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Abstract

To test and further develop Newman and collaborators' 2004 theory of the five necessary conditions for school shootings to occur, this chapter investigates 14 school shootings in seven countries. Using case-based comparison with pattern matching, the study draws primarily upon texts, pictures, films and other material created by the perpetrators themselves. The theory is found to be generally valid even in contexts where socio-cultural conditions and shooters' modus operandi differ notably from those in its original focus. Many of its key elements nevertheless call for further elaboration, such as the role played by social marginalization and cultural scripts, and the relation between the use of cultural scripts and other types of rationalizations requires clarification.

Keywords

Case-based comparison, necessary conditions, online narratives, school shootings

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KAPITEL 15

School shootings in seven countries: Testing and developing the theory of five necessary conditions

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Introduction

On 20 April 1999, a new phenomenon was etched in people's minds – “school shootings”. The shooting rampage at the Columbine High School in Littleton, Colorado, fundamentally changed the perspective on lethal school violence. Before the Columbine killings, lethal shootings in school environments had been, in both academic circles and society at large, exclusively considered as isolated incidents rooted in personal conflicts (see, e.g., Larkin, 2009). Since then school shootings have more and more come to be looked upon as a rare form of unprecedented adolescent violence in which the act of rampage is a means not only to carry out a personal revenge, but also to take collective revenge in the name of some broader, more abstract group (Larkin 2009; Newman et al. 2004: 49). The events, moreover, had an immense influence on would-be school shooters elsewhere (e.g., Larkin 2009; Newman et al. 2004: 250), with the Columbine killers Harris and Klebold creating a new blueprint for

how to “produce” a school shooting. The two had actively used Internet to voice their aggressive feelings and sentiments, and had also made a series of video recordings, their so-called “basement tapes”, in which they explicated their motives and disseminated their inner thoughts (see Fast 2008; Larkin 2009).

In this chapter, we want to contribute especially to post-Columbine academic discussions in the area, through a critical examination of a promising strand of school violence research using a comparative analysis of 14 cases of rampage shootings (or other lethal attacks) in a school environment.¹ In doing so, we make an attempt to further elaborate on key elements of the leading theory under discussion – the theory of rampage school shootings (Newman et al. 2004) – and thereby contribute to an improved quality of policy and public discussions on the theme. In what follows, we first discuss previous research in the area to better contextualize our own research and research questions, which, second, we describe in more detail, including the aims, data, methods and results of our study, before, third, discussing the significance and broader implications of our findings and making suggestions for further research.

Previous research on school shootings

Quite a large number of studies have analysed and discussed the phenomenon of school shootings, proceeding from different disciplinary perspectives. In this section, our aim is nevertheless not to provide a comprehensive, or even accurate, picture of the state of research in the field (for an up-to-date overview of this, see instead Böckler et al. 2013; Sommer et al. 2014). Rather, our focus is on what research in the field has clearly been able to establish about the distinctive characteristics of the phenomenon.

¹ Rampage refers to an outbreak of raging violence. See below for a more detailed definition of rampage school shootings in relation to other forms of school shootings, see also Mongan (2013: 11) for an extended discussion.

School shootings usually occur in rural or suburban areas, and they are most often committed by adolescent males or young men from a working-class or middle-class background (e.g., Böckler et al. 2013: 10; Bushman et al. 2016). Most attacks thus far have targeted the school as an institution, along with things the school symbolizes, such as social hierarchies, authority and inability to protect students (Newman et al. 2004: 261). This kind of institutionally oriented motive can then, for example, explain the choice of symbolic victims, such as a headmaster or specific teachers or students who represent aspects of the “system” particularly disliked by the shooter(s), along with the timing of attacks (significant dates in the school calendar) (Böckler et al. 2013: 14). School shootings, moreover, are generally not impulsive acts, but are usually preceded by extensive planning, in which process, quite importantly, the provision of both implicit and explicit informational clues is a common element (Meloy and O’Toole 2011). Such clues are transmitted through both face-to-face communication and posts on online forums and social media sites (Kiilakoski and Oksanen 2011).

