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Psychological Profiles of School Shooters: Positive Directions and One Big Wrong Turn

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A wave of school shootings in the mid- to late 1990s led to great interest in attempts to “profile” school shooters with an eye both on identifying imminent perpetrators and preventing further incidents. Given that school shootings are generally rare, and many perpetrators are killed during their crimes, the availability of school shooters for research is obviously limited. Not surprisingly, initial profiles of school shooters were arguably of limited value. Although school shooting incidents, particularly by minors, have declined, some evidence has emerged to elucidate the psychological elements of school shooting incidents. School shooting incidents may follow extreme versions of etiological pathways seen for less extreme youth violence, and youthful school shooters appear more similar than different to adult perpetrators of mass shootings. The quest to understanding school shootings has led to several wrong turns, most notably the quixotic desire by politicians, advocates, and some scholars to link both school shootings and less extreme youth violence to playing violent video games, despite considerable and increasing evidence to the contrary.

KEYWORDS *School shootings, youth violence, aggression, computer games, video games*

Mass homicides on academic campuses (henceforth referred to as “school shootings”¹) were not a new phenomenon to the 1990s. Charles Whitman, the 25-year-old University of Texas sniper, killed 16 and wounded more

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than 30 during one of the most famous and fatal incidents in 1966, and numerous smaller non-headline-grabbing incidents occurred both before and after (United States Secret Service and United States Department of Education, 2002). However, the 1990s saw an unusual string of such incidents, particularly those involving relatively young teen and even preteen shooters. Depending on how one counts them, these incidents began roughly with that of Gang Lu at the University of Iowa in 1991, who may have been aggrieved over a slight to his physics dissertation, and concludes with at least five incidents in 1999, including the infamous Columbine High Massacre. The 2002 report by the U.S. Secret Service provides a rough outline of school shooting incidents, and the relative peak in the 1990s is quite clear. Of course these “famous” incidents likely eclipse many more “lesser” shootings on school campuses that did not garner media attention, particularly those at inner city and minority schools where violence may be less surprising. It is probably safe to say this rash of school shooting in the U.S. took society by surprise, leading to fears of an “epidemic” of juvenile superpredators (Killingbeck, 2001; Muschert, 2007). Soon followed demands for answers on why this rash of mass homicides among the young had occurred; how such perpetrators could be identified in advance; and what steps parents, teachers, and government could take to prevent further incidents. The result was a considerable amount of misinformation and arguably considerable damage to individual youth, scientific integrity, and misguided public policy. As the 1990s turned to a comparatively calm 2000s, researchers can now look back and understand a bit more about the school shooting phenomenon of the 1990s and more recent events of the 2000s.

THE DEMAND FOR ANSWERS—WHETHER GOOD ONES OR BAD

The phenomenon of increased school shootings in the 1990s must be understood in the context of violent crime rates more generally. From a period beginning roughly in the late 1960s, and particularly peaking in the 1980s and 1990s, the United States experienced one of its periodic crime waves (others having occurred in the 1930s and late 1800s). By 1993 this violent crime wave, including youth violence, began to decline, although the strength of this decline likely was not fully apparent until the early 2000s. As of this writing, youth violence is at its lowest level since the mid 1960s—that is, before the major crime wave began (Childstats.gov, 2010). These trends were not unique to the United States, as most other industrialized nations saw similar rises and falls across the same period (van Dijk, van Kesteren, & Smit, 2007), although the United States stood out in sheer numbers, particularly regarding homicides. Compared to the U.S., for instance, the United Kingdom had similarly high violent assault rates, but lower homicide rates (Nicholas, Kershaw, & Walker, 2007).

Thus, the rash of school shootings in the United States occurring in the 1990s appears to lag behind more general youth violence trends. That is, as youth violence began to decline, mass homicides perpetrated by youth and young adults at academic campuses spiked. Part of this may owe simply to fluctuations in very rare phenomena, a certain degree of copycatting, and the tendency to define only certain attention-getting mass homicides as “school shootings” while ignoring a wider range of incidents, particularly among inner city or minority youth in which youths shoot people in schools. Events in Europe and elsewhere appear to have lagged further still, with a relative peak of European school shootings in the 2000s (with Germany and Finland in particular seeing multiple events) and a rash of school *knifings* in China in the late 2000s.

It is important to understand the rates of school shootings in light of Killingbeck’s (2001) warnings regarding the social construction of the phenomenon. Although mass homicides with multiple victims are, of course, notable, events with fewer victims that may previously simply have fallen under the general youth violence umbrella may now shift under the “school shooter” umbrella, making difficult an examination of prevalence trends over time. For instance, only an event like the University of Texas sniper case in 1966 may withstand the test of time when looking back retrospectively to the 1960s, with many shootings on school campuses forgotten because they never received headline attention. The best current evidence suggests that single homicide shootings in the United States have declined along with general youth violence rates, but that multiple homicides have remained stable across the 2000s (Centers for Disease Control, 2008). Of course these events generally remain rare, and discussions of prevalence of such events must be considered in light of this rarity (Wike & Fraser, 2009). For example, the steady rate of rare occurrences may be understood simply as a facet of an exploding youth population. In the context of an increasing population, even very rare events are bound to become more common in absolute numbers even if their per capita rate remains constant.

With that in mind, many scholars have commented that public concerns about school shootings were somewhat out of sorts with the actual rarity of the events (Ferguson, 2008; Killingbeck, 2001; Muschert, 2007; Wike & Fraser, 2009). These public concerns may be understandable, given the ferocity of the multiple homicide events, the fact children were victims, and the sense of helplessness fostered by the perception that such events could happen in any community (not just, one might cynically add, in inner city or minority communities where they might be “expected” and ignored).

