

## Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world-wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

*Rebekah Schwartz*

4/5/2020

Date

**Mother's Perceptions of Volusia County Gun Violence Prevention Measures in Elementary Schools**

By

Rebekah Schwartz  
Master of Public Health

Behavioral, Social, and Health Education Sciences



---

Briana Woods-Jaeger, PhD  
Committee Chair



---

Randi Smith, MD, MPH  
Committee Member



---

Colleen McBride, PhD  
Department Chair

## **Abstract**

### **Mother's Perceptions of Volusia County Gun Violence Prevention Measures in Elementary Schools**

By Rebekah Schwartz

**Background:** America has one of the highest gun violence rates among youth. Between 2013 and 2015, there were 154 school shootings within the United States. Florida had the second number of school shootings in America between 2013 and 2015. In response to the Parkland shooting in 2018, Florida legislators passed the Marjory Stoneman Douglas High School Public Safety Act to increase security across Florida public and charter schools. Volusia County, one of Florida's 67 counties, implemented various gun violence prevention measures, including mental health services, active shooter drills, single point of entry, and armed guards on campuses. Using the Theory of Diffusions of Innovations as a framework, this study aims to examine mother's perceptions and expectations of the new changes in school safety amongst elementary schools in Volusia County.

**Methods:** This study employed semi-structured, in-depth individual interviews with 11 mothers of Volusia County elementary school students. Interviews were transcribed verbatim and coded using MAXQDA v11. A code-by-code review across transcripts was conducted through code reports. Content analysis was used to identify and describe core themes across data.

**Results:** Four emergent themes were developed: (1) *"I feel like I'm at the mercy of whatever the School Board decides"*, (2) *"I do trust that they have the best interest of the kids in mind"*, (3) *"I think there is more we can do as parents"*, and (4) *"It's not a perfect system, but...it's at least an effort"*. These themes explore perceptions along the levels of the Socioecological Model, where mothers discussed their perceptions of the School Board, the School, and Parents. In addition, the themes outline the expectations and perceptions of mothers of Volusia County elementary school students with regards to gun violence prevention measures.

**Conclusions:** The results highlighted that mothers supported the measures but recognize that there is not a perfect system to fully prevent a school shooting. The results showcase the strained relationship, and various levels of trust, between mothers and the Volusia County School Board. In contrast, the results showcase the positive relationship, and high levels of trust, between the mothers and their child's elementary schools. More research is needed on these school-based gun violence prevention measures to ensure communities support these measures to protect schools from active shooters and effective gun violence prevention innovations are successfully diffused/disseminated in communities. Volusia County needs the support of mothers, and parents, when developing and implementing gun violence prevention measures.

## **Title of Contents**

<b>INTRODUCTION</b> .....	5
<b>LITERATURE REVIEW</b> .....	8
Impact of Gun Violence Legislation.....	8
School Shootings.....	8
Evidence-Based Gun Violence Prevention Measures.....	9
Gun Violence Prevention Measures in Volusia County.....	11
Theory of Diffusion of Innovations.....	13
<b>METHODS</b> .....	15
Study Design.....	15
Participant Recruitment.....	15
Interview Guide.....	16
Data Analysis.....	16
<b>RESULTS</b> .....	18
Sample Description.....	18
Knowledge of Gun Violence Prevention Measures.....	19
Key Findings.....	19
Visual Framework.....	20
Theme 1: <i>“I feel like I’m at the merc of whatever the School Board decides”</i> .....	21
Theme 2: <i>“I do trust that they have the best interest of the kids in mind”</i> .....	24
Theme 3: <i>“I think we could do more as parents”</i> .....	26
Theme 4: <i>“It’s not a perfection system, but...it’s at least an effort”</i> .....	29
Recommended Gun Violence Prevention Measures.....	31
Summary of Findings.....	32
<b>DISCUSSION</b> .....	34
Summary of Study.....	34
Discussion of Key Results.....	34
Limitations.....	39
Strengths.....	39
Future Research.....	40
Public Health Implications.....	40
Recommendations.....	41
Conclusions.....	42
<b>ACKNOWLEDGMENTS</b> .....	44
<b>REFERENCES</b> .....	45

## **Introduction**

America has one of the highest gun violence rates among youth.<sup>1-3</sup> Between 2013 and 2015, there were 154 school shootings within the United States.<sup>4</sup> A school shooting is defined as “when a firearm was discharged inside a school building or on school or campus grounds, as documented in publicly reported news.”<sup>4</sup> As gun violence and school shootings increase, many Americans call for new safety measures and policies within schools to prevent future tragedies.<sup>1,3-7</sup> In various studies, elementary school teachers perceive gun safety as very important prevention activity for children.<sup>3,5</sup> In a study on elementary teachers’ perspectives on gun safety, the majority of teachers favor teaching gun safety in schools, with half of the respondents believing that police or trained military should do the teaching.<sup>3</sup> As for parental perspective, in another study, a majority of mothers with children in high school perceived parents and schools as nearly equally responsible for reducing levels of school violence.<sup>1</sup> Additionally, the majority of parents of high school students did not support personnel of schools carrying firearms on campus and did not think trained personnel would be very effective.<sup>1</sup> High school parents believed parents should be responsible for monitoring their child’s behavior and policies on restrictions for gun sales should be enacted in order to prevent gun violence.<sup>1</sup>

Florida had the second highest number of school shootings in America between 2013 and 2015.<sup>4</sup> In 2018, a school shooting at the high school in Parkland, FL killed 17 students and teachers, making it one of the deadliest school shootings in the United States. In response to the Parkland shooting, Florida legislators passed a bill with restrictions to gun sales by raising the minimum age for purchase, requiring mental health checks, increasing the waiting period and banning bump stocks.<sup>8</sup> Additionally, Florida implemented a guardian program and increased armed employees and police personnel present at each school.<sup>9</sup> In a county in Central Florida,

Volusia County, 44 guardians were hired for the 2018-2019 school year to protect Volusia's 45 elementary schools.<sup>10</sup> These guardians are "armed security officers" that are retired police, military, and various patrol officers who have been trained in active shooter scenarios.<sup>10</sup> In addition to these armed guardians, Volusia County Schools implemented more mental health services, active shooter drills, and single point of entry campuses through the addition of fencing.<sup>10</sup>

While there is research available on high school parents' perceptions of gun safety in school settings, there is a lack of research that includes elementary school students' parents and explores their expectations of schools' preparedness measures. Additionally, while there are studies regarding gun safety preparedness and prevention across America, there is a paucity of research that examines Florida's gun violence prevention programs within school contexts. As Volusia County implements new measures such as active shooter drills, single point of entry campuses, armed guards and mental health services, research regarding parents' perceptions of these changes is needed to evaluate the program's effectiveness and support.

The Theory of Diffusion of Innovations provides a framework to explore parents' perceptions of evolving gun violence prevention programs. The Theory of Diffusion of Innovations was developed in 1962 by E.M. Rogers to explain how an innovation is spread through a population.<sup>11</sup> New gun violence prevention measures implemented by Volusia County School Board is an innovation in the Volusia County community. Parental support, or adoption, of the new gun violence prevention programs is a critical aspect in the success of these new prevention measures. However, this adoption greatly depends on the community's perception of the innovation. The Theory of Diffusion of Innovations supports examining how well the new gun violence prevention programs are supported by mothers of Volusia County elementary

school students and their perceptions of those measures. Informed by the Theory of Diffusion of Innovations, the overall aim of this study is to examine mothers' expectations for elementary schools in Volusia County regarding gun safety and their perceptions of the new changes in school safety amongst the elementary schools in Volusia County. Through interviews with mothers, this study will fill the gap in literature by focusing on the perceptions of parents of elementary school students from Central Florida. The intended purpose is to inform Volusia County schools of current parent perceptions of gun violence prevention programs and to provide Volusia County schools with recommendations to improve upon current gun violence prevention measures and improve diffusion of effective innovations. Gun violence prevention measures will be defined in this study as any measure, initiative, program, or policy which purpose is to prevent and/or protect against an active shooter.