Quite a number of studies have been devoted to identifying risk factors, individual risk profiles and mental disorders in children and adolescents, but without this type of individual-focused approach being able to present unanimous results (see e.g. Langman 2009; McGee and DeBernardo 1999). However, some studies on school shootings have taken a broader approach to the phenomenon, also including aspects of social dynamics in families, schools and society in the analysis. An emphasis has consequently been laid on contributory factors such as family problems, or on school environments that foster or encourage discrimination against certain student groups and allow for bullying to pass without sanction. A related problem identified is the tendency of schools and their surrounding communities to embrace traditional masculine ideals, while at the same time not being able to break clearly with the notion of violence as a legitimate solution to conflicts (Klein 2012; Larkin 2013; Newman et al. 2004).

Only a few studies thus far, however, have addressed what actually

triggers a shooting rampage in a school environment. A noteworthy example among these is Newman et al. (2004), which developed a dynamic explanatory model covering a wide range of aspects of rampage school shootings. The resulting theory focuses on factors at work in the interplay between the individual, the situation, the social structure and the culture. In it, five interrelated factors are identified that, the authors argue, indeed constitute five conditions whose presence is necessary (but not sufficient) for a school shooting to occur (ibid.: 229ff.). Before moving on to describe and discuss our own study assessing the validity of this thesis, we first need to look at these conditions more closely.

Rampage school shootings: The theory of five necessary conditions

According to Newman and her colleagues, the first condition for a school shooting to occur is an extreme social marginalization of the young person in the risk group, primarily via a perceived low status assigned to one in the school's social hierarchy. The feeling of alienation accompanying the perceived factuality of one's marginalization has much to do with the nature of adolescence, the formative time in people's lives when one experiments with and forms one's identity, develops relations and relationships and establishes to what groups one belongs. All these are processes that can result in becoming subjected to social exclusion according to the applicable status system(s) (ibid.: 131ff.). Identity formation, however, is also a gendered process, which in the present case means, among other things, a risk for boys that they fail in achieving masculinity according to socially dominant gender norms.

The second condition is the presence of individual psychosocial vulnerability, which has the potential to increase the effect of the perceived social marginalization. The authors go on to specify this vulnerability as involving depression, suicidality, mental illness or family problems (ibid.: 243ff.). Suicidal thoughts here may be a consequence of marginalization, and their ability to trigger a school

shooting is owing to the fact that they often tend to lower the threshold for violent behaviour (ibid.: 244).

The third condition Newman and collaborators identify is the potential shooters' access to cultural scripts and the ability of these scripts to influence their behaviour. Such scripts can be understood as interpretative frames that offer and legitimize certain solutions to problems experienced by the individuals in question (ibid.: 245). The scripts often comprise references to personally admired individuals, symbolic events, literary and musical influences and the like. Their combination of masculine ideals, legitimization of violence and idealization of the quest for fame and glory represents a powerful and attractive theme for the would-be shooters (Böckler and Seeger 2013; Klein 2012; Newman et al. 2004: 153, 253).

The fourth condition, in turn, is the shooter's staying "under the radar" in the time period leading up to the shooting. The young person's situation, problems and/or plans, in other words, do not become known to and/or are not reported by the school, the authorities, the family or friends before it is too late (Newman et al. 2004: 77ff.). Very often this is because the "informational clues" – e.g. statements on the Internet or messages to friends – typically provided as part and parcel of the preparations for the shooting consists of weak or complex signals that are difficult to correctly identify or distinguish from those of the perfectly normal ambivalent behaviour of an ordinary adolescent.

The last condition identified by Newman and collaborators is the availability of weapons. Indeed, in the school shooting cases studied thus far, the perpetrators, as a rule, have had remarkably easy access to legal firearms (ibid.: 259). Notably often, moreover, the shooters were well acquainted with how the particular weapons they used for their deed functioned and were most effectively used for their purpose (ibid.: 260).

Aims and scope

The purpose of the present study was to assess and, if required, further develop the theory of rampage school shootings, built around the five conditions seen as necessary for such shootings to occur. The main questions guiding the research were:

- Does the theory of rampage school shootings have a general applicability across contexts, being useful also in environments where socio-cultural conditions and shooters' *modi operandi* differ from those prevailing in the original study?
- Do some of the necessary conditions, and/or specific aspects of them, deserve particular attention, and why?
- Are there parts of the theory that might warrant further development?

