

# **The Prevention of Lethal School Violence**

## **– A Literature Study**

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# Table of contents

<b>Abstract .....</b>	<b>vii</b>
<b>Svensk sammanfattning.....</b>	<b>ix</b>
<b>Note .....</b>	<b>xiii</b>
<b>1 Introduction .....</b>	<b>1</b>
<b>2 Methodology.....</b>	<b>2</b>
2.1 Databases and searches .....	2
2.2 Inclusion- and exclusion criteria.....	6
2.3 Definitions and methodological challenges.....	7
<b>3 Mental health and radicalisation .....</b>	<b>10</b>
3.1 Social ties and background.....	10
3.2 Mental health factors.....	12
3.3 Motives and radicalisation.....	14
<b>4 Approaches to prevention .....</b>	<b>18</b>
4.1 The zero-tolerance approach.....	19
4.2 The trust-based approach.....	22
4.3 Scenario (re)enactment .....	26
<b>5 Cooperation and threat assessment.....</b>	<b>28</b>
5.1 The (lack of) conformity between fields and institutions .....	28
5.2 Threat assessment and warning signs .....	33
5.3 Communication and perceptions .....	38
<b>6 Case studies .....</b>	<b>41</b>
6.1 The Jokela school shooting .....	41
6.2 The Trollhättan attack .....	43
<b>7 Conclusion .....</b>	<b>46</b>
<b>Bibliography .....</b>	<b>48</b>

# Abstract

This literature study aims at providing an overview of the literature regarding the prevention of lethal school violence. Since the paper aims at providing knowledge that can be used by e.g., institutions and schools in Sweden, there are two case studies from the Nordics included in the study: Trollhättan attack and the Jokela shooting. This paper reviews literature from 2013 and forward and only includes literature from the United States and Europe. Most research within the field has been conducted within an American context and literature about Swedish or Nordic cases are rare. Further, many articles focus on the aftermath instead of the prevention and most articles are qualitative rather than quantitative. The conclusions one can draw from this literature study are that zero-tolerance approaches to prevention seldom work and school attackers often feel lonely and therefore seek communities where they risk becoming radicalised, especially online communities. The perpetrators often deal with mental health issues and/or come from a “broken home”. Further, there is a discrepancy between different research fields and institutions that deal with the issue of lethal school violence when it comes to definitions and approaches to prevention. There is also a lack of coordination between actors, complicating the prevention and mitigation of lethal school violence. School staff also seldom know when or to whom they should report warnings about lethal school violence due to a lack of organisational coordination and lack of knowledge regarding the prevention. The many gaps provide many opportunities for future research. Some suggestions include focusing on the Nordic countries or prevention specifically but also to conduct more quantitative studies and explore the different definitions of lethal school violence.

## Svensk sammanfattning

Den här litteraturstudien ämnar ge en översikt av vad litteraturen säger om förebyggandet av pågående dödligt våld (PDV) i skolmiljö. Då projektet studien är skriven inom fokuserar på Sverige har det inkluderats två fall av PDV-händelser i Norden: skolskjutningen i Jokela och skolattacken i Trollhättan. Majoriteten av litteraturen kommer från USA och Europa, med en övervikt på USA, vilket också är de områden som inkluderats i studien. Endast litteratur från 2013 och framåt är inkluderad. De flesta studier inom området är kvalitativa, delvis pga brist på jämförelsebara fall. Det verkar finnas en konsensus inom akademien att det är bättre med en så kallad trust-based approach än en zero-tolerance approach för att förebygga PDV i skolmiljö. Gärningspersonerna lider ofta av någon form av psykisk ohälsa och/eller kommer från en dysfunktionell hemmiljö. Ensamhet är vanlig fastän de flesta gärningspersoner har kontakt med andra personer som inte sällan bidrar till en radikaliserings av gärningspersonen. När det kommer till samordningen av förebyggande arbete behöver mycket göras, t.ex. vet personal vet sällan vem de ska vända sig till eller hur de ska uppfatta varningssignaler, vilket dessutom är något som det behövs mer forskning på. Andra möjliga framtida forskningsmöjligheter är att genomföra kvantitativa studier samt fokusera på Norden.

## **Note**

This literature study is written as a part of the project “People, measures and resilience: New ways to study risk communication, responsibility and preparedness” and was written mainly during the spring of 2023. The project studies the preparedness, willingness and knowledge of the homogeneous population in Sweden to deal with crises, such as violent- and/or military incidents and natural hazards.

# 1 Introduction

In April 1999, two students at Columbine High School, United States, entered their school with guns and the intention to kill. Although this massacre was not the first school shooting in the United States, it is one of the most widely known and the school attack that sparked the interest in school attacks, specifically school shootings, for the general public, researchers as well as other school attackers (Madfis 2016; Jonson 2017). Moreover, research has shown that there seems to be an increase in number, frequency and severity of these types of attacks, even in countries with strict gun laws (Ebbrecht 2022; Auxemery, 2015). However, it is still important to remember that school shootings and attacks are very rare (Flannery et al. 2013). Of course, every school attack is a tragedy and therefore it is important to obtain more knowledge about how to prevent it. This literature study aims to answer the question of what we know about the prevention of lethal school violence.

As most school attacks have occurred in the United States most of the research on lethal school violence, such as school shootings, is conducted within an American context. In this literature study, all papers focus mainly on the United States if not stated differently. However, there are several examples of lethal school violence in other parts of the world, showing that this is not just an American concern, but a global one. In Europe, for instance, it is more common with lethal school violence with knives instead of firearms, largely due to the limited access to firearms. In addition, Swedish media reports that Swedish school staff worry about school attacks and how to handle them (Olsson 2022; Laurell 2022), further increasing the importance of obtaining new knowledge about the prevention of lethal school violence in Sweden as well. There is a plethora of literature on lethal school violence, although the focus is often on the aftermath, such as how to deal with the trauma inflicted on students, parents and staff. In order to be able to create solutions and obtain more knowledge on the prevention of lethal school violence, a literature study is therefore necessary.

Additionally, there is some discrepancy between the research on the subject in general and the Swedish media's reporting about Swedish cases when it comes to focus. Whilst the research puts the emphasis on mental health, many Swedish news articles and reports emphasise radicalisation as well as loneliness as risk

factors more than the research does (Englund 2022a; Törnquist 2022). This discrepancy could of course be a consequence of the fact that most research articles are American and thus focus on a different context, but it is interesting that there is a whole other focus in the Swedish media as it still regards the same phenomena. This arguably highlights a need to bridge the gap between practice and research. However, the fact that the Swedish Centre for Preventing Violent Extremism (CVE) has been given the task from the government to investigate how to prevent lethal school violence (Martorell 2022) could be an indication that the focus differs in relevance depending on country and context. Relevant factors in the United States might be irrelevant in Sweden and vice versa. Additionally, this could be a consequence of bias. The discrepancy between the research and the media is also interesting from a communication perspective as media is a vital source of information during these types of events and it affects how we might think about the causes and prevention of them (Carter et al. 2022).

As briefly mentioned earlier, this literature study aims at presenting the research regarding the prevention of lethal school violence. In the first section, I present how the search has been conducted and its methodological challenges. Then I present the research thematically. Lastly, I dive into two cases relevant for the Swedish context and provide a conclusion with suggestions for future research and policy development as well as some reflections.

## **2 Methodology**

As previously mentioned, this paper concerns the prevention of lethal school violence with a specific focus on the collaboration and communication surrounding it. In this section I explain how I have conducted my searches for the literature, what some of the methodological challenges were and how I have navigated them and lastly the inclusion- and exclusion criteria.

### **2.1 Databases and searches**

Before deciding on which databases to use I conducted several test searches in multiple databases, such as Google Scholar, EbscoHost, ProQuest Social Sciences and Web of Science in order to see the quantity and type of articles that showed



up. The words used in the test searches were school shootings, deadly violence in school or school attacks in combination with prevention, risk, communication, collaboration or cooperation. These searches yielded a lot of results and since I conducted this review by myself, I chose to only include literature from 2013 onwards for my final searches. Not only did this yield a smaller amount of search hits to a more reasonable amount for one person to go through, it also arguably ensures that the articles included in the review touch upon relevant and novel research gaps and findings to build on in future research.

The databases I have chosen to use in this review are SwePub, Sociological Abstracts, Google Scholar and EbscoHost as these databases seemed to have the most relevant articles when scanning through titles and abstracts in the test searches. SwePub functions quite differently from the other databases in terms of search filters and overall system and thus I have employed a broad search and then filtered out irrelevant articles according to the predetermined scope conditions. I have conducted my Google Scholar searches in a similar manner. Albeit the fact that this is not completely systematic it was necessary in order to obtain information about Sweden and the rest of the Nordic countries. Furthermore, I have also included a few references from the articles yielded in the searches that were relevant to the subject.

As the searches were conducted in February of 2023 the amount of search results might therefore have changed when this review is published. Below I have included two tables showing the number of search hits, articles I have reviewed and lastly the number of chosen articles from each database. Table 1 includes the search phrases for each database, whilst table 2 does not as I have either used many different phrases or none. Google Scholar has mainly been used as a complement to the other databases to find more specific articles regarding the Nordics and I have therefore made several searches there, some quite specific. Due to the large amount of search hits as well as the fact that I have conducted the search by myself, I have not been able to scan through every abstract. However, it is relatively easy to filter out articles based on its title as many were clearly not within a relevant field of research, such as engineering or biology. Only articles in Swedish and English are included. When conducting the test searches there were some quite some articles in German, which was rather unsurprising as Germany has had some problems with lethal school violence.

Database	Search Phrase	Results	Reviewed	Chosen
<b>EbscoHost</b>	("school shooting"* OR "school attack*" OR "lethal school violence" OR "deadly school violence" OR "rampage attack*") AND communication OR collaboration OR cooperation OR prevention OR preventing	48	19	4
<b>Sociological Abstracts</b>	((("school shooting" OR "school shootings") OR ("school attack" OR "school attacks") OR "lethal school violence" OR "rampage school attack*") AND (communication OR collaboration OR cooperation OR prevention)) AND (at.exact(("Feature" OR "Article" OR "Review" OR "Literature Review" OR "Report") NOT ("Commentary" OR "Editorial" OR "Evidence Based	196	28	7

	Healthcare" OR "Industry Report")) NOT subt.exact("college students" OR "colleges & universities" OR "college faculty") AND la.exact("ENG") AND pd(20130101- 20231231) AND PEER(yes))			
<b>SwePub</b>	("school shooting*" OR "school attack*" OR "lethal school violence" OR "våld i skolan" OR "rampage attack*")	45	6	3
<b>Total</b>	-	289	53	14

Table 1: Table showing the search terms, the amount of result, reviewed and chosen articles from each database.

