2019).

Similar to fairness in treatment, studies conducted by Torres and Stefkovich, Kingery, and Crawford and Burns stress the need for schools to create accurate reporting policies for students and SROs when reporting student violence and criminal behavior reports (Torres & Stefkovich, 2009; Kingery, 2001; Crawford & Burns, 2016). Accurately reported information would allow both students and SROs to have fair ground, without blaming other parties. The removal of excuses per policy regulations creates clear and distinguished guidelines for acceptable student behavior. By directing future studies to consider motivations for a certain behavior, these studies clearly use the SCP mechanism of removing excuses to facilitate adjustments in polices in order to reduce violence in schools.

Increasing Efforts. Kupchik and Addington completed separate studies that instructed future research to focus on the location of schools and the use of identification checkpoints as a way to enhance population security in schools (Kupchik, 2009; Addington, 2019). By creating an efficient ID system, the authors argued that offenders without IDs would have trouble entering campuses. Other studies have suggested that future research focus on offender deflection by creating programs in schools that encourage positive activities in the community and offer students alternatives to negative behaviors present in their home or community environments (Yacek, 2018; Madgis, 2016; Barboza, 2018; Lenhardt, 2018). By increasing the efforts of students to commit crimes, they would be less likely to carry out the harmful behavior and overall reduce school risk of shootings.

Taken together, the application of Situational Crime Prevention appears to be a viable method for examining the literature on school safety and security. The aforementioned studies

correspond to the well-established and researched mechanisms and techniques of situational crime prevention; what is needed is simply shifting focus to look at this literature in the context of crime and violence within the school setting. The current systematic review suggests that many of these studies are sporadically using elements of SCP, but there exists no overall theoretical perspective and therefore, a lack of unified organization for problem solving school safety and security issues. The current study synthesized all existing school safety and security literature published between 1999 and 2019. It examined the research goals of safety and security studies, the prevention measures set forth to curb school crime and violence from occurring, and now seeks to expand the extant literature by examining these studies utilizing a situational crime prevention perspective.

Chapter 3: Methodology

The purpose of the current study is two-fold; first, this study provides a systematic review of the extant literature on high school safety and security, then, situational crime prevention is applied in the context of school violence in order to strengthen the argument that school security and safety will aid in school violence prevention. As such, the current study focused on two research questions:

1. What is the current state of the literature regarding high school safety and security?

2. Can SCP be used in determining effective methods to researching school safety and security?

Sample

Authors JB and TJ sampled studies that evaluated physical safety and security in schools. These studies were identified utilizing an electronic search through Web of Science. Web of Science provides access to multiple databases and allows for comprehensive citation data across a wide range of academic disciplines. Utilizing Boolean operators to form the basis of search term sets and database logic, the current study's search terms included the following: school, safety, security, violence, and shooting. A total of 700 article abstracts were reviewed that included these five search terms. Of these, 45 studies met the final inclusion criteria and were therefore reviewed in the current analysis. Table 1 shows the characteristics of these studies. These 45 studies focused directly on United States high school safety and security, and were coded based on the research design and study characteristics discussed below.