To pursue these questions, a comparative analysis of 14 school shootings or other lethal attacks in a school environment in the United States, Europe, Brazil and China was carried out. All the cases were new compared to the sample ($N=27$) investigated by Newman et al. (2004). The case selection, however, drew upon the same criteria as those used in their study. The school shooting/lethal violence had to:

- take place on a school-related public stage, before an audience;
- involve multiple victims, some of whom are shot simply of their symbolic significance or at random; and
- involve one or more shooters who were students or former students of the school.

The first and third of these criteria correspond to those employed by Sommer et al. (2014) in their systematic review of international research on school shootings from the years 1999–2013, and all three are identical with those used for the definition of “rampage shootings” in the typology of Muschert (2007) (see also Bushman

et al. 2016)). Also the other (non-shooting) lethal attacks included in our study were selected based on these same criteria. In what follows, we therefore use the general term “school shooting” to refer to all the different kinds of lethal attacks in a school environment in our study.

Data and methods

The data of this study was for the most part collected via the Internet, either immediately following the attacks to be analysed or within the first few days after they had occurred.² The data gathering focused on materials produced by the perpetrators themselves, based on the assumption that the biographical remnants which such materials typically represent provide a unique access to the involved individuals’ perceived social situation and motives. The sources drawn upon (pictures, video clips, CCTV footage and court documents) were classified as primary material if the shooter in question played an active role in producing it or causing it to be produced. This kind of focus on self-produced expressions has both advantages and disadvantages. On the one hand, it enables access to principal actors’ experiences and their personal struggles in attempting to deal with their feelings. Instead of deductively ascribing motives to subjects, the investigation can take these subjects’ own reflexively defined reasons as its starting point (cf. Archer 2007). Compared to interviews, which in this context are always susceptible to a hindsight bias, this type of material can provide a more multifaceted picture of the process, showing how anger, worries, distress, hopelessness and despair can gradually develop into a planned attack resorted to in order to redress a wrong, exact a revenge or bring about justice. On the other hand, it does not readily yield information on relevant factual details of the case such as would be

² The primary materials used for this study are stored in an online archive accessible at <https://onedrive.live.com/redirect?resid=C87459CCA8D56621!251&authkey=!AHXbdKhqk6JAblQ&ithint=file%2czip>

accessible through data on the perpetrators' social background, possible diagnostic evaluation, medication history, treatment contacts and the like. To compensate for this disadvantage, this research additionally drew upon secondary materials including published interviews with survivors and family members, documents related to legal investigations, academic articles and other print media sources such as newspaper, magazine and journal articles. Overall, the dataset comprised 121 items classified as primary material. Of the remaining items, 16 were court or other public documents and six were mass media articles. None of the primary materials stored in the online archive above (footnote 1) are included in the reference list.

It should, however, be noted that the materials used for this study differed quite notably from those relied upon by Newman et al. (2004), whose study was primarily based on interviews in two US cities about school shootings in 1997–1998, while also including national and local newspaper reports about shootings in 1974–2001 in the analysis. Moreover, some of the categories used by Newman et al. (*ibid.*: 307ff.) were modified somewhat for the purposes of the present study. As regards the first necessary condition – extreme social marginalization – we omitted the authors' "peer group" category, since it was generally difficult to obtain enough information about the shooters' circles of acquaintances in our cases. With regard to the third condition – access to cultural scripts – this lacked clear categories, although performative elements and "sending a message" were discussed in more general terms. Based on our source material and previous research, we therefore added the following explicit categories: "nihilism", "anti-heroes" and "interest in violence and weapons". In addition, in the case of the fourth condition proposed – shooter staying "under the radar" – their category "violent writings" was changed to "violent narratives", given that, besides texts, our data also included pictures, films and musical references (*cf.* Shaw 2004). Although violent narratives constitute elements of cultural scripts (as an inter- and intrapersonal framework for action), we emphasize here that

they remained unnoticed and never led to any reaction. Finally, as regards the fourth condition, instead of “issued threats”, a broader category “informational clues” was adopted, and the category “Jekyll/Hyde personality” was entirely excluded due to the nature of the material available.