Public fears demanded answers in hopes of providing some veneer that future events could be prevented, most typically through notions of profiling, which offered the possibility of identifying likely shooters before the acts were perpetrated. Most scholars recognize that empirical evidence on school shooters is slim (Borum, 2000; Ferguson, 2008; Hong, Cho,

Allen-Meares, & Espelage, 2011; Langman, 2009; Wike & Fraser, 2009) and that “profiles” of school shooters carry considerable risks of overidentification (Mulvey & Cauffman, 2001).

Notwithstanding this, several attempts have been made at developing such profiles, typically aimed at “school violence” more broadly than just school shooters. The American Psychological Association (APA; <http://www.apa.org/helpcenter/warning=signs.aspx>, accessed 2010, although origin date is unspecified) maintains a web pamphlet on the warning signs of youth violence. Beginning with a melodramatic one-word sentence—“Violence. It’s the act of purposefully hurting someone. And it’s a major issue facing today’s young adults.”—the last statement being somewhat at odds with plummeting youth violence rates, the pamphlet goes on to list a series of “warning signs” for serious youth violence. Some of these—“enjoying hurting animals,” “detailed plans to commit acts of violence,” “announcing threats or plans for hurting others”—are quite reasonable, although one suspects visiting the APA website should not have been necessary to identify these as warning signs. Others such as “frequent physical fighting” have merit, but are vague (i.e., how frequent is “frequent”?). Yet others, such as “feeling rejected or alone,” “poor school performance,” “access to or fascination with weapons, especially guns” (which sounds reasonable on the surface, but is probably quite common in males), could probably apply to large swaths of mentally well juveniles. The APA pamphlet also makes statements that have largely been discredited in recent research such as that “[v]iolence is a learned behavior” (for an overview of the genetic and evolutionary roots of violence, see Ellis & Walsh, 1997; Ferguson & Beaver, 2009) or the notion that viewing media violence contributes to violent behavior, an idea popular in some circles, but never the recipient of good supporting data (see Grimes, Anderson, & Bergen, 2008; Olson, 2004; and Savage, 2004, for discussions).

Perhaps more influential was a threat assessment for school shooters provided by the Federal Bureau of Investigation (FBI; 1999). The FBI cautioned against overuse of this “profile,” stating that it should be used only after an individual has made a threat in order to judge the credibility of the threat. Such a protocol may go some way to addressing the generally low specificity of profiling tools. As with the APA pamphlet, the FBI report cannot resist beginning with a dramatic opening statement—“Youth violence has been one of the greatest single crime problems we face in this country.”—which once again seems dated in retrospect. As with the APA pamphlet, the FBI report (which is, to its credit, more detailed in how the conclusions were reached) is a mixture of reasonable conclusions (e.g., “injustice collector,” “dehumanizes others,” “lack of empathy”), vague (“unreasonable interest in sensational violence”) and overly broad warning signs (e.g., “failed love relationship,” “attitude of superiority,” “exaggerated need for attention,” “externalizes blame,” “closed social group,” and “fascination

with violence-filled entertainment”). The use of vague descriptors such as “unreasonable” and “inordinate” when describing things such as interest in violent themes (which in moderate amounts are common to almost all males and many females), are particularly unhelpful given the subjectivity of any assessments based upon them. In fairness to the FBI report, they do caution against overuse of their warning signs, acknowledging these risks; however, the risks of these kinds of broad and vague warning sign lists are great with the overidentification of many harmless youth who may be stigmatized or simply offended to be mistakenly identified as “violence prone.” Further, the FBI report has come under some criticism for the relatively low number of cases used in developing the profile (Reddy et al., 2001).

The APA pamphlet and FBI threat assessment were certainly well-intended documents, although they mixed together a certain degree of empirically valid information, common sense, and nonsense together, producing documents that ultimately are unwieldy and unreliable. However, both groups undoubtedly were doing their best to respond to vocal demands for answers from policy makers and the general public. Of course such demands can take on something of a life of their own, with the public arguably preferring relatively simple answers offering the promise of an easy solution. For instance, in their analysis of the Columbine High shootings in 1999, Lawrence and Birkland (2004) found that news media tended to focus on external factors such as movies, music, and video games, as well as the Gothic subculture, rather than on internal factors such as the depression and psychopathic traits of the perpetrators themselves. Such a view arguably presents a nostrum in which school shootings are the product of a societal error rather than an internal problem within individuals; such a societal problem could be fixed via legislation and government intervention. Such moves are arguably a double advantage for governments, giving politicians the near-unassailable veneer of being “concerned for children” while simultaneously expanding government power and influence. They also may result in major deviations and distractions that can set back understanding of complex phenomena for years. As one such example, understanding of school shooters became largely mired in a debate over video game violence that only now is beginning to be unraveled as a spectacular wrong turn.