Table 1 *Characteristics of Included Studies (N = 45)*

Citation	Methods	School Measure	# of Schools	Pop. Density	Region
Addington, 2019	Qual	Phys.	N/A	Urban/Rural	North/South
Agnich, 2015	Quant/Qual	Phys.	282	Urban/Rural	North/South
Anderson & Sabia, 2018	Quant	Phys.	N/A	Urban/Rural	North
Baird et al., 2017	Quant	Phys.	22	Urban	North
Barboza, 2018	Quant	Phys.	6	Urban	North
Barzman et al., 2018	Quant/Qual	Phys.	74	Urban/Rural	North/South
Bracy, 2011	Qual	Phys.	2	Urban/Rural	North/South
Chrusciel et al, 2015	Qual	Phys.	N/A	Urban/Rural	South
Cornell et al, 2009	Qual	Non. Phys.	280	Urban/Rural	North
Crawford & Burns, 2016	Quant	Phys.	*2,550	Urban/Rural	North/South
Crawford & Burns, 2016	Qual	Phys.	*2,550	Urban/Rural	North/South
Daniels et al, 2010	Qual	Phys.	4	Urban/Rural	North/South
Dubar et al, 2019	Quant/Qual	Phys.	50	Urban	North/South
Fein & Isaacson, 2009	Qual	Non. Phys.	7	Urban/Rural	North/South
Fredland, 2008	Qual	Non. Phys.	263	Urban/Rural	North/South
Ghiani et al, 2019	Quant/Qual	Phys.	*639	Urban/Rural	North/South
Hong & Eamon, 2012	Quant/Qual	Phys.	15	Urban/Rural	North/South
Johnson et al, 2019	Quant/Qual	Non. Phys.	52	Urban/Rural	North
Johnson et al, 2019	Quant/Qual	Phys.	98	Urban/Rural	North
Kingery & Coggeshall, 2001	Quant	Phys.	*2550	Urban/Rural	North/South
Kupchik, 2009	Qual	Phys.	4	Urban	North
Kupchik & Ellis, 2008	Quant	Phys.	54	Urban/Rural	North/South
Lenhardt et al, 2018	Quant/Qual	Phys.	18	Urban/Rural	North/South
Lesneskie & Block, 2017	Quant/Qual	Phys.	*4,800	Urban/Rural	North/South
Lindle, 2008	Qual	Phys.	N/A	Urban/Rural	North/South
Madfis, 2016	Quant/Qual	Phys.	N/A	Urban/Rural	North/South
McIntyre, 2000	Qual	Phys.	N/A	Urban/Rural	North/South
McNeal, 2010	Qual	Phys.	15	Urban	North
Mowen, 2015	Quant	Phys.	*750	Urban/Rural	North/South
Mowen & Freng, 2019	Quant/Qual	Phys.	*750	Urban/Rural	North/South
Nance et al, 2014	Quant/Qual	Phys.	N/A	Urban	North
Nguyen & McNeeley, 2020	Quant/Qual	Phys.	*2,270	Urban/Rural	North/South
Nickerson & Martens, 2008	Quant	Phys.	280	Urban/Rural	North
Reddy et al, 2001	Quant/Qual	Phys.	15	Urban/Rural	North
Servoss, 2017	Quant/Qual	Phys.	504	Urban/Rural	North/South
Stallings & Hall, 2019	Quant	Phys.	*2,010	Urban/Rural	North/South
Steinka et al, 2016	Quant/Qual	Phys.	*3,335	Urban/Rural	North/South
Sughrue, 2003	Quant/Qual	Phys.	243	Urban	North
Tanner-Smith & Fisher, 2016	Quant	Phys.	*2,270	Urban/Rural	North/South
Tanner Smith & Addington, 2018	Quant/Qual	Phys.	*2,270	Urban/Rural	North/South
Thompkins, 2000	Quant/Qual	Phys.	N/A	Urban/Rural	North/South
Torres & Stefkovich, 2009	Quant	Phys.	*2,270	Urban/Rural	North/South
Watkins & Maume, 2015	Quant	Phys.	*2,270	Urban/Rural	North/South
Wike & Fraser, 2009	Qual	Phys.	6	Urban	North
Yacek, 2018	Qual	Phys.	9	Urban	North

Note. * These studies utilized samples from the CDC and NCES surveys/data.