## **Literature Review**

The number of mass shootings are on the rise within the United States.<sup>1-3</sup> According to the Gun Violence Archive, there have been 418 mass shootings in the United States in 2019.<sup>12</sup> A mass shooting is defined as a single incident where four or more people are shot or killed.<sup>13</sup>

### ***Impact of Gun Violence Legislation***

Many studies indicate that access to guns is the best predictor of gun deaths.<sup>14-17</sup> In Australia, after gun control laws were adopted, homicides and suicides by firearm decreased and there was no occurrence of a mass shooting a decade after the enactment of the law.<sup>19</sup> From 1994 to 2004, there was a federal ban on assault weapons and large capacity ammunition magazines in the United States. A study conducted in Virginia reported a decline in firearm availability during the ban.<sup>20</sup> The study concluded that during a federal ban, fatalities from a mass shooting were 70 percent less likely to occur.<sup>21</sup> Additionally, in another study in 2015 that examined the effects of federal and state assault weapons bans from 1982 to 2011, the study found there was “lower mass shooting fatalities during both the federal and state assault weapons ban periods.”<sup>22</sup> Despite the research, there is very little legislation in support of gun control in the United States.

### ***School Shootings***

With an increase of mass shootings, there has been an increase in school shootings. In recent literature, there is not a consensus of a definition for school shootings. In one study, they defined school shooting as “when a firearm was discharged inside a school building or on school or campus grounds, as documented in publicly reported news.”<sup>4</sup> Using this definition, between 2013 and 2015, there were 154 school shootings within the United States.<sup>4</sup> In another study,



school shooting is defined as “a situation in which one or more people intentionally plan and execute the killing or injury of four or more people, not including themselves, using one or more guns, with killings or injuries taking place on school grounds during the school day or during a school-sponsored event on school grounds.”<sup>23</sup> Using this definition, there have been 22 school shootings from 2000 to 2018.<sup>23</sup> Despite the differing definitions, the number of incidents involving guns has increased each year in schools.<sup>4, 23</sup>

In an analysis of school and school shooter characteristics from 1999 to 2018, the study found on average that there were two casualties per incident.<sup>25</sup> Additionally, there is an estimated 150,000 students in America that have experienced a school shooting since Columbine High in 1999.<sup>26</sup> School shootings are more likely to occur in suburban, middle class locations, where the shooter is more likely to be white and male.<sup>15, 25</sup> The majority of school shootings are stopped by an individual other than law enforcement.<sup>27, 28</sup> Many shooters are influenced and inspired by past school shootings,<sup>15, 27, 29</sup> and many shooters and were victims of bullying and social rejection.<sup>15, 28</sup> In addition, many school shooters had access to a gun from a family member or close relative.<sup>15, 27-28</sup>

### ***Evidence-Based Gun Violence Prevention Measures***

With the rise of school shootings, there has been a shift in focus in the implementation of gun violence prevention measures in schools.<sup>1, 15, 24-25</sup> In a study of parents’ expectations of high schools in firearm violence prevention, parents indicated inadequate parental monitoring, bullying, inadequate mental health services, gang activities and easy access to firearms as causes of school firearm violence.<sup>1</sup> The parents of the study did not think prevention measures such as metal detectors, random searches of backpacks and lockers, addition of bullet-proof glass, and

trained school personnel carrying firearms would be effective.<sup>1</sup> A majority of parents indicated that the following school based policies would be the most effective in reducing firearm violence: working with law enforcement to develop and implement an response plan, developing a comprehensive security plan, requiring new school personnel to have background checks, implementing a school alert system in case of an emergency, and developing a reporting system for students to report concerns about violence to school administrators.<sup>1</sup>

In a scoping review of 28 articles related to risk and protective factors for youth firearm violence, psychological and behavioral risk factors such as depression, PTSD and substance use, presence or availability of firearms in the home, exposure to neighborhood violence, peer influences/victimization, family structure and function, and presence of gangs.<sup>37</sup> In another study that examines school rampage shootings since the 1990s, several risk factors that are found in the majority of school shooters include mental health illness, availability to a gun, and social dynamics.<sup>15</sup> In a report conducted by the U.S. Department of Education and the U.S. Secret Service, one conclusion was that most active shooters were bullied in their schools and exhibited risky behavior that caused concern to someone around them.<sup>28</sup>

Several organizations have published best practices for preventing school shootings.<sup>28, 34-</sup>  
<sup>36</sup> The National Association of School Psychologists and the National Association of School Resource Officers guidelines include that active shooter drills should be implemented, but should not use props that may contribute to trauma of students.<sup>35</sup> The American Psychological Association guidelines suggest early identification of risk behavior of students is important in preventing school shootings and mental health services and training are recommended to ensure a safe school environment.<sup>36</sup> In a report by the Department of Education and the United States Secret Services, developing and supporting strong relationships between students and school

faculty are recommended so that important information (i.e., potential school shooting) is shared from peers to school administrators that may have been told of the potential attack.<sup>28</sup>

The number of active shooter drills has risen across schools in America; according to the Department of Education, 96% of public schools in 2015 and 2016 have conducted a lockdown drill.<sup>34</sup> Some studies recommend schools to have gates or fences, locked school campuses during the day and bullet proof glass.<sup>24, 27</sup> In addition, some studies recommend the addition of metal detectors, a school resource officer, locker sweeps, security cameras, and zero-tolerance policies.<sup>15, 25</sup> However, some of the measures such as metal detectors, security cameras, and locker sweeps have little or no evidence of effectiveness.<sup>15, 25</sup>

### ***Gun Violence Prevention Measures in Volusia County***

In response to the 2018 school shooting in Parkland, FL, Florida legislature enacted Marjory Stoneman Douglas High School Public Safety Act to “comprehensively address the crisis of gun violence.”<sup>30</sup> The Marjory Stoneman Douglas High School Public Safety Act outlined several gun violence prevention measures to be implemented for the 2019-2020 school year. Volusia County, one of the 67 counties in Florida, implemented several of the measures outlined in the Marjory Stoneman Douglas High School Public Safety Act.

#### ***Guardian Program***

A guardian is an “armed personnel who aid in the prevention or abatement of active assailant incidents on school premises.”<sup>31</sup> A guardian could be a volunteer school employee or hired personnel. Guardians have to complete a series of tests and screenings (i.e., psychological and drug screenings) as well as complete at minimum 144 hours of classroom training, including 12 hours of diversity training and 132 hours of comprehensive firearm training, including 16

hours of precision pistol instruction, 8 hours of instruction in active shooter or assailant scenarios, 8 hours of defensive tactics instruction, 12 hours of instruction in legal issues, and 8 hours of discretionary shooting instruction.<sup>31</sup> Volusia County began training for the guardian program in the 2018-2019 school year and the program was implemented in the 2019-2020 school year.

### *Mental Health Response Plan*

As part of Marjory Stoneman Douglas High School Public Safety Act, each county in Florida is responsible for creating a mental health response plan to meet the mental health needs of their schools. Volusia County employs 29 school psychologists, 24 school social workers, 112 school counselors, and 7 mental health counselors.<sup>32</sup> Over 800 employees of Volusia County Schools were trained in Youth Mental Health First Aid by June 2019, with a final goal of every employee trained by August 2022.<sup>32</sup>

Volusia County assembles a threat assessment team to “identify members of the school community to whom threatening behavior should be reported” and provide guidance.<sup>32</sup> The threat assessment team works with schools and law enforcement to identify the level of risk and harm and follows steps to diffuse any situation before violence occurs. Volusia County also has a mental health response and intervention teams “to provide at risk students with direct mental health assistance.”<sup>32</sup>

### *Code Red 2 Lockdown Drills*

Code Red 2 Lockdown drills are practice active shooter drills to prepare students for a school shooting incident.<sup>30</sup> Drills should be age-appropriate and developmentally appropriate for the school and grade they are conducted in.<sup>30</sup> During the Code Red 2 lockdown drills, students practice hiding in their classroom “safe space.” The “safe space” is a designated location in the

students' classroom, away from any windows and hidden out of sight from someone on the outside.