	<b>Reviewed</b>	<b>Chosen</b>
<b>Google Scholar</b>	28	9
<b>References</b>	12	2
<b>Other</b>	7	3
<b>Total</b>	47	14

Table 2: Table showing the amount of reviewed and chosen articles from Google Scholar, references and other search engines.

## 2.2 Inclusion- and exclusion criteria

All grades, including university level, are included in the review. This is arguably problematic as there is a huge difference in e.g., how a university operates and how an elementary school operates. The difference in maturity between students in different ages is also something to be aware of. For instance, university students will probably be able to understand more complicated information than elementary students and not be as scared of drills. I still chose to include all grades as it is important to include different approaches and perspectives of the prevention of lethal school violence in order to get a just picture of the field in general, which is the aim of this literature study. In the future, one could choose to focus on a specific type of school. It is nevertheless worth asking if the broad inclusion criteria in this regard could make the conclusion of this review seem rather inconclusive as solutions suggested in a study concerning a university might not be applicable to an elementary school. This fact further highlights the need for more research of the field, especially considering the need for developing plans for how to prevent lethal school violence.

Further, I have only included articles from North America and Europe as they are similar in context. Even though the North American and European contexts differ from each other in many aspects, such as the accessibility to weapons, they are still comparable enough to include in the same review. All regions are, for instance, part of what is usually referred to as the West and thus share certain values. In addition, the level of heterogeneity of the regions differs, which could be interesting to compare as the research project aims at providing more knowledge on prevention, communication, collaboration amongst other things, specifically in a heterogeneous society. Comparing studies from different countries and contexts might give an indication of whether heterogeneity plays a role or not when it comes to prevention. Especially, knowledge from the United States could be useful when looking at the heterogeneity as Sweden is more heterogeneous than it was for e.g., 20 years ago and the fact that both the school attack in Trollhättan 2015 as well as Eslöv 2021 arguably had xenophobic motives (Haddad 2017; Hjertén 2021). That further indicates that it could be relevant to

investigate the radicalisation element of school attacks. Nevertheless, it is important to remember that Sweden or Europe still is quite different from North America.

In addition, the literature that showed up in the searches does not seldom focus on the aftermath of school attacks. This is highly relevant in terms of coordination between different actors as well as communication during crises. I have chosen to exclude most of those articles as they do not concern the subject of prevention specifically. It could, however, be relevant to include those articles in a broader review of lethal school violence or in a review focusing specifically on collaboration or the aftermath of lethal school violence.

## 2.3 Definitions and methodological challenges

Most studies about school attacks are qualitative case studies which is due to the limited number of comparable cases and depending on the definition. As earlier mentioned, lethal school violence is very rare. In addition, there is no widely agreed definition of lethal school violence. In research, it has been common to define a mass shooting, such as a school shooting, based on both the number of victims and geographical location. This has led different scholars using different measures for the minimum number of victims in a mass shooting (Jonson 2017). Some scholars use a flexible time definition, meaning that the same shooting can take place at a range of places, e.g., starting in a park but ending at a school, whilst others mean that the shooting only can take place at one spot. This poses the question of what the difference between a mass killing and a series of murders really is (Auxemery 2015). Auxemery (2015) further explains that there are many more classifications that have been used in earlier research. However, these are not necessarily relevant to bring up in this review. The large focus on shootings is also problematic when trying to compare and do research in a Swedish context.

Further, Thodelius and Sandén (2019) argue that there is a so-called case definition problem that makes it difficult to study lethal school violence. They explain that the case definition problem is a consequence of the different aims, exclusion as well as inclusion criteria in previous studies. This leads to a paradox, Thodelius and Sandén (2019) mean, both between and within disciplines that

study lethal school violence. On a similar note, Thodelius et al (2021) state that different strands of research seldom use the same definition of lethal school violence which further contributes to the inconclusive picture of what a school attacker is. This complicates a comparison of studies from the different strands, Thodelius et al (2021) state. Despite that the authors of the articles included in this review use different definitions of school attackers, they all agree that a school attacker is, at least partly, defined in relation to their current or former school, either as a workplace or educational institution.

The arguably high threshold of number of victims in the definitions of school shootings clearly shows that the research has been mainly done within an American context. For instance, someone committing a school attack with e.g., a knife will most likely not kill or hurt as many as a person with some type of firearm. Therefore, a definition with a high number of minimum victims is arguably rather problematic as a school attack is still lethal even if just one person dies. Further, I argue that it is also important to mention intent when handling the issue of the prevention of lethal school violence. A school attack might not be lethal although the perpetrator had the intent of it being lethal due to successful prevention or mitigation. In order to prevent possible lethal school attacks, it is therefore still relevant to investigate the causes and motives of the attacks and how they were mitigated. It is also possible that causes and motivations differ between countries due to the difference in context. The easy access to guns and the high prevalence of guns in the United States can, for instance, not be compared to the situation in Sweden. However, it is interesting to note that Finland is one of the countries with the highest number of firearms per capita in the world (Oksanen et al. 2013) and yet they have had quite few shootings, even when adjusting for population. The high number of firearms is due to the culture of hunting animals but as previous research shows, the high prevalence of weapons could also influence the likelihood of school shootings (Sommer et al. 2020).

As briefly mentioned in the introduction, this literature study includes the following themes: mental health and radicalisation, approaches to prevention, cooperation and threat assessment and lastly two case studies from the Nordic countries. I have chosen these themes as most articles I reviewed focused on either one or more of these themes. Although there are of course other

categorisations one could do, I have chosen this categorisation in order to effectively highlight the different aspects of lethal school violence. Mental health and radicalisation focus on the perpetrator, approaches to prevention focuses on more on how the society view the problem and how it should be solved. The xenophobic motives behind some Swedish school attacks (Haddad 2017; Hjertén 2021) also arguably highlight that radicalisation is a subject that needs to be investigated.

Cooperation and threat assessment focus on slightly similar things as approaches to prevention but more from a perspective of communication and cooperation. In that chapter, the organisational structures are highlighted and the discrepancy between institutions and strands of research. Moreover, as the research project has a focus on cooperation, prevention and communication, I have tried to include these in either the categories or sub-categories. Further, the sub-categories narrow down the themes, which are quite broad. As the research project this literature study is written within aim at e.g., develop indicators and measures for institutions to use to prepare for crises, I argue that it makes sense to have a chapter that focus specifically on approaches to prevention as well as a chapter about threat assessment and cooperation as these are problems they need to solve practically. The case studies also provide a context to apply and understand the literature.

In short, most of the literature concerning the prevention of school violence is written in an American context which poses some problems of applicability of certain solutions. In addition, scholars use different definitions of school shootings and school attacks, making studies hard to compare. The difference is due to the definitions being developed within different contexts and schools of thinking. The search has been conducted by using several databases and all searches contain similar words and the language that has been used in the searches are English and Swedish.

The next chapter deals with mental health and radicalisation. I will start with this since it mostly explains the reason why school attackers become what they are and what their motives might be.

## 3 Mental health and radicalisation

In order to prevent lethal school violence, one needs to understand what the causes are. There are many theories as to why someone would choose to commit a school attack, but many scholars mean that some of the main causes are mental health issues and social circumstances. Additionally, gun violence, such as school shootings, has been declared a public health crisis by some in the United States (Carter et al. 2022). Many scholars that focus on mental health also simultaneously focus on radicalisation and thus attempt to explain how the causal mechanism between mental health and lethal school violence looks like by using the many processes of radicalisation. The sub-categories aim at providing a clear picture of the (potential) process of how a person becomes a school attacker. Chapter 3.1 describes the background and social ties, which is the first things that shape a potential perpetrator. Further, chapter 3.2 describes the mental health factors, which often come during teenage years and lastly, chapter 3.3 describes motives and the radicalisation process which is the last things that occur before a school attack. I have thus tried to organise the chapters in a more or less chronological order.

### 3.1 Social ties and background

Ebbrecht (2022) has written a systematic review about lone-actor grievance-fuelled violence, such as school attacks, and the radicalisation process associated with it on a micro and meso level. He notes that radicalisation occurs on a macro level as well, although he does not focus on it in his review. Although school attackers are not the sole focus of Ebbrecht's (2022) review, he does mention them and that they share some characteristics with rampage shooters, such as a perceived grievance. To clarify, I will use school attacker and to refer to an individual who attacks a school or someone in it with the intention to hurt or kill. This includes both school shooters and perpetrators that use other types of methods, such as knives. In his review, Ebbrecht (2022) identifies nine risk factors for lone-actor grievance-fuelled violence. These are sociodemographic background, social ties, interpersonal rejection, mental illness, subclinical personality traits, strain, grievances, emotional traits and states and lastly cognitive processes and content.



The first risk factor, sociodemographic background, means that the perpetrator comes from a so-called “broken home”. This could include different forms of abuse and parents with substance misuse or a history of crime. Ebbrecht (2022) notes that several scholars mean that a lack of emotional closeness and intimacy in combination with abuse could be more prone to develop personality types that are generally associated with lone-actor grievance-fuelled violence. Furthermore, it is not uncommon that lone actors end up in dysfunctional environments during their adolescence, such as criminal circles. This does not necessarily apply to all school attackers as this is an estimate of all types of lone actor shooters although it could indicate a pattern.

Contrary to popular belief, school attackers are seldom completely alone although they usually feel lonely. The social ties they do have, however, are not seldom dysfunctional in some way. Ebbrecht (2022) mainly highlights the social ties to extremist networks, which he has divided into three categories: strong ties, weak ties and affiliative ties. Regarding strong ties, Ebbrecht (2022) explains that many school attackers are encouraged by an extremist network or community to commit a shooting after the perpetrators has expressed violent intentions. When it comes to weak ties, the radicalisation is mainly due to propaganda and anonymous interaction within online communities and when it comes to affiliative ties, bullying plays a part in why a person might choose to commit a school shooting. It has been shown that it could lead to the identification and imitation of former school attackers which connects to the third risk factor, interpersonal rejection. This could be bullying or other types of ostracization, either by peers, extremist networks or romantic interests. The causal mechanism of exactly how this works is nevertheless rather unknown. In order to prevent and mitigate the radicalisation that could come of this, it is important to note if there is any group polarisation as this is a sign of a more extreme lifestyle and views, Ebbrecht (2022) means. The presence of social ties raises the issue of how so-called actual loners fit into this narrative. According to Ebbrecht (2022), his review indicates that these “lonely loners” do not exist as the existence of social ties does not mean that one does not in some way interact with e.g., an ideology in some way, even if it is anonymous or by one-way communication.