Coding

Two authors (TJ, JB) coded the 700 article abstracts that included the initial search terms of the studies. A faculty mentor reviewed codes periodically. Agreement of the coders was greater than 90%. If disagreement existed, the faculty mentor mediated a discussion and a decision whether to include or exclude the study was reached through consensus.
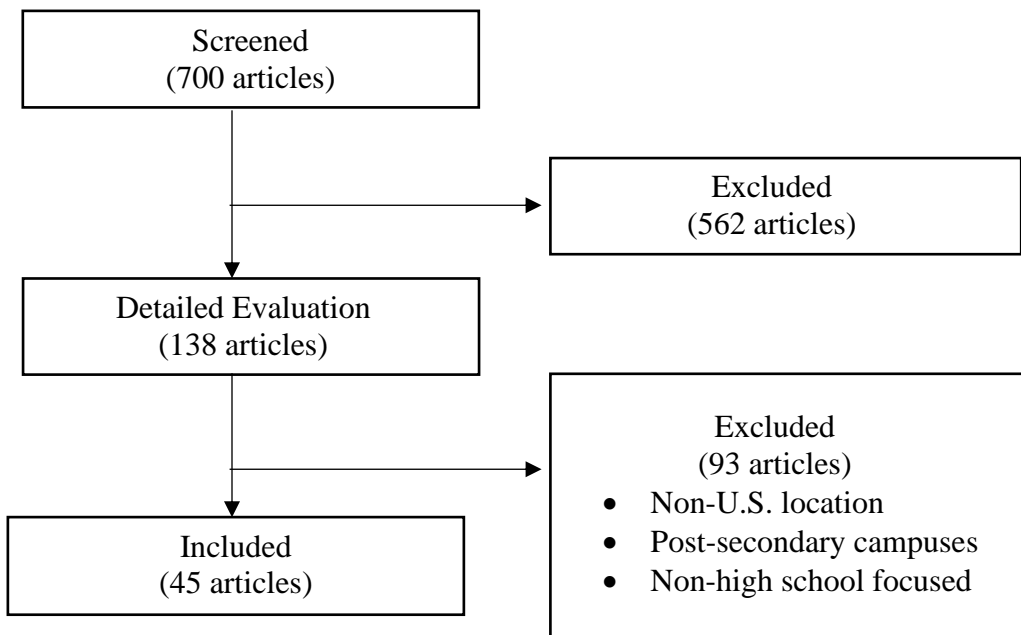
Study Characteristics. The following study characteristics were coded: research design, analysis, and physical safety/security. The research design variable was coded as conceptual or non-conceptual types of research. Conceptual studies focused on abstract ideas that had not yet been implemented, and/or studies that had not yet performed any statistical analyses on any qualitative or quantitative data. Non-conceptual studies included those which had implemented actual research designs and/or studies that had performed statistics analyses utilizing qualitative or quantitative data. The current study included only non-conceptual studies in its systematic review in order to get the best representation of implemented and practiced safety and security measures in schools. Conceptual studies were excluded.

Analysis of non-conceptual studies were then coded into qualitative and quantitative methods of study. Qualitative studies focused on interviews with descriptions of procedures and methods whereas quantitative studies produced data in numerical sets and statistical importance. Both quantitative and qualitative studies were included in the current study's analysis. Finally, safety and security topics addressed in the studies were then coded as either physical school safety and security measures or non-physical safety and security measures. For the purposes of the current study, both physical and non-physical measures of school safety and security were included.

Analysis

After the initial 700 articles were screened following the inclusion criteria detailed above, a total of 138 articles remained for detailed annotations (see Figure 2). From these 138 studies, an additional 93 studies were then excluded because they focused on either non-United States locations, post-secondary campuses, or non-high school campuses. As such, 45 studies met the final inclusion criteria and were included in the current study's review.

Figure 2. *Flow Diagram of the Study Selection Process*

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┌─────────────────────┐
│      Screened       │
│   (700 articles)    │
└─────────┬───────────┘
          │              ┌─────────────────────────────┐
          │─────────────▶│         Excluded            │
          │              │      (562 articles)         │
          ▼              └─────────────────────────────┘
┌─────────────────────┐
│ Detailed Evaluation │
│   (138 articles)    │
└─────────┬───────────┘
          │              ┌─────────────────────────────┐
          │              │         Excluded            │
          │─────────────▶│      (93 articles)          │
          │              │   • Non-U.S. location       │
          ▼              │   • Post-secondary campuses │
┌─────────────────────┐ │   • Non-high school focused │
│      Included       │ └─────────────────────────────┘
│   (45 articles)     │
└─────────────────────┘
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The included 45 articles were then assessed in light of the situational crime prevention perspective. This review indicated that multiple themes of situational crime prevention were present within the school safety and security literature. However, interestingly, none of the articles directly stated the use of Situational Crime Prevention as a method of safety and security research for their proposed solutions and analyses. As the articles were assessed, the current

study then coded them into one of the five mechanisms of situational crime prevention. Then, based on each individual study's research focus and methods, a placement in the SCP model was determined.

Chapter 4: Results

Following systematic review of the literature, the current study then corresponded each article to the mechanisms of situational crime prevention. As seen in Figure 3, all forty-five articles were able to be placed into a SCP mechanism, although which specific mechanism varied across studies. It should be noted that the mechanism of *reducing rewards* received zero articles placed into its category.

Six of the forty-five articles, approximately 7.5%, utilized the *reduction of provocation* mechanism of SCP. These six articles were then further divided into two techniques of reduction of provocation. Specifically, two of the articles were categorized into reducing emotional arousal. The remaining four articles were categorized into reducing frustrations and stress. None of the articles included the techniques of avoiding disputes, neutralizing peer pressure, or discouraging imitation.

