

Building Features that Impact Perceptions of Safety as Seen Through the Eyes of  
Students and Teachers

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**ABSTRACT**

When students perceive their surroundings as being safe and comfortable, they can concentrate on higher order tasks such as learning (Bowen et al., 1998); a perception of safety is a “basic requirement” for academic success (Hernandez, Floden, & Bosworth, 2010). The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. The study employed aspects of the methodology used by Biag (2014) in the study ‘Perceived School Safety: Visual Narratives from the Middle Grades’. Comparisons were drawn between the areas and characteristics that influence the safety perceptions of students and teachers. This study was conducted in one high school (N=14) in rural Virginia. All findings and suggestions were shared with the school and district participating in order to assist with future improvements in their safety practices. Results show windows, lighting and accessibility to be among the most common items influencing perceptions of safety. Items such as cameras and proximity to administration were discussed the least for their influence.

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**GENERAL AUDIENCE ABSTRACT**

When students feel as though their surroundings are safe and comfortable, they can concentrate on learning (Bowen et al., 1998); a sense of safety is a “basic requirement” for academic success (Hernandez, Floden, & Bosworth, 2010). The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. The study was inspired by Biag’s (2014) study ‘Perceived School Safety: Visual Narratives from the Middle Grades’. The current study sought the opinions of students and teachers from one high school ( $N=14$ ) in Rural Virginia. Comparisons were drawn between the areas and characteristics that shape the safety perceptions of students and teachers. All findings and suggestions were shared with the school and district participating in order to assist with future improvements in their safety practices. Results show windows, lighting and accessibility to be among the most common items influencing perceptions of safety. Items such as cameras and proximity to administration were discussed the least.

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## Dedication

This study is dedicated to my grandparents who each inspired me in their own ways. Gampa, for teaching me to be a lifelong learner. Opa, who proved that if something is worth doing its worth doing right and with a smile. Oma, the most incredible brain I have ever known. And it is especially dedicated to Nana, who wanted this more than anyone, thank you for being with me through this journey. To all my friends; especially Raf who gave me the courage to start; your support has been essential through this process. Finally, to my parents who always believe in me and supply unwavering support no matter the path I take, or how many turns I take on that path.

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## **Chapter 1: Introduction**

### **Introduction and Overview of Study**

Tornadoes, earthquakes, hurricanes, fire and floods are natural disasters that can strike our schools at any time; however, there is also the threat of violent acts by man on these institutions (Earthman, 2013). Parents instill their trust in educators to provide a safe and nurturing environment for their children, yet over 50percent of parents with school-aged children are fearful that a school shooting could happen in their community (Wike & Fraser, 2009). An increasing number of students feel less safe at school than they do in their own neighborhoods due to the increase in issues surrounding ethnicity, gender and overall perception of danger within the schools (Bowen, Richman, Brewster, & Bowen, 1998; Lacoé, 2015). In times of disaster, like 9/11, the surrounding communities will look to schools as a source of leadership, and the school facility itself may become the shelter for many (Hull, 2011). Not only is the school a focal point in the community, time spent in schools constitutes the majority of school-age children's waking hours; therefore, the responsibility is on the school itself to establish both a safe physical and emotional environment (Eaton et al., 2006).

### **Historical Perspective**

In 1908 Arthur Perry set out to provide an in depth discussion of the specific role a principal has in the school. Perry discussed the importance of the principal's relationship with his and her teachers, as well as the responsibility a principal has toward the physical, moral and academic growth of the pupils (*Management of a city school: By Arthur C. Perry* 1908).

Through this discussion the concept of school climate was born. Since Perry, there has been an increased focus on the effects and contributing factors of school climate.

Contributing to a positive school climate is the safe design of the school building itself. The safety of buildings has always been a focus as seen through the extensive building and fire codes established. Building and Fire codes lay out requirements for materials, spacing and fire prevention. In light of more recent violent acts taking place within the school communities, the focus of building safety has shifted from creating an open and inviting environment to one that is more restrictive and cautious (Walton, 2011).

Research conducted surrounding school shootings and school climate has directed the spotlight on an ever growing educational issue, peer bullying. The studies conducted in conjunction with incidences of school violence have identified commonalities between perpetrators. The most frequent commonality among these perpetrators of violent acts against schools is that they have been found to have been a victim of some form of abuse or peer violence/bullying (Rocque, 2012). According to a review of research conducted by J. Klein, D. Cornell and T. Konold, creating a sense of a positive school climate can decrease violent and risk taking behaviors, including peer bullying (Klein, Cornell, & Konold, 2012). One way to improve the school climate is to ensure the physical aspects of the school are safe and inviting (Thapa, Cohen, Guffey and Higgins-D'Alessandro, 2013).

## **Statement of Problem**

The overall physical and emotional safety of students contributes to the level of a positive school climate (Thapa, Cohen, Guffey and Higgins-D'Alessandro, 2013). The perception of safety has decreased within our schools due to the increased number of violent acts committed within the school environment. This shift affects the school climate and, in turn, negatively

impacting student achievement growth (Bowen, Richman, Brewster, & Bowen, 1998; Ewton, 2014; Cornwell & Mayer, 2010).

School climate has an undeniable impact on student achievement by affecting students' social, emotional and academic growth (Bowen, Richman, Brewster, & Bowen, 1998; Ewton, 2014; Cornwell & Mayer, 2010). In response to school violence, authorities have made changes to improve the security of schools. Changes such as camera systems, School Resource Officers and metal detectors have been implemented (Shelton, 2007; Wike & Fraser, 2009; Brydolf, 2013). These measures, while increasing the physical safety of schools, simultaneously decrease the perception of safety and, therefore, decrease students' ability to focus on academics (Shelton, 2007; Wike & Fraser, 2009; Brydolf, 2013).

### **Significance and Purpose of Study**

The quality of the school facility and the level of perceived safety by the students and teachers has been found to impact school climate and, in turn, student achievement (Cash, 2007; Uline & Tschanen-Moran, 2008). In 2013 Amrit Thapa et. al. conducted a review of research on school climate. This review led to an argument that school climate has an effect on students' self-esteem, self-concept and self-criticism which, in turn, affects attendance rates, academic achievement and emotional growth (Amrit Thapa et al., 2013). According to Thapa et. al. (2013) school climate can be divided into five areas or dimensions: (i) Safety, (ii) Relationships, (iii)Teaching and Learning, (iv) Institutional Environment, and (v) School Improvement. The dimensions of interest in this study are safety and the institutional environment's influence on the perceptions of safety. This refers to the physical, emotional and social safety of the school members (Amrit Thapa et al., 2013).

This study aims to identify building features that contribute to the perception of safety. By identifying these features, it is the hope of the researchers that school leaders will be able to take steps to improve the perception of safety within their schools. This research will also potentially benefit architects when designing future schools by providing feedback on how design features affect perceptions.

## **Purpose Statement**

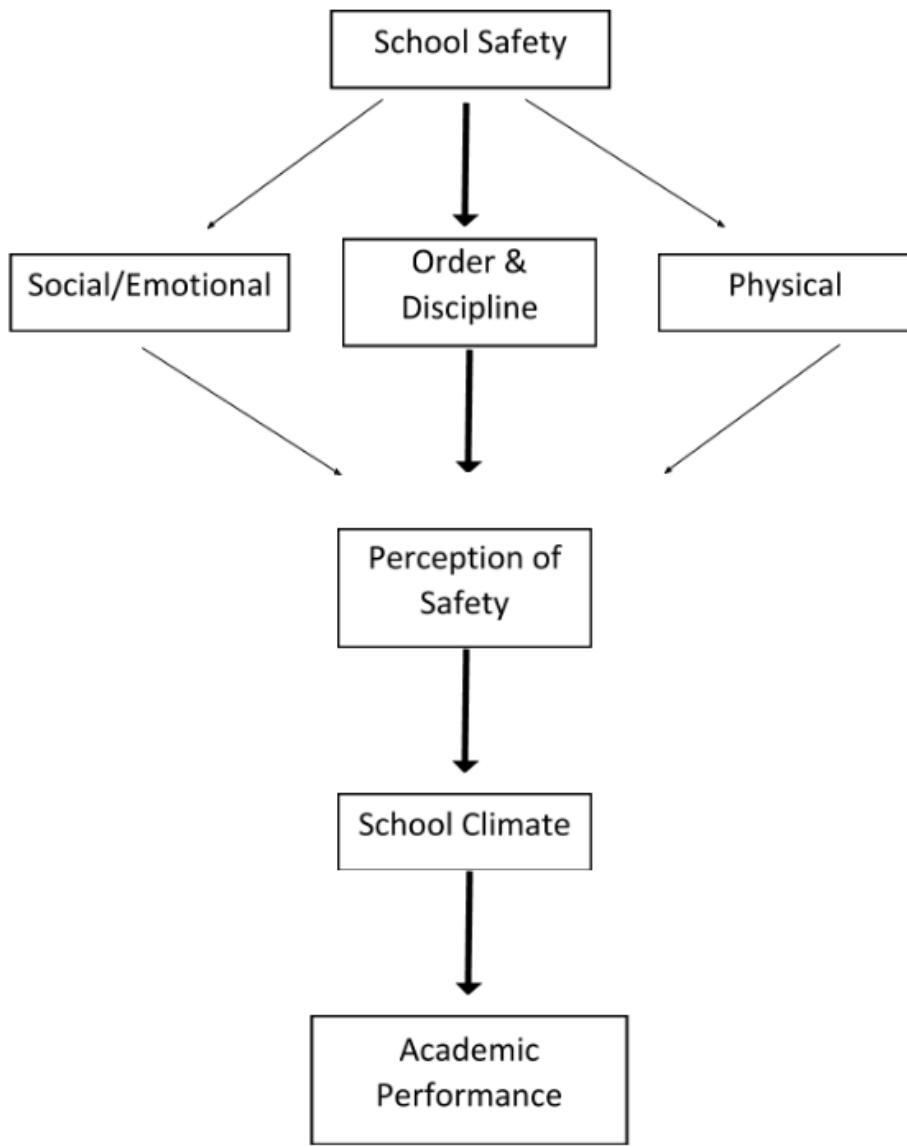
The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. Data were obtained through visual narratives, written questionnaires and focus groups conducted within the schools.

## **Justification of Study**

According to Michael Ewton (2014), the increase of publicized violence in schools has caused the focus on safety to increase (Brydolf, 2013; Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015; Michael Ewton, 2014; Shelton, 2007; Wike & Fraser, 2009). This increased focus has had both positive and negative effects on school climate (Dewey G. Cornell & Matthew J. Mayer, 2010; Perumean-Chaney & Sutton, 2013). In a study conducted by the US Department of Education and the US General Accounting Office, it was found that many schools fall short in the ability to provide the safety and security needed for a positive educational environment (United States. General Accounting Office, 2000; US Department of Education, 2000). In order to maintain or improve school climate, the building features contributing to perceptions of safety must be identified.

## **Research Questions**

1. What do students identify as representations of safety or lack of safety in their schools, and what do they say contributes to these perceptions?
2. What do teachers identify as representations of safety or lack of safety in their schools, and what do they say contributes to these perceptions?
3. How do the perceptions of students and teachers compare?



*Figure 1 Conceptual Framework. This conceptual framework provides a visual representation of the guiding structure for this study.*

The framework above shows that there are three factors of school safety that contribute to the perception of safety. These factors include the social/emotional environment, which includes the level of comfort and supports provided to the students. Order and discipline, the second component in the framework refers to the extent in which the rules are followed and the consistency of consequences. Lastly, the third component –physical elements- this indicates the

physical structures that are in place, such as lighting, cameras, clear lines of sight and gates. The perception of safety within the school significantly impacts the school climate. Ultimately, all of the dimensions contributing to school climate affect student achievement as seen in studies conducted by Cash (2007) and Earthman (1999). Earthman's study showed a 5-17 point differential between the performance of students in sub-standard and above standard school buildings (Earthman, 1999). Additionally, Cash found that better building conditions contributed to higher achievement scores (Cash, 2007).

## **Definitions**

The following terms have been identified as frequently used within this paper. In order to provide a common understanding, these words have been defined as they relate to this study.

*Emotional Safety*- the level of support available to the students as well as the absence of bullying (Wang & Degol, 2016)

*Perception of Safety*- individual feelings and ideas of one's personal safety

*Physical Safety*- the protection provided by the building and other features set in place to protect from harm or deter violent behavior

*School Climate*- the quality and character of social interactions at school as shaped by the norms, values, rules, organizational structures, and relationship patterns (Klein et al., 2012)

*School Shooting*- an incident where a firearm is discharged on an elementary, middle, high, or college campus (Dewey G. Cornell & Matthew J. Mayer, 2010a).

## **Limitations/Delimitations**

Limitations of this study, or factors that could not be controlled

- When utilizing the focus group method, the researcher accepts the subjects' responses as accurate, but there is always the possibility that the subjects may misrepresent their perceptions. This is due to the concept of Response Bias, in which subjects respond actively to stimuli. In this case, Social Desirability Bias, where the intention of the subject is to please the researcher (Chung, J., & Monroe, G., 2003) could impact the responses.
- There is potential for the participants to discuss their thoughts and feelings outside of the realm of the study. Once the subjects have begun participation in the study, they would have the potential to discuss the study with one another. This could influence their selection of areas to photograph, as well as their responses within the questionnaire and focus groups.
- After conducting the study, an additional limitation became apparent. The study was conducted after the mass school shooting at Stoneman Douglas High School in Parkland, Florida. It is believed that the perceptions of the participants were impacted following this shooting.

Factors that could be controlled, delimitations, are as noted below

- The selection of only one school limits the transferability or generalizability of the findings. This limits the understanding of whether subjects' perceptions are representative of the entire district and, therefore, potentially represent the perceptions in other districts.
- The sample size of students and teachers is relatively small. Two school divisions were invited to participate; researchers were only successful in obtaining

participation from one school division therefore involvement only reached 14 subjects from one school.