Moreover, Flannery et al (2013) mean that there is no universal profile of a school attacker. Although many perpetrators share some characteristics, such as depression, recent loss and bullying or social rejection. According to the data

Flannery et al (2013) have looked at, most perpetrators were white males with easy access to guns. It is also not unusual that the perpetrators warned students in some way before committing the shooting. There also seems to be common that the perpetrator has poor impulse control and sadistic tendencies. Despite this, few perpetrators are medicated or receive any help for their mental issues before committing the attack. Lastly, Flannery et al (2013) argue that there is a need for more research on school attacks that were stopped or only include injuries as a non-lethal attack might still have been intended to be lethal. On the subject of prevention, they mention that threat assessment needs to be comprehensive due to the fact that no school attacker profile exists. Further, they state that many scholars agree that it would be a slippery slope to try to predict violent behaviour. However, Flannery et al (2013) also highlight that whilst it is vital to understand the perpetrator in order to prevent future deeds, one must also focus on the victims and how they might be affected both short term and long term.

### 3.2 Mental health factors

Both Ebbrecht (2022) and Auxemery (2015) mean that connection between mental health and subclinical personality traits, such as narcissistic personality disorder or schizophrenia, and all types of lone-actor grievance-fuelled violence is established. Some studies suggest that as much as 60 percent of school attackers suffer from some type of mental illness. However, Ebbrecht (2022) states that the definition of e.g., mental illness is vague throughout many articles and that scholars sometimes measure indicators of mental illness as a mental illness and some scholars measure mental illness based on diagnosis. This makes it difficult to establish exactly what the causal mechanism might look like, he notes.

Furthermore, some subclinical personality traits, such as narcissistic personality disorder, have been shown to be prevalent amongst many school attackers, according to several scholars (see e.g., Ebbrecht 2022; Sommer et al. 2020; Auxemery 2015). This does not mean that all narcissists are school attackers, it only shows that people with narcissistic personality traits might be more prone to commit a school attack than those who do not have narcissistic personality traits when in combination with certain factors. The interplay with other factors is vital to remember as it is not the mental illness in itself that is dangerous.

Instead, it is the instability of the perpetrator that is dangerous when they encounter e.g., radical ideologies or guns. Ebbrecht (2022) further notes that how the causal mechanism looks like is still unclear and needs further investigation. He explains that there is a need for more research on how socialisation plays a part in the trajectory from e.g., mental illness to the perpetrator committing a violent deed.

Auxemery (2015) suggests, like other scholars, that the prevention of lethal school violence should be similar to the prevention of suicides. He does not go into detail of how this prevention could look like. However, he explains that the reason for this is that many mass shooters, including school attackers, have a psychological crisis which culminates in them committing a school attack, not seldom driven by vengeance. It is not the mental illness or diagnosis in itself that is the main problem but rather the suffering from it that leads to this psychological crisis. Just as Ebbrecht (2022), Auxemery (2015) states that many mass shooters have been either socially isolated or bullied, therefore lacking emotional relationships. Despite this, it is common that school attackers in specific seem to be “okay” in the sense that they come from stable suburban or rural areas and show no history of psychological pathology. However, suicide notes were commonly found amongst school attacker and the perpetrators sometimes talked about their future attack with peers. This indicates that at least some school shootings could be prevented if one can identify the warnings as well with better student health services at schools.

Another risk factor explained by Ebbrecht (2015), strain, can be explained as agony as a consequence of negative life experiences, relating to Auxemery’s (2015) study. The strain can be either chronic or acute. Chronic strain is a consequence of constant negative life experiences, such as a dysfunctional family situation, whilst acute strain is a consequence of a sudden change or crisis. The interplay between different factors is evident when looking at strain, Ebbrecht (2022) argues. Chronic strain could, for instance, lead to lone-actor grievance-fuelled violence if there are group grievances in the picture and sociodemographic background is not seldom brought up as a driver of strain. In addition, the so-called unfreezing mechanism could be one explanation as to how strain leads to crime, Ebbrecht (2022) states. The unfreezing mechanism can be compared to a culmination of a crisis. Essentially, a sudden change in circumstances leads to a personal crisis which leads to the perpetrator committing violent acts. However,

the research about strain in the context of lone-actor grievance-fuelled violence is limited and therefore the causal mechanisms are still largely unknown.

### 3.3 Motives and radicalisation

Furthermore, grievances play a key role in why a lone-actor perpetrator chooses to commit an act of violence. According to Ebbrecht (2022), this is what most literature mean is the main factor behind lone-actor grievance-fuelled violence. To clarify, Ebbrecht (2022) describes grievance as a perceived injustice, degradation or humiliation. Grievances can be either personal or group based and Ebbrecht (2022) means that different types of lone-actor shooters can be motivated by different types of grievances albeit the fact that the two types are usually intertwined. However, group grievances usually connect to ideological motivated attacks. Some school attackers claim that their attack is an act of political violence. Personal grievances are connected to identity and the discrepancy between how the perpetrator wants to be perceived and how they are perceived. In some cases, this is connected to e.g., national identity, connecting it to group grievances. One such example could be the Trollhättan attack in 2015 where the perpetrator had xenophobic views that partly motivated the attack (Haddad 2017). Ebbrecht (2022) notes that as with most other already examined risk factors, this subject is also not widely researched, especially when it comes to case-based and interpretivist studies, giving plenty of room for future research.

Grievances are connected to the risk factors emotional traits and states as well as cognitive processes and content. Several scholars have found that a combination of feelings of high resentment and extreme anger creates an emotional world view, which is common amongst lone-actor shooters. Especially school attackers show strong feelings of revenge and humiliation. Some studies, such as Sommer et al (2020), mean that shame plays a key role in the process leading to a school attack. As previously mentioned, Sommer et al (2020) emphasise the fact that emotions need to interplay with other factors in order to actually lead to a school shooting, similarly to what Ebbrecht (2022) further argues.

Furthermore, cognitive processes and content have also been shown to be linked to mass shootings. Some scholars propose that violent fantasies might help drive the radicalisation process forward as it transforms shame into anger, especially

amongst younger perpetrators as school attackers usually are. Amongst adult perpetrators violent fantasies might lead to a development of so-called warrior mentality, meaning that the fantasies fuels emotional states of grandiosity as well as the feeling of having unlimited power (Sommer et al. 2020). In addition, some lone-actor shooters have been shown to be more thrill-seeking, obsessive and impulsive than the general population. Although Ebbrecht (2022) highlights that cognitive processes are a risk factor, there are no case based studies that examine the causal mechanisms between cognition and grievance-fuelled violence (Sommer et al. 2020).

In addition to the nine risk factors, Ebbrecht (2022) mentions what he calls five factors of radicalisation, some of which I have already explained partly. These are socialisation, small-group dynamics, psychological need restoration, mental health from a dimensional perspective and mechanism of moral disengagement. Each one of these connect to one or more of the nine identified risk factors. Ebbrecht (2022) explains that he has done this to be able to integrate the risk factors into a broader framework of radicalisation and thus making it easier to create hypotheses where the framework and the risk factors interact.

Whilst the access to guns plays a vital role, Sommer et al (2020) also mean that the feeling of shame is important when it comes to the risk of committing a school attack. The perpetrator feels that there is a discrepancy between how they are perceived and how they want to be perceived and to change this the perpetrator engages in intensive identity exploration. In combination with the lack of structure and encouragement from e.g., parents to become autonomous, which in turn makes the individual vulnerable to feelings of shame. The reason for this is that the parents are non-responsive to their child's needs and promotion of their own expectation creates a disorientation Sommer et al (2020) argue that so-called shame crises, similar to turning points, lead up to the perpetrator committing the deed. These crises could be the divorce of the perpetrator's parents or any other big traumatic life event.

Moreover, Sommer et al (2020) mean that fantasies in which the perpetrators see themselves as more powerful than what they are as a way of coping with the suffering from e.g., bullying and feelings of shame. Sommer et al's (2020) study is very detailed when it comes to the description of the path from crises to the

school attack. They also distinguish between different types of school attackers and argue that the trajectory can look different depending on the perpetrator and the conditions surrounding them. They explain that there are two types of trajectories: symbolic offenses and personal offences.

Symbolic offenses are characterised by an introverted perpetrator, little communication with family, social isolation, a preoccupation of violent media and a strong sense of mission as well as a long period of planning the deed. Personal offences are characterised by an impulsive personality, abusive or neglecting family relations, deviant peer groups, exposure to weapons and a dysfunctional shame management. The former is what the general public would associate with bigger events, such as school shootings, while the latter is generally associated with interpersonal small-scale violence at schools. In order to prevent school attacks, Sommer et al (2020) argue that it is vital to identify children and adolescents at risk for shame crises. Exactly how this would be done in practice, besides being aware of the signs, is not mentioned.

Moreover, Thodelius and Sandén (2019) have developed a typology of lethal school violence based on newspaper reports, official documents and the perpetrators' own material. The cases are exclusively from the Nordic countries. Thodelius and Sandén (2019) divide lethal school violence into three categories: interpersonal revenge, institutional revenge and societal revenge. In the first two categories, the perpetrator has a relationship to the school in some way. When it comes to interpersonal revenge, the act of violence is seldom planned, and the perpetrator only targets one person. What distinguishes this from other acts of interpersonal revenge is that it takes place at the school. Thodelius and Sandén (2019) also note that the perpetrators of interpersonal violence in all cases had deviant behaviour, such as being involved in minor crimes before the incident. In the second category, institutional revenge, it is the school and not specific persons that is the target of the attack. The perpetrator usually feels marginalised and blames the school for it but does not necessarily show this emotion publicly. This category is what most school shootings fall into. Lastly, the third category, societal revenge, is very different from the others as the perpetrator does not have a connection to the school. Thodelius and Sandén explain that this category is similar to so-called lone wolf terrorism. The perpetrator wants to make a

political statement and the school is probably chosen since the act will attract a lot of attention because of that.

Although Thodelius and Sandén (2019) mean that the last category is quite different from the other two, they do note that there are some similarities between all the categories. For instance, both categories two and three use the school as the place of the deed since it will attract a lot of attention. The deed is thus not only motivated by revenge. Further, Thodelius and Sandén (2019) mean that in categories one and three, the school just happen to be a suitable place for the deed; the perpetrator could have chosen another place and still get a similar result. Category one differs from the other two as the revenge motive usually is clear from the beginning, such as wanting to reclaim honour and respect instead of wanting to gain fame for a perceived injustice.

Thodelius and Sandén (2019) do not go into detail about neither mental health issues nor radicalisation processes in their article. However, they mention that both might be a cause when describing especially categories one and two. Thodelius and Sandén (2019) also provide some suggestions for prevention, although quite briefly. They suggest both threat assessment with great cooperation between actors and the control of e.g., school entrances. This control does not have to be locks; it can be that school staff circulate in these areas so that a perpetrator could be detected. One must also remember that lethal school violence usually is unpredictable, therefore making lethal school violence difficult to prevent. Lastly, Thodelius and Sandén (2019) state that there is a need for much more research about lethal school violence and that is vital that more focus is put on the prevention of lethal school violence.