### *Single Point of Entry Campus*

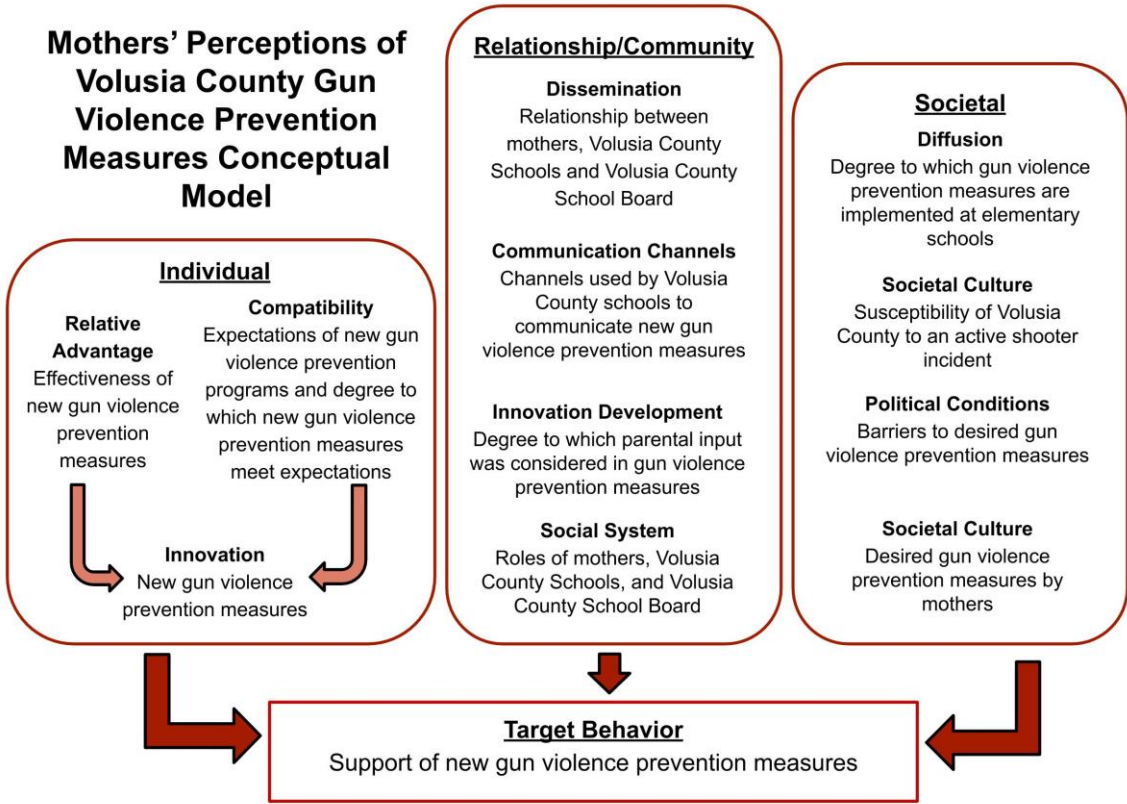
Another initiative in Florida is to make structural modifications to campuses.<sup>33</sup> Each campus within Volusia County will be a single point of entry campus where structural fencing will act as a barrier. Individuals will only be able to enter the campus through a single entrance in the front of the school. In addition to the fencing around campuses, individual school front offices have been modified with bullet proof glass to improve security during campus check in.

### *Theory of Diffusion of Innovations*

This study uses the Theory of Diffusions of Innovation as a framework to understand the perceptions and expectations of mothers of Volusia County elementary school students regarding gun violence prevention measures. The Theory of Diffusion of Innovations was introduced in 1962 by E.M. Rogers.<sup>11</sup> The Theory of Diffusion of Innovations outlines how a new innovation is adopted in a population. Rogers characterized individuals in five categories - innovators, early adopters, early majority, late majority and laggards. Innovators are the individuals that adopt an innovation first and laggards are the last individuals to adopt an innovation. For individuals in each category, there are levels of influence that persuade an individual in adopting the innovation. These influences can be separated into two groups - characteristics of the innovation and the characteristics of the setting in which it is being diffused. Some characteristics of the innovation include relative advantage, compatibility, complexity, trialability, and observability. Some characteristics of the setting include geographical setting, societal culture, political conditions, communication channels and social systems. These setting characteristics fall along

the four level Socio-Ecological Model used in violence prevention that highlights individual, interpersonal, community, and societal factors.<sup>38</sup> For this study, Theory of Diffusion of Innovations and the Socio-Ecological Model for violence prevention were integrated to understand these factors that influence mothers' adoption of the new gun violence prevention measures. These factors are outlined in *Figure 1*.

*Figure 1: Mothers' Perceptions of Volusia County Gun Violence Prevention Measures Conceptual Model*



## **Methods**

### *Study Design*

A qualitative research design including semi-structured, in-depth individual interviews was used to examine the perceptions of mothers of Volusia County elementary school students regarding gun violence prevention measures. All data collection and study procedures were approved by the Institutional Review Board at Emory University.

### *Participant Recruitment*

Participants were recruited through convenience and snowball sampling. Flyers were sent to six Volusia County elementary school Parent-Teacher Associations (PTA) and posted on three Volusia County Parent Facebook groups. In addition, flyers were sent to several Volusia County School teachers to share with parents and friends. Flyers included a summary of study, eligibility criteria and researcher's email to contact if interested. Participants were required to sign a consent form to be interviewed for the study. To be included in the study, participants had to be a Volusia County resident, have a child enrolled in a Volusia County public or charter elementary school, and identify as a mother. This study focused specifically on mothers due to the ease of access to the population and increased likelihood of mothers to be involved and/or aware of school changes. Eligibility requirements were confirmed through three screener questions. The questions included: 1) what city do you live in?; 2) what is the name of your child's public or charter elementary school in Volusia County?; 3) could you name two measures at your child's elementary school that are in place to prevent an active shooter situation? There were no additional exclusion criteria.

### *Interview Guide*

A semi-structured in-depth interview guide was developed based on the Theory of Diffusion of Innovations and previous research. Interview questions related to a) expectations for gun violence prevention measures, b) perceptions of current gun violence prevention measures and efficacy of those measures, c) relationship with the school, d) perceived seriousness and susceptibility of school gun violence and e) desired gun violence prevention measures. Interview guide was piloted on six mothers from Volusia County and subsequent changes were implemented to the interview guide to improve the order and quality of the questions.

### *Data Analysis*

Content analysis was used to identify and describe core themes across data. Interviews were audiotaped and transcribed verbatim through an external source, VerbalInk. All transcribed interviews were read by the researcher and imported into MAXQDA v11 software. The researcher developed a codebook using three transcripts and an iteratively refined codebook as the additional eight transcripts were coded. The transcripts were coded using MAXQDA v11 software. As the researcher coded transcripts, memos were written to document researcher insights, potential patterns in the data, and evolving understanding of the data. The finalized codebook included both deductive codes based on the interview guide and inductive content-driven codes. A secondary coder assisted by coding every 3rd transcript to compare for coding agreement. For any coding disagreement, the researcher reviewed the coded segments and made the final decision of what code(s) were applied. For analysis, a code-by-code review across transcripts was conducted through code reports and key observations from the most utilized codes were summarized. The researcher explored and documented links between codes. A second round of coding through a more focus-coding technique was employed to explore



specific codes to develop patterns and create categories. Categories were then examined using a conceptual analysis approach to develop themes.

## **Results**

### *Sample Description*

Interviews were conducted by phone between July 26, 2019 and August 29, 2019. The length of the interviews ranged from 30 minutes to 66 minutes, with an average interview length of 51 minutes. Eleven mothers were interviewed for this study and given the pseudonyms Elizabeth, Lydia, Jane, Charlotte, Marianne, Emma, Isabella, Catherine, Margaret, Susan, and Elinor. Nine Volusia County elementary schools were represented amongst the participants. The average age of the participants was 39, with an age range from 28 to 48. Seven mothers identified as White, three mothers identified as Black and one mother identified as Hispanic. Seven mothers indicated that someone in their immediate household had gun ownership. *Table 1* outlines demographics of the eleven participants.

**Table 1: Participant Demographics**

<b>Participant</b>	<b>Age</b>	<b>Elementary School</b>	<b>Race</b>	<b>Gun Ownership</b>
1	48	George Marks Elementary School	White	No
2	40	George Marks Elementary School	White	No
3	36	Sweetwater Elementary School	White	Yes
4	37	Manatee Cove Elementary School	White	Yes
5	43	Timbercrest Elementary School	Black	Yes
6	37	Manatee Cove Elementary School	White	Yes
7	46	Spruce Creek Elementary School	White	Yes
8	28	Discovery Elementary School	Black	No
9	42	Citrus Grove Elementary School	Hispanic	Yes
10	39	Ivy Hawn Charter School of the Arts	White	Yes
11	39	Osteen Elementary School	Black	No

### *Knowledge of Gun Violence Prevention Measures*

Interview participants were asked about their knowledge of the gun violence prevention measures at their child’s elementary school. All the mothers (n=11) knew about the active shooter preparedness drills, known as Code Red 2. Ten mothers knew about the Guardian program, and eight mothers knew about the single point of entry initiatives, also referred to as campus fencing. Only two mothers knew about the mental health program developed by the Marjory Stoneman Douglas Act. *Table 2* provides an overview of all gun violence prevention measures mentioned by the mothers.