In the cross-case analysis undertaken, each individual case of school shooting was examined and interpreted in relation to the categories underlying the five conditions. This procedure was similar to what Yin (2014) calls pattern matching, and it followed the logic of what Ragin and Schneider (2011:152) have termed “case-oriented theory testing”. Yet the analysis was not limited to basal observation in each case of the applicability or otherwise of these categories derived from the theory. An at least equally important role was assigned to the qualitative examination of the content-related aspects and properties of the categories. Primary material for each case was coded and interpreted using qualitative content analysis, guided by the themes making up each category. The resulting structured qualitative dataset then enabled more detailed comparisons, also yielding empirical instances and examples that could be used further to propose modifications concerning the specification and applicability of the different conditions examined. The latter work came to focus in particular on two of the factors considered: social marginalization and cultural scripts.

Case descriptions

The selection of cases was based on the following two considerations: the cases had to match the criteria described above and display variation in socio-cultural context and shooters’ modus operandi. The principle of maximum variation was applied here to assemble a set of cases that substantially differed from those included in previous research (cf. Miles and Huberman 1994: 28). The resulting sample of cases is described in the Appendix. In research on school shootings, cases are identified and labelled with the perpetrators’ real names, given that they have been official announced or repeatedly published in media. We follow this established practice, which

moreover facilitates comparative research on the subject. Names of perpetrators aged under 15 are withheld, and in one case the perpetrator's name was never made public in full.

In nine of the 14 cases studied, perpetrators' self-reported data was collected directly from primary sources (in three of these cases, this data was obtained as reproduced on other websites or in official investigations and court documents). In three of the other five cases, it was collected from media reports that either reproduced or cited it during the trial phase, while in two cases no self-reported data was available and only indirect media reports were therefore used. As a result, a comparatively unique collection of research materials was obtained, distinguished by its heavy emphasis on principal actors' self-reported data and information (cf. Sommer et al. 2014).

The perpetrators were aged between 13 and 41, with the median age being 19, which confirms that the study was mainly about "young school shooters" (cf. Langman 2010). In line with previous research, most attacks took place in relatively small-sized rural and suburban communities. In only four cases did the communities have more than 150,000 inhabitants. One of the attacks occurred in a residence hall and thirteen inside a school building. In nine cases, the perpetrator was a student at the school targeted; in the other five cases they were former students. In eight cases, the shooting victims were all students; in the other six cases they also included teachers/school staff, besides students. In five cases, the attacks were broader in scope and also involved victims not connected to the school. According to media reports, a total of 87 individuals lost their lives in the attacks, including seven perpetrators who committed suicide.

Results

In what follows, the findings from our research are discussed separately for each of the five necessary conditions identified by Newman and collaborators.

Subjection to social marginalization

School shooters are usually described in media as introverted, quiet and isolated – characteristics that can be both a cause and an effect of social marginalization (for a different, more complex description, see Newman et al. 2004; Bushman et al. 2016) Indeed, in all of the cases in this study one could detect signs of the perpetrator's subjective perception of having become victimized in this sense. More concretely, the question here was most often about experiences of having been teased or bullied, having had one's sense of masculinity challenged and having had conflicts with one's teacher or school at large.

Some of the perpetrators had been bullied for years, being targets of both physical and psychological abuse. In one of the German cases (no. 3), the shooter, Sebastian "Bastian" Bosse, described in his final video how he had been burned with a heated key. In Finland, Matti J. Saari (no. 5) had been bullied both physically and mentally (Ministry of Justice 2010: 55). In some cases, these acts of humiliation had come to the knowledge of the victimized future shooter's school or parents. Even then, however, the possible measures taken appeared not to have been helpful or effective, as demonstrated, for instance, by the case of the Finnish Pekka-Eric Auvinen (no. 4). His parents had attempted to bring attention to their son's situation already when in the fourth grade, contacting both the school and some other students' parents. The school, however, deemed the issue to be merely one of differing behavioural norms, not of bullying (Ministry of Justice 2009: 49–50). A similar history was displayed by the case of McLaughlin (no. 1), in which the teasing and physical abuse of the future shooter was considered to amount to "nothing major" by his school (State of Minnesota v. John Jason McLaughlin, 2007).