UNDERSTANDING THE PANIC OVER VIDEO GAME VIOLENCE

If fears of school shootings can be understood as a moral panic in which societal response seemed both emotionally laden and out of proportion with the actual risks (Killingbeck, 2001; Muschert, 2007), then the diversion into the issue of violent video games can certainly be understood within the same vein (Ferguson, 2008; Grimes et al., 2008; Kutner & Olson, 2008). Societal concern about emerging violent video games such as *Mortal Kombat* and *Street Fighter* certainly predated the school shooting peak of the late 1990s.²

In one incident of remarkable hyperbole, Senator Joseph Lieberman referred to violent video games as “digital poison” (CNN, 1997). However, the focus on the Columbine High massacre, with the observation that Eric Harris and Dylan Klebold had played the violent game *Doom* (ignoring that almost all boys play violent video games, suggesting that the specificity of this particular datum is approaching zero) put incredible focus on video games as a source of school shootings. Some scholars also became involved, making implicit or explicit links between video game violence and school shootings (Anderson, 2004; Anderson & Dill, 2000) and in one remarkable example (Bushman & Anderson, 2002) even the 9/11 terror attacks. Such comments by scholars ultimately came under withering criticism (Ferguson, 2007; Kutner & Olson, 2008; Sherry, 2007), and to the credit of the scholarly community, such comments have largely ceased. For instance, in one of the most poignant lines of the video game debate, John Sherry (2007) asked, “Further, why do some researchers (e.g., Gentile & Anderson, 2003) continue to argue that video games are dangerous despite evidence to the contrary?” (p. 244). We have reached a point where we can begin to understand that, not only are video games not a factor in school shootings (see, for example, the U.S. Secret Service 2002 report on school shooters, which found no evidence for unusually high levels of video game or other media violence consumption; see also Ferguson, 2008, for a more thorough evaluation of this report), but they do not appear to be correlated with, let alone a causal factor in youth violence more broadly (e.g., Bosche, 2010; Desai, Krishnan-Sarin, Cavallo, & Potenza, 2010; Ferguson, 2011; Kutner & Olson, 2008; Olson, 2004; Sherry, 2007; Williams & Skoric, 2005; Ybarra et al., 2008³). Indeed, research reports, narrative reviews, and meta-analyses that challenged the causal view have begun rolling in with increasing regularity. Furthermore, as already noted, during the time video games soared in popularity and violence content, youth violence plummeted to 40-year lows (see Figure 1). Naturally, video games are unlikely to be the cause of this youth violence decline, but these data do raise concerns that the causal view of video game violence is out of synch with real-world crime data. Advocates of the causal view may claim crime data does not matter (although some of these same scholars cited rising crime numbers when the data conveniently suited them, e.g., Bushman & Anderson, 2001), but this position is scientifically lazy, effectively reducing the causal position to a nonfalsifiable (and thus pseudoscientific) position in which it need never explain why it conflicts so clearly with criminological data. Thus we assert the time has come to reject the hypothesis that video games cause youth violence, based both upon youth violence data as well as the best evidence now emerging from psychological science.

If video games do not cause youth violence, and school shootings in particular, what gave rise to predominating public and even scholarly beliefs that such causal links existed? It may be illuminating to examine a brief history of the study and concerns about video games.

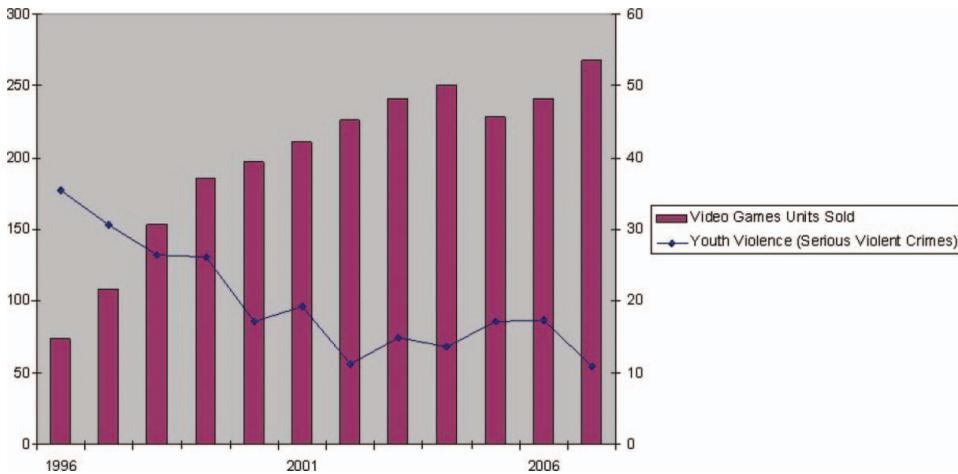


FIGURE 1 Youth violence and video game sales data. Video game sales data source: The NPD Group, Inc./Retail Tracking Service. Youth violence data source: Childstats.gov (color figure available online).

A Historical Look at Society's Reaction to Video Games

Prior to approximately the year 2000, most scholars studying video games acknowledged that research results were inconsistent (Anderson & Ford, 1987; Dominick, 1984; Kirsh, 1998; Scott, 1995; van Schie & Wiegman, 1997; Wiegman & van Schie, 1998; Winkel, Novak & Hopson, 1987). In many cases, scholars who investigated video games did so for only a study or two, before returning to other research agendas. Many of the “violent” video games studied in experiments were games such as *Centipede*, *Zaxxon*, *Pac-Man*, etc., which few individuals familiar with games would take seriously as “violent” games at present. Nonetheless, this did not prevent some politicians as well as some scholars from taking the notion of an influence on aggressive acts in real life seriously (Anderson & Ford, 1987). Despite these inconsistencies in the results, public concern grew once games such as *Mortal Kombat* and *Street Fighter* introduced greater degrees of graphic person-on-person violence than had been common beforehand.