- The variation of school building design and age could affect the results. Due to the wide array of school buildings in Virginia, subjects' perceptions may be heavily influenced by the age and design of the building itself and therefore the findings in this study may not accurately represent the entire district.
- The lack of parents and community member perceptions in the study limits the understanding of those stakeholder perceptions.

## **Organization of Study**

This study consists of five chapters. Chapter One gives an introduction and overview of the study. A review of current research and literature is found in Chapter Two. In Chapter Three the design of the study is discussed, along with the identification of participants. The fourth chapter consists of the data and results obtained throughout the study. The final chapter summarize the findings and conclusions, and identifies the implications of the current study and provides suggestions for future research.

## Chapter 2: Literature Review

### Background Information

Building safety has always been a focus of engineers and architects; however, since the mass media coverage of violent acts taking place in schools, safety has become a concentration for educational leaders (Brydolf, 2013; Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015; Michael Ewton, 2014; Shelton, 2007; Wike & Fraser, 2009). This shift in focus has drawn the attention to the safety features established in schools, both physical and policy based (Walton, 2011). The quality of the school's climate has also become a frequent topic of concern, and safety is a contributing factor. Student achievement is the motivation behind this increased emphasis on school climate (Amrit Thapa, Jonathan Cohen, Shawn Guffey, & Ann Higgins-D'Alessandro, 2013; Klein, Cornell, & Konold, 2012).

This chapter reviews the literature related to school safety and its influence on a school's climate. The first section of the literature review focuses on school violence, specifically bullying, physical aggression, and influences of the media. The second addresses school features and facility safety, to include fire safety, building access and School Resource Officer programs. The third section explores the perceptions of safety. The fourth section discusses theories in school safety, while section five examines school climate, specifically the four categories of school climate; academic, community, safety and institutional environment. Section six reviews the connection among school climate, safety and student achievement. Finally, the last section focuses on past studies of school climate and safety.

## **Research Process**

A comprehensive research process was employed in this literature review. The Virginia Polytechnic Institute and State University Library Summons Database was utilized to identify peer-reviewed articles on topics related to school safety. The initial search for “*school safety*” resulted in 6,213,426 findings. The search on “*school safety*” was subsequently narrowed to the following terms: *perceptions of school safety, school shootings, school climate and safety, safety features in schools, building features and facility safety*. The results from these searches were further narrowed by publication date to focus on research conducted within the last ten years. Documents resulting from the searches conducted were analyzed by a review of abstracts. Pertinent studies were saved in ProQuest RefWorks for utilization in the following research. Reference pages were also reviewed for viability to include in this literature review.

## **Introduction**

The National School Climate Council in 2007 determined that a positive school climate is dependent on the members feeling socially, emotionally and physically safe. In 2015 Kustsyuruba, Klinger and Hussain looked into the relationship between student achievement, school safety and school climate. Kustsyuruba et. al. found that the school climate has a significant influence on academic, social and emotional growth. According to Wang and Degol (2016) the overall school climate consists of academics, community, institutional environment and safety. Student engagement is determined by the perception that the school meets students’ psychological needs. One of the psychological needs, according to Maslow’s theory of human motivation (1943), is a sense of safety. Hernandez, Floden, & Bosworth (2010) expressed the idea that safety is a “basic requirement” for academic success. Studies conducted by Cash (2007)

and Earthman (1999) have established a connection between the physical features of school buildings and student achievement. Duyar's research in 2010 supported Cash and Earthman by finding that school facility conditions influenced a sixteen-point variation in student achievement scores. This literature review seeks to investigate all aspects of school safety contributing to the overall school climate.

## **School Violence**

This section will discuss both the emotional and physical violence seen in schools. Bullying is explored for its influence on violent behaviors, such as school shootings. The varieties of violent acts in schools is discussed, as well as the media coverage and its influence on perceptions of safety. Lastly, incidences of school shootings will be examined.

**Bullying.** Bullying has been a long standing concern within education; however, after the mass school shooting at Columbine High School in 1999 and other violent school acts around that time frame researchers, educators and the public began to look more closely at the phenomenon of bullying (Martocci, 2015). Psychologists think that the motivating factor behind school shootings has been the shame, ostracization and depression that are associated with bullying (Martocci, 2015). Bullying has been found by Low & Van Ryzin (2014) to have negative effects on mental health and academic performance. Due to these findings, a number of anti-bullying programs have been established (Low & Van Ryzin, 2014). Low also explains that peer interactions are dependent on the school's climate. The climate dictates peer group norms and student behaviors. A study conducted by Eliot, Cornell, Gregory and Fan (2010) showed that school climate is a determining factor in the students' willingness to seek help when presented with peer violence (Eliot, Cornell, Gregory, & Fan, 2010; Low & Van Ryzin, 2014). Another study conducted by Pecjak & Pirc (2017) analyzing the difference between the perceptions of

victims and bullies determined that bullies tended to believe that the school allowed this peer violence. Pecjak & Pirc's study also found that chronic bullies had lower academic performance based on GPA. Pecjak & Pirc found that 62.5 percent of chronic bullies had insufficient or sufficient GPAs whereas only 8.8 percent had very good or excellent GPAs. Both chronic victims and bullies showed a lower commitment to school than their counterparts. Victims in this study also perceived that the school allowed this type of behavior (Pecjak & Pirc, 2017).

**Physical violence.** Schools are considered a “soft target” due to the many vulnerabilities within a school facility, especially when compared to other public buildings (Hull, 2011). Schools are populated with a majority of youth, who, during an emergency, may not react in the desired way (Hassanain, 2006). A study conducted by *Campus Safety Magazine* (Hull, 2011) found that fifty percent of administrators surveyed felt that “it will never happen to my school.” This notion of security contrasts with what survivors often say, “I never believed it would happen here” (Hull, 2011). Others feel that emergency responders will be at the facility within five minutes, thus diminishing the need to prepare. However, it can take up to 30 minutes in a rural district for responders to reach a school, and, in times of a large-scale disaster such as 9/11, they may never make it (Hull, 2011). Hull explains that “...what happens during the first few minutes of the emergency influences the outcome of the situation” (Hull, 2011. p. 450).

**School shootings.** Although new to the media spotlight, school shootings have been occurring for hundreds of years. This section will focus on K-12 school shootings that resulted in four or more deaths. The first school shooting occurred July 26, 1764, in Greencastle, Pennsylvania. Since then, there have been 480 school shootings, with the most recent taking place on May 25, 2018, in Noblesville, Indiana, injuring two (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Finley, 2014; Hamasaki, Sonya & Simon,

Darran, 2010; Blinder, A. & Victor, D., 2018; *Police: Student, teacher injured in shooting at Noblesville West Middle School in Indiana*, 2018). All together these shootings have claimed the lives of 572 individuals and injured 878. A school shooting, for the purpose of this proposed study, is defined as an incident where a firearm is discharged on an elementary, middle, high, or college campus (Cornell & Mayer, 2010a). Where schools were once believed to be inherently safe, it must now be considered that either a member of the school family or an outsider may threaten the wellbeing of those within (Wike & Fraser, 2009). The Enoch Brown School Massacre that took place back in 1764, although not involving a firearm, is considered the “the first school shooting” (*Critical examinations of school violence and disturbance in K-12 education*, 2016). The attack was as a result of “Pontiac’s Rebellion.” This movement occurred when the Ottawa Tribe was at war with American colonies over land. On the morning of July 26, 1764, a small group of Indians entered the school building, clubbed and scalped eleven students, as well as the schoolmaster. Only one boy survived the attack (Burnard. & Middleton, 2009; Yates, 2013).

On January 17, 1989, a 26-year old man parked his van outside Cleveland Elementary School and used a Molotov cocktail to set the van on fire. He then proceeded to fire 106 rounds from an assault rifle into the school’s playground where around 300 students were playing. In the four minutes that these shots rang out, five children lost their lives, and 30 others were wounded, including one teacher. The gunman, who was a former student at the elementary school, then took a 9mm pistol and ended his life (Slaughter in a schoolyard, 1989; *Critical examinations of school violence and disturbance in K-12 education*, 2016; Finley, 2014).

At Westside Middle School on March 24, 1998, the fire alarm was pulled by a student. When the school evacuated, two other students opened fire from a nearby wooded area, killing

four students and one teacher. Ten other students and teachers were injured (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Julie Deardorff, Tribune Staff Writer contributed to this report, 1998; Laura L. Finley, 2014).

On April 20, 1999, what is considered to be one of the worst K-12 school massacres unfolded. Two students dropped off two propane bombs hidden in backpacks in Columbine High School. They disguised them among the other students' belongings inside the cafeteria. They then left campus and awaited what they planned to be the mass destruction of their classmates. The bombs did not detonate as the boys had planned; therefore, they returned to school, but not before detonating bombs elsewhere to draw law enforcement away from the school. As they approached the school, they opened fire on the students eating lunch outside. Hearing the gunfire, students in the cafeteria scattered to hide under tables and in classrooms. As the two entered the building, the cafeteria appeared empty, so they proceeded to the library, wounding many along the way. The pair returned back to the cafeteria, attempting to detonate the propane bombs they positioned earlier. They eventually returned to the library and took their own lives. The entire event took 49 minutes; fifteen students and teachers lost their lives with 21 others injured. It was not until after the two gunmen had committed suicide that the police officers entered the building, beginning to evacuate and assess the situation (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Capital-Journal, 2000; The Associated Press, 2000).

Only six years later in the north woods of Minnesota, on March 21, 2005, at Red Lake Senior High, another major school shooting took place. The events began in the home of the gunman's grandfather, himself a police officer. The 16-year old gunman entered Officer Lussier's home, shooting him and his girlfriend, and then taking the officer's bulletproof vest,

gun belt and squad car to the high school where the gunman was enrolled. Two security officers were on duty as the gunman arrived. Neither was armed; one was shot twice and killed. The gunman moved down the hallway shooting into classrooms. Students and teachers fled into open rooms. Some students attempted to fight back to no avail. Police entered and began shooting; the gunman returned fire and then turned the gun on himself. The entire sequence at the school lasted only twelve minutes, yet it claimed the lives of five students and one security guard and injured seven others. Prior to the events at the school, two lives were claimed at the home of the grandfather (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Finley, 2014; Sanchez, Haga, & Staff Writers, 2005).

In 1997, a young man and his wife lost their infant daughter within 20 minutes of her birth. This man vowed to have revenge on God. Nine years later on October 2, 2006, he entered a one room Amish schoolhouse to exact his revenge. He directed the adults and boys out of the building, leaving the eleven girls barricaded in the one room. The girls were lined up, their arms and legs bound. Speaking with his wife on his cell phone, when he heard the police arrive, he stated to her that he was not coming home. This is when he opened fire on the girls. In response to the gunfire, the police broke down the door and found the man had committed suicide. Within 25 minutes of the man entering the schoolhouse, five girls lost their lives, and six were injured (“Amish School Shooting,” 2006; Kocieniewski & Gately, 2006; (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Finley, 2014)).

At approximately 9:30 a.m. on December 14, 2012, the doors to Sandy Hook Elementary School were locked, and the relatively new security buzzer system was in place. A 20-year old, having just shot his mother many times, gained access to the building by shooting out an office window, and bypassing the buzzer. He proceeded into the building, shooting the principal,

assistant principal and school psychologist. The first classroom he entered appeared to be empty due to the quick thinking of the teacher in hiding the students. The shooter proceeded to the next room. The substitute teacher and all 14 students in this room were gunned down, leaving only one survivor. The next classroom had a majority of students hidden, but not everyone. The teacher and six students lost their lives. It only took two minutes and 41 seconds from the time the 911 radio broadcast went out for the first officer to arrive on scene. As law enforcement approached the shooter's location, he turned the gun on himself, leaving 20 students and six adults mortally wounded (CNN, 2012; "Tragedy at Sandy Hook, 2012; (*Critical examinations of school violence and disturbance in K-12 education*, 2016; Finley, 2014)).

At lunch on October 24, 2014, a high school freshman texted five friends, inviting them to join him at his lunch table at Marysville Pilchuck High School in Marysville, Washington. Arguing ensued, and he shot all five and himself; one survived (Pearce & Raab 2014; "Bang Bang I'm Dead," 2014; *Critical examinations of school violence and disturbance in K-12 education*, 2016).

On February 14<sup>th</sup> 2018, a former student entered Stoneman Douglas High School in Parkland, Florida and began shooting on the first floor. Smoke fill the halls and classrooms triggering the fire alarm. The students and teachers on the first floor had little time to react to the shots being fired through the windows and doors of their classrooms. The shooter then made his way up to the second floor. Having heard the gun shots from below the teachers on the second floor hid their students and covered their classroom windows, preventing the shooter from seeing anyone and therefore refraining from shooting. The shooter then proceeded up the to the third floor where students had left the classroom following procedures for a fire in response to the fire alarm. Classroom doors were closed and locked causing some students to be unable to seek

cover. Lastly the shooter moved to the teachers' lounge and shot through the windows towards the students fleeing the building. The shooter discarded his weapon and fled the building among the other students. He was later apprehended (Hobbs, Zhu, & Chokey, 2018). The shooting lasted only six minutes, but claimed 17 lives and injured 17 more.

Three months later in Santa Fe, Texas another similar incident occurred. Like in Parkland the fire alarm was triggered. As students evacuated the building a student entered an art classroom with a shotgun and revolver. Within four minutes of the first shot being fired the School Resource Officers had the gunman contained in one classroom. He surrendered from this classroom, however, not before 10 individuals lost their lives and 10 others were injured. Once the shooter was in custody the police found four pipe bombs that had been hidden around the school grounds (Barker, 2018).

It is important to state that this is not a comprehensive list of school shootings, rather only the ones that occurred in K-12 facilities and resulted in four or more school deaths.

Due to the media coverage, the perception is that school shootings are happening in increasing numbers (Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015); consequently, the question remains: how to protect school members while improving the perception of safety in schools?