From the self-reports alone, it was difficult to obtain a complete picture of the perpetrators' role and position in the social dynamics at school. However, in official reports involving, for instance, Lane (no. 10), one can find him describing what is clearly a rather complicated relationship between him and the school he attended

(Chardon High School) or schools more in general, involving incidents of both changing schools and repeating a grade (*State of Ohio vs. Thomas M. Lane III*, 2013). Also Jiajue (no. 2), Saari and Lanza (no. 12) were reported to have had a similar on-again, off-again relationship with their school, which could then have affected their position in the social hierarchy at school.

The kinds of victimization that the teasing and bullying in these cases meant typically involved masculinity challenges with suggestions of homosexuality and references to physical features. Also the social marginalization outside the school environment in this study commonly involved questioning along these lines. The school shooters themselves predominantly defined masculinity in stereotypical terms, as being heterosexual and about having success in romantic relationships. As Bosse, for instance, wrote: "I'm not gay! I don't think it's a problem if anyone is lesbian or gay, but I'm not. I like Jill, from Resident Evil Apocalypse and 3 Nemesis!" (diary entry, 19 November 2006). This masculinity, moreover, tended to be conceived of as something closely connected with weapons and/or violence, as expressed, for instance, by a common desire in five cases to reach social and cultural goals by joining the army, an achievement nevertheless denied to the perpetrators-to-be. Lanza, for example, wanted to enlist as an army ranger, but his parents prevented him from fulfilling his wishes. The Finn Auvinen disclosed nothing about his mental problems at the military call-up, fearing deferment. Saari, in the same country, was drafted, but experienced bullying and other forms of victimization also in the army.

At the same time, however, there were also examples of marginalization based on socio-economic characteristics such as academic problems, low-paying jobs or unemployment (e.g., cases nos. 2 and 6). Georg R's attack was motivated by his fear of further or future marginalization, described as a fear of not succeeding in high school, of not finding an apartment and of getting physically ill (*Staatsanwaltschaft Ansbach* 2009).

Among the school shooters in our sample, identification with the role of an "outcast" was common. Indeed, the very term was

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frequently used by shooters themselves in their characterizations of themselves and their situation, in which negative self-descriptions typically went hand in hand with explicit claims of rejecting society and humankind at large. In the United States, the school shooter Robert W. Gladden, Jr. (no. 11), according to himself, carried out his attack to show that “the world is a fucked up place”, and in Greece, Dimitris Patmanidis (no. 7) wrote on MySpace: “I have made my decision, and anyone I find in front of me on 10 April will be a target... You are all rubbish.”³ Lanza, on the other hand, intellectualized the issue of being an outsider, proclaiming that friendship was culturally defined and that he did not need more friends (Office of the Child Advocate 2014: 50). The outsider role, however, could also be ascribed to one by others (leading one to start identifying with it in due course). Bosse, in his diary, wondered why people refused to see his Mohawk hairstyle as “normal”, and Auvinen was discriminated against owing to his “too neat” dressing style. The feeling of vulnerability and victimization in these situations, however, often also made one identify with others in the same situation. In one of the videos he posted on YouTube, the Brazilian school shooter Wellington Menezes de Oliveira (no. 9), for instance, went on to declare as follows:

For the struggle for which many brothers have died in the past, and for which I, too, will die, is not solely because of what is known as bullying. Our fight is against cruel people, cowards, who take advantage of the kindness, the weakness of those unable to defend themselves.

Bosse in Germany expressed similar sentiments of sympathy, writing in his diary the day before his shooting attack that he hoped that “other outcasts will be treated better after GSS [the targeted school]! And I hope that some of ’em will be like Reb [Eric Harris], Vod [Dylan Klebold] and Me! A FUCKING HERO!”

³ All translations into English by the authors.

Overall, the findings confirm self-reported experiences of marginalization in all of the cases, with peer rejection in the form of teasing/bullying being the most common cause connected to this sense, followed by challenges to one's sense of masculinity, and subjection to disciplinary measures at school (conflicts with one's teacher[s]/school). Additionally, these findings indicate that the social marginalization of the shooters-to-be could take place in several different social arenas, either in parallel or sequentially, leading to an escalating situation.