**Table 2: Mother’s Mentioning of Gun Violence Prevention Measures at Elementary School**

<b>Participant</b>	<b>Guardian</b>	<b>Single Point Entry</b>	<b>Code Red 2</b>	<b>Campus Check-in</b>	<b>Cameras</b>	<b>Mental Health</b>	<b>Locked Classroom</b>
1	X	X	X			X	
2	X		X				X
3	X	X	X		X		X
4	X	X	X				
5	X	X	X				
6	X	X	X	X	X		
7	X	X	X	X		X	X
8	X	X	X	X			
9		X	X	X			
10	X		X		X		X
11	X	X	X		X		

### *Key Findings*

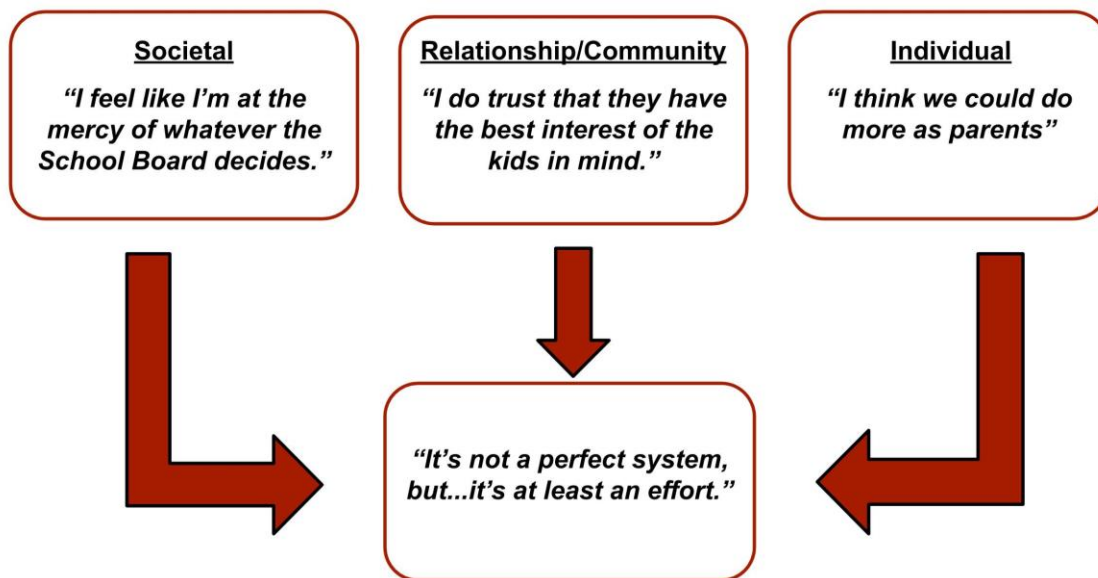
Content analysis revealed four emergent themes: (1) *“I feel like I’m at the mercy of whatever the School Board decides”*, (2) *“I do trust that they have the best interest of the kids in*

*mind*”, (3) “*I think there is more we can do as parents*” and (4) “*It’s not a perfect system, but...it’s at least an effort.*” These themes outline the expectations and perceptions of mothers of Volusia County elementary school students with regards to gun violence prevention measures. Saturation for each theme was determined when there was adequate representation of each topic discussed by participants. No new themes or information emerged related to the research purpose after 11 interviews and therefore, data saturation was determined to be reached.

### *Visual Framework*

*Figure 3* is a visual representation of the four emergent themes. Through the process of data analysis, the Theory of Diffusions of Innovations and the Social-Ecological Model provided a framework to organize the four emergent themes. The target behavior for Volusia County is for mothers to support the new gun violence prevention measures. However, there are various factors that influence how the mothers perceive and adopt the measures. Three emergent themes focus on three factors that influence mothers’ perceptions and adoption of the new gun violence prevention measures and fall along the four levels of the Social-Ecological Model. The perceptions of the societal, relationships/community and individual factors contribute to the development and implementation of the new measures. The final emergent theme is the overall perception of the new gun violence prevention measures.

*Figure 3: Visual Representation of Key Themes*



**Theme 1: *"I feel like I'm at the mercy of whatever the School Board decides"***

The majority of the mothers talked about the role of the Volusia County School Board in the development of the new gun violence prevention measures. Most mothers referenced that Volusia County was a "top-down" heavy district. When asked how serious Volusia County was in ensuring there were effective gun violence prevention measures, there were mixed perceptions from the mothers. There were three main perspectives that were expressed by the mothers – very serious, serious but could do better, and not as serious. Nine of the mothers expressed that Volusia County was very serious or serious but could do better. For the five mothers who said very serious, the mothers stated that the changes they saw in the schools indicated that the School Board was serious in having effective gun violence prevention measures on campuses. For the four mothers who said serious but could do better, the mothers expressed a lack of

confidence in the School Board's ability to implement effective measures. Emma, who expressed this lack of confidence, stated

*“Because I feel like they’re pretty serious. But, I honestly don’t really know how dedicated they are to it. Because I don’t know if all this is just for show, or if they really feel like it’s going to help them with something, you know?”*

These mothers recognize the changes in the schools, but have doubts in the level of effort of the School Board. Isabella was the only one mother who expressed that the School Board was not serious. She expressed similar sentiments to Emma; however, she conveyed frustration that the School Board does not handle school safety properly. Isabella stated

*“I have to say not so much. I think they want to look like they’re serious and like they’re doing everything to prevent, but when they’re presented with situations, real situations, I don’t always see them being handled properly or taken seriously.”*

This belief that the School Board was implementing measures to appear to be involved was a view that was not expressed by most of the mothers. The majority of the mothers believed that the School Board was serious in their role of providing gun violence prevention measures.

In addition to the varying levels of perceived seriousness, there were mixed perceptions whether Volusia County gave the same attention to elementary schools as they did to middle and high schools. Five mothers believed elementary schools received the same attention and the same amount of resources. When discussing this point, Isabella stated,

*“Yeah, I do. I think the kids present less of a threat, but because they’re children so young and helpless, I think that there’s a lot of emphasis going into the elementary schools, so I would have to say it would be equal across the board.”*

Five mothers believed elementary schools received less attention, they stated that middle and high schools needed more attention and the threat was greater in those schools. Only Susan believed that elementary schools received more attention than middle and high school. Susan described that it is more serious at the elementary level since the schools want to mitigate the chance of violent behavior in the future. Overall, there was a divide in beliefs that the School Board allotted the same resources and attention to elementary schools with regards to gun violence prevention measures.

While most mothers believed that the School Board was serious in their role in providing gun violence prevention measures, not all mothers felt they had a voice in the decisions made by the School Board. Five mothers stated they were not aware if there was a process to offer feedback or provide input. These mothers could not recall being asked to provide feedback and did not know the process to do so. Four mothers did state they had an equal input into decisions that were made. Two mothers discussed the role of their specific elementary school in requesting specific feedback. These mothers expressed providing feedback and suggestions at Parent-Teacher Association (PTA) meetings or to the school directly regarding the School Board’s new gun violence prevention measures. However, Isabella, one of the mothers who stated that the school asked for her feedback, stated *“Yeah, I do. I mean, again, whether they listen or not is another story.”* This perception that the school wouldn’t listen to her thoughts was echoed by the two mothers who said they did not have equal input. In addition, Catherine, who also stated that she had equal input in decisions made, mentioned she *“never got any survey or*

*anything...nothing to give them feedback”* from the School Board, which coincides with the sentiments of the first group of mothers. Most of these mothers expressed the School Board made decisions without asking for feedback. Emma expresses this sentiment:

*“They didn’t really ask us for ideas or they haven’t asked us for feedback.*

*They’re just telling us, you know? They’re coming out and telling us, ‘well, this is what we’re going to do.’ So that’s where I feel like, I don’t feel like I have a voice in it.”*

With the mothers that stated they felt they could provide feedback, those who felt they did not have a voice and those who said there was no way to provide feedback, all alluded to the School Board having the final decision on the measures that would be implemented. Overall, mothers recognized that the School Board made the decisions for the district in terms of what measures are implemented at the schools. However, there is dissatisfaction, whether it is a lack of input in those decisions or lack of confidence in the School Board to implement measures. Mothers are dependent on the School Board to make the decisions for their child’s schools and they can only hope the School Board chooses measures that will best protect their child.