Beginning in approximately 2000, scholars who had previously been active in television violence research⁴ became more highly involved in video game research (e.g., Bushman & Anderson, 2001; Huesmann 2010). Many of these scholars were close colleagues, coauthoring on various papers. It is interesting to note that the language of video game effects became one of extreme causal certainty in a very short span of time (e.g., Anderson, 2004; Anderson & Dill, 2000), despite little change in the inconclusive nature of the data available in that time frame (Ferguson, 2007; Sherry, 2007). As noted earlier, however, criticism of this extreme view has increased in recent years (e.g., Block & Crain, 2007; Ferguson, 2007; Kutner & Olson, 2008; Olson,

2004), and outside of this large, influential group, the tone of video game research within the scholarly community is gradually returning to one of moderation and qualified statements. The degree to which ideology and dogma influenced the extreme statements of some scholars has been well documented (see Grimes et al., 2008, for an excellent discussion). No one, including us, seriously denies that video games, like any other media or technology, can have negative as well as positive effects. What is becoming increasingly clear is that whatever their other effects may be, video games play no causal role in violent behavior.

Public discussions of video game violence arguably followed a parallel arcing course. Anderson and Ford (1987) suggest politicians had publicly wrung their hands about video games at least as far back as the 1980s. However, the bloody fighting games and first-person shooters emerging during the 1990s triggered increasing amounts of public and political scrutiny, culminating in Lieberman's dramatic "digital poison" comment. The school shooting incidents of the 1990s added fuel to the fire and ultimately sparked hearings on violent entertainment at the U.S. Senate (Bruni, 1999). In order to forestall regulatory legislation, the entertainment software industry established the Entertainment Software Ratings Board in 1994. (International ratings boards such as PEGI and British Board of Film Classification perform the same role overseas, sometimes with great controversy. Australia, for instance, has refused to allow an R18+ classification for highly violent video games in that country, despite much protest and support for such a classification.) The ESRB ratings have been praised by the Federal Trade Commission and the Parents and Teachers Association, as well as many state attorneys general, and have received independent research support for their validity (Ferguson, 2011). This has not stopped at least 10 states and municipalities within the United States from introducing legislation regulating the sale of violent games to minors. All efforts have thus far failed, often with criticism of the "research" used to support such legislation. In June, 2011 the U.S. Supreme Court (SCOTUS) struck down a California law banning the sale of violent video games to minors. In addition to noting First Amendment concerns, SCOTUS dismissed the research as unconvincing, noting considerable methodological flaws within the field.

Several activists and activist groups have been prominent in expressing extreme views of the "harm" video games may cause, often with extreme and one-sided presentations of the research.⁵ David Grossman (Grossman, 1995; Grossman & Degaetano, 1999) is a veteran and self-proclaimed "killologist" who has referred to games as "murder simulators" and implicates them directly as a cause of school shooting incidents. One of his primary arguments has been that video games, particularly first-person-shooter games, are similar to simulators that the military uses to train soldiers (many military simulation systems are inspired by first-person shooters and in several cases have been based on the game engines themselves). In part this analysis is

based on comparisons of the rates at which soldiers fired at the enemy during WWII as compared to during more recent conflicts. However, this comparison has been criticized (Ferguson, 2010) for contrasting the poorly trained, poorly equipped, nonprofessional, largely conscripted soldiers of WWII, with the professional, volunteer, highly trained, and exquisitely equipped modern American soldier, differences between which can hardly have been localized to the use of digital simulators in training. It is notable also that Grossman (1996) claims that the WWII nonfiring rate of approximately 75% had, by the time of the Vietnam War, dropped to a mere 5%—a dramatic change at a time when video games did not yet exist. Furthermore, Ferguson (2010) observes that police use shooting simulators to *reduce* bad shooting incidents among police officers.

Another activist to garner significant attention was former Florida attorney Jack Thompson, who exhibited particular media savvy and discussed video games in extreme terms, implicating them in school shootings such as the Virginia Tech massacre in 2007 (Beneditti, 2007). In the case of Virginia Tech, it ultimately turned out that the shooter was not a video gamer (Virginia Tech Review Panel, 2007).

The confluence of politicians, activists, and some scholars, often working together, to create a narrative in which video games could be “linked” to school shootings (see Anderson, 2004, as an example from academia) can be understood through moral panic theory. Other scholars have described at length how moral panic theory can explain societal interest in video game violence as a “cause” of school shootings or youth violence more generally (see Ferguson, 2010; Gauntlett, 2005; Grimes et al., 2008; Kutner & Olson, 2008 for discussions). Put briefly, information was selectively garnered and selectively interpreted to support a preexisting belief without any rigorous attempt to test it. Undoubtedly, most of the individuals involved were acting in good faith and unaware of the greater processes at play. However, one result has been the repetition of urban legends such as that 3,500 studies of media violence had been conducted with only 18 finding null effects (see Freedman, 2002, for debunking) or that effects of media violence could be compared to smoking and lung cancer or other medical effects (see Block & Crain, 2007, and Ferguson, 2009, for debunking).

Arguably, perhaps optimistically, some signs are appearing that suggest society may be moving past the moral panic over violent video games. Even “antigame” scholars seldom reference “links” between video games and school shootings in their scholarly work any longer. Perhaps this comes in response to intense criticism of these comments by other scholars, although this is speculative. Similarly, the recent SCOTUS video game case has not seen a wellspring of support from the general public, with opinions mixed at best. Recent violent video game releases such as for Activision’s *Call of Duty: Modern Warfare* series have seen greater press attention to the scope of their sales or their artistic merits rather than controversies over violence.