Presence of psychosocial vulnerability

Twelve out of the 14 school shooters in this study (including self-reporting cases) revealed at least some signs of a mental disorder (all except cases nos. 2 and 13). In four cases (nos. 3, 4, 5 and 12), the perpetrator was reported to have been on some kind of medication, either at the time of the shooting or earlier. Here there was also overlap between the diagnostic information available and self-perceived feelings of depression and desperation: in ten cases, the attackers' own communications suggest that the perpetrators were depressed and also felt desperate at the time of the shooting. As the American school shooter John J. McLaughlin, for instance, stated in court, he was "just trying to hurt (Bartell) like he hurt me" (State of Minnesota v. John Jason McLaughlin, 2007), and the Finn Saari, who had previously expressed suicidal thoughts, vented his feelings through a question he posted on his social networking site presentation page, "What is the final solution to the problem with the human race?"

Although the farewell letter of another American school shooter, Jiverly A. Wong, was more cryptic (not least because of its imperfect English), a sense of desperation can nevertheless be noted in it, too: "Before I cut my poor life I must oneself get a judge job for make an impartial with undercover cop by at least two people with me go to return to the dust of earth." In the Spanish case (no. 14), the young perpetrator was reported to have said: "I hear voices; I want to stop all the voices" (Burgen 2015), indicating a psychotic

breakdown. His teacher described him as an “excellent pupil with many worries and grand ideas” (cited in Couzens 2015).

In other words, while there were signs of a mental disorder in most school shooters in this study, the symptoms and actual diagnoses varied greatly, ranging from neuropsychiatric and depressive symptoms to indications of schizophrenia combined with hallucinations and paranoia. No such variation, however, was found when it came to suicidality. Seven of the shooters (see Appendix) committed suicide in conjunction with the attack, with an additional two cases possibly involving suicide-by-cop attempts (nos. 8 and 11).⁴ In six cases (nos. 3, 4, 5, 6, 7 and 11) there had been prior suicide threats, and four attackers (nos. 4, 6, 7 and 11) expressly linked their suicidal intentions to their planned school shooting. The Greek Patmanidis, for instance, stated in a post on his MySpace page that “Unluckily for you I am too selfish to leave you and let you live.... Before dying I am going to take from you your most precious thing.” Gladden, who expected the police to shoot him during his attack, wrote on Facebook: “First day of school, last day of my life. t(~_~t), fuck the world.” Sometimes, the suicide was rationalized as a necessary, symbolic act. Auvinen, for instance, stated in his manifest: “I am ready to die for a cause I know is right, just and true... even if I would lose or the battle would be only remembered as evil... I will rather fight and die than to live a long and unhappy life.”

In the sample, the incidence of completed suicides correlated with the shooters’ age and *modus operandi*. In the youngest group (aged 13 to 17) there were no completed suicides at all, and neither were there any in the cases where no firearms were used (nos. 2, 8, 13 and 14). The analysis of family backgrounds revealed a large variation in terms of family structure and relational patterns (cf. Newman et al. 2004: 244). Documented or self-reported family-related problems of some kind were present in eight of the cases, including parental divorce experienced at a young age and having

⁴ Suicide-by-cop is an act of threatening behaviour by a suicidal individual directed against a law enforcement officer in order to provoke a lethal response.

grown up apart from the original family, and incidences of past trauma and grief and weak family bonds appeared to be common.

Access to, and influence of, cultural scripts

In analysing the studied school shooters' access to, and use of, cultural scripts and the influence of these scripts on the shooters' behaviour, our investigation focused on five different categories: nihilism/misanthropy, interest in violence and weapons, anti-heroes, performative elements and sending a message.

Several observations could be made on this. Openly nihilistic or misanthropic views were expressed by shooters in eight cases. Auvinen, for instance, described himself on his YouTube user page as "a cynical existentialist, antihuman humanist, antisocial social darwinist[sic]", while Georg R. in Germany (no. 8) stated that he hated "humankind" and, especially, the school as an institution, calling his planned attack "Apocalypse" (Staatsanwaltschaft Ansbach 2009). Also Patmanidis (in a MySpace blog post) and Gladden (during his police hearing) expressed themselves as hating humankind. The American Thomas "T.J." Lane's rejection of the social order was subtler. On his Facebook page, he listed his work as "free the slaves" and his college as "we don't need no education". All these attitudes, however, built on an us-against-them dichotomy according to which the attacker was confronted with "the evil one". In his social media postings, Saari published a picture of his weapon with the caption "No pity for the majority!" – a reference to the Columbine shooters who liked the German industrial music band KMFDM (Kein Mehrheit für die Mitleid, a wordplay on the utterance). Also Auvinen (see Torma 2007) and Patmanidis made references to this band. Other musical references were found as well, most of which were to gothic, industrial and death-metal genres.