Twenty of the forty-five articles, approximately 44%, utilized the *increasing the risk* mechanism of SCP. These twenty articles were then further divided into three techniques of increasing the risk. Specifically, nine of the articles were categorized into extending guardianship; four of the articles were categorized into assisting natural surveillance; and seven of the articles were categorized as strengthening formal surveillance. None of the articles included the techniques of reducing anonymity or utilizing place managers.

Six of the forty-five articles, approximately 7.5%, utilized the *increasing the effort* mechanism of SCP. These six articles were then further divided into two techniques of increasing the effort. Specifically, two of the articles were categorized into controlling access to facilities and four of the articles were categorized into focus on deflecting offenders' techniques.

None of the articles included the techniques of target hardening, screening exits, or controlling tools/weapons.

Thirteen of the forty-five articles, approximately 29%, utilized the *removing excuses* mechanism of SCP. These thirteen articles were then further divided into one technique of removing excuses. Specifically, all thirteen articles were categorized into the set rules technique. None of the articles in the current study could be categorized into the techniques of posting instructions, alert conscience, assisting compliance, or controlling access to drugs/alcohol.

Figure 3. *Categorization of studies to situational crime prevention*

Increase the Effort n = 6	Increase the Risks n = 20	Reduce the Rewards n = 0	Reduce Provocations n = 6	Remove Excuses n = 13
Target hardening n = 0	Extended guardianship n = 9	Conceal targets n = 0	Reduce frustrations/stress n = 4	Set rules n = 13
Control access to facilities n = 2	Assist natural surveillance n = 4	Remove targets n = 0	Avoid disputes n = 0	Post instructions n = 0
Screen exits n = 0	Reduce anonymity n = 0	Identify property n = 0	Reduce emotional arousal n = 2	Alert conscience n = 0
Deflect offenders n = 4	Utilize place managers n = 0	Disrupt markers n = 0	Neutralize peer pressure n = 0	Assist compliance n = 0
Control tools/weapons n = 0	Strengthen formal surveillance n = 7	Deny privileges n = 0	Discourage imitation n = 0	Control drugs and alcohol n = 0

Chapter 5: Discussion

The forty-five included articles were coded by study characteristics including their use of research methods and data, implementation of physical or non-physical safety/security measures, population density, and region/location of schools included in the study. These characteristics were chosen, intentionally, to code within the present study because each of these factors aids in a better understanding of what school safety and security literature has focused on thus far.

The use of qualitative or quantitative methods in school security research is important as it focuses ways to organize and analyze data. Qualitative measures in school security research focus on the collection of interviews and descriptive feedback to provide a deeper insight into understanding why violent behaviors are occurring in schools across the nation. This focus on understanding violence as a whole in schools shifts solutions from the studies to consider behavioral curbing measures, such as counseling programs or anger management programs (Cornell, 2009; Johnson, 2019). Of the forty-five articles included in the present study, fourteen were qualitative in nature-- they focused on the use of personal interviews and opinion based responses to gauge perspectives on multiple experiences with school security. This characteristic is important because it takes data obtained through observation or personal interviews to create a descriptive understanding of why behavioral patterns arise in schools.

In contrast, quantitative measures in school security focus on empirical data set on recording trends in violence and analyzing statistical variations. A focus on trends in school security, for instance, allows studies to report factual findings such as the number of averted shootings in a given school district population or the number of functioning security cameras in a school (Stallings, 2019; Kingery, 2001). Of the 45 articles included in the present study, twelve were quantitative in nature; they recorded trends in measurable empirical data to gauge

increasing and decreasing measures of security generally. When both methods are applied to studies, empirical trends and behavioral understandings can be assessed to determine contradictions in safety measures. For example, it may be hypothesized that increasing the use of metal detectors may promote student feelings of safety but the actual data could support that students feel less safe with higher presence of visible measures (Tanner-Smith, 2016). A total of nineteen articles were recorded using both qualitative and quantitative measures in their analyses; this emphasizes a focus on both behavioral patterns and motives as well as trends in measures of security to gauge the overall impact on safety.