**Theme 2: *“I do trust that they have the best interest of the kids in mind.”***

When asked about their relationship with their child’s school, all the mothers stated they had positive relationships with their child’s elementary school. Five mothers mentioned they, or their spouses, volunteer at their child’s elementary school. Two mothers stated they were part of the PTA and one mother stated she was involved with the Student Advisory Council (SAC). These mothers expressed that being involved has allowed them to get to know school faculty and build relationships with their child’s school. Seven mothers discussed the friendly nature of the



teachers and school employees. These mothers mentioned they had personal relationships with a lot of the staff at their child's school. Many mothers stated they were more comfortable knowing their children were surrounded by people the mothers knew on a personal level. Four mothers discussed the positive perception of the elementary school's leadership. These mothers discussed how they were pleased with the principal, vice principals and school administrators. When discussing Spruce Creek Elementary, Isabella stated "*Yeah, it's a very good school with good leadership.*" Many of these mothers expressed they felt they could express concerns to their schools and that the school cared. When talking about the school teachers and administrators at Osteen Elementary School, Elinor stated "*...they're very present. If you need them, they are very accessible.*" This positive relationship directly contrasts many of the mothers' relationships with the School Board.

All the mothers stated they had trust in Volusia County elementary schools to implement gun violence prevention measures and protect their children. All the mothers stated they had high trust in their child's elementary school and the school had their children's best interest. Isabella stated "*Their intentions are absolutely on target. I believe everyone there cares and would treat my children like they would treat one of their own children.*" In addition, when discussing George Marks Elementary, Lydia mentioned

*"...when I dropped them off at school, I feel so confident that, that I think about them during the day, but not think about them, like worrying about them...I know that that the school loves my girls and a lot of the staff knows my girls. They love all the kids."*

Both Isabella and Lydia conveyed this common theme that mothers trusted the schools to protect their children. Each mother expressed that they have high trust because they put this blind faith that their children will be safe. Margaret elaborates this common thought in the following quote:

*“I do put that blind faith that my kids are going to go to school every day, be protected, and come home every day.”* The mothers' support of the schools to implement gun violence prevention measures is critical to supporting the overall gun violence prevention measures.

Finally, when discussing the school's communication regarding the new gun violence prevention methods, there were mixed perceptions from the mothers. Three mothers specifically stated they were not aware of the new gun violence prevention measures. Two of these mothers stated they found out about the measures when they came to the school and saw the changes in person. Isabella stated that she knew about the changes because she was an active volunteer at her child's school. She stated,

*“The information was there but I'm super involved and I knew. I don't know that the average parent really would know any of that. They'd just show up and the fences are there all of a sudden.”*

On the other hand, three mothers stated their children's schools were very transparent with the changes. These mothers expressed that the schools communicated frequently about the process. Despite the variance in communication, the majority of mothers stated they received some form of communication (e.g., phone call, email, text, flyer, news) regarding at least one of the gun violence prevention measures. The gun violence prevention measures that were best communicated according to the mothers were the fences and active shooter drill. Phone calls were the most common method of communication discussed by the mothers.

### Theme 3: *“I think we could do more as parents”*

The mothers had a variety of thoughts on what was the role of parents in preventing gun violence at their child's school. Five mothers mentioned that mothers should get involved and

give feedback to their child's school. These mothers discussed that mothers, and parents in general, should work together and share the responsibility of protecting their children. These mothers mentioned that they should provide feedback on safety measures to ensure that the schools are meeting their expectations for safety. Of these five mothers, three mothers specifically mentioned creating a group or committee as a channel to provide feedback to schools. Two mothers discussed that mothers should be aware of their own children's behavior and checking in with them. These mothers discussed that parents should have a good relationship with their children so that they can be alert if their child mentions something suspicious. Only Isabella discussed that more mothers should follow the rules that the schools established. Isabella stated

*“A lot of parents, like I did in the past too, want to fight all the rules and not embrace them. But once we understand why the rules are in place and the reasons, we're more apt to follow the rules, and in doing so, it really does make everyone, teachers, the kids, the parents, everyone, safer.”*

Isabella highlights this concern that the effectiveness of the measures depends on individuals following the rules. Finally, two mothers stated they did not know what parents could do to prevent gun violence on the school campus. Charlotte discussed that schools and parents could only do so much and that the real issue was gun control. Charlotte was the only mother to discuss policy level interventions as a way to curb school violence.

When asked about their personal role in preventing gun violence at their child's school, the mothers again had varying beliefs. Elizabeth was the only mother to mention that her role included adhering to school policies and protocols. Elinor was the only mother to suggest that her role included volunteering and being available to teachers if they needed anything. Five

mothers mentioned that they felt it was their role to provide feedback to the school and voice their concerns. These mothers mentioned that it was their responsibility to be vigilant and report something they heard from their child or they saw on campus. Finally, eight of the mothers discussed their role in talking to their child. Jane summarizes this perceived role in this quote:

*“I think that we need to be reassuring our kids that they are to just trust, listen, follow directions of the adults on their campus and be another voice, reassuring them that everything is okay and that the adults on their campus are there to help, to protect and to keep them safe.”*

These mothers expressed that it was important for them to explain the seriousness of the situation to their children, reiterate the importance of listening to instructions and their teachers if something happens, and learn what is going on with their child and the child’s friends to be involved if they suspect something. In the following quote, Elizabeth described the conversation she has with her daughter:

*“Basically I feel very strongly on talking with her on what her responsibilities are in that you listen to your teacher, you follow instructions when those things happen. It is serious and we may just be practicing, but we practice because if we ever need to know it, it is important that we do it.”*

In addition, Marianne shared that she talks with her son and his friends to always be aware.

*“Because sometimes we can learn things from them that can give us an idea of what’s going on, even if it’s not with your child. But maybe a friend of your child. If there’s something going on. So just staying involved and you know, speaking with your kids. You know, that can give us a good idea of what’s going on and we can always voice that.”*

These mothers recognize that they have a role in ensuring their children are safe that can complement the role of the schools. By having an active role, they are adopting their own purpose in the gun violence prevention measures.

Theme 4: ***“It’s not a perfect system, but...it’s at least an effort.”***

The majority of mothers expressed their overall support for the new gun violence prevention measures when discussing their expectations for the school and the efficacy of the new measures. Overall, mother’s expectations for gun violence prevention were similar in that they expect the school to keep their children safe and protect them if any danger occurred. When discussing their expectations of the school and gun violence prevention measures, mothers did not have much variation. Elizabeth explains this common belief: *“I think I have the expectation that most parents have, right. That when I send my child to school, she’s going to be cared for and safe.”* Simply, the mothers expressed that when they dropped their children to the school, they expected the schools to have measures in place that will ensure their child’s safety.

There was a consensus among the mothers that the gun violence prevention measures were a good decision to implement; however, there were mixed perceptions of the effectiveness of the measures. These perceptions can be summarized in three groups - effective, effective but needs more, and not effective. There were six mothers who expressed that the measures were effective. They stated that the measures made the school safer and meet their current expectations for safety. Elinor, one of the mothers who expressed that the measures were effective, stated

*“I really feel that it's effective. There's not a time that I don't go to the school, you know, I don't see the guardian walking around, gates are locked, yeah I mean I feel like they're doing everything in their power.”*

There were three mothers who expressed that the more measures were needed. These mothers highlighted that the measures are not a complete fix, but the new measures will help and are better than having nothing at the schools. Emma, one of the mothers who expressed more measures were needed, stated *“I think anything is better than nothing. Which is what we had before. And so, you know, now I think it's definitely going to help a little bit at least.”* These mothers recognized that the measures could help but did not express full confidence in the effectiveness of the measures. There were three mothers who expressed that the measures are not effective. They felt that measures did not do enough to protect the school and did not address the true origin of gun violence. Isabella, who is part of this group of mothers, explained this in the following quote: *“There's a lot, I think, falling through the cracks regardless of the safety measures.”* These mothers believed that more could be done at the schools.