On a slightly different note, similar to e.g., Lounela et al (2021), Auxemery (2015) further mean that the extensive media coverage of school shootings has led to imitation deeds before and that one therefore needs to follow certain guidelines, namely the guidelines from the World Health Organization, when reporting in order to avoid this. Auxemery (2015) does not go into further details about why or how these guidelines look like.

Based on the literature, there seems to be a consensus that mental health issues in many instances is a key factor in why a perpetrator chooses to commit a school attack. Bullying, alienation, traumatic childhood experiences and neglect are

common drivers of the radicalisation of the perpetrators. In addition, grievances, either personal- or group grievances, are necessary for radicalisation to take place and perpetrators not seldom have violent fantasies where they are portrayed as superior in comparison to their peers. Nevertheless, opinions on how the process looks like differ.

## **4 Approaches to prevention**

When it comes to preventing lethal school violence there are two main approaches in the literature: trust-building and zero-tolerance. These approaches are mostly based on literature from the United States. Since they contrast each other, I have chosen to deal with them in different chapters. The former is heavily connected to mental health whilst the latter is more connected to the enforcement of law. There is also a third approach to prevention that is not really established within the research as it is relatively new; scenario enactment. In contrast to previous approaches, this approach has developed in Sweden and is based on data and literature from both Sweden and the United States, making it relevant to include in this literature study.

As mentioned earlier, most examples are from the United States and applying the proposed solutions to lethal school violence to e.g., Sweden is not completely unproblematic. However, the research might still be useful as a basis for schools and municipalities when developing prevention plans although more knowledge is needed.

As stated in the introduction, the Columbine shooting seems to have altered the discourse and attitude towards the prevention of these types of events. Misdemeanours that before would have been seen as more or less harmless pranks have been met with force and zero-tolerance approaches after the massacre, something referred to as the Columbine effect (Madfis 2016). Further, Madfis (2016) mean that the reason as to why the Columbine shooting has left such an imprint on the American society is the demographic characteristics of the offenders and victims. The fact that both the perpetrator and victims were predominantly white seems to have shocked the American society. Albeit this observation is done within an American context, it might still be relevant to compare the situation to Sweden which has only had perpetrators that were of



the majority population. However, the demographic characteristics of the victims and targets are in general more mixed than during the Columbine massacre. In some of the most famous school attacks in Sweden the perpetrators were white and referred to extreme right-wing ideologies, such as Nazism, and mainly targeted people with a non-European ethnicity (Englund 2022b; MSB 2016).

## 4.1 The zero-tolerance approach

Despite its popularity, zero-tolerance approaches have not been showed to improve student safety (Jonson 2017; Perumean-Chaney & Sutton 2013; Flannery et al. 2013; Madfis 2014). In fact, Perumean-Chaney and Sutton (2013) have found that the increased use of e.g., metal detectors has led to students feeling more unsafe, especially at schools with many students of colour. Students in schools with large class sizes and problems reported similar things. In contrast, white males with a high GPA were very likely to report that they were feeling safe. To combat the problem of lethal school violence, Perumean-Chaney and Sutton (2013) argue for projects where the students engage and discuss, such as conflict resolution projects. They argue that this will foster both an improved school environment and a higher average GPA.

Worth noting is that most examples of zero-tolerance policy in this review are mainly taken from the United States and Jonson (2017) means that zero-tolerance policies are seldom based on empirics. However, after the Jokela shooting in Finland it was decided to restrict the gun laws to prevent individuals that might not handle a weapon safely from purchasing weapons (Lounela et al. 2021). This does not entirely represent a zero-tolerance approach based on earlier examples, although it does signal that the society does not tolerate weapons being used in that way. In addition, after the same shooting, the Finnish Board of Education recommended that a zero-tolerance approach should be used to combat lethal school violence. This included e.g., that all threats were supposed to be reported directly to the police and not necessarily go through different types of school staff (Oksanen et al. 2015). However, this zero-tolerance approach cannot really be compared to the zero-tolerance approaches applied in the United States due to the difference of contexts, which I will explain further later in this review.

Jonson (2017) has written an article where he analyses the effectiveness of different security measures taken in order to prevent school attacks. He means that the focus of the prevention of lethal school violence in the United States has mainly been on preventing guns from being on school areas. This has been done by e.g., having police officers in schools and installing metal detectors. These measures aim to prevent school attacks in a very early stage. However, instead of preventing future events, these measures have been shown to create fear and anxiety amongst students which is interesting since one also discussed the hostile school environment in relation to school shootings in the media.

In contrast, the employment of SROs, school resource officers, has been proven more successful in some respects, it really depends on what their role is at the respective school. In addition, more than 50 percent of schools had an SRO in 2014, even though there is no evidence that this measure is effective. An SRO is usually armed to be able to respond to a crisis quickly and be a deterring presence. For an SRO to be effective they must build trust and relationships with students. If an SRO employs traditional approaches to prevention, it is more likely that there will be a perception that the school is unsafe, and students being scared. Worth noting is that e.g., the Columbine shooting was not stopped despite the school having an SRO in place and some critics of the approach compare the introduction of SROs to a prison environment.

Another common security measure relating more to the zero-tolerance approach than the trust approach, is the locking and monitoring of doors, Jonson (2017) explains. However, this has not been shown to be effective neither when it comes to the level of violence nor the perception of fear amongst students. In addition, if the perpetrator has a gun, they are able to get in anyways by e.g., shooting windows or a fire alarm to create chaos and making students and staff run out of the school. Jonson (2017) further states that it is dangerous to completely rely on these types of measures since they are not very effective and that it leaves students and staff vulnerable when the measures do not work as intended due to e.g., a lack of an emergency plan.

Jonson (2017) also brings up the question of lockdowns and means that they seldom consider the fact that students will not be always in the classroom. During the Columbine shooting, many students were in the cafeteria and thus

had no protocol of what to do when the attacker entered. In contrast, there are actors that have developed so-called multi-response approaches, such as the “Run, hide, fight” approach. The “Run, hide, fight” approach is an approach that tells how a victim of e.g., a school attack should act to save themselves. However, as with previous examples brought up by Jonson (2017), the effectiveness of this is debatable. It might sound effective but in practice, people do not always follow these steps. Taking an active role in school shootings, such as barricading doors and fighting back have generally been shown to be positively related to an increased likelihood of survival. This approach does not fit in the category of neither zero-tolerance nor trust, but it does show that it is vital to be open-minded when it comes to developing prevention plans and the importance of being an active participant when school attacks do occur.

Ford and Frei (2016) have looked specifically at the “Run, hide, fight” approach and how the framing of it affected how university students responded to it. The aim of their study is to gain knowledge of the effectiveness of messages that urge students to complete the video and take in the information in it. In order to understand why people respond the way they do, Ford and Frei (2016) use a model called “Protection motivation theory”, PMT for short. PMT can be divided into three areas of focus: 1) evaluation of information 2) coping and 3) response. The first step, evaluation, concerns both internal and environmental factors. During this step an individual might ask themselves what previous experience they have and how that could affect their capabilities in the situation, or they might think about what they have heard about a similar event in the media etc. During the second step, coping, individuals will assess how big the threat is, the probability that something will happen and lastly, during the third step, the individual makes a choice how they will respond, namely passively or actively.

In their study, Ford and Frei (2016) found that the message characteristic plays a role in how an individual will respond to the “Run, hide, fight” video. Messages that invoke strong emotions or fear are positively related to a higher likelihood to completing the video. This does not in itself lead to a safer environment, however, as the individuals still need to act on what they have seen. They further found that when students had completed the video, they became both more knowledgeable and confident in how they should act in the event of e.g., a school shooting. Based on this knowledge, Ford and Frei (2016) suggest that it should be

mandatory to watch these types of videos at campuses. Furthermore, they found that the effect of a message differs depending on the medium. For instance, messages via email are more efficient than text messages. The results indicate that it is not just the security measure or material that are important when preventing lethal school violence, how the message is communicated also plays a key role. Ford and Frei (2016) also found that the PMT framework does not adequately explain or support the results of their study. It is only applicable to messages conveying fear and in contrast to previous studies, Twitter messages were not particularly effective. In the future, developing the framework could be beneficial for research, Ford and Frei (2016) state.

## 4.2 The trust-based approach

One issue that is often brought up by advocates of a trust-oriented approach is the handling of warning behaviour and signals, also commonly referred to as leakage. Warning behaviour can come in many different forms and there exist even more classifications with different focus. Silver et al (2018) have identified three types of leakage: written statements, verbal statements to the public and verbal statements to family and friends. They made this classification, or codebook as they call it, based on an extensive literature review and similar codebooks. Worth noting is that Silver et al's (2018) codebook is created using data from all sorts of violent crimes and not just school indices. This arguably makes the study less applicable to lethal school violence. However, Silver et al (2018) do mention examples of leakage concerning lethal school violence where perpetrators have either talked about their planned attack with friends or mentioning that they would like to kill someone.

In addition, Silver et al (2018) have looked at if there are any differences regarding the presence of leakage between different ages, levels of education, employment, criminal history etc but found that all of these variables are insignificant. Instead, the presence of grievances is the most important indicator of leakage, namely grievances against a specific person or entity. The fact that the feeling is so strong should lead to the perpetrator either willingly or unwillingly will send signs that they are about to commit a crime, Silver et al (2018) theorise. They do not find an answer to how the presence of grievances leads to leakage. Lastly, they note that it is important for e.g., school staff should be aware of the

concept of leakage and how it might work in order to prevent and prepare for crises.

In some cases, warning signals, such as voicing threats in school, have been interpreted as jokes by students and staff (Fiedler et al. 2020). Fiedler et al (2020) mainly focus on cases in Germany and also mention that they found organisational barriers that complicate the handling of these threats and relationship building. Based on their data, it is clear that students not always know who to report threats to and that staff that are aware of threats do not know how to deal with it or who to report to within the school. This confusion among staff is partly a consequence of the lack of knowledge of the signs of so-called negative psychosocial development and partly a consequence of organisational barriers, Fiedler et al (2020) mean. The perpetrator of the Jokela school shooting in Finland (see chapter 6.1 for more details) openly expressed what he aimed to do. For instance, he told students at the school that they were going to be killed in a “white revolution.” Students informed staff at school about the threats and a youth worker even met with the perpetrator to talk to him, without leading to further action that could have prevented the shooting from happening. In addition, the perpetrator wrote several school assignments about school shootings without anyone reacting (Lounela et al. 2021). This supports Fiedler et al’s (2020) argument.