**Media.** Although it seems that the number of multiple-victim shootings is on the rise due to the widespread media coverage, the rate has remained stable over the last two decades (Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015). The intensity and drama of school shootings tend to elicit a strong reaction from the public (Ewton, 2014; Muschert, 2007). Some studies found that the intense media coverage surrounding high profile shooting incidents, such as the shooting at Columbine High School in Littleton, Colorado, in 1999, and Sandy Hook Elementary School in Newtown, Connecticut, in 2012, affects those at risk already and creates the potential for future imitation events (Cornell & Mayer, 2010a; Wike & Fraser, 2009). A

study conducted by Towers, Gomez-Lievano, Khan, j Mubayi, & Castillo-Chavez (2015) found that a school shooting will increase the likelihood of an imitation event within an average of the first 13 days following the event.

**Varieties.** Researchers have identified two overarching types of school shootings. These are shootings that have been perpetrated by a member of the school family, either against others or against themselves, this category would encompass the majority of the incidences discussed in the previous section. The second type are incidences that occur where the perpetrator was an outside adult utilizing the school as a platform for his cause, such as in the Enoch Brown Massacre, the Cleveland Elementary Shooting and the Amish School House shooting (Wike & Fraser, 2009). Muschert (2007) identifies five varieties of school shootings: rampages, mass murders, terrorist attacks, targeted shootings, and government shootings. When a member of the school family commits an expressive, non-targeted attack on the school community with the intention to obtain power or revenge, consisting of multiple victims for symbolic reasons or at random, it is considered a *rampage* shooting. The shootings at Westside Middle School, Columbine High School, Red Lake Senior High, Stoneman Douglas High School and Santa Fe High School would be categorized as rampage shootings. Mass *murders* are not committed by a member of the school family and are usually targeted towards a specific category of individual but are carried out with the same intent of power or revenge. The Amish School shooting fits into this category as the perpetrator was seeking revenge for the loss of his daughter's life. However, *terrorist attacks* are also carried out, usually not by a member of the school family. The motivation for the act is one of political reasons. In an instance where a member of the school family targets a specific individual or group of individuals for revenge, it is called a *targeted shooting*. The shooting that occurred by the freshman at Marysville Pilchuck High School in

2014 would be considered a targeted shooting as he only shot his friends and himself. Lastly, when governmental agencies utilize deadly force to contain student behavior that has escalated to protest or riot levels, it is categorized as *governmental shootings* (Muschert, 2007).

Approximately 125,000 public and private schools (not counting colleges and universities) were established in the United States as of 2013. On average, 21 school-related deaths occur each year. Given these statistics, each school can expect a student homicide once every 6,000 years (Flannery, Modzeleski, & Kretschmar, 2013). In addition, Teasley stated that the chance of meeting a violent death while at school is rare, yet one out of every 200 children born today will be murdered overall (Teasley, 2013). Only 1-2 percent of school-age youth homicides occur at school (Muschert, 2007). In fact, the rate of school-associated violent deaths has decreased since 1992, to less than one-in-a-million chances (Sprague, Smith, & Stieber, 2002). Even so, these statistics do not outweigh the profound effect that a school shooting has on the students, staff, parents and the community.

## School Features

The safety of the building is considered when designing educational facilities. This section of the paper will discuss the main areas of facility safety. These areas range from fire safety, to physical features such as cameras and metal detectors, to School Resource Officer programs.

**Fire safety.** One important feature in facilities is fire safety. It is defined by The Virginia Statewide Fire Prevention Code as

“...to provide for statewide standards to safeguard life and property from the hazards of fire or explosion arising from the improper maintenance of life safety and fire prevention and protection materials, devices, systems and structures,

and the unsafe storage, handling and use of substances, materials and devices..." (*Virginia statewide fire prevention code 2012*.2012. Pg 1)

To this effect, there are three main objectives to fire safety that should be considered when designing a facility: preventing ignition, controlling fire development, and protecting the exposed. The primary objective when considering a school facility is protecting the exposed. This deals with the egress of occupants from the building in the event of a fire. The number of occupants in a given school at one time, in conjunction with the age and experience of those occupants, can be a catalyst for a higher risk of injury or death (Hassanain, 2006). When designing a school facility, it is important to keep in mind these factors and to design corridors and exits that are accommodating to the population that will be utilizing the building (Hassanain, 2006).

**Physical features.** A study conducted by Roy H. Walton (2011) analyzed the opinions of high school principals from schools built prior to 1999, high school principals from buildings built after 1999, and architects who specialize in school buildings. These participants were asked about the physical features of a school building that either promote or decrease the feelings of safety. Themes were identified from focus group transcripts. The three groups agreed that high visibility created by open spaces was highly important to maintaining safety. According to Earthman, visibility could be achieved through wide hallways, windows on the interior side of classrooms, as well as open common areas for students and staff. Earthman also noted that visibility from the outside of the school is not preferred (Earthman, 2013). The groups in Walton's study also emphasized the importance of controlling building access. There is a preference for having a security vestibule with security cameras and easily secured windows and doors (Walton, 2011). Earthman proposed the inclusion of a procedure for individual

identification, either through card readers or some other process (Earthman, 2013). The restrooms and lockers were identified as posing a safety concern due to the lack of visibility (Walton, 2011).

A study, conducted by Duyar in 2010, found that the conditions of the school facility can account for up to 16 percent of the variation in student achievement scores. This was found to have a higher impact on performance than even socio economic status. The facility features that contribute to the condition discussed are: indoor air quality, ventilation, temperature, acoustics, building age, class size and lighting (Duyar, 2010).

Crime Prevention through Environmental Design (CPTED) is a program that is utilizes strategies and designs to improve the safety of school buildings. CPTED strategies, while increasing the facility's safety, work to decrease the perception of a prison type environment. This program is based on six strategies: natural surveillance, access management, territoriality, physical maintenance, order maintenance and activity support (Carter & Carter, 2001). Natural surveillance refers to the visibility obtained through windows, open stairwells, wide hallways and sufficient lighting. The design for the flow of individuals around the building is considered access management and can be affected with signs, lighting, colors, fencing and even landscaping. Territoriality includes displays, signage, landscaping and other features that create a sense of pride among the building's occupants, contributing to the sense of ownership. The upkeep of the building and grounds falls under the strategy of physical maintenance. This is not the only maintenance that is recommended by CPTED; order maintenance is just as important. This refers to the behaviors of the occupants. Respect and good behavior should be encouraged while poor behavior should be corrected. Lastly, activity support, or the use of the building is

critical. The strategy suggested is to increase the activities within the building, and this will increase the surveillance and access of the building (Carter & Carter, 2001; Earthman, 2013).

**Environmental features.** In the wake of more recent, and more publicized, school shootings, such as Columbine in 1999, Red Lake in 2005, and Sandy Hook in 2012, districts are utilizing School Resource Officers, security cameras, metal detectors, visitor management systems, employee IDs and school uniforms to assist in creating a safer environment for students (Brydolf, 2013; Chrusciel, Wolfe, Hansen, Rojek, & Kaminski, 2015; Ewton, 2014; Shelton, 2007; Wike & Fraser, 2009). However, the various safety features are not consistent across all schools. Shelton et. al. (2007) studied the security measures of high schools across three different community settings from the four regions of the country (Northeast, Midwest, West, and South). This study looked at three areas of safety: fire, physical and internal. Fire safety included fire alarms, fire extinguishers and fire sprinklers. Physical safety was identified by metal detectors, security cameras, exterior lighting and fencing around the whole school. Sign-in policies, adults directing guests to sign-in, student lockers and student uniforms were considered internal safety measures. Shelton (2007) found that urban schools tended to place facility safety at the forefront with fencing, security guards and metal detectors. Security cameras and fire sprinklers were found to be more prevalent in the newer schools; however, the average age of secondary schools was more than 30 years old. Schools in the West have more fire safety measures, as well as facility measures pertaining to fencing and outdoor lighting. As far as the sign-in policies, fewer than half of the schools studied reported having some in place. Northeastern schools had the majority of the sign-in procedures and adults to direct guests. The Northeast was also where student uniforms were the most prominent (Shelton, 2007).

**School resource officers.** In addition to the physical and fire safety features, a nationwide focus has been on implementing School Resource Officer (SRO) programs. SROs are law enforcement officers assigned to a school or group of schools for the purpose of improving safety. The first SRO was placed in Flint, Michigan, in the 1950s (Theriot, 2016; Weiler & Cray, 2011). However, in response to high profile school violence in the 1990s, these programs have gained momentum. Over the past two decades, the number of SROs has increased (Theriot, 2016). This movement can be credited to the Safe Schools Act of 1994, in which federal funds were earmarked for improving the safety of schools. The most recent emphasis was placed on SROs after the shooting at Sandy Hook Elementary School in 2012. Reacting to this tragedy, President Obama incentivized schools to hire SROs in order to improve the protection of students (Theriot, 2016). School administrators lack the training on ways to respond to potential threats properly, thus, SROs fill this gap and assist with understanding how community issues can manifest within the school (Weiler & Cray, 2011). Programs like Drug Abuse Resistance Education (DARE), implemented by SROs, have seen success and assisted in establishing trust between students and Police. This relationship of trust has resulted in students more readily reporting crimes from their lives outside of school (Weiler & Cray, 2011). The utilization of SROs is expected to decrease the number of violent behaviors and increase the feelings of safety; however, some research shows that their presence actually decreases the perception of safety (Theriot, 2016).

According to Sprague, Smith, & Stieber (2002), the most efficient and safe school environments are developed not by the physical safety measures, but rather through non-physical measures. Sprague et. al. suggested that having such things as high academic expectations, clear

school improvement goals, high student engagement and parent involvement significantly improves the safety of a school (Sprague et al., 2002).

## **Perceptions of Safety**

There is some question as to whether safety features create a perception of increased or decreased safety. According to Perumean-Chaney and Sutton (2012), metal detectors decrease the feeling of being safe, while security cameras and locked doors do not affect perceptions of safety as much as non-physical safety measures (Cornell & Mayer, 2010; Perumean-Chaney & Sutton, 2013). In agreement with these findings, Hernandez, Floden, & Bosworth (2010) found that both students and staff report high perceptions of safety in well-organized schools. These schools had clear rules and discipline procedures, visible and caring adults, and respect between faculty and administrators (Bosworth, Ford, & Hernandaz, 2011). In recent years, the presence of School Resource officers has increased across the nation in response to school violence. In a study done of 14 schools, no correlation was found between incidences reported to law enforcement and perceptions of students and staff on school safety (Hernandez, Floden, & Bosworth, 2010a). Ewton (2014) found that parents and principals felt that emergency drills and staff training were the most effective safety measures; metal detectors and armed administrators were considered the least effective (Ewton, 2014).

Carney, Shannon, and Murphy (2005) found that students tended to be more fearful of the school environment, including bathrooms and school building exteriors, than of violence from a peer. Fear persists, even though the majority of school incidents occur in classrooms, offices, hallways, or in parking lots (Carney, Shannon, & Murphy, 2005; Shelton, 2007). Soderstrom (2006) found that only 15 percent of students surveyed felt unsafe in school; however, this

increased to 22.7 percent when referring to feeling safe around the school building (Soderstrom & Elrod, 2006).

Through a review of literature for their two-level hierarchical study, Bowers and Urick (2011) found that when a building is viewed as favorable to the occupants, the perception to the students and the community is that the building is more welcoming. The building quality was also found to affect the perception of a positive learning environment (Bowers, A.J. & Urick, A. 2011). Adequate lighting, acoustics, air quality and temperature control are highly important to the success of those utilizing the building (Earthman 1999; Uline & Tschanen-Moran, 2008). A connection has been made between the facility quality and teacher retention, absenteeism and morale (Hopland & Nyhus, 2015; Bowers, A.J. & Urick, A. 2011). Other studies have found that improving building quality can decrease the number of days missed by students, therefore increasing student performance (Hopland & Nyhus, 2015). Cynthia Uline and Megan Tschanen-Moran (2008) stated that:

...uncomfortable school buildings lead to low morale and reduced effort on the part of teachers and students alike, to reduced community engagement with a school and even to less positive forms of school leadership. Thus poor school climate may play a contributing role in low achievement when school facilities are inadequate. (Uline & Tschanen-Moran, 2008, p56).

Biag (2014) investigated students' perception of safety by utilizing visual narratives. Biag (2014) gave a group of 20 eighth grade gifted student's disposable cameras and asked them to photograph areas of their school that elicited different feelings. The study found that non-classroom settings with less adult supervision tended to be areas that were considered unsafe (the

soccer field and quad), and more defined spaces with higher supervision felt safe, specifically the library. Areas such as the front of the school, where students were greeted by their peers and adults, felt welcoming. Students said they could share their problems in areas where they felt they could not be heard by others, such as with the counselor or physical education teacher (Biag, 2014).

## **Theories in School Safety**

The use of visible safety features centers on the rational deterrence and routine activities theories of criminal behavior. The rational deterrence theory explains that these visible security measures are put in place to deter engagement in problematic behaviors. This is done through the perception of a higher risk of punishment (Becker, 1968). The routine activity theory is based on the presence of targets, capable guardians and motivated offenders to explain why crimes occur. The reasoning for the visual safety measures under this theory is that they decrease the presence of motivated offenders and increase the presence of capable guardians, thus decreasing the likelihood of a crime (Cohen & Felson, 1979). The criminalization perspective alludes to these visible safety measures leading to self-fulfilling prophecies due to the perception of a prison-like environment (Hirschfield, 2008). This is backed by the additive phenomenon found in Tanner-Smith and Fisher's study (2016). In this study it was found that "hyper-securitized" schools implement a number of visual safety measures that when combined create the perception of a prison. Tanner-Smith and Fisher (2016), as well as Addison (2009), found that these types of schools have lower academic performance and may influence the "school-to-prison pipeline" (Addington, 2009; Tanner-Smith & Fisher, 2016).

Bandura's social cognitive theory assumes that the way individuals see themselves and their environments is based on environmental factors, such as the quality of academics, safety,

and community interactions. When students feel emotionally and physically safe, they will take more academic risks (Bandura, 1986).