School measures of physical or non-physical safety are important to consider in this type of research because it provides information on trends regarding what methods are currently being utilized. This study supports findings that physical safety measures in schools such as metal detectors and security cameras are widely used in efforts to curb violent behavior (Nickerson, 2008; Johnson, 2019). By using these physical measures in safety, student violence is directly curbed as accountability is increased (Mowen, 2015). Articles assessing non-physical safety in schools create programming based on mental wellbeing of students in efforts to address the root of behavioral issues (Cornell, 2009; Fein, 2009; Fredland; 2008). Employing the current study's inclusion criteria, only one study was found that addressed non-physical measures. However, both characteristics are important to consider while organizing literature as it provides insight into current studies and their assessment of measures currently used in school safety and security.

The inclusion of population density is also important to consider because it reflects on the environment of schools as either urban or rural. The current study found that articles based in urban environments centered their research mainly on physical measures of security, such as

metal detectors and security cameras, and the effectiveness of zero tolerance policies (Sughrue, 2003; Thompkins, 2000). In contrast, no articles focused solely on rural school locations in relation to violence and security. However, a majority of studies included in the current study conducted their research in both urban and rural populations. This difference highlights the need to expand studies to consider rural school safety to determine how environmental location affects security practices across densities. Similarly, the regional assessment of schools focuses primarily on northern schools over those located in the south (Cornell, 2009; Barboza, 2018). However, the majority of studies compiled both northern and southern data. Regional focuses are important to consider in school security studies as well because it allows focus on specific differences in measures taken by schools based on location.

After reviewing and coding the articles based on these study characteristics, it was apparent that the extant body of school safety and security research could, generally, be broken down into four different measures: physical, student behavior, security procedures, and policy structure. Moreover, by dividing the articles into these four main topics, overall themes in current studies could then be assessed.

Articles divided by physical measures of security focused on implementing measures to curb behaviors, such as metal detectors and security cameras. By implementing these measures, safety can be controlled in wide environments by independent systems. These measures are important to consider when evaluating school safety because it allows studies to be grouped and analyzed based on existing methods used in schools. Similarly, policy development is important to consider in literature analysis because it allows cohesive grouping based on existing policies. Both of these characteristics play major roles in security development as they allow assessment based on existing policies to determine trends and impacts on student experience.

It is important to consider both procedure and student behavior in literature assessments as well. Procedural considerations focus on a series of actions in place that allow for swift reaction to violent events. The studies that focused on procedural assessments tended to focus on identifying threats in place as well as proper reactionary measures to consolidate threat and reduce the risk of victimization by violence. Similarly, student behaviors were observed through qualitative studies that focus on patterns of behaviors and characterization of possible offenders and victims. This is important to consider in literature consolidation as it allows data to indicate student characteristics and motivations behind actions that play a role in security measures.

It is important to mention that much of the existing research that addresses safety and security has often focused on individual offender characteristics and behaviors (Fredland, 2008; Lenhardt, 2018). Although these factors are important to consider in assessments of school safety and security, solely focusing on individual factors negates the importance of considering situational risk factors such as opportunity and environment of the crime. The application of the situational crime perspective to analyze school safety and security expands on previous literature that focuses on individual risk factors, and allows this body of research, as well as future studies, to view school crime and violence through a more comprehensive framework.

Overall, the results from the current study support the inclusion and development of Situational Crime Prevention mechanisms and techniques into the school safety and security literature. Article placement within the SCP perspective was determined based on each individual study's research focus and methods. The articles were then further divided into the appropriate mechanisms techniques in order to illustrate that the use of SCP within this literature improves a cohesive theoretical perspective for addressing solutions to school crime and violence.

The six articles reviewed under *increasing the efforts* of offenders fell into the two techniques of controlling access to facilities and deflecting offenders. In terms of school security, techniques of controlling access to facilities were used in two the literature solutions (Kupchik, 2009; Addington, 2019). These authors suggested that future studies consider increasing security checks for student belongings and increasing the use of metal detectors at entryways in order to minimize the chance an offender has to carry weapons openly in school. This unified perspective on the use of SCP in schools would allow future studies to take the data and information learned from the mentioned studies and apply the formal framework of SCP to problem solve. In other words, utilizing the SCP perspective in these studies would support the search for effective safety and security measures that increase the effort an offender takes to harm students. Similarly, regarding security checks, the four articles that focused on deflecting offenders provided solutions that centered on separation of genders in schools, as well as separation of troubled students from the general population (Madfis, 2016; Barboza, 2018; Yacek, 2018; Lenhardt, 2018). The clear distinction of groups within schools would create more effort for an offender to break from their placed areas and potentially create violence in the school environment. Although these articles did not explicitly mention the use of SCP methods in their assessments, they focus on the mechanisms as an overall theme. As such, introducing the use of SCP would allow authors to focus on the specific techniques that increase efforts to offend.