On the subject of trust, it is noteworthy that students react differently to security measures at school depending on their skin colour in the United States (Kupchik et al. 2022). By conducting interviews with parents, school staff, students and school police officers (SROs), Kupchik et al (2022) have aimed at finding out whether school police officers affect different groups of students differently, how they interact with students and why. They note that research about SROs mainly has focused on their effect on school discipline and crime rates and not on how SROs work. Furthermore, SROs can focus on different types of work in their role. The most common framework to work according to is the triad model, which combines teaching, informal counselling and law enforcement. The extent of each task can vary greatly between each school and SRO.

Moreover, Kupchik et al (2022) found that while SROs mainly aim to build trust between them and all students, they still focused more on black students. The

SROs admitted that they do this, and they explain that the reason is that black students, as well as some other groups, might have a more negative picture of the police, which the SROs aim to change. Further, they found that the use of SROs has generally increased students' trust towards the police. However, they reported that they mainly target students that they deem vulnerable, e.g., students from low-income family, students with immigrant background and students with incarcerated parents. It was also common that students see SROs as somewhat disconnected to the police force and thus trusted the SRO more than the rest of the police force. Furthermore, the fact that SROs prioritise and target students from marginalised groups make misdemeanours easier to detect and the student constantly feel supervised. When talking to students with family that had been in trouble with the police, the SROs usually explained that it was not the law enforcement's fault, but rather the fact that the family member had not complied with regulations. According to Kupchik et al (2022), some scholars mean that this is problematic as it could give these adolescents unrealistic expectations by neglecting the fact that they are marginalised, leading to that the rhetoric even blames adolescents for their parents' situation.

Kupchik et al (2022) explain these terms within the framework of so-called legal socialisation, the process in which individuals, in this case students, develop perceptions and attitudes towards law and law enforcement. In addition to a difference between the approach towards black and other students, SROs also focused on different things depending on the age of the students. For instance, several SROs explained that they believe elementary students are more willing to talk to them and high school students seem to be generally sceptical towards the police force and less willing to talk to the SRO due to the fear of losing social status. This information is especially interesting as the implementation of SROs is very common throughout the United States, something also Jonson (2017) mentions. One thus arguably needs to increase the status of SROs and improve their methods. Kupchik et al (2022) further state that one could imagine that especially black students on good terms with SROs could experience e.g., ostracization and being seen as snitches within their own communities. However, the SROs interviewed in Kupchik et al's (2022) study mean that they have been appreciated by students. They have received thank you notes and students have told them that they also want to become a police officer, arguably

further supporting the argument for a trust-based approach in the prevention of lethal school violence.

Additionally, Madfis (2014) has conducted in-depth interviews with school staff and security and police officers that have been part in the mitigation of school attacks. He notes that scholars and practitioners have overestimated the effect the Columbine shooting had on the code of silence amongst students. Despite school staff stating that they believed that the Columbine shooting had contributed to a better much school environment where students can go against the code of silence, Madfis (2014) means that this is incorrect. This is interesting as the respondents in the study largely means that diminishing this code of silence is vital in the prevention of lethal school violence. Many also highlighted the importance of trust between staff and students, something Madfis (2014) agrees with. Furthermore, Madfis (2014) writes that the general approach to the prevention of school shootings in the United States have been of a zero-tolerance nature, thus making the answers of the respondents interesting. One could ask why a zero-tolerance approach is so common when staff point out other approaches, namely a trust-based approach, as more successful. In addition, Madfis (2014) further notes, just as Kupchik et al (2022) that African American students have been disproportionately hit by zero-tolerance methods implemented to combat shootings, despite the fact that most school attackers in the United States have been Caucasian. This is a very interesting fact, considering that this literature review is part of a project with a focus on heterogeneity. The fact highlights that different groups might be affected differently by the same approach and that one needs to take this into account when developing prevention plans and security measures.

However, Madfis (2014) does bring up some examples where the code of silence was broken and thus mitigating school attacks. In fact, students breaking the code of silence were one of the most common ways that a school attack was mitigated. In addition, close friends were less likely to report threats than acquaintances. This means that the challenge of diminishing the code of silence amongst friends, who might detect warning signs earlier remains. This challenge will not be overcome with a universal approach, Madfis (2014) means. He also highlights that scholars should stop trying to provide universal solutions. Instead, he means that one needs to identify the nuances in leakage and develop

an approach based on that. Madfis (2014) states that the best way to diminish the importance of the code of silence is to foster a positive school environment. This could be done in many ways, two examples being to use the Virginia Threat Assessment Guidelines or use the knowledge from the Berlin Leaking Project, he suggests. However, Madfis (2014) does not explain neither the Virginia Threat Assessment Guidelines nor the Berlin Leaking Project in more detail.

### 4.3 Scenario (re)enactment

In addition, there is a third approach to prevention; scenario enactment. This approach, or theory, is not established in the field but it is still relevant to include due to its connection to the subject of lethal school violence and visionary elements. Linnell (2015) is the only scholar I have found to write about scenario enactment. In his study, he aims to explore the grey area between fiction and reality within the sphere of scenario enactment and risk prevention. He has mainly used crisis plans and exercise plans from public and official institution in both the United States and Sweden. He also interviewed i.e., security coordinators about how they view the prevention of crises. Scenario enactment is exactly what the name implies, and Linnell (2015) means that one can convert a theoretical crisis plan to a lived experience when enacting a crisis, such as a zombie apocalypse. The fact that it is a fictional scenario forces one to practice acting and thinking in the moment instead of risking being mentally locked into the boundaries of a theoretical crisis plan, Linnell (2015) argues. The aim of this type of enactment to create an all-hazards approach.

However, the use of a zombie apocalypse is not completely uncontroversial. In the United States, where the approach originates, it has been criticised to remove focus from so-called real dangers. This criticism is in line with the tradition of realism within the field, namely the belief that one should strive to recreate scenarios as realistic as possible in order to be able to measure everything. Still, zombie apocalypse enactment has become generally accepted as an effective all-hazards approach. It also bridges the gap between post-realistic and realistic scenarios. Linnell (2015) points out that we are now in a paradigm shift between these two approaches. Although Linnell's (2015) article does not concern lethal school violence but as the approach of scenario enactment is an all-hazards approach it is still applicable. Amongst the persons Linnell (2015) interviewed,



their views seem to be quite similar to each other, most people only focus on realistic scenarios. Still, it is more common in the United States than in Sweden to focus on unlikely scenarios, which could be a consequence of 9/11, Linnell (2015) argues.

Furthermore, shooting drills could also be seen as a type of scenario enactment and the question of their effectiveness is also something that has been brought up in the literature, arguably highlighting the need for e.g., zombie apocalypse enactment. According to Gerlinger and Schleifer (2021), drills have been shown to scare children, especially if the drills are unannounced. Thus, new approaches, such as the fantasy enactment, are arguably interesting to examine further in future studies about the prevention of lethal school violence. In addition, Gerlinger and Schleifer (2021) mean that schools that use shooting drills often have a safety approach than a proactive approach that is needed for effective prevention. Essentially, schools must prepare for a crisis instead of only reacting when a crisis occurs. This is especially noteworthy since drills are a common method, growing more and more popular, of preventing school shootings and similar events.

In addition, Gerlinger and Schleifer (2021) have compared schools that have shooting drills with those that do not and they found that schools that do were generally more likely to have implemented other security measures as well. Furthermore, they found that drills were the most common in primary schools and in schools with students of different ethnic background. They also state that black students more often express that they feel unsafe, just like Kupchik et al (2022) also argues. Moreover, bullying seemed to be more common at schools with shooting drills, arguably supporting the argument for trust-based approaches. However, Gerlinger and Schleifer (2021) do not completely discredit the use of school drills, instead they advocate for different methods of implementing school drills so that they become more effective and less scary.

There are two main approaches to the prevention of lethal school violence: a trust-based approach and a zero-tolerance approach. Based on the material of this review, there seems to be a consensus that a zero-tolerance approach is largely ineffective and not seldom affect different groups differently. In addition, zero-tolerance approaches seem to be particularly common in the United States.

The third approach, scenario enactment, is very novel and one cannot draw any conclusion about its effectiveness yet. In addition, there are several classifications of leakage and warning behaviour and there is a lack of knowledge of how to respond and manage it, not the least amongst school staff. In general, staff do not have or know the guidelines to manage threats. These gaps in research and practice shows that more needs to be done to effectively handle and prepare for lethal violence in schools.

## **5 Cooperation and threat assessment**

As already mentioned by e.g., Fiedler et al (2020), functioning cooperation between actors both within organisations and between organisations are lacking when it comes to the prevention of lethal school violence. This might of course look very different depending on the country, organisation, institution or company due to organisational and cultural differences, but there are improvements to be done everywhere. The research on cooperation mainly includes case studies or reports investigating what worked well and not and the research regarding threat assessment generally promotes individual threat assessment.

### **5.1 The (lack of) conformity between fields and institutions**

Thodelius et al (2021) have written a book going through five different instances of lethal school violence in Sweden and how judicial, medical and psychological field view the causes and the sequence of events in each case. By doing this, they provide a comparison of perspectives and identify areas where there is a need for more cooperation between these fields in both theory and practice. For instance, they show that in Sweden, the jurisdictional, medical field and psychiatric field have different definitions and views on concepts. In the case of the school attack in Trollhättan, the judicial field defines pathological intoxication differently than

the medical field, making them essentially talk about different things despite using the same vocabulary. This highlights a lack of coordination between the systems that all play a part in the prevention of lethal school violence.

Highlighting the fact that these differences exist between fields is also interesting

when considering that the ones in charge of preventing lethal school violence and in charge of punishing the perpetrators do not speak the same language.

Further, Thodelius et al (2021) mean that there are three strands of research that see the issue of lethal school violence quite differently: research focusing on the character of the perpetrator, research focusing on social dynamics and research focusing on social processes. This categorisation is slightly different from the categorisation of this literature study. The reason for this could be that Thodelius et al (2021) might have had a different sample of literature. I have based my categorisation on the literature I have read, whilst Thodelius et al (2021) probably have made a more general categorisation based on more literature. Nevertheless, the categorisations still have similarities. Mental health and radicalisation e.g., correspond to the character of the perpetrator whilst cooperation and threat assessment as well as approaches to prevention relate to social dynamics. The case studies tangents all parts.