Maslow's theory of human motivation suggests that there is a hierarchy of human needs, where each subsequent need is based on the satisfaction of the prior need. Hunger is the first and most important need; a hungry man seeks nothing but food. Once the hunger need is satisfied, he focuses on the next need on the list - safety. Without the feeling of safety, humans cannot focus their energy on anything else. Next come the love and esteem needs. One must feel loved, accepted, and cared for. Once this is established, the human strives to obtain a high level of self-esteem. If all of these needs are satisfied, and remain then the person is basically satisfied. "We shall call people who are satisfied in these needs, basically satisfied people, and it is from these that we may expect the fullest (and healthiest) creativeness" (Maslow, 1943).

When students perceive their surroundings as being safe and comfortable, they can concentrate on higher order tasks such as learning (Bowen, Richman, Brewster, & Bowen, 1998; Ratner et al., 2006). A perception of safety is a "basic requirement" for academic success (Hernandez, Floden, & Bosworth, 2010; Michael Ewton, 2014). Student engagement is determined by the perception that the school meets students' psychological needs. A greater sense of autonomy in schools leads to improved classroom management, persistence, and achievement. Students who feel supported by teachers will comply with teacher requests and expectations (Wang & Holcombe, 2010).

Witnessing violence, as well as victimization and peer bullying, is associated with lower academic performance as measured by student grades and retention rates (Cornell & Mayer, 2010b; Ratner, H.H, Chiodo, L., Covington. C., Sokol, R.J, Ager, J., & Delaney-Black,V. 2006; Ewton, 2014). Exposure to violence demonstrates connections to both decreased cognitive

functioning and early reading performance (Cornell & Mayer, 2010). Ratner, H.H. et al (2006) found that children who felt safe, regardless of their violent exposure, performed higher on achievement measures (Ratner, H.H. et al., 2006).

## **School Climate**

In 1908, Arthur Perry was the first to recognize the importance of school climate when he published *Management of a City School* (Perry, 1925; Wang & Degol, 2016). Yet, not until the 1960s did empirical researchers study the constructs of school climate. In 1962, the Organizational Climate Descriptive Questionnaire was developed by Halpin and Croft (Halpin and Williams, 1962; Wang & Degol, 2016). In this questionnaire school climate was defined abstractly as the essence of a school, as well as concretely, the beliefs, values, and attitudes that shape interactions. The recent increased focus on the social and emotional growth places more importance on the incorporation of climate and safety to improve academic performance (Benbenishty, Astor, Roziner, & Wrabel, 2016)

More recently, Wang and Degol (2016) identified four categories of school climate: academic, community, safety, and institutional environment. Academic climate refers to the quality of instruction, which additionally includes teacher training and staff development, while the quality of interactions within the school is considered community climate. Institutional environment refers to the structural and organizational structures of the school. Safety climate is the level of physical and emotional security, including disciplinary practices (Wang & Degol, 2016). For the purpose of this study, the focus was on safety climate. Benjamin Kutsyuruba (2015) expressed that the notion of a *safe learning environment* is interchangeable with *school climate*. (Kutsyuruba, Klinger, & Hussain, 2015)

According to Wang and Degol (2016), the domain of safety climate can be disaggregated into three dimensions of safety. This first dimension is physical safety. Physical safety refers to the amount of violence, aggression, and victimization in the school, as well as the steps taken to secure the school members. These steps can be school design features, security personnel, cameras, and metal detectors, as well as positive behavior supports, classroom management and discipline. Emotional safety is the second dimension, and it is made up of the level of support available to the students and the absence of bullying. Originally the concept of a safe school focused on the absence of weapons; however, the focus has shifted to prevention and intervention through emotional health. (Kutsyuruba et al., 2015) The third dimension is order and discipline. This is the consistency and fairness of discipline practices, the handling of disorder, classroom management and the degree to which students adhere to school rules and expectations (Wang & Degol, 2016).

### **School Climate, Safety and Achievement**

According to the National School Climate Council (2007), a positive school climate is determined on the members feeling socially, emotionally and physically safe. This sense of culture facilitates a satisfying, productive and contributive environment. In a review of research conducted by Thapa, Cohen, Guffey and Higgins-D' Alessandro (2013), they found that school climate has a significant influence on the mental and physical health of students. It also was shown to have a profound effect on one's motivation to learn and a decrease in aggressive and violent behaviors. Thapa et. al. surmised that there is a growing number of educators feeling unsafe in their workplaces. This review also found that an improved sense of belonging was found in schools where a positive and supportive climate had been established. This results in

the ideal environment to facilitate social, emotional and academic growth and learning (Thapa, Cohen, Guffey, & Higgins-D' Alessandro, 2013).

In 1995, Joy D. Osofsky studied, 'The Effects of Exposure to Violence on Young Children' and found that school-age children exposed to violence often have trouble sleeping and develop symptoms of anxiety, depression, and stress (Ratner, H.H. et al., 2006; Osofsky, 1995). In addition, these children have an increased difficulty concentrating due to intrusive thoughts (Osofsky, 1995). Violence can lead to lack of school involvement, poor school performance and poor relations with teachers (Soderstrom & Elrod, 2006). It was additionally found that exposure to violence can result in greater development of aggressive behaviors and Post-Traumatic Stress Disorder in youth (Cornell & Mayer, 2010b; Osofsky, 1995).

Kutsyuruba, Klinger and Hussain (2015) looked into the relationship between student achievement, school safety and school climate. These researchers found that the school environment, to include safety and climate, have a significant influence on academic, social and emotional growth. It was also found that administration and school leaders are critical to establishing a positive school climate; therefore, improving achievement (Kutsyuruba et al., 2015).

## **Studying School Climate and Safety**

The Collaborative for Academic, Social, and Emotional Learning website demonstrates the current movement stressing the importance of climate and safety on the social and emotional learning of youth to improve academic outcomes (Collaborative for Academic, Social, and Emotional Learning, 2017). A review of the research by Wang (2016) found that only approximately 8% of the studies conducted on school climate utilized interviews and/or focus groups. This is a beneficial method to studying school climate as it allows access to the

participants' perceptions and the ability to explore deeper into these perceptions (Wang, 2016). Further, observations from students, teachers, and administrators were only utilized in a small number of studies. Wang (2016) also found that of the 50 percent of studies that focused on student perceptions, only 17 percent studied a combination of perspectives, such as: student, administrator, and teacher perspectives (Wang & Degol, 2014). According to Tanner-Smith and Fisher (2016), there is little research on the effects of visible security measures on academic success (Philip J. Cook, Denise C. Gottfredson, & Chongmin Na, 2010; Tanner-Smith & Fisher, 2016).

### **Conclusion and implications.**

In summary, the concept of school violence has developed into a serious issue due to recent acts and their media coverage. The idea of "school violence" encompasses bullying and the many varieties of school shootings that make up the physical violence seen in schools.

The school violence that has been identified within the schools has directed the focus of educational leaders, architects, and police departments to the features found within a school. These features include the protocol put in place with the intention of fire safety, as well as the physical features that restrict and monitor access. Lastly, non-physical measures are also considered, such as the utilization of a School Resource Officer program.

These safety features, whether physical or policy based, contribute to the perception of safety among the school members as well as the community. In some cases, where a physical safety feature has been established, the perception of safety has decreased. The policy based features, such as discipline consequences, tend to increase these perceptions and feelings of safety.

Policy based features contribute to the school's climate, which has shown to have an influence on the perceptions of safety. This can be most affected by the leadership within the school and, in turn, affect student achievement. One contributing factor to the school climate is the overall safety of that school, including the perceptions of safety.

Based on the emergent themes and significant gaps in the literature on perceptions of school safety, this research further investigates the effect student and teacher perceptions of school safety have on academic performance by comparing the perceptions of students and teachers. The results of this study have the potential to assist educational leaders in identifying ways to improve the perception of safety in their schools and, in turn, improve academic performance.

## Chapter 3: Methodology

### Purpose

The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. The findings of this study will potentially increase educational leaders' abilities to affect the perceptions of safety within their school, therefore affecting student achievement.

### Research Design

The study employs aspects of the methodology used by Biag (2014). This is a qualitative study utilizing visual narratives, interviews and focus groups. The study involves comparing the perceptions of students and teachers with regard to the areas of the school in which they perceive to be safe and those areas which they perceive to be unsafe. The reasons behind the feelings elicited by each area are also investigated in order to better understand the underlying concepts and the type of changes needed to make the entire campus feel safe. These finding were then shared with the administration for further investigation.

This qualitative design was implemented in order to analyze varied perceptions of safety. The visual narrative method has been employed, much like in the study conducted by Biag (2014) to identify the features that contribute to perceptions of safety directly from the participants. The use of photographs in social research can be dated back to 1872 with Darwin's investigation of emotion (Banks, 2007). According to Marcus Banks (2007) the use of photographs can assist in working with children due to the fact that their attention is difficult to sustain. This particular study focuses on the photo-elicitation method. This method consists of subjects being presented with images that are in some way connected to them in order to invoke

discussion with the subject. The subjects are asked to produce the images themselves, therefore establishing a connection to them. However, when utilizing photographs, the researcher must be careful in how the images are interpreted, questionnaire and focus group methods are employed (Banks, 2007; Biag, 2014). This method is preferred to a survey, due to the implicative nature of a survey and the potential for leading perceptions. Multiple views were collected so that comparisons could be made. The use of surveys does not provide specific information on ways school leaders can increase the perception of safety in their buildings (Bowers, A.J. & Urick, A. 2011). According to Wang (2016) questionnaires and focus groups allow for deeper exploration into a subjects' perceptions (Wang & Degol, 2016).

A reflexive journal was maintained by the researcher in order to document the researcher's thoughts and perspectives from each interview and focus group. This journal was completed online without identifying characteristics. The rationale behind this process is to establish the researcher's awareness of oneself. This method allows for the researcher to identify her own responses and feelings to the images, interviews and subjects (Banks, 2007)

## **Research Questions**

1. What do students identify as representations of safety and lack of safety in their schools, and what do they say contributes to these perceptions?
2. What do teachers identify as representations of safety and lack of safety in their schools, and what do they say contributes to these perceptions?
3. How do the perceptions of students and teachers compare?

## **Population and Sample**

This study was initially intended to be conducted in two high schools from two different school divisions. The divisions were selected in order to assess perceptions from single high school divisions. A sampling of students and teachers were asked to participate in the study. Students were selected from the ninth grade, as well as the twelve grade, to enable comparisons between the two levels. Participation was voluntary. Permission was obtained for minors, via a letter to the parents. The goal was to have at least five teachers from each school, and ten students in each of the two identified grades, from each school participating, for a total of twenty-five participants per school and fifty for the study overall. After obtaining approval from both divisions, participants were secured from only one division. While the other division had approved the study, no participants volunteered. Therefore, this study was conducted in only one school.

## **Participant Demographics**

Participants were intended to be from two fully accredited rural Virginia school divisions, each only having one high school. The following participant demographics describe each of those schools, but only participants from School Division 1 are represented in the data in Chapter 4.

The school division 1 (SD1) had a membership of 2,199 total for the 2016-2017 school year with a membership of 672 in grades 9-12. The division's 2016 population consisted of 75.4% White, 16.1% Black and 8.5% other. Standard or advanced diplomas were awarded to 92% of seniors in 2016, and the attendances rate has remained at a 95% for the last four years. Reading, writing and math performance sits at or above 75%, while science and history

performance is 89% and 91%, respectfully. During the 2016-2017 school year, SD1 had 100 incidences of disorderly or disruptive behavior, 17 offenses against students, 57 other offenses against persons, and 14 alcohol, tobacco and other drug offenses. Other categories had numbers below state definition. 28.6% of the divisions population is eligible for Free and Reduced Meals, 55% of the teachers have a Bachelor's degree, and 44% have obtained a Master's degree. These numbers result in only 1% of core academic classes being taught by non-highly qualified personnel. The student to teacher ratio in SD1 is 12.7:1.

School Division 2 (SD2) had a membership of 3,581 total for the 2016-2017 school year with a membership of 1023 in grades 9-12. The division's 2016 population consisted of 36.5% Black, 0.9% White, 21.7% Hispanic and 10.9% other. Standard or advanced diplomas were awarded to 82.8% of seniors in 2016 and the attendances rate has remained above 95% for the last four years. Reading, Writing and Math performance sits above 65% while Science and History performance is at 75%. During the 2016-2017 school year SD2 had 284 incidences of disorderly or disruptive behavior, 34 offenses against students, 14 against staff, 191 other offenses against persons. There were 21 alcohol, tobacco and other drug offenses, 26 property offenses, and 21 other offenses not specifically mentioned. Other categories had numbers below state definition. 62.2% of the divisions population is eligible for Free and Reduced Meals. 40% of the teachers have a bachelor's degree and 56% have obtained a Master's degree. There are no reported core academic classes being taught by non-highly qualified personnel. The student to teacher ratio in SD2 is 13.97:1. SD1 participated fully in this study however researchers were unsuccessful with obtaining participants in SD2.

## **Data Collection**

Virginia Tech IRB approval (see Appendix A) was sought and received through submission of an extensive application. The application consisted of explicit details of the research process. Letters were distributed to three school divisions, (see Appendix B) asking for permission to conduct the study. Two divisions returned approval letters (see Appendix C); the third refused approval. Potential Participant letters were distributed (See Appendix D), and Consent forms were completed by all participants above the age of 18 (see Appendix E). Participants under the legal consent age were required to have parental consent, as well as to sign a Student Assent Form (see Appendix E). Researchers were unsuccessful in obtaining participants from one of the divisions.

Subjects were asked to take one to two pictures of areas where they felt comfortable, safe or welcome and of areas where they felt uncomfortable, unsafe or unwelcome at school. All participants were instructed to not include other individuals or signage in their photographs.

The instructions (see Appendix F) included specific directions, such as when the students would be allowed to take the photographs, using their cell phones or other electronic devices. Participants also received instructions on how to save the photographs so that they are identified with each participant's name and school. The participants placed their photographs in a digital drop box, so that researchers could access the photographs. Once transferred, the photographs were printed for use during the study.

The photographs were then used in conjunction with the written questionnaire provided to the students and teachers to determine the reasons why the particular areas of the school caused them to feel safe and welcome or unsafe and unwelcome. The questionnaires were then

coded for recurring descriptive themes. See Appendix G for an example of the questionnaire used.