Ten of the school shooters, furthermore, expressed a strong, explicit interest in violence and weapons. This also included a fascination with violent films and mass and serial killers, and was manifested in the use of symbolic, violence-associated epithets and in the tendency by many to collect information about fictitious and

non-fictitious violent acts. McLaughlin, for instance, characterized himself as a “sniper” in one of his e-mails and used an e-mail address with the local part “sharpestshot290” (State of Minnesota v. John Jason McLaughlin, 2007). The Chinese Ma Jiajue was interested in violent films and kung fu novels and collected information on the Internet on attacks on police officers (Zhi and Yiming 2004), and Auvinen in Finland declared himself loving first-person-shooter computer games, macabre art and mass and serial killer stories. The German Bosse provided a detailed description of all his weapons in his diary.

Anti-heroes are people who attract admiration without possessing the typical traits of a hero. The school shooters in this study often made references to both fictitious and non-fictitious anti-heroes. The latter were individuals ascribed heroic attributes on Internet forums, both in the shooters’ own countries and internationally. In all these cases, a clear linkage to the Columbine and other shooters was noticeable. The young school killer in Spain chose to carry out his attack on 20 April 2015, exactly 16 years after Columbine. Bosse in Germany thought of himself as a development of Eric Harris in a diary entry of his. In Brazil, Oliveira had expressed an interest in both terrorism and school shootings, claiming also to be in contact with one of the 9/11 terrorist attackers; he also referred to Seung-Hui Cho, the 2007 school shooter at the Virginia Polytechnic Institute in the United States, as his “brother” (Perú21 2011). Auvinen in Finland and Lanza in the United States likewise made references to terrorism prior to their act. Lanza, furthermore, edited Wikipedia mass killer pages and kept clippings about the school shooter Steven Kazmierczak and the Norwegian spree-killer Anders Breivik at home. In one of his posts on the SBB Internet forum, dated 20 August 2011, he wrote about Breivik as follows:

I’m normally not interested in non-Kaczyncki bombers, but the format and organization of everything involved was such an impressive instance of mass-murder self-actualization that it seemed fictional. I

wouldn't call it encouraging, but I [sic] seemed motivational enough in some sense that it was kind of thing you would find in a particularly macabre self-improvement book. (Langman 2008–2015)

In a similar fashion, Auvinen, too, projected himself against the backdrop of his predecessors when announcing his forthcoming attack in a document he entitled "Attack information": "Attack Type: Mass murder, political terrorism (although[sic] I choosed[sic] the school as target, my motives for the attack are political and much much deeper and therefore I don't want this to be called only as 'school shooting').".

Another typical feature among the school shooters studied was their evident desire for fame and glory. The attackers were generally aware of previous school shooters' status and that school shootings and fame went hand in hand. Yet the kind of fame and glory they sought could also differ from case to case. Bosse, for example, expressed in his private diary a desire for martyrdom, while Lane, apparently, wanted to be remembered as one of those most "evil", stating, for example, while cursing and gesturing obscenely at his sentencing, that "The hand that pulled the trigger that killed your sons now masturbates to the memory; fuck all of you" (Caniglia 2013). Indeed, Lane was subsequently glorified on the social networking site Tumblr (see Romano 2013). Along the same lines, Ma in China was given a subcultural hero status in certain segments of his home society (Mexico 2009: 200).

As Newman et al. (2004: 252) stressed, besides justifying the attack, cultural scripts can also guide the design of certain concrete details of the rampage. Nine of the school shooting cases in this study, for instance, involved clothing worn by the shooter that served a performative function. The attacker could wear combat outfit and gear or a T-shirt with a message, or dress up for the occasion in some other way, including references to anti-heroes. Auvinen, when committing his deed, wore a T-shirt proclaiming that "Humanity is overrated", while the one on Georg R. said "Made in School" and Lane's proclaimed him to be a "Killer". Sometimes

a type of outfit apparently inspired by anti-heroes was worn (like trench coats, after the Columbine shooters).