The first strand usually includes the mental health of the perpetrator, the second on the school environment and the third on sociopsychological theories. As mentioned earlier, Thodelius et al (2021) mean that there is a paradox between these different strands, making it difficult to draw any fruitful conclusions. This arguably shows that there is a lack of cooperation in a methodological sense. Furthermore, Thodelius et al (2021) argue that one could risk stigmatising certain individuals when the main focus is on e.g., the mental health of the perpetrator instead of the social processes they are involved in. Lastly, Thodelius et al (2021) do not suggest any concrete solutions to this problem but they also note that lethal school violence is still very rare. They also note that it is important to remember that although it is common to associate lethal school violence with school shootings or attacks, it is far more common with deadly interpersonal violence at schools.

Oksanen et al (2013), show a similar pattern in Finland when evaluating reports about threats to schools. For instance, the individuals that were evaluated in the psychiatric reports show a significantly more positive attitude to violence. They could also personally justify their actions, in this case threats, to a much higher extent, and they often highlighted revenge as a motive. Mental health problems were shown in both reports, although in different ways. Oksanen et al (2013) also

mean that the individuals evaluated in the psychiatric reports pose a seemingly higher threat than the ones in the police reports. Although they do not explicitly state why, they do note that this could be due to the different contexts. In the case of police reports, revealing everything might have legal consequences and therefore the individual might choose to keep quiet or downplay serious threats as jokes whereas revealing details during a psychiatric evaluation might lead to treatment. Important to note, according to Oksanen et al (2013) is that both types of reports are true and aim for finding out the truth, they just do it from different perspectives and therefore yield slightly different results. Moreover, Oksanen et al (2013) means that implementing zero-tolerance policies as a response to school attacks could do more harm than good if they are not implemented very carefully.

Furthermore, Goodrum et al (2017) focus on the actions of school staff in their study. The incident of focus in the study is a school shooting at a high school where a student shot and killed a classmate and then proceeded to shoot himself. Contrary to most other scholars in the review, they focus on interpersonal violence instead of rampage violence. They ask three questions in order to gain more knowledge about prevention: 1) What did the staff know about the student of concern? 2) What factors affected their interpretation, management and sharing of the information? 3) What can we learn from this? The data consists of law enforcement documents, a deposition testimony and records from the school and district. However, the documents do not in any way contain information about the attacker's mental health, Goodrum et al (2017) state. Further, they have conducted some in-depth interviews to get more detailed information. Lastly, Goodrum (2017) mention that most literature on information sharing doing the prevention of lethal school violence focuses on the students and not school staff, which they do.

In this case, the attacker had behaved inappropriately on several occasions during a two-year period before the incident. Goodrum et al (2017) include a more detailed timetable of the attacker's actions in their article but I will only include the most important ones here. He had, for instance, at one point expressed that he wanted to kill his coach and been yelling and swearing at students and teachers, which he was suspended for. However, after a while the assistant principal decided that a threat assessment team needed to evaluate him,

and they came to the conclusion that he was a “low risk” threat. Despite planned follow up meetings, the attacker’s diary show that he started to plan the attack shortly after his threat assessment and he continued to behave as before, although without suspensions.

In their study, Goodrum et al (2017) found that school staff found it difficult to share information about the student to colleagues and security personnel. Goodrum et al (2017) explain that in some instances school staff did know about the behaviour of the attacker, they sometimes did not report it or shared the information with anyone else at the school. Goodrum et al (2017) note that when looking at each instance, the misdemeanours might not seem problematic by themselves. However, when looking at them together, a very problematic pattern emerges, although the lack of reports makes it somewhat difficult to see. Secondly, the school staff expressed that they had difficulties understanding FERPA, a federal law that aims at protecting the privacy of students’ school records. This law contributes to the fact that the staff did not share information with each other or report certain indices as the school staff does not want to risk violating the law. In addition, school staff mentioned that school administrators had explicitly told them that discussing a student’s concerning behaviour is a violation of the FERPA law, adding to the obstacle.

Goodrum et al (2017) argue that it is important to remember that most obstacles to creating a so-called culture of safety are systemic and that one therefore need to be very careful with blaming individuals or certain. The systemic obstacles essentially make it difficult for staff to think outside the box to solve problems. In this case, there seems to be the lack of routines and confusion about regulations. In order to solve these problems, Goodrum et al (2017) argue that it is vital to develop clear guidelines about these types of problems, make sure that the school staff share the problem of information sharing instead of blaming individual teachers and aim for always learning more about what could be done.

However, there are examples where crises have been completely mitigated that provide insights in how to act and communicate. Garcia (2017) has analysed an emergency service call in which one can hear how a potential school shooting in Atlanta, United States, was stopped last minute by a school employee. Essentially, the 911 operator acted as an intermediary between the perpetrator

and the school employee. In short, what happened is that a young man entered a school with a gun with the intention to shoot, and when the school employee he encountered called 911, he was convinced not to go through with his plan. Garcia (2017) has focused on the interaction between the school employee and the 911 operator and how they managed to together stop the young man from committing a shooting.

Essentially, the communication between the young man and the 911 operator consisted by the school employee repeating what both parts said. The school employee also made sure to follow the demands of the young man to not escalate the situation further. As the young man had already fired some shots outside of the school, it was clear that he was ready to go further. I will not include excerpts from the call in this review, although Garcia (2017) does include some in her article to illustrate her points. She mentions some crucial aspects that helped mitigate this crisis. Firstly, she states that it is vital to preserve the autonomy of the potential perpetrator as this will make the perpetrator feel seen and listened to. In this case this is done by the school employee that correctly repeat what the young man says, thus acknowledging that she listens to him. The school employee also asks him if he is willing to give out information, thus acknowledging that he also is a person whose opinions and feelings matter. This action builds trust between the potential predator and the school employee. Furthermore, Garcia (2017) means that it is crucial to both create and maintain contact with the perpetrator. This is usually done by e.g., showing sympathy and being an active listener. The school employee does this by changing her tone when speaking to convey the fact that she sympathises more clearly. At one point she even sounds close to tears when repeating what the young man says. In order to bond with him, she also tells him personal stories he might be able to relate to.

The school employee's techniques turn her into someone that the young man can turn to and trust. Garcia (2017) notes that this is often what a perpetrator needs to by themselves deescalate the situation. She compares it to suicide hotlines. Throughout the call, the young man changes his attitude; he goes from being threatening and angry to being somewhat calm and expressing feelings of sadness. According to previous research, emergency telephone calls can play a crucial role in managing crises, such as a potential school shooting. However, it is

seldom that an emergency call works as well as it did in this case, highlighting the need for more education. This example arguably further indicates that a trust-based approach is the most effective when it comes to the prevention and mitigation of lethal school violence. Of course, in the best of worlds, this situation would have been prevented in a much earlier stage. As we do not know the details it is hard to say exactly how but it might be argued that a trust-based approach would have been the best option, based on previous research.

## 5.2 Threat assessment and warning signs

As earlier mentioned, dealing with leakage and warning behaviour could be a considerable challenge. With a focus on university campuses, Regehr et al (2017) write that there are two main types of threats when it comes to threats against campuses. The first type clearly identifies one or more victims and is not seldom repeated. The second type involves an anonymous threat that is more general to a specific place. Although school shootings are exceedingly rare events, Regehr et al (2017) mention that school staff still must regularly try to manage threats and that it is difficult to manage these threats due to a variety of reasons, some examples being fear contagion, social and mass media, and responsibility. One does not want to respond more than necessary just because of fear, which is complicated by the information flows in media. The approach to deal with both types of threats is to use some sort of risk or threat assessment and the threat assessment team should be multidisciplinary. Many campuses do fulfil this criterion but Regehr et al (2017) state that expertise, such as a forensic expert, is often missing. To improve the threat assessment, campuses need to use more experts, from several professions, in their threat assessment teams.

In addition, a campus essentially works like a society in miniature, with different establishments such as gyms and libraries and many different people using these, making it a very complex environment to manage threats in. This is interesting from an organisational perspective, and one could arguably compare university campuses with the society at large when developing and improving threat and risk assessment techniques. Regehr et al (2017) further mentions that the majority of university students in the United States suffer from bad mental health, especially anxiety. Based on what i.e., Auxemery (2015) and Sommer et al (2020)

have written, the high rate of mental health issues arguably puts university campuses at a very high risk for threats.

In their article, Hollister and Scalora (2015) have applied general criminological and crime prevention knowledge to the field of campus threat assessment, which is generally seen as a very distinct from general crime prevention. Campus threats are generally seen as too rare and too disastrous to be compared with crime in general. First, they mean that knowledge about so-called pre-incident behaviour, e.g., leakage, is lacking within campus threat assessment. School staff and students can identify the behaviours, but it seems like they do not know how to report and to whom, despite its importance for the prevention of violence. Both the frequency and consequences of pre-incident behaviour is, for instance, largely unexplored within campus threat assessment. Hollister and Scalora (2015) mean that certain aspects of campus threat assessment, especially reporting, could be further improved if one also includes what we know about general crime prevention to the context. This makes the knowledge more multidisciplinary. Furthermore, they state that the findings about violence prediction within general crime prevention generally supports the campus threat assessment model. Worth noting is that Hollister and Scalora (2015) explain that the campus threat assessment approach is so established in schools, almost ostracising school staff that do not want to utilise the specific method.

Furthermore, Fridel (2021) means that the level of lethal school violence, especially school shootings, coincide with the general level of other types of crimes in the same area. Based on many other articles included in this review, this seems rather contradictory. In contrast to e.g., Ebbrecht (2022) and Auxemery (2015), Fridel (2021) also argues that there is no indication that school shootings have increased in neither prevalence nor fatality during the last twenty years. Further, Fridel (2021) has found that school shootings are more likely to occur in areas that are generally disadvantaged and a high violent crime rate, i.e., the same areas that generally are more likely to experience high crime rates. Fridel (2021) does note that while bad school environments might play a role in the likelihood for school shootings, she did not include this specific factor in her study. She further means that it might be so that societal circumstances might play a role in further increasing the likelihood for school shootings, which is supported by earlier studies. As previous studies have focused mainly on



individual risk factors, thus making her study relevant as it focuses on the context around it.

An aspect that is only mentioned in one of the articles of the search is people with disabilities. Columbia et al (2019) discuss and investigate the prevalence and need of individual crisis plans for students. They include both physical and mental disabilities in the discussion. It is obvious to see that a student or teacher that needs to use e.g., a wheelchair is more vulnerable during a school attack as they cannot run if a school attacker comes in. However, there are many other types of disabilities and need. A student might, for instance, have problems communicating or interpret information on the same level as other students of the same age or grade. They mean that while drills and other types of preparations might help many students, it will not help students with disabilities. Therefore, they suggest that one should develop a what they call Individual Emergency and Lockdown Plan (IELP) in order to accommodate the different needs of students. Columbia et al (2019) suggest the ones responsible for the education of these children, such as an Individualised Education Program (IEP) team should be in charge with the developing of such a plan as they know the students best.