The mechanism of *increasing the risks* of offenders if caught appeared to be the most populated category after article division. Twenty of the forty-five articles, nearly half, fell into this mechanism as a way to develop techniques for raising the stakes in school crime. Nine articles focused on extending guardianship in schools regardless of existing security conditions (Daniels, 2010; Fein, 2009; Cornell, 2009; Thompkins, 2000; Dunbar, 2019; Johnson, 2019;

Chrusciel, 2015; Watkins, 2015; Hong, 2012; Lesneskie, 2017). A common theme in these articles focused on the extension of guardianship that stemmed from increasing the use of school resource officers. A second common theme focused on creating positive student and staff relationships. This increase in SROs and school staff would provide schools with the extra protection from guardians which would increase the risk of preventing school delinquency because there would be more available witnesses for reporting offender behavior.

Similarly, four articles contained themes of assisting natural surveillance through the use of improving already existing measures, such as security cameras to increase the offender risk by creating an advancement of measures in place to record criminal activity (Bracy, 2011; Nickerson, 2008; Tanner-Smith, 2016; Steinka-Fry, 2016). These authors did not advocate for increasing the number of existing measures, but simply updating already existing techniques to match the current level of modern technology. Although these studies did not increase numbers of formal security measures, per say, seven articles fell into the technique of strengthening formal surveillance by adding stricter methods (Lindle, 2008; Johnson, 2019; Crawford, 2016; Agnich, 2015; Wike, 2009; Servoss, 2017; Mowen, 2019). These studies focused on creating more widely available surveillance measures, specifically increasing the number of security cameras and controlled lockdown doors in cases of emergencies. The techniques discussed support increasing the risks of offenders as they provide numerous barriers for criminal behavior and raise the stakes of punishment if caught in the act.

The number of articles supporting a *reduction in provocations* paralleled articles increasing the efforts to commit crimes. Specifically, six articles focused on psychological approaches to preventing criminal behavior as they used techniques that reduced levels of emotions in offenders. Four of the articles focused on a reduction in frustrations and stress that

an offender would have to commit an act of delinquency (McNeal, 2010; Kupchik, 2009; McIntyre, 2000; Mowen, 2019). These articles applied this technique through the use of efficient cafeteria lines and smooth hallway flow from classroom to classroom. Additionally, the authors focused on creating in-class behavior that would provide support and fairness for students when interacting with each other and teachers. Two articles centered on reducing emotional arousal in students because they applied programming that would support an increase in positive emotions over aggression (Johnson, 2019; Fredland, 2008). These authors advocated for the use of in-class, reward-based systems that would promote good behavior in exchange for support and positive affirmations. Although these articles did not explicitly mention the use of SCP in terms of school security solutions, the results and solutions provided carry themes of reducing provocations in order to create a better school learning environment that focuses on developing emotional control and impulses.

The *removal of excuses* held the second highest number of articles as it focused on techniques of establishing instructions and regulations. Despite five techniques falling under this mechanism, all fell into setting rules that would allow for guidelines of student behavior. While this category could potentially be dual-coded between establishing rules and posting instructions, the authors of these thirteen articles tended to provide solutions based on assessments from a lack of rules in schools. Essentially, they recommended that schools strengthen established rules to curb disobedient student behavior. This would allow for the removal of excuses students may claim when they are held accountable for violent or disruptive behaviors in the school environment. Relevant to the current study's discussion, grouping methods of school safety and security into the SCP mechanism of removing excuses, reveals multiple mechanisms that would allow researchers to test various examples of rules and signage in schools to reduce violence.

The articles that focused on this particular mechanism did not specifically mention use of SCP as a mechanism for crime prevention; however, the common theme of establishing rules to provide accountability is a binding factor that equalizes the use of SCP measures in school safety and security.