A group of students within a cohort, were utilized as subjects in an investigational study.

Through this trial interview, questions were developed and turned into a written questionnaire.

The questions to be asked on the student and teacher written questionnaire are:

- What is this a picture of?
- Does this place make you feel safe or unsafe?
- What about this particular area makes you feel safe/unsafe?

Focus groups were conducted to discuss possible changes to areas where students and teachers perceived a lack of safety. There were three focus groups conducted one for the 9<sup>th</sup> grade students, one for the 12<sup>th</sup> grade students, and one with the teachers. These sessions were recorded to allow for transcription and coding of the discussion, and lasted no longer than thirty minutes. This topic was discussed through focus groups in order to elicit more discussion among the participants and to allow the students and teachers to have a feeling of involvement in the improvement of their environment. Bowen, et. al., (1998) found that students should be looked at as “stakeholders” when it comes to finding solutions for their own safety. Implications from a study conducted in 2008 showed that had local stakeholders been more involved in the planning process, some design problems may have been avoided (Walbe Ornstein, Saraiva Moreira, Ono, Limongi França, & Nogueira, 2009).

The questions asked during the focus group interviews were:

- How would you define safety? What does it look like to you?
- Do you think this picture was identified as safe or unsafe?
- What about this particular area makes you feel safe/unsafe?

- What could be done to improve the perception of safety in this area?
- What other changes could be made?

Comparisons were drawn between the characteristics of areas that teachers perceive as safe and unsafe and areas that students perceive as safe and unsafe. All findings and suggestions were shared with the school and district participating in order to assist with future improvements in their safety practices.

## **Data Treatment and Management**

Participants were assigned codes in order to maintain their confidentiality. The coding system was as follows:

District 1 Student 1 (D1S1) (1-10 Freshman) (11-20 Seniors)

District 1 Teacher 1 (D1T1)

Photographs did not contain any identifiable persons or signage. This was achieved through careful instructions to those taking the photographs, as well as the blurring out of any people and signage that appeared in the photographs.

Transcripts from interviews and focus groups had all identifying characteristics redacted and the coding system implemented. All demographic information, recordings, transcripts and photographs were saved to a jump drive and stored in a secure location for the span of five years.

## **Data Analysis**

Transcriptions from interviews and focus groups were analyzed and coded for recurring patterns and features. These analyses and coding from students were then compared to the coding from teachers. The coded data were also analyzed for any patterns between grade levels.

## **Timeline**

The anticipated timeline to begin obtaining consent to participate in this study was late November of 2017. The intention was to have all data collected by the end of January, 2018. The analysis of data was to be complete in February of 2018, and the final defense was planned for March 2018. However due to some unforeseen circumstances outside the control of the researchers, this timeline was adjusted. The consent forms were collected starting at the end of March 2018, and the collection of data was complete in April of 2018. The data were analyzed in May of 2018, and the final defense was scheduled for June 2018.

## **Summary**

The research methods utilized in this study reflected those used in Biag 2014, employing visual narratives, interviews and focus groups. The qualitative data were analyzed for patterns and differences to establish the trends in perceptions of safety across students of different grades and of teachers. The participants in the study were students and teachers in one rural high school in Virginia.

## Chapter 4: Results of Data Analysis

### Review of Purpose

The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. The research questions were as follows.

1. What do students identify as representations of safety or lack of safety in their schools, and what do they say contributes to these perceptions?
2. What do teachers identify as representations of safety or lack of safety in their schools, and what do they say contributes to these perceptions?
3. How do the perceptions of students and teachers compare?

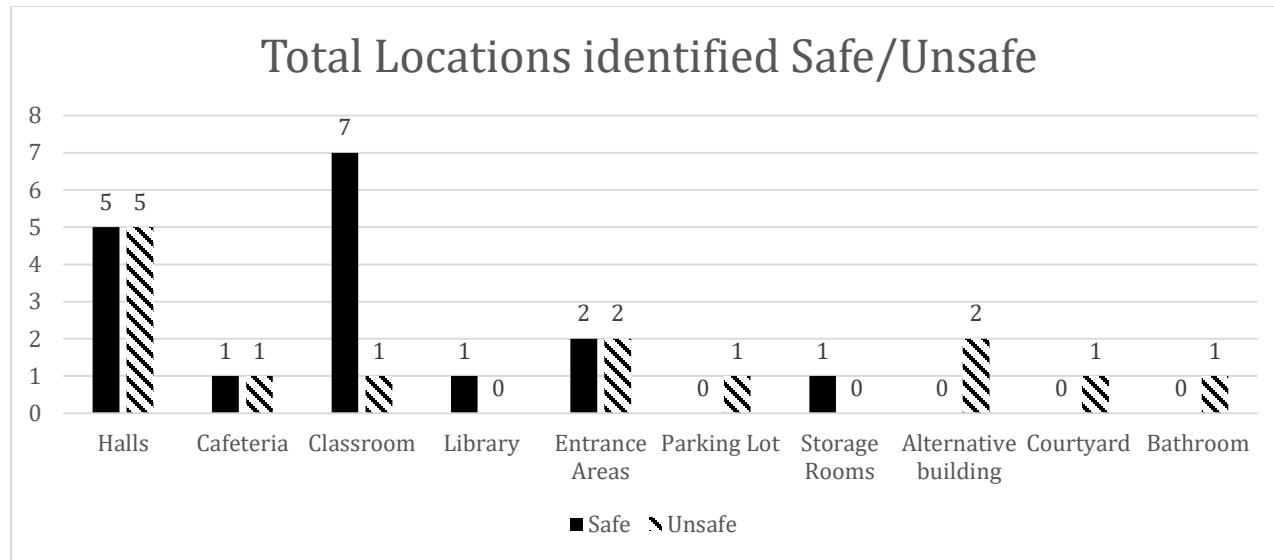
This study sought to answer these questions through visual narratives. This was accomplished by asking the subjects to photograph the areas within their school that make them feel comfortable, welcome and safe, as well as areas where they feel uncomfortable, unwelcome and unsafe. These perceptions were further explored through a written questionnaire and focus groups.

### Review of Data

A total of fourteen subjects took photographs and participated in the questionnaire and focus groups: seven freshmen, three seniors and four teachers. There were 31 pictures submitted and analyzed (see Appendix H for examples of pictures submitted). The areas identified through the photographs were the halls, cafeteria, classrooms, library, entrance areas, parking lot, alternative buildings, courtyard area, and bathrooms. As shown in Figure 2, the halls were photographed most frequently, ten times, but the safe or unsafe categories they were placed in

was a split between five safe and five unsafe. The entrance way was also identified by the participants as an equally safe (two times) and unsafe (two times) location. The second most frequently photographed location was classrooms, a total of eight times. However, classrooms were more often identified as safe (seven times) than unsafe (one time). The cafeteria was photographed only twice, one being identified as a safe and welcoming area and one time as an unsafe and unwelcoming area. The courtyard, parking lot and bathrooms were identified only once and all photographs were intended to capture an area that felt unsafe, uncomfortable or unwelcoming. The Library and storage rooms were also identified only one time, however, these areas were considered to be areas that evoked feelings of safety, welcoming and comfort.

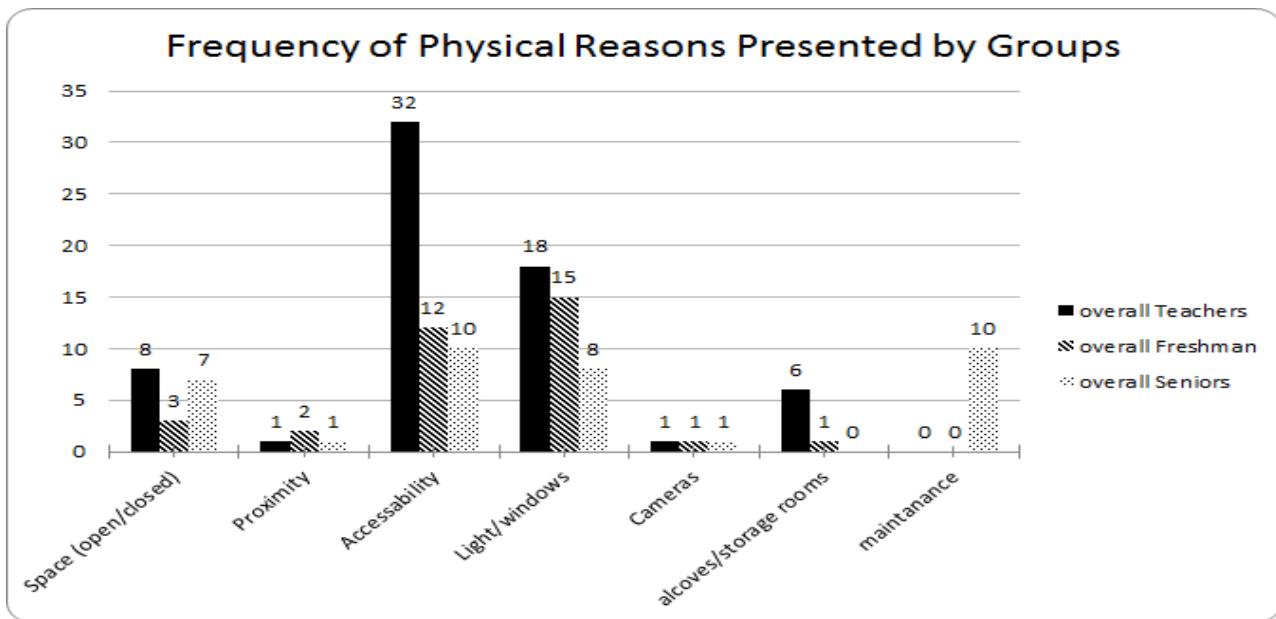
Participants identified an alternative building twice as an unsafe location.



*Figure 2 Bar graph depicting the frequency with which locations within the school were photographed by the participants. The driving factor of safe or unsafe is compared for each location.*

The questionnaires and focus group transcriptions were coded to identify categorical reasons for the selections of the photographed areas. The categories identified were physical building features, emotional perceptions, and processes - such as those put in place by the

administration. Figure 3 shows the frequency in which the physical building features were identified through the focus groups and questionnaires.



*Figure 3 Bar graph showing the frequency a physical feature was discussed. The graph compares the Teachers to the Freshman and the Seniors.*

Overall the teachers were most concerned with accessibility, discussing it 32 times as seen in Figure 3. The next most discussed topic by the teachers was lighting and windows. The teachers discussed alcoves and storage rooms six times and were concerned with the openness of space eight times. Proximity to administration or law enforcement was only discussed once by the teachers, as were cameras.

The Freshman were the most concerned about the lighting and windows, discussed 15 times, while they were least concerned about cameras and alcoves or storage rooms, discussing these only one time each. The second most discussed topic among freshman was accessibility.

While the Seniors were concerned with lighting and windows (discussed eight times) like the teachers and freshman they were more interested in the accessibility, discussed ten times, and

the upkeep of the building or maintenance issues, discusses ten times as well. The seniors discussed the openness of spaces and use of space seven times.

When comparing the three groups, Figure 3 shows that accessibility was the most frequently identified ( $n=54$ ) physical concern. This category focused mainly on methods of ingress and egress such as doors. The next most common ( $n= 41$ ) physical feature discussed was windows and lighting. Cameras were the least frequent features to be identified but were the most consistent among the three groups, with only one occurrence in each group being identified. Teachers and seniors were more concerned with the openness of the spaces within the school (teachers  $n=8$ , seniors  $n=7$ ) than the freshman were ( $n=3$ ). The concerns discussed about these areas were the overcrowding in the cafeteria and the hallways. Proximity to an administrator or School Resource Officer was only discussed four times, once by the teachers and seniors and twice by the freshman. Teachers mentioned alcoves and storage rooms six times, while the freshman discussed these areas only once and the seniors did not discuss them at all. Lastly the seniors discussed maintenance issues in regards to the upkeep of the bathrooms on ten occasions, whereas the teachers and freshman did not discuss maintenance concerns at all.

Figure 4 contains the frequency in which emotional reasons were identified. This category focused on the aspects of the school that elicited safe or unsafe perceptions due to their emotional ties.

Familiarity was primarily discussed by the teachers in reference to their classrooms and their ability to control the environment, discussed ten times. The teachers also emphasized the role of relationships between staff and students on perceptions of safety as seen by their discussions of the topic nine times. The paint or decorations within the building were the least discussed by the teachers, six times.

The Freshman were extremely concerned with the appearance of the school, to include paint colors, decorations and the upkeep of outdoor areas. These were discussed 18 time by the freshman. Other emotional topics such as familiarity and relationships were not discussed much by the freshman.

Relationships seemed to have an effect on the seniors' perceptions of safety, as shown by them discussing it eight times. Like the teachers, the seniors only discussed the paint or decorations six times and like the freshman, the seniors only discussed familiarity once.

Overall the most commonly discussed feature was the color or decorations of areas. This was included in the emotional category due to colors' vast ability to affect emotions, as seen through multiple studies conducted on the effects of color on emotion and performance as well as facility studies (AL-Ayash, Kane, Smith, & Green-Armytage, 2016; Cash, 2007; Earthman, 1999; Valdez & Mehrabian, 1994). The seniors and teachers brought up relationships frequently, yet the freshman did not.