With the varying perceptions of effectiveness, the mothers expressed a range of sentiments of hopelessness that there will never be a perfect system. Four mothers mentioned that they were unsure that the measures could fully prevent an active shooter. Marianne expresses this sentiment in the following quote: *“...it won't fully solve the problem, you know, if someone really has it, has that intent to do something.”* Another sentiment was that the measures created a false sense of security. Three mothers mentioned that the measures made them feel safer, but they did not know if they would really make a difference. Jane expresses this in the following quote: *“I still think that, that's like a placebo, much like having the doors locked. You know what I mean? Like that feels good, but is it effective?”* The final sentiment of hopelessness

was that the schools could only do what they thought was best to prevent an active shooter and that the new measures could only help. Six mothers expressed this sentiment and discussed the difficulty in being proactive in prevention. These mothers recognized that there was only so much they could do to protect their children, but they felt it was important to try every possible means. Elinor stated, when talking about the school's implementation of the measures, *"I think they've done their part. I mean things happen and you cannot stop, you know, things from happening, but I feel like they've definitely put a lot of things into a lot of different parts."* These mothers again reiterated that they could only do so much, but they believed the new measures could only be beneficial. Overall, the mothers suggested that active shooters were unpredictable. Regardless of how effective the mothers perceived the measures to be, they all mentioned that anything could happen. While they all expected the schools to keep their children safe and they had varying opinions on what the schools should do to ensure their child's safety, all the mothers recognized that there is no true perfect system and that the schools are making an effort to better protect their children.

#### *Recommended Gun Violence Prevention Measures*

In addition to the four key themes related to mother's expectations and perceptions of current school gun violence prevention measures, participants highlighted desired gun violence prevention measures at their child's school. Five mothers discussed having more armed guards/police on their child's campus. Many expressed one guardian was not sufficient and they would like additional guards patrolling the school. Four mothers expressed the desire to change the school layout. These mothers discussed that their child's school was too open, even with the fences, and wanted more structural changes to school as extra safety precautions. Some examples

shared were badges to get into buildings and automatic locked doors and hallways if an alarm is raised. Two mothers discussed installing a metal detector at the school to help prevent guns, and weapons, from getting onto campus. Three mothers discussed installing better cameras to improve security monitoring and surveillance. Two mothers discussed the need for improved mental health services on campuses for students and teachers. One of these mothers discussed specifically implementing restorative practices to build better relationships with at risk students. One mother discussed the need for an improved evacuation plan for their child's school. Finally, two mothers discussed teachers carrying guns in the classroom. One mother specifically discussed training for teachers and students to teach them what a gunshot sounded like to prepare them in case of an active shooter situation.

Mothers discussed two main barriers that may prevent desired gun violence prevention measures from being implemented at schools. Eight mothers stated funding and money were barriers to implementation. Elizabeth expressed this sentiment in the following quote:

*“...what funding is going to be provided to train teachers in the event that there would be an emergency on campus or something like that? What sort of funding [would] there be to increase the fencing and the security at the school in terms of personnel? Yeah funding I think would be the big barrier.”*

The other main barrier discussed was public perception and parent buy-in to certain gun violence prevention measures. Eight mothers discussed this as a barrier. Several of these mothers discussed how various individual's beliefs on guns may influence their support for certain measures, such as teachers carrying guns. Most mothers acknowledged the difficulty in getting parents to agree thus creating a barrier to some desired measures.



### *Summary of Findings*

Four key themes related to mother's expectations and perceptions with regards to current school gun violence prevention measures and specific recommendations for school gun violence prevention measures emerged from the in-depth interviews. The four key themes include (1) *"I feel like I'm at the mercy of whatever the School Board decides"*, (2) *"I do trust that they have the best interest of the kids in mind"*, (3) *"I think there is more we can do as parents"* and (4) *"It's not a perfect system, but I get it, you know, it's at least an effort."* These themes outlined the expectations and perceptions of mothers of Volusia County elementary school students with regards to gun violence prevention measures. The first theme discussed the perception of the School Board in implementing gun violence prevention measures. The second theme explores the mothers' relationships with their child's school and trust in the schools to implement measures to keep their child safe. The third theme discussed the perceived roles of parents and the mothers with regards to ensuring measures are in place to protect and prevent gun violence. The fourth theme highlights the mothers' resignation that there is no perfect system, but that the new gun violence prevention measures are a step in the right direction. The recommended gun violence prevention measures identify mothers desired gun violence prevention measures and barriers that prevent those measures from being implemented.

Overall, the general sentiment was that these measures are just a start for Volusia County elementary schools. Marianne summarizes the main takeaway from this study in the following quote:

*"So overall, I mean, it's a start. But, it doesn't fully, it won't fully solve the problem, you know, if someone really has it, has that intent to do something. It's a start. But it's not a complete fix."*

Overall, the mothers don't perceive that these measures will fix everything, but they recognize that it is the start.

## **Discussion and Conclusion**

### *Summary of Study*

The overall aim of this study is to examine mothers' expectations for elementary schools in Volusia County regarding gun safety and their perceptions of the new changes in school safety amongst the elementary schools in Volusia County. Through interviews with mothers, this study will fill the gap in literature by focusing on the perceptions of mothers of elementary school students from Central Florida. The intended purpose is to inform Volusia County schools of current parent perceptions of gun violence prevention programs and to provide Volusia County schools with recommendations to improve upon current gun violence prevention measures and improve diffusion of effective innovations. Gun violence prevention measures were defined in this study as any measure, initiative, program, or policy which purpose is to prevent and/or protect against an active shooter.

### *Discussion of Key Results*

Key findings for four emergent themes were discussed: (1) *"I feel like I'm at the mercy of whatever the School Board decides"*, (2) *"I do trust that they have the best interest of the kids in mind"*, (3) *"I think there is more we can do as parents"* and (4) *"It's not a perfect system, but...it's at least an effort."* These themes outline the expectations and perceptions of mothers of Volusia County elementary school students with regards to gun violence prevention measures. The fourth theme highlights the intersection of their expectations and their perceptions of the effectiveness of the gun violence prevention measures. This fourth theme is characterized by a resignation that there is no perfect system that will fully prevent a school shooting. In the process

of identifying this theme, we must understand the role of the other themes in contributing to this final perceived resignation that there is no perfect system.

The first theme highlights that the Volusia County School Board is responsible for the development and implementation of gun violence prevention measures. The mothers' perceptions of the urgency to take action by the School Board and their dedication to improving safety measures influences the way the mothers perceive the new gun violence measures and the effectiveness of those measures. This theme highlights barriers and facilitators of mothers putting their trust in the School Board to develop and implement measures they expect at their child's school. Their expectations for gun violence prevention measures overlap with their trust and confidence in the School Board. This trust, or lack thereof, is a critical indicator of their perceptions of the efficacy of the gun violence prevention measures. Various quotes by the mothers showcase how the School Board is not perceived as being open to hearing the parents' opinions or expectations. In fact, the mothers highlight that some parents perceive that the School Board does not care about them. While most mothers perceive that the School Board takes gun violence prevention seriously, there were concerns that were raised regarding the dedication and ability to implement measures. In the fourth theme, the mothers expressed these concerns through sentiments that the measures were a false sense of security and more could be done to improve the safety of the schools. All of the gun violence prevention measures implemented by the School Board have been studied in literature.<sup>24, 27-28, 37</sup> Specifically, active shooter drills are utilized to prepare students and ensure schools have an effective, operational emergency plan.<sup>24</sup> In addition, there have been studies with recommendations how to conduct active shooter drills that won't generate trauma for students.<sup>35</sup> Mental health services are supported by many studies as mental illness is often a risk factor for school violence.<sup>28, 37</sup> Several

studies highlight that depression, PTSD and substance use are risk factors for youth firearm violence.<sup>15,37</sup> Oftentimes, potential school shooters exhibit behavior that raises concern and is noticeable.<sup>28</sup> Increase access to mental health services is a prevention method to assist students that may exhibit risky behavior and be an early intervention. Single Point of Entry is recommended to limit access to campus.<sup>27</sup> However, oftentimes, potential active shooters are students within the schools.<sup>27</sup> Despite keeping individuals out of the schools, it does not take into account potential students already within the school that may do harm. Armed guards have mixed perceptions of effectiveness.<sup>15, 24-25</sup> While their purpose is to have an individual that can quickly respond to an active shooter, some research questions their effectiveness as sometimes presence of armed guards can create a negative relationship with students and promote more negative behavior.<sup>24</sup> However, in studies of parents' expectations, many parents highlighted services such as mental health and anti-bullying as better prevention.<sup>1</sup> In a report conducted by the U.S. Department of Education and the U.S. Secret Service, one conclusion was that most active shooters were bullied and exhibited risky behavior.<sup>28</sup> These services that focus on mental health and anti-bullying can be better forms of prevention as they target risk factors of potential active shooters.