No articles were categorized within the mechanism of *removing rewards* for student criminal behavior. This could be perhaps because the five techniques in this particular mechanism do not overtly apply to mass violence in schools as rewards are not often sought as a means to commit these crimes by students. Typically, data illustrates that violence in schools stems from emotional frustrations or lack of investment in relationship building. As such, none of the articles displayed means to the five techniques under this mechanism. However, it should be noted that all five mechanisms of SCP have been applied to other (non-school based) types of crime and delinquency, resulting in decreased offenses, regardless of direct mention in previous studies (Clarke, 1997). For instance, applying a removal of reward towards school violence could be utilized by the swift removal of graffiti on school property as it removes the adrenaline rush an offender my feel following the use of a personal mark on school grounds.

Chapter 6: Conclusion

The current study provides a thorough and comprehensive systematic review of the current state of school safety and security literature. The present study was, in one sense, exploratory, with the goal advancing new theoretical contexts for the examination of school safety and security. To be sure, the use of situational crime prevention can be applied to this body of literature, but can also benefit future research by creating a cohesive way to analyze solutions. Many traditional criminology theories focus on offender characteristics from a behavioral standpoint, but looking at offender characteristics to the exclusion of all other influences negates the importance of other factors relevant to prevention strategies; namely, the physical environment and the opportunity to carry out violent behavior. The inclusion of SCP within the school safety and security research shifts the focus from behavioral theories to consider opportunity to commit crime in a given environment.

When situational crime prevention is applied to school safety and security research, researchers are allowed to centralize concepts and combine studies towards a central purpose under one of the five SCP mechanisms. The forty-five studies reviewed in the current systematic review all illustrate the use of SCP mechanisms and techniques without directly stating the use of this prevention method. Centralizing the studies' results could not only help create clear and consistent methods of problem solving for future studies to follow, but also help addresses limitation issues in studies that focus only on behavioral characteristics of criminals.

Although a main focus of the present study was to perform a systematic review, there are still a couple of limitations that should be noted. The initial search of 700 articles was conducted through one database, Web of Science. Although Web of Science is one of the most comprehensive citations databases available, it would be beneficial for future studies to utilize

multiple electronic searches. Future studies could also perform manual searches of recent journal

issues that have a high likelihood of containing articles in this subject area. Additionally, it

should be noted that two authors coded the articles separately based on characteristics

determined important for this research. Although there was a 90% agreeance rate on coding,

there is still the possibility for error. Future studies could utilize additional coders and also

employ the use of pivot tables to account for discrepancies.

Based on the results for the current study, future research is advised to use Situational

Crime Prevention within the context of school safety and security in an effort to, not only curb

crime, but to provide equal problem-solving solutions for a variety of crime-related issues across

schools. Additionally, future research should also consider Situational Crime Prevention in terms

of more detailed categories of school violence, school security measures, and school safety

measures, as compared to general violence. Moreover, future work should also consider a

reevaluation of the author's framework and apply situational crime prevention techniques to

wider ranges of school security and security.

It is important to mention that after-school violence, or acts of violence that occur once

the last bell of the school day has rung, was not mentioned in the final 45 included articles within

the current study. Neither was after-school violence mentioned within the 138 pre-annotated

articles as well. The after-school space has great potential to be researched utilizing the SCP

perspective to determine prevention measures when applied to school security and safety.

Indeed, 2019 marked the first year in history in which more school shooting incidents occurred

during after-school activities and athletic events than during the school day (Reidman, 2020).

The empirical data indicates that out of 112 school shootings (K-12) in 2019, 50 of those events

occurred during school hours and the remaining 62 occurred outside of school hours (Reidman,

2020). This topic, viewed in light of the SCP perspective, poses important opportunities for future research to establish specific detailed solutions with crime prevention methods in relation to after-school shootings. The current study highlights this gap of literature in school safety and security data and advocates for the use of situational crime prevention techniques in future studies for this particular period of the day.

Once a mechanism is applied as a solution to school security issues, a more detailed solution modified specifically for the scenario can be created based on one of the twenty-five techniques. The current study indicates the need to use SCP methods in order to organize school safety and security research into a more unified and comprehensive theoretical framework. Applied to school violence, SCP would allow schools to create mechanisms for reducing provocations rooted in school related issues, increasing risks of students found guilty of criminal behaviors, removing excuses as a defense form for violence, and increasing the efforts a student would take to carry out mass attacks of violence on schools. Thus, the current research supports prevention measures that aim to curb situational factors in the environment that allow criminal acts to occur within the school setting.

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