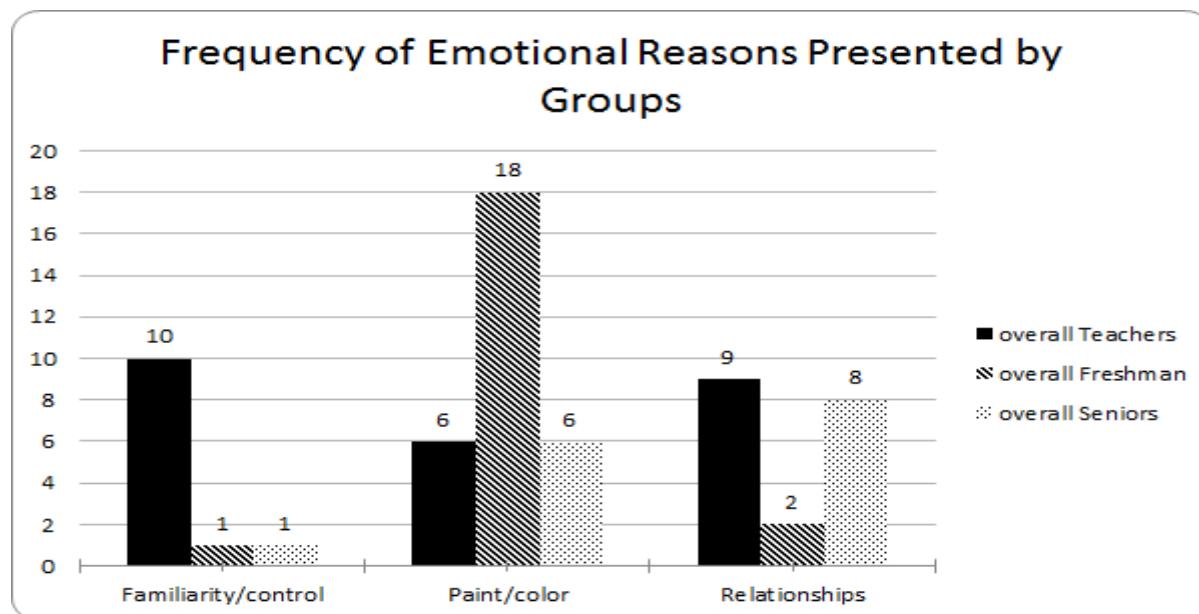


Figure 4 Bar graph showing the three common emotional themes that surfaced through the collection of data. The graph depicts a comparison between the three focus groups.

The final category identified through the questionnaires and focus groups was process.

This referred to existence of supervision, as well as freedom of movement.

The teachers discussed supervision six times throughout the focus group and questionnaire. Teachers were less concerned with the freedom of movement, discussed only four times, but were concerned with the number of students in areas such as the hallways and cafeteria.

Freshman participants discussed supervision twelve times throughout the study. Putting an emphasis on their reliance on adults to keep them safe. The freshman did not discuss freedom of movement at all.

In contrast the seniors were concerned with freedom of movement, discussing it ten times. They were less concerned with supervision, which they discussed only three times.

Figure 5 demonstrates that supervision was the most common topic discussed with 21 incidences. Freedom of movement referred to the flow of traffic by the individuals within the school. This was discussed 14 times by the teachers and seniors but was not discussed at all by the freshman.

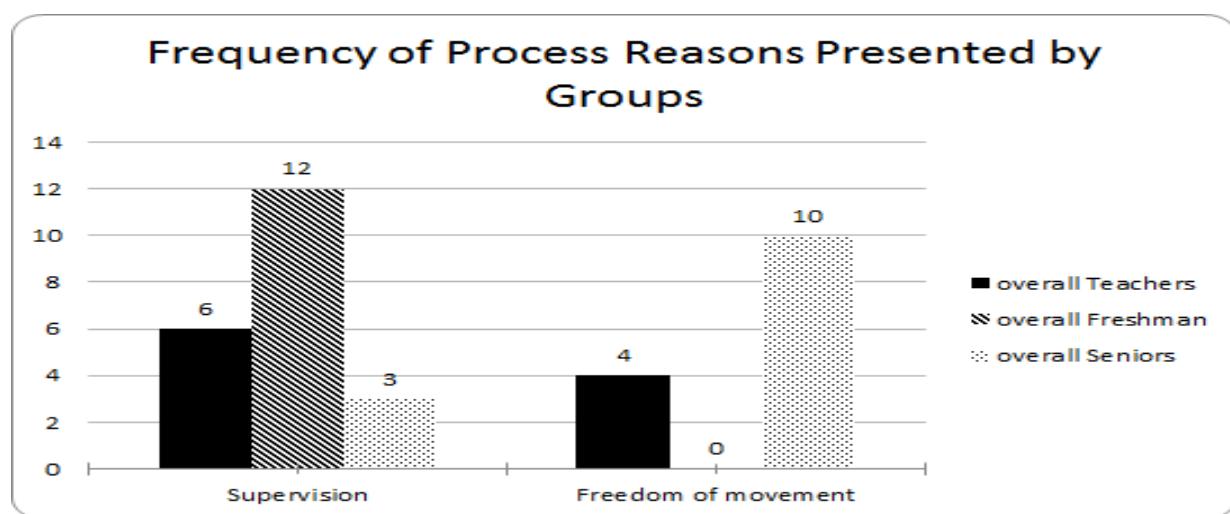


Figure 5 Bar graph depicting the frequency with which each grouping of participants discussed policy and procedure as having an effect on perceptions of safety.

## Emergent Themes

Common themes found in the focus groups were the physical features of the school building such as: windows, doors, cameras and the upkeep of the building; emotional features: such as familiarity and control, paint and decorations, and relationships; lastly, process and procedures to include supervision and freedom of movement. These themes recurred through all three groups of questionnaires and focus groups. Figure 6 demonstrates the frequency with which each theme was discussed through the questionnaires and focus groups.

Physical	Teacher Focus Group	Teacher Questionnaire	Freshman Focus Group	Freshman Questionnaire	Senior Focus Group	Senior Questionnaire
Space (open/closed)	6	2	1	2	4	3
Proximity	1		2		1	
Accessability	23	9	9	3	7	3
Light/windows	15	3	8	7	5	3
Cameras	1			1	1	
alcoves/storage rooms	5	1	1			
maintanance					7	3
Emotional	Teacher Focus Group	Teacher Questionnaire	Freshman Focus Group	Freshman Questionnaire	Senior Focus Group	Senior Questionnaire
Familiarity/control	7	3	1		1	
Paint/color	5	1	15	3	6	
Relationships	6	3		2	5	3
Process /procedures	Teacher Focus Group	Teacher Questionnaire	Freshman Focus Group	Freshman Questionnaire	Senior Focus Group	Senior Questionnaire
Supervision	6		10	2	1	2
Freedom of movement	4				10	

Figure 6 Chart detailing the frequency in which the common themes were discussed by each group, either through their questionnaires or the focus groups.

Each subject determined that accessibility to the building was a concern as was the lighting provided, either naturally, through windows, or artificially. Both affected their perception of safety. “I was going to say it made me feel safe because of the light...” (Freshman Focus Group, April 18, 2018, *l14*). This comment was made in response to the picture shown in Figure 7 below. This picture depicts the front entrance of the school. There are a number of windows, colors and, as one student stated, school spirit.



*Figure 7 Picture of front entrance taken by a freshman participant.*

Other examples about light were, “I wouldn’t want to hang out there at night...it’s not lit...” (Teacher Focus Group, *l33-36*); and “...nobody goes back there really unless it’s for gym

classes and it's dark." (Senior Focus Group, April 23, 2018). The following picture, Figure 8, is the hallway referenced in the comment above by the senior participant. This hallway leads only to two classrooms with no natural lighting or exterior doors.



*Figure 8 Photograph of a hallway taken by a senior participant.*

In addition, the feelings of safety can also be attributed to adult supervision as stated in the focus groups. "I would say not because there's no teachers, like, rooms over there so there's no, like visual of what's going on." (Freshman Focus Group, 110-11). The appearance of areas in the school also impacted their perceptions. Below is a photograph of a long hallway with no classrooms. This hallway in particular, while well lit, elicited a perception of unsafe due to not

having any adults in proximity. This hallway was also discussed for the lack of colors and decorations.



*Figure 9 Photograph of what was described as a 'blank secluded hallway,' taken by a senior participant.*

In reference to this picture in Figure 10, of a courtyard a freshman said, “It looks kinda unsafe because no one takes care of it, so it doesn’t look welcoming” (Freshman Focus Group, 121). This courtyard is found enclosed by the school on all sides and is rarely utilized by students and teachers. This area was described as having doors that lock only from the inside restricting students and staff from incorporating this space in their instructional day.



*Figure 10 A photo of a courtyard taken by a freshman participant.*

### **Explanation of Data**

The data collected indicate that accessibility, light/windows and aesthetics are the most commonly identified contributing factors to the perceptions of safety within a school building. The presence of cameras was the least identified factor, as well as the proximity to administration or law enforcement. Teachers most frequently discussed accessibility and familiarity. Teachers and seniors were more concerned with relationships, freedom of movement, space, and the presence of storage rooms and alcoves. The freshman focused mostly on the aesthetics and supervision, while the seniors focused on the upkeep of the building.

## **Summary**

*What do students identify as representations of safety and lack of safety in their schools, and what do they say contributes to these perceptions?* Students overall identified the hallways to be both safe and unsafe. Classrooms were identified as mostly safe, and entrance areas were mostly unsafe. The factors that contributed to these perceptions were the presence of supervision, accessibility to the building, presence of light, and welcoming decor.

*What do teachers identify as representations of safety and lack of safety in their schools, and what do they say contributes to these perceptions?* Teachers identified classrooms to be safe, and hallways were mostly safe. Entrance areas and storage rooms were identified as safe. The cafeteria and parking lot were identified as unsafe. The factors contributing to these perceptions were accessibility, light, and their familiarity and control of the environment.

*How do the perceptions of students and teachers compare?* The perceptions of teachers compared to students, were consistent when discussing accessibility and lighting. However, the student's perceptions relating to the decoration and colors of the building were more frequent when compared to those of the teachers. The teachers identified the hallways as safe, and, in contrast, the students identified them as unsafe. Both groups agreed on the safety of the classrooms and storage rooms. Yet, students identified the entrance areas as unsafe, while the teachers identified them as safe. The importance of relationships was fairly consistent between teachers and students. The teacher's perceptions were more influenced by their familiarity and control, whereas, the students' were more influenced by the upkeep of the building and its aesthetics.

## Chapter 5: Findings, Implications, and Recommendations for Future Research

### **Review of Purpose**

The purpose of this qualitative study was to identify building features that affect the safety perceptions of high school students and teachers, from one school district in rural Virginia. Data were obtained through visual narratives, written questionnaires and focus groups conducted within one high school. This study aimed to identify characteristics that contribute to the perception of safety. By identifying these characteristics, school leaders will be able to further investigate the factors that contribute to the perception of safety within their schools and thus take steps to improve in these areas. This research benefits architects when designing future schools by providing feedback on how design features affect perceptions.

### **Summary of Findings**

In reviewing the data, several findings were identified.

#### **Finding One: Teachers and students identified Accessibility, light/windows and aesthetics as the most common contributing factors to the perception of safety.**

Out of the 137 times physical features were mentioned, accessibility was discussed 54 times overall, and Light/windows was discussed 41 times. That is 69.3% of all discussions about the physical features of the buildings related to accessibility and light/windows. These findings support research conducted by Earthman (1999), Cash (2007) and Walton (2011,) which found accessibility and lighting to have an impact on the perceptions of safety and, in turn, affect performance. Participants of the current study discussed paint and the appearance of areas in the

school 49.2% of the time when emotional factors were mentioned. “I find it kinda sparse and gloomy, I don’t feel like students are really welcomed in there...is that because of the dullness of the walls? ...hostel white.” (Teacher Focus Group *l96&100*). AL-Ayash, Kane, Smith, & Green-Armytage (2016) found that paint color can affect performance through its effect on emotion. The findings of the present study support this concept of aesthetics affecting emotion and perceptions.

**Finding Two: Teachers and students had little concern for cameras or proximity to administration or law enforcement.**

Cameras were discussed 2.2% of the time or only three times out of the 137 times physical features were mentioned. Of these 137, concerns four were dealing with proximity to administration or law enforcement, or 2.9%. These findings contradict the rational deterrence and routine activities theories of criminal behavior. The rational deterrence theory states that visible security measures such as cameras and School Resource Officers, are put in place to deter engagement in problematic behaviors (Becker, 1968). The routine activity theory looks at why crimes do or do not occur by increasing the presence of capable guardians, thus decreasing the likelihood of a crime (Cohen & Felson, 1979). The findings of this study do not support these theories.

**Finding Three: The teacher’s familiarity and control were identified as important factors in their perception of safety as it relates to keeping students safe.**

The teachers referred to their familiarity and control of the environment: 10 out of 25 times or 40%. “...because it’s, you know, where we teach...it’s where we are; we know where parts are; we know what works; we know how things work in there and, quite honestly, we can manage it.” (Teacher Focus Group, *l191-193*). Usman, S. (2012) states that the classroom

environment should be friendly and one of a constructive socialization. The duty of creating this environment is placed on the teachers within their classrooms. Findings of the present study support the idea that the teachers have control of the classroom and create the climate within.

**Finding Four: Freshman tended to be more concerned with the aesthetics and appropriate supervision, while seniors have moved past the surface and are closer in thought processes to the teachers, who are concerned with freedom of movement, relationships and space.**

On average, the senior and teacher responses varied 3.6 points, whereas, the freshman responses varied from the teacher responses on an average of 5 points. Freshman responses made up over half of the responses about supervision (57.1%) and paint/decor (60%). The seniors and teachers discussed relationships as a factor in their perceptions of safety, as well as the space they occupied and their freedom of movement.

## **Implications**

**Implication One: Administration should work to create a welcoming environment throughout the school with the color of paint selected and decorations.**

As it relates to Finding One, administrators are recommended to improve the feeling of welcome throughout the school by including decorations and signage in all areas. The results of this study show that 18 (26.9%), out of the 67 discussions by freshman, were concerned with the aesthetics of the building. Items such as paint color and decorations created a sense of safety. “I always feel safe there...it's very bright, has a lot of color, a lot of school spirit.” (Freshman Focus Group, *l46 &48*). This is compared to only six (9.2%) of the 65 discussions by seniors regarding this and 6 (5.9%) of the 101 teacher discussions. Cafeterias and hallways were described by the participants as “bland, blank, sparse and gloomy,” while the main entrance to the school was described as being “bright, welcoming and having a lot of school spirit”. It seems that if students

are made to feel welcomed and comfortable, their perception of safety is greatly increased, just as it is with the perceptions of teachers. This also relates to the relationships formed between staff and students. According to studies, when a student has a positive relationship with staff members, his/her perception of feeling safe in the school is dramatically improved. A whole school effort to engage students and to build positive relationships with them is highly recommended. In addition, the aesthetics of the school can have a significant impact on the feelings of safety. As discussed by Lorraine E. Maxwell (2016), the Broken Window Theory identifies that physical discord affects the actions of those in proximity and, in turn, affects school climate. Therefore, it is suggested that the appearance of the building be kept in good shape, and paint colors should be chosen carefully, in consideration of the effects on emotion. In addition, decorations and signs should be on display throughout the building.