This is not to say that controversies, debate, and even nonsensical hyperbole over violent video games is over; however, we may be seeing an initial point in the inevitable ebb of such a panic as the populace is realizing that the widespread availability of violent games has not led to an outbreak of violence in youth.

As noted, research is accumulating that violent video games are not a causal factor in any form of youth violence, let alone school shootings. Thus, with this considerable wrong turn laid to rest, what can research offer us about what might be real factors in the etiology of school shootings?

UNDERSTANDING THE PSYCHOLOGY OF MASS SHOOTERS

Perhaps part of the problem in the wrong turn over video games was the implication that young school shooters represented a distinct group of individuals from adults who commit mass homicides. For instance, in the rash of school knifings in China, the Ft. Hood shooting by an military psychiatrist, and the University of Alabama shooting by a middle-aged female biology professor, nary a mention was made of video games. Indeed, society may spend too much time focusing on the idiosyncratic features of individual mass homicide perpetrators (such as video games, radical Islam, or the tenure system) and too little time looking for commonalities between them.

As mentioned earlier, the rarity of school shooting events, coupled with the degree to which many perpetrators are killed or commit suicide during the events, limits the pool of participants for research endeavors. As such, empirical research on school shooters is near nonexistent. The biggest exception to this is the report compiled by the U.S. Secret Service and Department of Education in 2002 (United States Secret Service and United States Department of Education, 2002). This report analyzed 37 school shooting incidents from 1974 to 2000, comprising 41 attackers. Source materials were mainly court, school, mental health, and legal documents on the perpetrators, supplemented with interviews with 10 of the surviving perpetrators in custody. Though the best available research on school shooters, this report is limited in several important elements. The biggest issue is that the report is largely descriptive and does not make use of a matched sample of nonshooter youth. However, several important pieces of information can be garnered from this report.

First, the report makes clear that no reliable “profile” of school shooters existed. Although some commonalities emerged, few were universal, and many differences existed between individual school shooters. The popular image of a school shooter as a socially inept loner experiencing constant bullying (and playing violent video games) until they “snapped” did not emerge in the report.

According to the Secret Service report, consumption of violent media among this group was unremarkable at most, perhaps even lower than is normal. Whereas the vast majority of children, particularly boys, consume at least some violent media (Ferguson, 2011), only 15% of shooters (after eliminating several early cases where the perpetrator likely had no to little opportunity to play violent games, see Ferguson, 2008) displayed “some interest” in violent video games. Only about half (59%) displayed “some interest” in violent media of any kind, whether television, books, or whatnot, considerably lower than for nonshooter males from other studies (although, in fairness, a direct comparison is difficult given the ambiguity of what constitutes “some interest”). The largest exposure to “media violence” came not from books, video games, or television, but (at 37%) from *their own poems, essays, or journals!*

Social isolation also was not particularly common among school shooter youth. Most had friends and nearly half (41%) were part of mainstream social groups (27% were part of “fringe” groups, but had friends). Only 12% had no friends, and 34% were described as “loners” (and these two categories were not mutually exclusive). Again, there was no comparison group, but even if these numbers are higher than normal, they by no means indicate a universal trend. On the other hand, a large proportion (71%) *perceived* themselves as wronged, bullied, or persecuted by others. This may reflect perceptions on the part of the perpetrator rather than a real state of affairs. School and family backgrounds also seemed less than remarkable.

The feelings of persecution, which may or may not have reflected reality, offer one potential insight, and when the Secret Service examined the mental health histories of the perpetrators more consistent findings emerged. Not surprisingly, few perpetrators had received mental health services in the past or been diagnosed with mental health problems. However, this may represent a failure of the mental health system, such as it is, or perhaps more accurately a failure of society to support and fund any real semblance of a mental health system. Almost all (98%) of perpetrators had experienced some major loss prior to the incident. Despite most not receiving services, the majority had a history of suicide attempts or ideation in their past (78%) or a documented history of significant depression (61%). As such, the picture emerges of a mentally disturbed person who has not received adequate services and is depressed and/or suicidal.

Interestingly, this is remarkably similar to what data (however imperfect) is available on adult perpetrators of mass homicides (Holmes & Holmes, 1992, 2009). Replication, a core value of science, will be difficult for the Secret Service report. However, data on lesser forms of youth violence are beginning to converge on many of the same issues. For instance, in Ferguson’s (2011) prospective study of youth violence, video game and television violence had no predictive value. However, current levels of depressive symptoms, coupled with a history of antisocial personality traits, were highly

predictive of youth violence. Put another way, antisocial youth, not surprisingly, were most prone to youth violence, particularly when they were depressed. These findings are remarkably similar to the picture that emerges from the Secret Service report. Other research has followed along these same lines (e.g., Angold, Costello, & Erkanli, 1999; Hale, VanderValk, Akse, & Meeus, 2008; Rowe, Maughan, & Eley, 2006), although obviously most of this work considers events far less dramatic than school shootings, and we must be cautious in generalizing from work on youth violence generally to school shootings specifically. However, data from the Secret Service report, from work on youth violence, and from work on adult mass murders points in the same direction: The most salient risk factors are internal, not external to the individual. External factors such as video games simply do not figure in predictions of violent behavior.