Throughout this theme, mothers expressed this disconnect between the School Board and themselves whether they felt that they had no voice or the School Board did not care about their opinions. In order to increase support of the new gun violence prevention measures and improve diffusion of these innovations, the School Board will need to improve communication of the new measures and better align with the expectations of parents.

The second theme outlines how the mothers have more trust in their child's school to execute gun violence prevention measures. At this new level of influence, the mothers had a

more positive perception of their child's school than the School Board. This theme is connected with the fourth theme as it relates to parents' expectations. Overall, mothers expressed the expectation for the school to keep their child safe and their trust in their child's school to do so. This finding highlights an asset in the implementation of the gun violence prevention measures within Volusia County. Literature highlights the importance of school faculty in the implementation of school-based interventions for gun violence.<sup>27</sup> This finding highlights that Volusia County has already strong trust between schools and the mothers which is critical when supporting the new gun violence prevention measures.

The third theme highlights the perceived roles of mothers to ensure that the measures meet their expectations. Many mothers felt they had a role in supporting their schools and that parents have a role to play in preventing gun violence at their child's school. Some of the roles the mothers highlighted included having a positive, open relationships and communication with their children and their children's friends. In literature, many active shooters are known to share their school shooting plans with peers.<sup>27</sup> Through the roles that the mothers defined, schools could potentially be safer if parents were an extra level of security to report and prevent potential gun violence. This theme also showcases the responsibility the mothers felt to ensure the schools have what they need to protect their child. This theme is connected to the fourth theme as it emphasizes a call to action for mothers to improve the system that is currently not perfect. All the mothers mentioned that anything could happen and it was important to be prepared. Despite the feeling of resignation that anything could happen, mothers felt parents could have an active role just like the School Board and the Schools. This finding highlights that many mothers believe that they have influence to prevent gun violence in Volusia County. Through this empowered perception, parents are more likely to support the new gun violence prevention

measures if they are aligned with their perspectives and expectations as they recognize they have a role to play. In addition, this expands our understanding of the Diffusion of Innovations Theory to increase the number of adopters to the new innovation.

Finally, the recommended gun violence prevention measures mentioned by the mothers demonstrated a wide range of desired measures. The measures recommended ranged from adding better security cameras to arming teachers in the classroom. The majority of the measures recommended are measures found in literature and are implemented in other States.<sup>15, 25, 27</sup> In addition, most of the recommended measures have mixed evidence of effectiveness. This is outlined in Table 3.

**Table 3: Recommended Gun Violence Prevention Measures**

<b>Recommended Gun Violence Prevention Measures</b>	<b>Current Literature</b>
Increase of armed guards	Mixed evidence of effectiveness <sup>15, 24-25</sup>
Change to school layout (e.g., badges to get into buildings and automatic locked doors and hallways if an alarm is raised)	Mixed evidence of effectiveness; Mixed perceptions of effectiveness (Potential to create prison-like atmosphere) <sup>27</sup>
Install metal detectors to prevent weapons on campus	Mixed evidence of effectiveness <sup>15, 24-25</sup>
Install cameras to improve security monitoring and surveillance	Mixed evidence of effectiveness <sup>15, 24-25</sup>
Increase mental health services for students and teachers	More evidence of effectiveness (Identify risky behavior and prevent incidents) <sup>28, 36-37</sup>
Improved evacuation plan for the school	Little evidence of effectiveness; Strong perception of effectiveness (Implemented widely by majority of schools) <sup>24</sup>
Allow teachers to carry guns in the classroom	Little to no evidence of effectiveness <sup>24</sup>

Moreover, many of the measures recommended, such as structural changes to schools and addition of guardians, would be a considerable cost to Volusia County. Many mothers recognized the barrier of funding, but they still expressed their desire to have these measures at their child's elementary school.

### *Limitations*

One limitation of this study is the sample was relatively small and not every school in Volusia County was represented. A convenience sampling method was employed for this study so there was not equal representation regarding schools, grade and age of students, and race and ethnicity. Second, a potential limitation is social desirability as participants may be answering questions to appease the researcher. Another limitation is the timing of the interviews. All the interviews were conducted between July 26, 2019 and August 29, 2019, which was during the period of "Meet the Teacher" Open House for Volusia County elementary schools. Depending on the time the participants were interviewed (i.e., late July versus late August), some participants attended their schools' Open House where they would have seen or learned of any new gun violence prevention measures. In addition, schools were still in the process of implementing new measures as school was just beginning. This is a limitation as the schools may not have all the measures completely implemented and various participants may have been unaware of their schools' measures if they did not attend the Open House.

### *Strengths*

One strength of this study is that the researcher is a member of the community. As a member of the community, the researcher had a unique perspective into the community and



could easily build rapport with the participants. The second strength is the relevance of the topic. Over the past years, advocacy for research of gun violence has increased. Additionally, with the recent implementation of new gun violence prevention measures, this study is timely. Finally, this study assists in generating research. Findings of this study could be used to develop new research questions and hypotheses to further understanding of parental support for gun violence prevention as well as increase the body of literature on gun violence.

### *Future Research*

As the gun violence prevention measures are new in Volusia County, more research is needed to explore perceptions of these new measures. This study only examined one perspective, mothers of the elementary school students. Future research should include perspectives of fathers or male guardians of elementary school students, elementary teachers, elementary school administrators and the School Board. Teachers and school administrators are stakeholders in new gun violence prevention measures as they implement the measures at the elementary schools. Their perspectives could improve the understanding of the feasibility of various measures and what impact the measures have on the daily functioning of the elementary school. The School Board is the decision maker for the county so their perspectives could increase the understanding of why various measures were employed and barriers that may impede measures from being implemented. In addition to exploring the perspectives of these various stakeholders, future research is needed to explore the new gun violence prevention measures at the middle and high schools in Volusia County.

### *Public Health Implications*

This study fills the gap in research of school-based interventions for gun violence prevention. With the rise of school shootings across the United States, it is important to understand how parents perceive new gun violence prevention measures. Parents are a key stakeholder in school-based interventions as they invest time and resources for their child's education. Results of this study could be used specifically in Volusia County to understand how parents support the new measures. In addition, the School Board and schools could use the findings to improve communication with Volusia County mothers regarding new measures and thus improve support of the new measures (i.e., improve diffusion of innovations). Moreover, this study could help inform new school-based interventions. The School Board, as primary decision makers, could use the findings and recommended gun violence measures to improve current measures and increase parental support toward the measures.

### *Recommendations*

Based on the findings, it is recommended that Volusia County take the following actions:

#### **Improve transparency between School Board and Volusia County parents through improved communication and feedback processes**

Many mothers expressed that they did not know the level of dedication the Volusia County School Board had in ensuring effective gun violence prevention measures. Moreover, some mothers felt that the Volusia County School Board did not have any urgency in developing and implementing gun violence prevention measures. The Volusia County School Board needs to improve communication with parents to ensure parents understand what measures are being implemented. In addition, the School Board needs to convey their intentions and express their dedication to ensuring schools are safe. Many mothers expressed dissatisfaction that they did not have a voice in the process of developing and implementing gun violence prevention measures.

The School Board should provide a public way for parents to provide feedback on gun violence prevention measures and incorporate this feedback into the development of priorities. This could be implemented at the school level to be collected to provide back to the School Board. If the School Board disagrees with feedback or suggestions, the School Board should communicate publicly why suggestions cannot be implemented to ensure parents understand the decisions made.

### **Empower parents to know their role in preventing gun violence prevention**

Many mothers expressed an understanding that they have a role to play to ensure their child's school is safe. Volusia County should empower parents to be involved and vigilant at their child's school. Volusia County should provide recommendations for parents to discuss with their child to ensure students understand the importance of following school procedures and speaking with faculty if they hear of a potential incident. Engaging parents in the conversation of gun violence prevention measures improves support for measures and increases the safety of Volusia County elementary schools.