Today, Columbia et al (2019) state that even these IEP teams fail to consider the fact that disabled students do not have the same ability to independently handle a crisis as the students who are not. Something that could help the IEP team with making a IELP is to fill in a checklist of needs and strengths, which Columbia et al (2019) provide in their article. Furthermore, just as with drills, it is important that this plan is reviewed regularly and that it is communicated very clearly to these students. Due to different abilities when it comes to take in new information it could also be helpful to go through the plan one step at a time during a longer period of time (Columbia et al. 2019).

The fact that only one article in the search regards the subject of students and staff with disabilities during a crisis clearly highlights a huge research gap. Not even the evaluation by MSB (2016) touch upon the subject. In addition, the article is American and thus the practical implementation of IELPs could look different depending on country, further increasing the need for more research on the subject. They mention that schools are often left alone when developing crisis

plans as there is no national plan on how they should look like and that the plans that are developed seldom consider the fact that some students have special needs, thus increasing the workload of the teachers to make sure students are safe. The following is a personal speculation, but I believe that this study indicates that crisis prevention ought to look quite different depending on what grade the students are in, further highlighting the need for more research about the prevention of lethal school violence.

On the same track, Bolante and Dykeman (2017) have investigated the most effective requirements for the creation of threat assessment protocols by conducting a systematic literature review. They state that a well-functioning threat assessment team should be multi-disciplinary and only reference predictors of violence that are based on evidence. They should also make sure to apply individual plans based on each individual case, albeit this could be really challenging.

In addition, Bolante and Dykeman (2017) write that researching threat assessment is a fairly new phenomenon and this contributes to the fact that we do not know a lot about it, which only highlights the need for further research, especially as it is difficult to work practically with what we do already know, they argue. However, they have still identified four different types of threat assessment approaches that have been used. These are: 1) unstructured clinical judgement 2) profiling 3) the use of automated and actuarial tools and 4) structured professional judgement. Unstructured clinical judgement means that e.g., a school counsellor tries to resolve the problem by themselves. This approach is very informal and has not been found to be very effective.

Similarly, profiling has been found to be ineffective. When profiling, one tries to form a picture of a person by combining knowledge about their background, behaviour, thoughts and looks. Profiling has not seldom been described as an oversimplified solution to a very complex problem, especially since many profiling have been incorrect. The use of automated and actuarial tools, i.e., the use of statistics to predict threats, has been proven to be slightly more useful than the previous methods. However, when it comes to school shootings specifically, Bolante and Dykeman (2017) explain that there is not enough relevant knowledge about potential variables to draw any real conclusions. Lastly,

structured focused judgement is the only one of the four approaches that Bolante and Dykeman (2017) is effective and useful. In contrast to the other approaches, structured professional judgement is based on evidence gathered by an investigative method. It also considers the fact that violence is dynamic and that it must be managed continuously as situations change.

Furthermore, Bolante and Dykeman (2017) note that it can be difficult for school counsellors to navigate between safety and privacy. This is such a challenge as there is a general confusion amongst school counsellors when it comes to information sharing. Sharing information can be vital in the mitigation of lethal school violence, Bolante and Dykeman (2017) argue, but school counsellors do not have the right to share all types of information with everyone and these regulations can sometimes be difficult to interpret, especially as they need to take both the safety and confidentiality aspect into account before doing so. They also, like many other previously mentioned scholars, bring up the issue of leakage and warning signs. In addition to what previously mentioned scholars mean, Bolante and Dykeman state (2017) that the threat assessment teams handling these threats and warnings need to be multidisciplinary and that they need to inform students and school staff how to identify leakage and how to report to either school officials or threat assessment teams.

Since every school has its own organisational structure, the school counsellor can have many different roles and responsibilities when it comes to threat assessment and prevention of lethal school violence. They do note, however, that the role of the school counsellor is often instrumental when it comes to threat assessment on college campuses in specific. The threat assessment process is complicated by the fact that the school counsellor needs to comply with laws and regulations, which can look very different in different states in the United States, for instance. This arguably shows that more harmonised laws would be beneficial for school counsellors when developing threat assessment protocols. Harmonised laws could also arguably make cooperation between school counsellors in different states and schools. This is from an American perspective, although one could arguably apply the knowledge gathered by Bolante and Dykeman (2017) to a Swedish context as the conclusion is quite general.

In the case of Finland, Oksanen et al (2015) describe police reports in relation to psychiatric reports in relation to threats about school attacks that they received after previous ones. They have come to the conclusion that neither the police nor the psychiatry really knew how dangerous these threats possibly were. This shows that it is necessary to establish a collaboration between schools, the police force and psychiatry in Finland to be able to handle future threats in an efficient way, relating to the previous section. When analysing the reports, Oksanen et al (2015) used the so-called ACTION threat assessment guidelines. ACTION stands for attitudes, capacity, thresholds crossed, intent and noncompliance with risk reduction. Without going into too much depth, these terms essentially describe what the focus of the framework is. To clarify, the ACTION framework analyses the behaviour of the perpetrator and not any institution.

The threats in Finland were mainly communicated in face-to-face situations and mental health problems were prevalent amongst many who communicated these threats, tying to what many other scholars have stated. Threats on the internet, however, were also common. This is true in both the case of police reports and the case of psychiatric reports. According to Oksanen et al (2015), the relatively high number of threats on the internet is interesting to study as a category since several actual school shooters have been active on the internet. In addition, some individuals expressed threats in several ways, something which Oksanen et al (2015) mean is a should be seen as a big warning sign.

### 5.3 Communication and perceptions

Shifting back focus to the United States, Omilion-Hodges and Edwards (2021) have conducted an experiment where they let students roleplay as message respondents during an active shooter simulation, focusing on how they shared information. The aim of the study is to gain more knowledge on crisis communication. They looked at via what channels information go through when students try to make sense of what is happening and how the messages are framed. First, they explain that crises are incredibly complex communicative events in any organization despite strategies and frameworks to handle crises. This could sometimes be a consequence of e.g., the organisation's stakeholders getting involved in the communication processes.

Omilion-Hodges and Edwards (2021) randomly exposed participants to one of six stimuli, e.g., a tweet and then asked the participants three questions: 1) how they would communicate what they know about the crisis 2) to whom they would do it and 3) what they would communicate. Based on the responses they then measured credibility and responsibility on a scale. The results show that the respondents rated the university's messages higher than friends' messages on the credibility scale. Omilion-Hodges and Edwards (2021) mean that this is somewhat problematic as students are more likely to prioritise reading messages from friends than from the university. In general, students were suspicious of messages from social media due to the risk of phishing and they reflected on the credibility of the sender before deciding how to react to the information. When sharing information, the students prioritised messages to friends and family, namely phone calls. After sharing information via personal messages, the students went on to social media and there they prioritised to reach as many people as possible. The fact that the students prioritised family and friends over social media adds to the literature as it is new information.

In addition, Omilion-Hodges and Edwards (2021) explain that the messages the student send can be either passive or active. The passive messages usually concern safety. One example could be that a student alerts a family member that they are safe, but they do not express that this family member should act in any way. On the other hand, there are many examples of active messages. An active message can include everything from asking for prayer to asking for more information about the shooting. Regarding responsibility, many students thought that they had the same responsibility to inform the public about the shooting, especially when it comes to communicating it on social media. When it came to communicating to family members and friends, the students in general saw themselves as the most responsible.

In addition to this, Omilion-Hodges and Edwards (2021) discuss the issue of desensitisation. They explain that some scholars mean that the extensive media reporting should lead to that people simultaneously believe that the world is meaner than it really is and that they become unable to show emotions, such as fear and sympathy regarding school attacks. According to Omilion-Hodges and Edwards (2021), their study highlights the need for better education about active shooter scenarios in the United States. There is a clear gap between the guidelines

of the government of the United States, e.g., “Run, Hide, Fight”, and how the students acted since the students did not trust official messages as much as they trust their friends. Based on this study, one can also draw the conclusion that students need to be included in the communication crisis plan, which they are not necessarily today.

On the note of perceptions, Carter et al (2022) have asked parents which methods of lethal school prevention they prefer. Carter et al (2022) explain that this has barely been researched at all despite numerous articles about the causes and prevention measures of lethal school violence. They do not state why this is important to study besides the lack of research of the subject, although one could argue that it is important to know what parents, as well as other stakeholders, think about different procedures when communicating and informing about them. Further, Carter et al (2022) means that we live in a polarised society, and this arguably makes communicating “correctly” more important.

The prevention methods Carter et al (2022) have looked at are security measures, threat assessment, zero-tolerance and exploratory procedure. There are many types of exploratory procedures, but the one used in this study worked as a study circle. A group of students were taught how to identify possible predators. This group then had weekly meetings where they evaluated their peers outside of the group and then produce recommendations to school staff. Carter et al (2022) found that whilst the parents generally were in favour of all types of methods, they preferred threat assessment. Zero-tolerance and exploratory procedures were the least preferred methods. However, Carter et al (2022) note that the parents in this study might be generally more knowledgeable about different prevention methods than the general population, decreasing the generalisability of the study.

To summarise, threat assessment and cooperation are complex phenomena in practice. Most scholars agree that threat assessment should not be general, but specific and multidisciplinary. This is, however, quite difficult to achieve due to a lack of resources and functioning cooperation within schools and municipalities. Since most research is American, it is not unproblematic to apply approaches and knowledge without first adapting to a Swedish context. Furthermore, in general, there seems to be a lot of confusion amongst school staff as well as municipalities

when it comes to who bears the responsibility for different parts of prevention and crisis management.

## **6 Case studies**

### **6.1 The Jokela school shooting**

Due to Sweden's spatial and arguably cultural proximity to Finland I have chosen to dive deeper into the Jokela shooting, which is arguably the most (in)famous school attack in Finland. Similar to Ebbrecht (2022), Lounela et al (2021) identifies the Jokela shooting as a so-called hotspot for violent radicalisation in Finland. Lounela et al (2021) emphasise that radicalisation needs to be seen in a context, such as the Finnish society. The process therefore looks different depending on which context it takes place in. This fact further highlights the potential difficulties of applying theories developed in the United States in other countries, for instance. The importance of context further highlights the relevance of diving deeper into the causes and consequences of Jokela shooting in a project with a focus on Sweden.