**Implication Two: Administration should ensure that there is a use for all spaces and an appropriate number of people in those spaces.**

As it relates to Finding One, students and teachers expressed concerns about areas in the school that were overcrowded, otherwise neglected, or generally unused. In 18 incidences space was discussed, either for overcrowding, confinement, neglect or lack of use. It is recommended that the administration take steps to reduce the number of students utilizing these areas at one time. The students seemed particularly concerned about the cafeteria, stating that at times, “it’s so overcrowded... there aren’t enough seats” (Senior Focus Group. 154-54). The teachers were also concerned with this area due to the student/teacher ratio. It is suggested that fewer students utilize the cafeteria at one time, either by adding another lunch time or by implement rolling lunches.

In addition, the teachers and students discussed hallway and courtyards that were underutilized by the school itself. It is the suggestion of the researchers that administration ensures that all areas of the school are utilized and welcoming.

**Implication Three: Architects should design schools with hallways that are more conducive to the population and use.**

As it relates to Finding One, the teachers were concerned about the size of the hallways and the number of students that utilize them during transition. In addition, teachers and students discussed the alcoves and dead end hallways that were out of the way for normal foot traffic. These areas were found to affect the perception of safety, due to the lack of supervision, as well as their lack of purpose. Architects should design hallways that are wide enough to accommodate the population numbers, as well as to ensure that the design and layout does not create hidden corners, alcoves or lost hallways.

**Implication Four: Architects should consider accessibility and natural light as necessities in a building, but, also, as features that might need to be included with consideration of their safety vulnerabilities.**

As found in Finding One, lighting and accessibility were discussed, most frequently, across all groups. These discussions identified windows and doors as contributing to the perception of the area being safe, as well as being unsafe. Participants found areas with lots of lighting felt welcoming and safe; however, the presence of windows was also a concern due to the vulnerability of that access point. In agreement, participants also found areas with low or insufficient lighting evoked perceptions of an unsafe area. Multiple doors and directions out of an area were preferred, and, yet, this also afforded an intruder more points of access. When designing schools, architects should incorporate natural and artificial lighting, as well as,

multiple egress points. Furthermore, they should ensure that all these points are secure through frosted or shatter-resistant glass and one-way locking doors. Features, such as the lighting and accessibility of a building, affect the perceptions of safety. Providing there is sufficient light; either artificial or natural; for the space will increase the perceptions of safety. Ensuring that points of entry are locked and secured is another way to improve the perception.

**Implication Five: School Divisions should reassess monetary allocations for cameras.**

As discussed in Finding Two, cameras were mentioned 2.2% of the time. Cameras are a large expense for school divisions and this study found that they did little to provide a sense of safety. School division leadership is encouraged to assess the benefits of the camera systems to include how often they were iatrical in violent behavior prevention to determine if the funds would be better spent on other features that have a greater effect on perceptions.

**Implication Six: Police departments and school divisions should clearly define the role of the SRO and administration should ensure they are correctly utilized.**

In reference to Finding Two, the SRO in this study was not seen as significantly affecting the perceptions of safety. The police department and school administration should collaborate to clearly define the role of the SRO. The school and surrounding community should be made aware of the role the SRO plays. This role should include establishing relationships with the students and faculty in order to improve the perceptions of safety within the building.

**Implication Seven: Administration should ensure that sufficient supervision is provided in all areas.**

As discussed in Finding Three, the teacher's sense of safety stemmed from their ability to protect the students in their charge. Teachers and students alike expressed concerns about the lack of supervision in some hallways, as well as having enough supervision in the cafeteria

during lunches. It is recommended that the administration assign teachers to monitor all hallways during transitions and ensure that the teacher/student ratio in the cafeteria is sufficient to properly protect all students should an incident occur. Procedural aspects of the school seem to have a significant influence on one's perception of safety. A common theme was supervision. Common areas, hallways, and bathrooms proved to be areas where there is less than optimal teacher supervision. The simple fix for this would be to increase teacher presence and instate some more intensive procedures for the use of these spaces. Additionally, the number of individuals utilizing a single area at a time was a concern for both teachers and students, mostly referring to the cafeteria and the ability to keep large crowds safe. It is suggested that these numbers be decreased, and the supervision in these areas be increased.

**Implication Eight: Administration should include students from all grades in regular discussions regarding school safety and climate.**

Finding Four expresses the difference of perceptions between students of different grade levels. It is suggested that the opinions of students from all grade levels be considered when making decisions about the safety of the school. Bowen, et. al., (1998) suggested that students be viewed as stakeholders in order to improve school climate and increase the students sense of belonging; which will in turn decrease the likelihood of violent behaviors.

**Suggestions for Future Studies**

In response to the findings and implications of this study, there are several suggestions for future research.

- Due to the small participation size, it is recommended that this study be repeated utilizing a larger more varied population. The study could be widened to include various states and possibly countries utilizing social media.

- After analyzing the data, it is recommended that future research be conducted focusing on specific building features. The current study resulted in broad topics, and the field would benefit from more extensive exploration into the individual themes identified through this study or a particular building feature.
- Due to the Parkland shooting and the potential changes that may occur in policy as a result of this shooting, a recommendation is made that the study be repeated in a year or two in order to identify any changes to the perceptions of school safety after some separation from this incident.
- The field would benefit from research on the emotional responses of adults to areas of schools and the experiences that cause those emotions. This research would provide insight into what events create a lasting perception of unsafe feelings about specific building features.

## **Reflections**

Throughout and after completion of this study, the researchers reflected on the methods utilized. Participation in the study was difficult to obtain. To adjust for this difficulty, the researchers would revamp the methodology to create a study in which more individuals would participate in. It is believed that if all focus groups were shown the same set of pictures, the comparisons would be easier to draw, and the data would be richer. The discussions that occurred in the focus groups were insightful. In the future, these discussions should be a point of focus in order to further explore the perceptions of the individuals. Overall, the study was informative and enlightening. The researchers looks forward to contributing further to this field of research.

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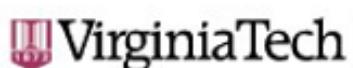
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## Appendix A

### IRB certificate and Approval letter





Office of Research Compliance  
Institutional Review Board  
North End Center, Suite 4120, Virginia Tech  
300 Turner Street NW  
Blacksburg, Virginia 24061  
540/231-4606 Fax 540/231-0959  
email [irb@vt.edu](mailto:irb@vt.edu)  
website <http://www.irb.vt.edu>

## MEMORANDUM

**DATE:** February 26, 2018  
**TO:** Carol S Cash, Nicole Marie Wilcox  
**FROM:** Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)  
**PROTOCOL TITLE:** Building Features that Impact Perceptions of Safety as Seen Through the Eyes of Students, and Teachers  
**IRB NUMBER:** 17-1043

Effective February 26, 2018, the Virginia Tech Institution Review Board (IRB) approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:  
<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

## PROTOCOL INFORMATION:

Approved As: Expedited, under 45 CFR 46.110 category(ies) 6,7  
Protocol Approval Date: February 26, 2018  
Protocol Expiration Date: February 25, 2019  
Continuing Review Due Date\*: February 11, 2019

\*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

## FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

*Invent the Future*

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
An equal opportunity, affirmative action institution

## **Appendix B**

### **Cover Letter to School divisions**

Dear Superintendent:

School safety is a growing focus for many school divisions across the country. In addition, many of our school buildings are reaching an age where renovations are necessary to ensure the safety of its members. However, the attention to the building features that affect perceptions of safety is a smaller focus. Therefore, we are conducting a study on building features that impact the perceptions of safety as seen through the eyes of students and teachers. We are asking for your support in allowing 10 students from each of the following grades 9 and 12; and 5 teachers from the high school in your division to participate in this study, a total of 20 students and 5 teachers. This study will consist of subjects taking 1-2 pictures of areas where they feel welcomed, comfortable and safe and 1-2 pictures where they do not. These pictures will be submitted to the researchers through a virtual drop-box. The pictures will then be printed and attached to a 3 item questionnaire given to the author of each picture (see attached). Lastly we will conduct 6 focus groups of the different groups of subjects (middle school teachers, 6th grade students etc.) these focus groups will be audio recorded to allow for an accurate transcription and will consist of discussions around selected photographs and ways the subjects feel the environment could be changed in order to improve the feelings of welcoming, comfort and safety. The information gained may help school divisions increase the physical safety of the building while also increasing or maintaining the perceptions of safety seen by the school community. This information could prove especially beneficial as schools enter into renovations. Results may help to understand and improve on the characteristics that affect perceptions of school safety, contributing to the school's overall climate.

All information will be kept confidential. The school division and individuals participating in this study will be assigned codes to safeguard against the possibility of identification. Once the study is completed, we would be happy to share the findings of the dissertation study with your division. In addition, we would be more than willing to answer any questions that you may have about this study. We can be contacted by email ([nmwilc07@vt.edu](mailto:nmwilc07@vt.edu)) or by phone (C-804-357-5317).

In closing, thank you for your time and consideration in this matter. Have a great day.

Sincerely,

Nicole M. Wilcox

Graduate Student, Virginia Polytechnic Institute and State University

Dr. Carol S. Cash

Clinical Associate Professor, Virginia Polytechnic Institute and State University

## Appendix C

### District Study Approval Letters

#### District Study Approval Letter

Dear Superintendent of King William County Public Schools:

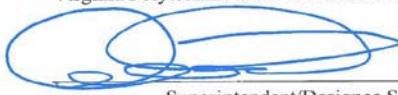
This letter comes to thank you for your support of Nicole M Wilcox in her effort to obtain her doctoral degree in Educational Leadership and Policy Studies from Virginia Polytechnic and State University. Your signature below serves as approval for Ms. Wilcox to collect and use the following information from your school district: Participant obtained photographs, written questionnaire answers and audio-recorded focus groups two of ten students each and one of five teachers the high school in your school division. All information collected for use in the study, both individual and division information, will be held confidentially and all identities will remain anonymous.

Sincerely,



Nicole M. Wilcox  
Graduate Student  
Virginia Polytechnic Institute and State University

Dr. Carol S. Cash  
Clinical Associate Professor  
Virginia Polytechnic Institute and State University

  
Superintendent/Designee Signature

12/15/17  
Date

District Study Approval Letter

Dear Superintendent of Fredericksburg City Schools:

This letter comes to thank you for your support of Nicole M Wilcox in her effort to obtain her doctoral degree in Educational Leadership and Policy Studies from Virginia Polytechnic and State University. Your signature below serves as approval for Ms. Wilcox to collect and use the following information from your school district: Participant obtained photographs, written questionnaire answers and audio-recorded focus groups two of ten students each and one of five teachers the high school in your school division. All information collected for use in the study, both individual and division information, will be held confidentially and all identities will remain anonymous.

Sincerely,



Nicole M. Wilcox  
Graduate Student  
Virginia Polytechnic Institute and State University

Dr. Carol S. Cash  
Clinical Associate Professor  
Virginia Polytechnic Institute and State University

  
\_\_\_\_\_  
Superintendent/Designee Signature

12/15/17

\_\_\_\_\_  
Date

Jonathan D. Russ, Chief Administrative Officer  
Fredericksburg City Public Schools

## **Appendix D**

### **Potential Teacher Letter**

Potential Participant:

I would like to invite you to take part in a doctoral dissertation study that will consist of students and teachers in your school. This study's purpose is to identify building features that influence the perception of safety in and around your school as well as to establish some potential ways to improve these perceptions. The findings will also be subject to presentation and publication.

As a public-school safety coordinator, I am interested in understanding how the perceptions of safety are impacted by the structures, and building features of schools. This study is exclusively for the purpose of my own dissertation through Virginia Polytechnic and State Institute and is not being led by your school division. Findings of this study will be shared with district and school administration. Confidentiality of all individual participants, schools, and the school division will be maintained throughout all documents resulting from the study.

This qualitative case study will consist of three parts, 1) an assignment to photograph areas of your school; these one to two pictures will be of areas where you feel safe, welcome and comfortable as well as one to two where you do not as comfortable, welcome and safe. The photographs will not contain persons and any identifiable signage will be blurred in order to maintain confidentiality. Access to an electronic device such as a smartphone or tablet is not required, if you do not have access, one will be provided on loan. 2) A written questionnaire where you will be asked a few questions about the pictures you took and 3) a focus group where a group of 5 teachers from your school will be asked several questions that should last approximately 20-30 minutes after school, snacks will be provided. During the focus groups, participants will be asked about their thoughts on how to improve perceptions of safety in identified areas of the school. You will be asked to participate in all three parts of the study. The focus group sessions will be audio-recorded, transcribed, and reviewed. The researchers will be the only persons who can access the audio recordings and transcripts.

There is a foreseeable risk when participating in this study. If you feel particularly unsafe, unwelcome or uncomfortable in an area of the school; taking a photograph of this area may cause emotional stress. The researchers intend to dissipate this emotional stress through discussion of your thoughts on how to decrease the negative perceptions elicited by these areas. Research shows that when students and teachers are included in school improvement discussions they feel a stronger sense of belonging within their school and therefore a higher sense of safety. In addition, subjects will be asked to not photograph any individuals, written questionnaires will be done individually and in confidence, and the focus groups will utilize pictures that have had all identifying characteristics blurred out. An escort will be provided should you feel uncomfortable while taking pictures and the option to describe an area instead of photographing is also available. Subjects are asked to only photograph areas they have access to on a daily basis, restricted areas will be off limits. Your participation in this study is voluntary and you are free to withdraw your consent to participate at any time.

