[Introduction]

Though it was not the first of its kind, the shooting at Columbine High School in 1999 marked a watershed moment for American K-12 education. School shootings have been a persistent feature of American public education since then; such events captivate the national media and public discourse, though often only for brief periods of time (citation). Much research and public discussion has focused on the theoretical causes of such incidents, with variable focuses on individual qualities such as mental health or access to guns, community contexts such as bullying or inequality, and cultural contexts such as toxic masculinity, the media, or political contexts (Muschert, 2007). Schools reacted by implementing metal detectors and increasing police presence, though this response was racially disparate (citation?). The main line of research and discourse has operated on the assumption that identifying the causes of such incidents can allow schools and policymakers to reduce their frequency. For example (insert section on Virginia Threat Assessment here, cf. Cornell)

Occasioned by the 19th anniversary of the shooting in Littleton, Colorado, the Washington Post published a dataset of every school shooting in the intervening two decades[[1]](#footnote-1). The data suggest that rather than being an increasing trend, as perhaps portrayed in the media and argued by some researchers (Cohen, Azrael, & Miller 2015), these data show that the frequency of such shootings has remained roughly constant, with about 11 (plus or minus 3) such incidents per year. Neither have any prevention efforts made a reduction in the frequency of mass shootings: in fact, at the time of writing of this literature review, there have already been 13 such incidents, indicating that 2018 may be an outlier year for the phenomenon. School shootings are a consistent fact of life in American PK-12 education which must be considered on those terms. Unless and until they can be reduced in number and severity, policy must be created around how schools and communities can react to them to mitigate their effects.

The data suggest that such shootings happen at all grade levels, with elementary schools represented (e.g. Buell Elementary School in 2000, when a six-year-old targeted and killed an individual at his school with a handgun) as well as shootings in post-secondary education such as the Virginia Tech incident in April, 2007. The greatest number of these incidents are targeted killings of other individuals within the school; however, the greatest number of casualties come from indiscriminate killings with no apparent targets other than the school community itself. As such, these school shootings can be considered to be a kind of *collective* trauma, impacting more than just those students who are physically victimized but also myriad school and community members who will experience varying levels of post-traumatic stress and psychological and mental health needs as a result of the incident. Numi (2012) describes this kind of trauma as being created by a disaster that damages the bonds of the community, where the community itself is the victim. Mass shootings at schools are thus unique in two important ways: first, the target and by extension the victim is the community itself, and secondly, these incidents are an *acute* trauma rather than a *chronic* trauma. There is a large body of literature (citation) on schooling in communities where violence is a quotidian problem, but mass shootings are a phenomenon with unique causes and effects, and policies must be considered which address them specifically.

It is on these terms that this paper will review the literature: it will engage with some literature on trauma and schooling in general but will focus on incidents of mass trauma with an emphasis on violence in and around schools. How much is known about the extent of psychological trauma experienced by those who survive incidents of school violence or crisis, and what programs and policies have been studied which attempt to lessen the impact of such events? Moreover, how do school districts attempt to resume normal operations of schooling and community functioning in the wake of such incidents?

2) What happens to kids (leave out disasters)

It is well-known that exposure to violence has numerous impacts on children’s wellbeing, both for their mental health and for their functioning within schools. Students who have been exposed to violence of any kind are more likely to exhibit behavioral and emotional difficulty such as oppositional behaviors or aggression (Ayer et al., 2017) and the effects of such violence tend to be more pronounced for groups who are already at risk: Males, African Americans, high school students, lower income students, and urban students are all at a greater than average risk for exposure to violence of any kind (Bowen & Bowen, 1999) and it has been shown that low-income students, racial minorities, or those with extant emotional and behavioral difficulties (Ayer et al., 2017, Sharkey et al., 2014) are more severely impacted by exposure to violence than other groups.

For schooling, the effects of exposure to violence go beyond conduct and behavior. For example, Jaycox et al. (2006) note that students who have been exposed to violence have been associated with decreased IQ and reading ability (Delaney-Black et al., 2002) and lower GPAs (Hurt et al., 2002), as well as more frequent absences and decreased likelihood of graduation (Beers and DeBellis, 2002; Grogger, 1997). Students can be exposed to violence in the home, but even unrelated violence in a students’ neighborhood can decrease test scores or likelihood of passing (Sharkey et al., 2014). Exposure to violence in the form of war and civil conflict has even larger impacts on students’ access, attainment, and achievement (Burde & Linden 2013; Dabalen & Paul 2012; Shemyakina, 2011; Swee, 2015).

Unsurprisingly, mass shootings have been found to impact students’ mental health, attention, and ultimately school achievement. Strom (2016) details these effects in a study of students who were present at a shooting at a summer camp in Norway. These students’ grades dropped in the year following the attack but had begun to recover in the second year. Additionally, they were more likely to be absent from school following the event. Dyb et al., (2014a) interviewed the same population of victims and found that the prevalence of PTS-levels were six times higher among these adolescents than in the general population. They also found that gender, ethnic minority status, level of exposure, peritraumatic reactions, interpersonal loss, and current pain were all significantly associated with PTS symptomology for survivors of the shooting.

In two separate incidents in Finland, students targeted and killed peers before committing suicide. Nurmi (2011) used surveys and interviews to investigate community-level effects after one of these shootings. While the trauma did enhance feelings of solidarity, students reported that their experiences with community outsiders were harmed. For example, one participant indicated that she believed that fewer students would seek to go on to the next level of schooling, which would require them to go to a nearby town, as students would wish to avoid exposure to students who may inquire about their experiences with the shooting. This finding is important, as it is known that processing and discussing traumatic events can be helpful; however, it appears to be important that such processing occurs within a community rather than with outsiders. This need to avoid discussion with non-community members may underlie the finding that student victims of community trauma are more likely to miss school in the aftermath. Nurmi (2011) indicates one more crucial feature: processing with peers may hinder progress relative to discussing traumatic events with teachers and parents.

However, the effect on school attendance appears to be multifaceted; Brener et al. (2002) found that students at Columbine high school reported occasionally being too fearful to attend school in the wake of the tragedy.

Liao et al. (2015) fit a two-piece growth-curve model to student disruptive behaviors and found that there was an increase in such behaviors in the time following a school shooting in their data set.

MOVE THIS INTO EFFECTS ON COMMUNITIES

For example…

3) Define the scope of this review (more thorough than in introduction – include blockquote on community trauma here)

4) what we can do with community level trauma

5) what do we know about fixing it?

6) implications for policy?

6a) research on it?

6b) How would I use the project SERV dollars?

6c) suggestions for future program of research?

The theory contends this causal model: school violence increases the likelihood that students will experience negative emotional and behavior states, such as disruptive behaviors. These cognitions and behaviors then function to decrease student achievement. With appropriate data, it may someday be possible to fully trace this structural model to determine more precisely the ways in which violence, mental health, conduct, attendance, and achievement interact.

1. These data are available at https://github.com/washingtonpost/data-school-shootings [↑](#footnote-ref-1)