In short, what happened during the Jokela shooting was that an 18-year-old student at the school, Pekka Auvinen, shot eight people and attempted to set the whole school on fire. He had been planning his deed for several months and his goal was to kill as many as possible. Before the shooting, Auvinen had written several online manifestos in both Finnish and English where he i.e., justified his deed, explained how it would make the society better and expressed how he wanted to become famous by committing this deed. These manifestos as well as his thoughts were expressed and encouraged by members within online communities endorsing aggressive and misogynistic views. The fact the attack was somewhat inspired by the Columbine shooting and that his deed has inspired other school attacks in Finland further shows the pattern of imitation. Additionally, the Jokela case is a great example of the discrepancy described by Ebbrecht (2022) as the perpetrator was shy amongst others but saw himself as an "übermensch". Although the Jokela shooter saw his deed as an act of political terrorism, the media and community mainly discussed it as an individual's tragedy as the fact that the perpetrator was bullied and socially excluded played a part in why he committed the shooting. He had been prescribed SSRI's due to

mental health issues but never received any other help such as therapy (Lounela et al. 2021).

Oksanen et al (2013) have studied the Jokela shooting. Although their study focuses partly on the aftermath of the shooting, they also discuss some possible causes and aggravating factors as to why the Jokela shooting did occur and how it might have been prevented. For instance, they mean that the Finnish culture at least partly contributed to the shooting, as it does not encourage that people talk to people about their problems etc. First and foremost, they explain that cultural aspects are vital in order to prevent and stop behaviours such as bullying and aggression. They then state that some studies indicate that Finland has problems with social cohesion and close social relationships as the Finnish culture, traditionally speaking, favours individualism before social cooperation, leading to a lack of social interaction. They mean that this makes it harder for students to talk about and thus cope with bullying, loneliness and other mental health issues with their peers. For instance, Oksanen et al (2013) note that when compared to other Western countries, the Finnish youth has a high prevalence of mental health issues. Especially the suicide rates stand out in Finland, compared to other countries.

The case of the Jokela shooting is a good example of the pattern regarding mental health issues and weak social bonds. For background, Jokela is a small suburban community in Finland and despite its good reputation of being peaceful, it was widely known that the community had problems with e.g., bullying and drug abuse even before the shooting. Auvinen's mother described that she always felt that she and her family were seen as outsiders in the community. Furthermore, the perpetrator was seen as a so-called "soft boy" as he did not participate in sports activities, which also were the only activities for boys in Jokela. Because of this, the perpetrator was bullied both physically and verbally in school and according to the mother, the school did not take any measures to solve this. Instead, they expected Auvinen to simply fit in and other parents stated that the parents' concerns made Auvinen's problems worse (Oksanen et al. 2013).

However, during the last years before the shooting, sources mean that Auvinen was not bullied although still not really part of the big group. He held very strong political views that irritated students and he had a few close friends that



stated that they worried about him partly as he was very fascinated by school shootings. In addition, several other persons were aware of his fascination for school shootings, but no one reacted until Auvinen got the permission to own a gun. A few months before the attack, his grandmother, who was an important figure in his life, passed away. Oksanen et al (2013) do not mention how this impacted Auvinen, although based on e.g., Sommer et al's (2020) study one could assume that this might have contributed to him committing the shooting. Even before his grandmother's passing, Auvinen felt lonely and turned to online communities to talk to like-minded people, leading to a radicalisation of his views. Despite these seemingly obvious signs as well as reactions from people outside of the family, no measures were taken to prevent the shooting.

Oksanen et al (2013) also state that there are many similarities between the Jokela shooting and many shootings in the United States, indicating that the two countries are comparable despite their many differences. This could be useful when developing prevention policies as most literature on the subject is American. In addition, Oksanen et al (2013) theorise that the general rise of lethal violence in Finnish schools in the early 2000s could be a consequence of the Columbine school shooting in the late 1990s. Moreover, Lounela et al (2021) and Oksanen et al (2013) mean that Auvinen was inspired by the Columbine shooting as well as other shootings in the United States. While Lounela et al (2021) only mention it, Oksanen et al (2013) go as far as meaning that Auvinen related to almost every aspect of the Columbine shooter, even his sexual fantasies.

To summarise the Jokela shooting, one could say that many signs identified in the literature were present, e.g., bullying, bad mental health and radicalisation. Despite this, not much was done to help Auvinen, which is a pattern also seen in literature. If e.g., institutions, teachers and healthcare providers knew more about the prevention of lethal school violence, the Jokela shooting might have been prevented, highlighting the need for more research.

## 6.2 The Trollhättan attack

The Swedish Civil Contingencies Agency (MSB) has in collaboration with the municipality of Trollhättan written an evaluation of how the school attack at the Kronan school in Trollhättan 2015 was handled (MSB, 2016). For background, the

school covers all grades of compulsory school. It shares its premises with an array of other establishments, a café, library, youth recreation centre, citizens advice service and cultural school. This does not only mean that a lot of people had access to the school facilities but also that different institutions had the responsibility of the facilities (ibid: 5, 7). The Kronan school and its organisational structure might not be comparable to other Swedish schools, but it is still a useful example of how collaboration and threat assessment could look like. The report could also be useful as a foundation for policy makers in Sweden as it evaluates several aspects of how the attack was handled. It is also important to mention that 98 per cent of the students had a non-Swedish background, as the perpetrator chose to attack this specific school partly because of that reason (ibid: 7).

In the evaluation, MSB and Trollhättan municipality come to the conclusion that the school attack was overall handled well. For instance, both the alerting to authorities and getting students into safety were handled effectively (ibid: 5). Several staff members called the police, and they barricaded doors and made sure to stay away from windows. Since the attack took place during class this was easier than it would have been during recess (ibid: 6, 16). It is also mentioned that the work after the attack had a clear child perspective and that the psychosocial work for the public as well as staff was well prepared (ibid: 28-29, 32, 36). Furthermore, the internal communication functioned generally well during the attack. Staff reported to their superiors very quickly. The information to the public and media were also well coordinated and prepared. Before publishing information and links to live updates on their website, meetings were held where the different actors within the organisation were partaking. Thus, the information was gathered in one place and easy to find (ibid: 44-49).

Nevertheless, the notes from their meetings are not available or very unclear, which makes it difficult to get an overview of what really happened or were discussed during these meetings (ibid: 14, 42). This could, however, potentially be a consequence of the fact that they were handling a crisis of this sort for the first time. In the report MSB (ibid: 18) explains that another simplifying circumstance was the fact that there were police ready to help close to the school. In my opinion, this highlights the difference between urban and rural areas. School attacks are more common in rural and suburban areas than in urban areas

(Fridel 2021; Oksanen et al. 2013) and looking at it from the perspective of this project, with a focus on Sweden, this is highly relevant. Sweden is, in European measures, a big country with many rural areas where police might be forced to travel very long distances, thus risking that they will not be able to help mitigate a school attack in a rural area. Sifting back focus to Trollhättan, MSB (2016: 18) also mentions that the police let some officials enter the school before the police could guarantee that the perpetrator was not in the building, which MSB state could have led to fatal consequences as the officials then were not allowed to leave the building until the police deemed it safe for everyone to leave.

There were also some things that did not work very well, probably due to a lack of information. The Swedish National Agency for Education has developed support material where it says how one can handle a school attack<sup>1</sup>, material which the school staff did not know about and were therefore not as prepared as they should have been (ibid: 18). However, this is not the fault of the school staff as the principal has the responsibility to inform the staff about this type of material. Despite this, MSB (2016: 49) states that the school staff still managed to handle the crisis in an effective way. I argue that the fact that MSB and the municipality of Trollhättan have chosen to write an evaluation together might indicate that we will see more collaboration within this field in the future. They also note that it is important that other municipalities learn from the management of the school attack in Trollhättan as we today lack a lot of knowledge on how to do it (ibid: 54-55). The governing documents also did not concern all of the functions in the municipality which naturally led to that not all staff were informed of how to act in e.g., a school attack, which is against the regulations by the Swedish Work Environment Authority (ibid: 60). Based on the evaluation by MSB and Trollhättan municipality, the school attack was somewhat mitigated, especially with regards to the circumstances (ibid: 49).

Compared to the Jokela case, the focus is more on collaboration than radicalisation in the Trollhättan case. Despite this, it is clear that research about

<sup>1</sup>

<https://www.skolverket.se/download/18.6bfaca41169863e6a65b118/1553965697772/pdf3284.pdf>  
<https://www.skolverket.se/download/18.6bfaca41169863e6a657af8/1553961052641/pdf2238.pdf>

the prevention and mitigation of lethal school violence is needed. It is also vital that this information reach e.g., school staff and police.

## 7 Conclusion

There is a lacuna to fill when it comes to research about the prevention of lethal school violence, both methodologically and spatially. The fact that lethal school violence is rare contributes to that there are many qualitative studies. In addition, the many different definitions make the subject difficult to study. Moreover, the fact that most literature is American highlights a huge research gap, especially since school attacks have occurred in Nordic countries. However, the conclusions drawn from those studies could still partly be applied to a Swedish context. Most conclusions are quite general and thus approaches to prevention and threat assessment models could potentially be modified to fit a Swedish or Nordic context.

Based on this literature study, there seems to be a consensus that zero-tolerance approaches do not prevent lethal school violence, quite the contrary. Several scholars argue that zero-tolerance approaches could in fact scare students and contribute to a bad school environment. Further, some scholars state that students from marginalised groups are usually targeted more often by this approach which highlights that it is important to keep the heterogeneity of a community in mind when developing prevention strategies. In contrast, trust-based approaches are generally deemed to be successful as they e.g., contribute to a better school environment and diminish the code of silence amongst students, thus making them report threats to school staff. The use of SROs could also be beneficial if they manage to gain the trust of the students. Scenario enactment is quite novel and could have both positive and negative effects, depending on how the enactment is designed and conducted. It is certainly something that needs to be more widely researched in the future.

The fact that students and staff with disabilities is only mentioned in one article also highlights a big research gap that needs to be explored in order to increase safety in schools. Furthermore, the research also shows that there seems to be a general lack of coordination both within schools and between school and other institutions such as the jurisdictional system or the municipality. In general, there

school staff do not know to whom they should report concerns or warnings about a school attack. There is also a lack of knowledge amongst school staff how to identify warning signs amongst students. How to deal with this will of course look different depending on organisational structure but the main takeaway is that there needs to be routines in place regarding e.g., communication channels that everyone in the staff are informed about.

There are almost endless possibilities for future research, some of which I have already mentioned, not least when it comes to research conducted within a Nordic or Swedish context. In terms of methodology, the definition of a school attack could potentially be improved. As briefly mentioned earlier, there is almost no research at all that includes students and staff with disabilities. The connection between mental health or radicalisation and school attacks are well researched, but as there still are some uncertainties about what the causal mechanism looks like. In addition, most scholars focus on micro- and meso level factors, giving many opportunities to look at the prevention of lethal school violence on a macro level in future studies.

Lastly, there seems to be a gap between the research and practice. School staff, police, healthcare workers etc do not have enough knowledge about how to prevent lethal school violence. In addition, the institutions involved in these crises need to be more coordinated. These gaps need to be bridged in order to be able to prevent lethal school violence.

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