If you are interested in being a part of this dissertation study, please contact me at [nmwilc07@vt.edu](mailto:nmwilc07@vt.edu) or (804)357-5317. The first five teachers from each school will be selected to participate. I hope to begin the study as soon as possible and finish my data gathering by the end of March. Thank you for your assistance.

Sincerely,

Nicole M. Wilcox  
Ed.D. Doctoral Candidate  
(804)357-5317  
[nmwilc07@vt.edu](mailto:nmwilc07@vt.edu)

## Potential Student Letter

Parent of a Potential Participant:

I would like to invite your child to take part in a doctoral dissertation study that will consist of students and teachers in their school. This study's purpose is to identify building features that influence the perception of safety in and around your child's school as well as to establish some potential ways to improve these perceptions. The findings will also be subject to presentation and publication.

As a public-school safety coordinator, I am interested in understanding how the perceptions of safety are impacted by the structures, and building features of schools. This study is exclusively for the purpose of my own dissertation through Virginia Polytechnic and State Institute and is not being led by your school division. Findings of this study will be shared with district and school administration. Confidentiality of all individual participants, schools, and the school division will be maintained throughout all documents resulting from the study.

This qualitative case study will consist of three parts, 1) an assignment for your child to photograph areas of their school; these one to two pictures will be of areas where they feel safe, welcome and comfortable as well as one to two where they do not feel as comfortable, welcome and safe. The photographs will not contain persons and any identifiable signage will be blurred in order to maintain confidentiality. Access to an electronic device such as a smartphone or tablet is not required, if they do not have access, one will be provided on loan. 2) A written questionnaire where your child will be asked a few questions about the pictures they took and 3) a focus group where a group of ten students in your child's grade from their school will be asked several questions that should last approximately 20-30 minutes during lunch where lunch will be provided. During the focus groups, participants will be asked about their thoughts on how to improve perceptions of safety in identified areas of the school. Your child will be asked to participate in all three parts of the study. The focus group sessions will be audio-recorded, transcribed, and reviewed. The researchers will be the only persons who can access the audio recordings and transcripts.

There is a foreseeable risk when participating in this study. If your child feels particularly unsafe, unwelcome or uncomfortable in an area of the school; taking a photograph of this area may cause emotional stress. The researchers intend to dissipate this emotional stress through discussion of your child's thoughts on how to decrease the negative perceptions elicited by these areas. Research shows that when students and teachers are included in school improvement discussions they feel a stronger sense of belonging within their school and therefore a higher sense of safety. In addition, subjects will be asked to not photograph any individuals, written questionnaires will be done individually and in confidence, and the focus groups will utilize pictures that have had all identifying characteristics blurred out. An escort will be provided should your child feel uncomfortable while taking pictures and the option to describe an area instead of photographing is also available. Subjects are asked to only photograph areas they have access to on a daily basis, restricted areas will be off limits. Your child's participation in this study is voluntary and you, as well as they, are free to withdraw consent to participate at any time.

If you are interested in your child being a part of this dissertation study, please contact me at [nmwilc07@vt.edu](mailto:nmwilc07@vt.edu) or (804)357-5317. The first ten students per grade level will be selected to participate.

I hope to begin the study as soon as possible and finish my data gathering by the end of March. Thank you for your assistance.

Sincerely,

Nicole M. Wilcox  
Ed.D. Doctoral Candidate  
(804)357-5317  
[nmwilc07@vt.edu](mailto:nmwilc07@vt.edu)

## **Appendix E**

### **Teacher Consent Form**

**VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY**  
Informed Consent for Participants in Research Projects Involving Human Subjects

**Title of Project:** Building Features that Impact Perceptions of Safety as seen Through the Eyes of Students and Teachers

**Investigators:** Dr. Carol Cash and Nicole Wilcox

**Contact:** [nmwilc07@vt.edu](mailto:nmwilc07@vt.edu) or 804-357-5317

#### **I. Purpose of this Research Project**

The purpose of this project is to fulfill a dissertation requirement while investigating the building features that impact your perceptions of safety. This study also seeks your opinions regarding any suggestions for improving perceptions of safety in these areas. Your school division is not leading this study. Findings from this study will enable readers of the study the opportunity to better understand the influence that structures, policies and procedures have on the perceptions of safety. The findings will also be subject to presentation and publication.

#### **II. Procedures**

You will be asked to take one-to-two pictures of areas within the school where you feel comfortable, welcomed or safe, and one-to-two where you do not. These photographs will be used to assist you in answering three questions about these areas in written format. These photographs will also be used during a short focus group with your peers to discuss how these perceptions could be improved.

##### A. Photography

Your participation in photographing will require the use of an electronic device such as a cell phone or tablet, one will be provided should you not have access and will need to be returned after the photographs are taken.

Instructions will be given and include the directions on how to submit the pictures in a virtual drop-box. You will be given a deadline to submit your photographs. Some photographs will be selected for use in the focus groups. All photographs will have all identifiable characteristics blurred out to protect confidentiality. The researchers will be the only persons with access to the photographs.

##### B. Written Questionnaire

Your participation in written questionnaire will consist of answering a series of three questions pertaining to each photograph you submitted and take approximately 5 minutes to complete. Questionnaires will be conducted without any identifiable characteristics. The researchers will be the only persons with access to your questionnaire answers.

##### C. Focus Group

Your participation in a focus group with 4 of your peers will consist of a discussion regarding your suggestions on improving perceptions of safety in the identified areas. The focus group will take approximately 20-30 minutes and will be conducted after school hours, snacks will be provided. These discussions will be audio recorded in order to transcribe them accurately. The researchers will be the only persons with access to the audio recordings and the transcripts of the focus group.

#### **III. Risks**

There is a slight perceived risk of possible emotional stress due to bringing to light one's perceived feelings of unsafe, unwelcoming, and uncomfortable areas in one's school. This risk will be mitigated through the focus groups discussion on how these negative perceptions can be decreased.

**IV. Benefits**

No tangible benefits are afforded to you for participating in this study, however, the results of this study will provide the opportunity for school and division level administrators to improve the perceptions of safety in their buildings.

**V. Extent of Anonymity and Confidentiality**

Your identity, including all identifying names and personal information, will be removed from the collected data. A coded letter and number combination will be used in place of the names of the participants and the school systems involved in the study. Due to the inability to keep one's identity confidential from other participants during a focus group, participants will be given the option of an individual interview in place of the focus group. Recordings and transcriptions of the focus groups will be able to be accessed only by the researchers and will be kept in a electronically locked safe and destroyed May 1, 2023; five years after a successful dissertation defense. The Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

**VI. Compensation**

You will not be compensated for participating in this study.

**VII. Freedom to Withdraw**

It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty.

**VIII. Questions or Concerns**

Should you have any questions about this study, you may contact the research investigator whose contact information is included at the beginning of this document.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech Institutional Review Board at [irb@vt.edu](mailto:irb@vt.edu) or [\(540\) 231-3732](tel:(540)231-3732).

**IX. Subject's Consent**

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

\_\_\_\_\_  
Subject signature

\_\_\_\_\_  
Subject printed name

## **Parent Permission Form**

### VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Parental Permission for Participants in Research Projects Involving Human Subjects

**Title of Project:** Building Features that Impact Perceptions of Safety as seen Through the Eyes of Students and Teachers

**Investigators:** Dr. Carol Cash and Nicole Wilcox      **Contact:** [nmwilc07@vt.edu](mailto:nmwilc07@vt.edu) or 804-357-5317

### **I. Purpose of this Research Project**

The purpose of this project is to fulfill a dissertation requirement while investigating the building features that impact your child's perceptions of safety. This study also seeks your child's opinions regarding any suggestions for improving perceptions of safety in these areas. Your school division is not leading this study. Findings from this study will enable readers of the study the opportunity to better understand the influence that structures have on the perceptions of safety. The findings will also be subject to presentation and publication.

### **II. Procedures**

Your child will be asked to take one-to-two pictures of areas within the school where they feel comfortable, welcomed or safe, and one-to-two where they do not feel as comfortable, welcome or safe. These photographs will be used to assist your child in answering three questions about these areas in written format. These photographs will also be used during a short focus group with your child's peers to discuss how these perceptions could be improved.

#### **A. Photographing**

Your child's participation in photographing will require the use of an electronic device such as a cell phone or tablet. One will be provided if your child does not have access and will need to be returned after photographs are taken. Instructions will be given and include the directions on how to submit the pictures in a virtual drop-box. They will be given a deadline to submit their photographs but the photographs can be taken before or after school or during a study period only. Some photographs will be selected for use in the focus groups. All photographs will have any identifiable characteristics blurred out to protect confidentiality. The researchers will be the only persons with access to the photographs.

#### **B. Written Questionnaire**

Your child's participation in a written questionnaire will consist of answering a series of three questions pertaining to each photograph they submitted. The questionnaire will consist of three questions and will take approximately 5 minutes to complete. Questionnaires will be conducted without any identifiable characteristics. The researchers will be the only persons with access to the questionnaire answers.

#### **C. Focus Group**

Your child's participation in a focus group with 9 of their grade level peers will consist of discussion regarding their suggestions on improving perceptions of safety in the identified areas. The focus group will take approximately 20-30 minutes and will be conducted during lunch, lunch will be provided. These discussions will be audio recorded in order to transcribe them accurately. The researchers will be the only persons with access to the audio recordings and the transcripts of the focus group.

### **III. Risks**

There is a slight perceived risk of possible emotional stress due to bringing to light one's perceived feelings of unsafe, unwelcoming, and uncomfortable areas in one's school. This risk will be mitigated through the focus groups discussion on how these negative perceptions can be decreased.

#### **IV. Benefits**

No tangible benefits are afforded to your child for participating in this study, however, the results of this study will provide the opportunity for school and division level administrators to improve the perceptions of safety in their buildings.

#### **V. Extent of Anonymity and Confidentiality**

Your child's identity, including all identifying names and personal information, will be removed from the collected data. A coded letter and number combination will be used in place of the names of the participants and the school systems involved in the study. Due to the inability to keep one's identity confidential from other participants during a focus group, participants will be given the option of an individual interview in place of the focus group.

Recordings and transcriptions of the focus groups will be able to be accessed only by the researchers and will be kept in a electronically locked safe and destroyed May 1, 2023; five years after a successful dissertation defense.

The Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

#### **VI. Compensation**

There will be no compensation for participating in this study.

#### **VII. Freedom to Withdraw**

It is important for you and your child to know that they are free to withdraw from this study at any time without penalty. They are free not to answer any questions that they choose or respond to what is being asked of them without penalty.

#### **VIII. Questions or Concerns**

Should you have any questions about this study, you may contact the research investigator whose contact information is included at the beginning of this document.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech Institutional Review Board at [irb@vt.edu](mailto:irb@vt.edu) or [\(540\) 231-3732](tel:(540)231-3732).

#### **IX. Parent's Consent**

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for my child to participate:

\_\_\_\_\_  
Date \_\_\_\_\_

Parent signature  
\_\_\_\_\_

Parent printed name  
\_\_\_\_\_

## **Student Assent Form**

### VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Assent for Participants in Research Projects Involving Human Subjects

**Title of Project:** Building Features that Impact Perceptions of Safety as seen Through the Eyes of Students and Teachers

**Investigator:** Nicole Wilcox

Contact email: nmwilc07@vt.edu

#### **I. Purpose of this Research Project**

To look at the parts of the building that make students and teachers feel comfortable, welcomed and safe in their schools.

#### **II. Procedures**

##### A. Pictures

- You will be asked to take 1-2 pictures of areas that make you feel welcomed, comfortable and safe.
- You will be asked to take 1-2 pictures of areas that do not make you feel as welcomed, comfortable and safe.
- Deposit these pictures in a Google Folder

##### B. Questions

- Answer 3 questions about each picture you put in the Google Folder

##### C. Focus Group

- Meet with a group of 9 other students in your grade
- Talk about how we could help and change the areas you took pictures of to make them feel welcoming, comfortable and safe.

#### **III. Risks**

When taking pictures of areas that you do not feel comfortable, welcomed or safe in you may get scared. Talking about these feelings and how you think we can change them will help you to not be scared.

#### **IV. Benefits**

This study will only help schools

#### **V. Extent of Anonymity and Confidentiality**

Your name will not be part of the study.

#### **VI. Compensation**

You will not receive anything for participating in this study.

#### **VII. Freedom to Withdraw**

It is important for you to know that you are free to stop being a part of this study at any time. You are also being allowed to not answer any question you do not want to.

### **VIII. Questions or Concerns**

Should you have any questions about this study, you may contact the research investigator whose contact information is included at the beginning of this document.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech Institutional Review Board at [irb@vt.edu](mailto:irb@vt.edu) or [\(540\) 231-3732](tel:(540)231-3732).

### **IX. Subject's Consent**

I understand what is being asked of me. I have had all my questions answered. I give my voluntary consent:

\_\_\_\_\_  
Subject signature

\_\_\_\_\_  
Subject's Grade \_\_\_\_\_  
Subject printed name

## **Appendix F**

### **Instructions for participation**

Thank you for participating in this study. Please utilize your personal electronic device or the one provided to you in order to complete the following:

- Take 1-2 pictures of where you feel welcomed, comfortable or safe.
- Take 1-2 pictures of where you feel unwelcome, uncomfortable or unsafe.
- Do not include any persons in your photographs.
- Upload your photos to the following google folder  
<https://tinyurl.com/VTG6S1> (each paper will have a different link correlating with informed consent number)

Please submit your 2-4 photographs no later than Date

#### **IMPORTANT-**

- **Pictures should not include people**
- **Photographs may only be taken in areas readily accessible to students**
- **Your safety comes first, if the area is inherently unsafe do not go there.**
- **If you were provided an electronic device, please return it after taking the photographs**

## **Appendix G**

### **Questionnaire**

**INSERT PHOTO HERE**

1. What is this a picture of? \_\_\_\_\_
2. Does this area make you feel welcomed, comfortable or safe? \_\_\_\_\_
3. What about this area makes you feel that way? \_\_\_\_\_  
\_\_\_\_\_

## Appendix H

### Sample Pictures Taken by Participants