### *Conclusions*

In response to the 2018 Marjory Stoneman Douglas shooting in Parkland, FL, the Florida legislature passed a series of gun violence prevention measures for public schools. Volusia County, one of the 67 Florida counties, implemented a series of new gun violence prevention measures for the 2019-2020 school year. The results highlighted that mothers supported the measures, but recognize that there is not a perfect system to fully prevent a school shooting. The results showcase the sometimes strained relationship, and various levels of trust, between the

mothers and the Volusia County School Board. In contrast, the results showcase the positive relationship, and high levels of trust, between the mothers and their child's elementary schools. More research is needed on these school-based gun violence prevention measures to ensure communities support these measures to protect schools from active shooters and effective gun violence prevention innovations are successfully diffused/disseminated in communities. Volusia County needs the support of mothers, and parents, when developing and implementing gun violence prevention measures.

**Acknowledgments**

I would like to acknowledge Dr. Briana Woods-Jaeger for her guidance and input throughout this study. I would also like to acknowledge Dr. Randi Smith for her expertise in gun and firearm violence and challenging me in my approach in this study. I would like to thank my peers at Rollins School of Public Health as well as my family who all have supported me over the last year. Finally, I would like to thank Jesus Christ, my Savior, for His goodness and steadfast love as I finished this study.

## References

1. Payton, E., Khubchandani, J., Thompson, A., & Price, J. H. (2017). Parents' expectations of high schools in firearm violence prevention. *Journal of community health, 42*(6), 1118-1126.
2. Kahn, D. J., Kazimi, M. M., & Mulvihill, M. N. (2001). Attitudes of New York City high school students regarding firearm violence. *Pediatrics, 107*(5), 1125-1132.
3. Obeng, C. (2010). Should gun safety be taught in schools? Perspectives of teachers. *Journal of school health, 80*(8), 394-398.
4. Kalesan, B., Lagast, K., Villarreal, M., Pino, E., Fagan, J., & Galea, S. (2017). School shootings during 2013–2015 in the USA. *Injury prevention, 23*(5), 321-327.
5. Price, J. H., Murnan, J., Thompson, A. J., Dake, J. A., & Telljohann, S. K. (2005). Elementary school teachers' involvement in firearm safety education. *Journal of school health, 75*(3), 105-111.
6. Milam, A. J., Buggs, S. A., Furr-Holden, C. D. M., Leaf, P. J., Bradshaw, C. P., & Webster, D. (2016). Changes in attitudes toward guns and shootings following implementation of the Baltimore Safe Streets intervention. *Journal of urban health, 93*(4), 609-626.
7. Barry, C. L., Webster, D. W., Stone, E., Crifasi, C. K., Vernick, J. S., & McGinty, E. E. (2018). Public Support for Gun Violence Prevention Policies Among Gun Owners and Non–Gun Owners in 2017. *American journal of public health, 108*(7), 878-881.
8. Laughland, O. (2018). Eleanor Beckett in Parkland Florida, “Parkland teachers faced an impossible choice: ‘Do I hold the door open or close it?’”. *The Guardian*.

9. Lord, D. (2018). Florida's gun laws: How have they changed after the Parkland shooting?. *AJC*.
10. Alexander, C. (2018). Armed 'guardians' to staff Volusia County elementary schools next year. *The Daytona Beach News-Journal*.
11. Rogers, E. (1995). Diffusion of innovations. *New York, 12*.
12. Gun Violence Archive. (2020, March 13). Gun Violence Archive 2019. Retrieved March 13, 2020, from <https://www.gunviolencearchive.org/>.
13. Gun Violence Methodology. (2019, September 29). Gun Violence Archive. Retrieved September 29, 2019, from <https://www.gunviolencearchive.org/methodology>.
14. Lemieux, F. (2014). Effect of Gun Culture and Firearm Laws on Gun Violence and Mass Shootings in the United States: A Multi-Level Quantitative Analysis. *International Journal of Criminal Justice Sciences, 9*(1).
15. Rocque, M. (2012). Exploring school rampage shootings: Research, theory, and policy. *The Social Science Journal, 49*(3), 304-313.
16. Dahlberg, L. L., Ikeda, R. M., & Kresnow, M. J. (2004). Guns in the home and risk of a violent death in the home: findings from a national study. *American Journal of Epidemiology, 160*(10), 929-936.
17. Wintemute, G. J. (2008). Guns, fear, the constitution, and the public's health. *New England Journal of medicine, 358*(14), 1421-1424.
18. Blais, É., Gagné, M. P., & Linteau, I. (2011). L'effet des lois en matière de contrôle des armes à feu sur les homicides au Canada, 1974–2004. *Canadian Journal of Criminology and Criminal Justice, 53*(1), 27-61.

19. Chapman, S. A., Alpers, P., Agho, K., & Jones, M. (2015). Australia's 1996 gun law reforms: faster falls in firearm deaths, firearm suicides, and a decade without mass shootings. *Injury prevention, 21*(5), 355-362.
20. Fallis, D.S., Grimaldi, J.V., Horwitz, S., & Thompson, S.W. (2011). About the project: The hidden life of guns. Washington Post. <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012204243.html>.
21. DiMaggio, C., Avraham, J., Berry, C., Bukur, M., Feldman, J., Klein, M., ... & Frangos, S. (2019). Changes in US mass shooting deaths associated with the 1994–2004 federal assault weapons ban: Analysis of open-source data. *Journal of trauma and acute care surgery, 86*(1), 11-19.
22. Gius, M. (2015). The impact of state and federal assault weapons bans on public mass shootings. *Applied Economics Letters, 22*(4), 281-284.
23. Katsiyannis, A., Whitford, D. K., & Ennis, R. P. (2018). Historical Examination of United States Intentional Mass School Shootings in the 20th and 21st Centuries: Implications for Students, Schools, and Society. *Journal of Child and Family Studies, 27*(8), 2562-2573.
24. Price, J. H., & Khubchandani, J. (2019). School Firearm Violence Prevention Practices and Policies: Functional or Folly? *Violence and Gender, 6*(3), 154–167. doi: 10.1089/vio.2018.0044
25. Livingston, M. D., Rossheim, M. E., & Hall, K. S. (2019). A descriptive analysis of school and school shooter characteristics and the severity of school shootings in the United States, 1999–2018. *Journal of Adolescent Health, 64*(6), 797-799.



26. Reed, T. S. (2018). Locked down after a school shooting. *Health Affairs*, 37(10), 1701-1704.
27. Bonanno, C. M., & Levenson Jr, R. L. (2014). School shooters: History, current theoretical and empirical findings, and strategies for prevention. *Sage Open*, 4(1), 2158244014525425.
28. Vossekuil, B. (2004). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Diane Publishing.
29. Pappa, E., Lagerborg, A., & Ravn, M. O. (2019). Does economic insecurity really impact on gun violence at US schools?. *Nature human behaviour*, 3(3), 198.
30. Committee Substitute for Senate Bill No. 7026
31. Committee Substitute for Committee Substitute for Senate Bill No. 7030;  
<http://laws.flrules.org/2019/22>
32. Mental Health Response Plan - Volusia County;  
<http://www.fldoe.org/core/fileparse.php/18612/urlt/Volusia1920.pdf>
33. The Florida Senate Committee on Education (2020). "Update on K-12 School Safety and Security Issues." In *Committee on Education meeting 16 September 2019*. The Florida Senate. Accessed from  
[http://www.flsenate.gov/Committees/Show/ED/MeetingPacket/4635/8213\\_MeetingPacket\\_4635.pdf](http://www.flsenate.gov/Committees/Show/ED/MeetingPacket/4635/8213_MeetingPacket_4635.pdf).
34. Musu, L., Zhang, A., Wang, K., Zhang, J., & Oudekerk, B. (2019). Indicators of School Crime and Safety: 2018. *National Center for Education Statistics*. NCES 2019047

35. National Association of School Psychologists & National Association of School Resource Officers (2017). Best practice considerations for schools in active shooter and other armed assailant drills.
36. American Psychological Association. (2013). Gun violence: Prediction, prevention, and policy. Retrieved from <http://www.apa.org/pubs/info/reports/gun-violence-prevention.aspx>
37. Schmidt, C. J., Rupp, L., Pizarro, J. M., Lee, D. B., Branas, C. C., & Zimmerman, M. A. (2019). Risk and protective factors related to youth firearm violence: a scoping review and directions for future research. *Journal of Behavioral Medicine*, 42(4), 706–723. doi: 10.1007/s10865-019-00076-7
38. The Center for Disease Control and Prevention (2020). The Social-Ecological Model: A Framework for Prevention. *National Center for Injury Prevention and Control, Division of Violence Prevention*