Thus, data from all sources available, imperfect though certainly they are, converge upon certain psychological characteristics: long-term antisocial traits, current depression, recent loss, and (more speculatively) perception that others are to blame for problems or are persecuting them. However, we caution that these characteristics do not provide a “profile” that can be used to reliably predict which children are likely to commit mass homicides. That is to say, there likely are thousands of children in the United States, United Kingdom, and other countries who fit the list of above characteristics, but have no intention of committing mass homicides nor any other significant acts of violence. Although profiles such as this may be very sensitive, identifying those likely to commit violent offences (that is, most people likely to commit such offences show most or all of the key indicators), they are not all that specific (as there exist many people who fit the profile but who will never commit violent offences). It is notable that recent meta-analyses of the predictive power of tools designed to predict violence in adults have only moderate effect sizes (Campbell, French, & Gendreau, 2009).

The Secret Service report provides further guidance, however, on how to separate nondangerous cases from those of greater concern. In fact, it is rather obvious: In most cases (81%) the perpetrators had informed another uninvolved person of their intent to commit a school attack. Usually these are peers, sometimes warned by the perpetrator in advance so as not to be in harm’s way. In many cases (93%), the attackers had engaged in other behaviors that caused alarm in peers, parents, teachers, or mental health professionals. These include fantasizing about violence, particularly toward innocent targets. For instance, one attacker in the Secret Service report had fantasized aloud to peers about putting rat poison in the cheese shaker at a pizza restaurant. These same themes have emerged for more recent cases from Virginia Tech to the University of Alabama, and other mass shootings not involving schools, wherein the perpetrator was found to have long-standing issues with mental health problems that were left unaddressed or only partially addressed.

WHAT IS TO BE DONE?

Given that school shooters appear to be motivated by a combination of anti-social traits, resentment, and despondency, self-preservation does not appear a central motivating feature of their crimes. Thus opportunities to “negotiate” with perpetrators in the midst of their acts may be limited. The best opportunity for prevention of these acts comes from those individuals who are made aware of them in advance (usually peers)—if they come forward and alert school officials or law enforcement. Given that most perpetrators give such indications of their intentions in advance, and few nonperpetrator students threaten to commit mass homicides at their schools, such threats should be taken seriously. (Although poems or prose that are clearly intended as fictional “entertainment” may be excluded, particularly when there is an absence of rage themes or emotion in the writing. For example, a story in which a terrorist breaks into the school, shooting teachers and students, but the individual student in question then kills the terrorist and becomes the hero would be far less worrisome than a story in which the individual student kills teachers and students, particularly those who have “wronged” him.)

In many ways it is apparent to us that the issue of school shooters, like other mass homicide perpetrators, is very much a failure of the mental health system or, in fairness, a failure of society more broadly to provide adequate mental health services. Given the deinstitutionalization movements of the 1950s and 1960s, many more mentally ill people are living in society. This, in many ways, is a triumph of humanism. However, if these deinstitutionalized mentally ill individuals are not provided adequate services, they may be at greater risk not only for harm to themselves but to others as well. We are well aware of the aversion to claims that mentally ill individuals are at risk for violence, and we wholeheartedly agree that the vast majority of mentally ill individuals are peaceful responsible citizens. However, we find ample evidence that mental illness can be a risk factor for violence, particularly in those individuals with antisocial personality traits (Douglas, Guy, & Hart, 2009; Ferguson, 2011).

Ideally, efforts at reducing school shootings would be best served focusing on prevention rather than intervention. Environmental factors such as family background or use of media seem to be of little value in prediction of school shootings or youth violence more broadly. However, looking for early warning signs of antisocial behavior or mental illness, and responding to these issues early and compassionately in the developmental trajectory, may bear the greatest fruit. Indeed, treatments that are targeted at children who show early signs of behavioral risk appear more fruitful than those targeted more broadly at entire populations of children (Ferguson, San Miguel, Kilburn, & Sánchez, 2007). Unfortunately, we suspect society has not yet developed an appetite for funding adequate mental health services for youth or adults at risk. Even in cases such as the Virginia Tech shooting, in which an

individual had been identified as having significant mental health problems far in advance of the attack, the ability of the mental health system to coordinate an effective intervention appears quite limited. Further, we note society seems more interested in examining idiosyncratic elements of individual shooting cases, whether video games, the tenure system, Gothic subculture, or vitriolic political discourse—as in the contemporary (as of this writing) case of the shooting of a U.S. congresswoman in Arizona.⁶ A perplexed society, and even some scholars, appear all too willing to be distracted by these issues. Unfortunately, allowing such distractions may provide further impediment to the development of adequate mental health services for the treatment of individuals at risk and the prevention of future mass homicides.

NOTES

1. It is noted that this very term, while colloquially popular, is somewhat misleading, particularly as several of the incidents discussed in the paper are mass school *knifings*. However, the term “school shooter” here is used as a general collective term.

2. Original “video game violence” research of the 1980s and early 1990s even considered games such as *Pac Man*, *Centipede*, or *Zaxxon* as “violent” games. The notion that such games are contributors to youth violence would seem near comical now; however, studies based on these games are still taken seriously among some scholars and are regularly included in current meta-analytic reviews of video game research alongside studies of more graphic games such as *Grand Theft Auto* or *Call of Duty*, as if no difference existed.

3. The Ybarra et al. (2008) article presents something of a warning to scholars when reviewing video game research. From their Figure 2 it is quite clear that, controlling for other variables, video game violence had no correlational relationship with youth violence. However, reading the abstract of the same paper, no indication of this important finding is given.

4. Television violence research has likewise been highly controversial. See Freedman, 2002; Gauntlett, 2005; Grimes et al., 2008; or Savage & Yancey, 2008, for discussions.

5. One of the problems with the video game field is the degree to which not only politicians and activists but also some scholars have been willing to simply ignore any evidence that contrasts with their own views (see Ferguson, 2010, for a review of scholarly biases in the video game literature).

6. “Sarah Palin has blood on her hands!” was one blog post witnessed by the first author discussing the 2011 shooting of U.S. congresswoman Gabrielle Giffords and many others attending a rally. The poster was condemning the vitriolic and hyperbolic state of political discourse in the United States, apparently with no sense of irony.

REFERENCES

- Anderson, C. (2004). An update on the effects of playing violent video games. *Journal of Adolescence*, 27, 113–122.
- Anderson, C., & Dill, K. (2000). Video games and aggressive thoughts, feelings and behavior in the laboratory and in life. *Journal of Personality and Social Psychology*, 78, 772–790.
- Anderson, C., & Ford, C. (1987). Affect of the game player: Short term effects of highly and mildly aggressive video games. *Personality and Social Psychology Bulletin*, 12, 390–402.
- Angold, A., Costello, E. J., & Erkanli, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry*, 40, 57–87.

- Beneditti, W. (2007). *Were video games to blame for massacre?* Retrieved from <http://www.msnbc.msn.com/id/18220228>
- Block, J., & Crain, B. (2007). Omissions and errors in "Media Violence and the American Public." *American Psychologist*, *62*, 252–253.
- Borum, R. (2000). Assessing violence risk among youth. *Journal of Clinical Psychology*, *56*, 1263–1288.
- Bösche, W. (2010). Violent video games prime both aggressive and positive cognitions. *Journal of Media Psychology: Theories, Methods, and Applications*, *22*, 139–146. doi:10.1027/1864-1105/a000019
- Bruni, F. (1999). Senate looks for clues on youth violence. *New York Times*. Retrieved from <http://query.nytimes.com/gst/fullpage.html?res=9A05EEDB123CF936A35756C0A96F958260&scp=146&sq=%22Carolyn±McCarthy%22&st=nyt>
- Bushman, B., & Anderson, C. (2001). Media violence and the American public. *American Psychologist*, *56*, 477–489.
- Bushman, B., & Anderson, C. (2002). Violent video games and hostile expectations: A test of the generalized aggression model. *Personality and Social Psychology Bulletin*, *28*, 1679–1686.
- Campbell, M. A., French, S., & Gendreau, P. (2009). The prediction of violence in adult offenders: A meta-analytic comparison of instruments and methods of assessment. *Criminal Justice and Behavior*, *36*, 567–590.
- Centers for Disease Control and Prevention. (2008). School-associated student homicides—United States, 1992–2006. *Morbidity and Mortality Weekly Report*, *57*, 33–36.
- Childstats.gov. (2010). *America's children: Key national indicators of well-being, 2007*. Retrieved from http://www.childstats.gov/pdf/ac2007/ac_07.pdf
- CNN. (1997). Senator decries violent video games. *CNN*. Retrieved from <http://edition.cnn.com/ALLPOLITICS/1997/11/25/email/videos/>
- Desai, R., Krishnan-Sarin, S., Cavallo, D., & Potenza, M. (2010). Video-gaming among high school students: Health correlates, gender differences, and problematic gaming. *Pediatrics*, *126*, e1414–e1424.
- Dominick, J. (1984). Videogames, television violence and aggression in teenagers. *Journal of Communication*, *34*, 136–147.
- Douglas, K., Guy, L., & Hart, S. (2009). Psychosis as a risk factor for violence to others: A meta-analysis. *Psychological Bulletin*, *135*, 679–706. doi:10.1037/a0016311
- Ellis, L., & Walsh, A. (1997). Gene-based evolutionary theories in criminology. *Criminology*, *35*, 229–276.
- Federal Bureau of Investigation. (1999). *Uniform crime reports*. Washington, DC: Government Printing Office.
- Ferguson, C. J. (2007). Evidence for publication bias in video game violence effects literature: A meta-analytic review. *Aggression and Violent Behavior*, *12*, 470–482.
- Ferguson, C. J. (2008). The school shooting/violent video game link: Causal relationship or moral panic? *Journal of Investigative Psychology and Offender Profiling*, *5*, 25–37.
- Ferguson, C. J. (2009). Is psychological research really as good as medical research? Effect size comparisons between psychology and medicine. *Review of General Psychology*, *13*, 130–136.

- Ferguson, C. J. (2010). Blazing angels or resident evil? Can violent videogames be a force for good? *Review of General Psychology, 14*, 68–81.
- Ferguson, C. J. (2011). Video games and youth violence: A prospective analysis in adolescents. *Journal of Youth and Adolescence, 40*, 377–391.
- Ferguson, C. J., & Beaver, K. M. (2009). Natural born killers: The genetic origins of extreme violence. *Aggression and Violent Behavior, 14*, 286–294.
- Ferguson, C. J., San Miguel, C., Kilburn, J., & Sánchez, P. (2007). The effectiveness of school-based anti-bullying programs: A meta-analytic review. *Criminal Justice Review, 32*, 401–414.
- Freedman, J. (2002). *Media violence and its effect on aggression.: Assessing the scientific evidence*. Toronto, Ontario, Canada: University of Toronto Press.
- Gauntlett, D. (2005) *Moving experiences: Understanding television's influences and effects*. Luton, UK: John Libbey.
- Grimes, T., Anderson, J., & Bergen, L. (2008). *Media violence and aggression: Science and ideology*. Thousand Oaks, CA: Sage.
- Grossman, D. (1995). *On killing: The psychological cost of learning to kill in war and society*. Boston, MA: Back Bay Books.
- Grossman, D. (1996). *On killing: The psychological cost of learning to kill in war and society*. Boston, MA: Back Bay Books.
- Grossman, D., & Degaetano, G. (1999). *Stop teaching our kids to kill : A call to action against TV, movie and video game violence*. New York, NY: Crown Archetype.
- Hale, W., VanderValk, I., Akse, J., & Meeus, W. (2008). The interplay of early adolescents' depressive symptoms, aggression and perceived parental rejection: A four-year community study. *Journal of Youth and Adolescence, 37*, 928–940. doi:10.1007/s10964-008-9280-0
- Holmes, R. M., & Holmes, S. T. (1992). Understanding mass murder: A starting point. *Federal Probation, 56*, 53–61.
- Holmes, R. M., & Holmes, S. T. (2009). *Profiling violent crimes: An investigative tool* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Hong, J. S., Cho, H., Allen-Meares, P., & Espelage, D. L. (2011). The social ecology of the Columbine High School shootings. *Children and Youth Services Review, 33*, 861–868. doi: 10.1016/j.childyouth.2010.12.005
- Huesmann, L. (2010). Nailing the coffin shut on doubts that violent video games stimulate aggression: Comment on Anderson et al. (2010). *Psychological Bulletin, 136*, 179–181. doi:10.1037/a0018567
- Killingbeck, D. (2001). The role of television news in the construction of school violence as a “moral panic.” *Journal of Criminal Justice and Popular Culture, 8*(3), 186–202.
- Kirsh, S. (1998). Seeing the world through Mortal Kombat-colored glasses: Violent video games and the development of a short-term hostile attribution bias. *Childhood: A Global Journal of Child Research, 5*, 177–184.
- Kutner, L., & Olson, C. (2008). *Grand theft childhood: The surprising truth about violent video games and what parents can do*. New York, NY: Simon & Schuster.
- Langman, P. (2009). Rampage school shooters: A typology. *Aggression and Violent Behavior, 14*, 79–86.

- Lawrence, R., & Birkland, T. (2004). Guns, Hollywood and school safety: Defining the school-shooting problem across multiple arenas. *Social Science Quarterly*, *85*, 1193–1207.
- Mulvey, E. P., & Cauffman, E. (2001). The inherent limits of predicting school violence. *American Psychologist*, *56*, 797–802.
- Muschert, G. (2007). The Columbine victims and the myth of the juvenile super-predator. *Youth Violence and Juvenile Justice*, *5*, 351–366.
- Nicholas, S., Kershaw, C., & Walker, A. (2007). *Crime in England and Wales 2007/2007*. London, UK: Home Office.
- Olson, C. (2004). Media violence research and youth violence data: Why do they conflict? *Academic Psychiatry*, *28*, 144–150.
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment and other approaches. *Psychology in the Schools*, *38*, 157–172.
- Rowe, R., Maughan, B., & Eley, T. C. (2006). Links between antisocial behavior and depressed mood: The role of life events and attributional style. *Journal of Abnormal Child Psychology: An Official Publication of the International Society for Research in Child and Adolescent Psychopathology*, *34*, 293–302. doi:10.1007/s10802-006-9032-0
- Savage, J. (2004). Does viewing violent media really cause criminal violence? A methodological review. *Aggression and Violent Behavior*, *10*, 99–128.
- Savage, J., & Yancey, C. (2008). The effects of media violence exposure on criminal aggression: A meta-analysis. *Criminal Justice and Behavior*, *35*, 1123–1136.
- Scott, D. (1995). The effect of video games on feelings of aggression. *Journal of Psychology: Interdisciplinary and Applied*, *129*, 121–132.
- Sherry, J. (2007). Violent video games and aggression: Why can't we find links? In R. Preiss, B. Gayle, N. Burrell, M. Allen, & J. Bryant (Eds.), *Mass media effects research: Advances through meta-analysis* (pp. 231–248). Mahwah, NJ: Erlbaum.
- United States Secret Service and United States Department of Education. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Retrieved from http://www.secretservice.gov/ntac/ssi_final_report.pdf.
- van Dijk, J., van Kesteren, J., & Smit, P. (2007). *Criminal victimization in international perspective*. The Hague, The Netherlands: United Nations Office on Drug and Crime.
- van Schie, E., & Wiegman, O. (1997). Children and videogames: Leisure activities, aggression, social integration, and school performance. *Journal of Applied Social Psychology*, *27*, 1175–1194.
- Virginia Tech Review Panel. (2007). *Report of the Virginia Tech Review Panel*. Retrieved from <http://www.governor.virginia.gov/TempContent/techPanelReport.cfm>.
- Wiegman, O., & van Schie, E. (1998). Video game playing and its relations with aggressive and prosocial behaviour. *British Journal of Social Psychology*, *37*, 367–378.
- Wike, T., & Fraser, M. (2009). School shootings: Making sense of the senseless. *Aggression and Violent Behavior*, *14*, 162–169.

- Williams, D., & Skoric, M. (2005). Internet fantasy violence: A test of aggression in an online game. *Communication Monographs*, *72*, 217–233.
- Winkel, M., Novak, D., & Hopson, H. (1987). Personality factors, subject gender and the effects of aggressive video games on aggression in adolescents. *Journal of Research in Personality*, *21*, 211–223.
- Ybarra, M., Diener-West, M., Markow, D., Leaf, P., Hamburger, M., & Boxer, P. (2008). Linkages between Internet and other media violence with seriously violent behavior by youth. *Pediatrics*, *122*, 929–937.