Indeed, seven of the school shootings in our sample could be viewed as delivering a message, one that, on a more general level, was typically about the shooter's capacity for decisiveness and for action for change. Yet those messages did not say anything about how and why the attack was carried out. In their farewell letters and videos and in their online posts, pictures and films as well as the information packages some of them sent to the media before embarking on their killing spree, however, the shooters often also conveyed another message, which, for them, was predominantly about just that. A typical motive put forward in these connections was a desire to bring about "justice". However, there were also examples of "quiet" perpetrators, such as Lanza who only left behind very little that could be seen as constituting a violent narrative or any other message and made active efforts to eliminate all electronic evidence of his motives and actions prior to his deed (Orr 2012).

Staying under the radar

Very often in the cases studied, the fact that a rampage was being planned was never revealed to others, even when the planning process preceding the act was extensive and lengthy. Yet, in 12 cases provision of explicit or implicit informational clues by the perpetrator in the time period leading up to the attack could be observed. The explicit clues conveyed typically told about the readiness to kill, or to attack some specific institution. All these types of signals, however, tend to be inaccessible in real time since they are often presented in diary form or as last-minute communications sent to friends. McLaughlin, for instance, sent an e-mail to a female friend that she only received when returning home after the shooting, writing: "befor[e] [I] go to[o] far [I] have to ask you not to tell any one about this not the news cops or parents ok * * * so [I] guess this is goodbye my love" (State of Minnesota v. John Jason McLaughlin, 2007). Clues can, to be sure, also be posted on public and semi-public internet forums, but even there they may

pass practically unnoticed since threats and proclamations about mass killings are “normal” behaviour in the internet environment, or they may be dismissed as jokes, as happened in the Spanish case above (see BBC News 2015).

At any rate, violent narratives were put forward in half of the cases, combining pictures, film and text. The photographs presented generally depicted violent masculinity in a glorified form, with the shooters-to-be posing in them with various kinds of weapons (cf. Newman et al. 2004: 269ff.). There were also suicidal insinuations (a gun held to one’s own head or a knife to one’s throat) as well as images of the chosen target of the attack. The film clips, too, adhered to the same theme of glorified, “masculine” violence. The text material, on the other hand, was more varied in nature, consisting of poems, short novels and descriptions of the coming attack. Some of the texts quoted phrases and expressions used by earlier school shooters, and a desire for violence and chaos depicted in apocalyptic terms was often clearly expressed in them, intertwined with allusions to the subjective motives for the attack.

All in all, the findings in this study make it evident that the agents of the school system, healthcare professionals and various law enforcement organizations as well as family members, relatives, friends, and fellow Internet forum members failed to detect the clues provided by the shooters-to-be. While numerous signs and signals were sent out in the process, those in the perpetrators’ vicinity for various reasons never reacted in time (for more on the difficulties of detecting warning signs and “information leakage”, see Bondü and Scheithauer 2015 and Meloy and O’Toole 2011).

Access to weapons

As already noted, in our research we expanded this category to also include non-firearm weapons. Such were used in four of the 14 cases studied (cases nos. 2, 8, 13 and 14), but otherwise these all met the criteria for inclusion in this study. In general, the use of non-firearm weapons for school attacks can be explained partly by their accessibility and partly by the influence of cultural scripts, for

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instance through the inspiration of international and local anti-heroes inducing incorporation of elements from earlier attacks such as the modus operandi or certain subcultural interests. Several school attacks in China, for example, have been carried out with hammers and/or thrust weapons (BBC News 2010), which may then have also affected Ma's choice of weapon, based on the model of such local anti-heroes. Similarly, Quick likewise drew inspiration from his cultural script, and the young Spanish school killer, rumoured to have been much impressed by the "Game of Thrones" fantasy television series, used a home-made crossbow, in combination with a knife and Molotov cocktails.

In the 10 cases involving firearms, the shooters were armed with one to four of them, although sometimes they also brought along with them other weapons (such as knives) or flammable liquids. The weapons came mainly from the perpetrators' homes, and were either their own or belonged to a family member or relative. In most cases, the perpetrators, besides easy access to a weapon, also had specialized knowledge about how to use it, acquired, for example, via membership in a shooting club, as evidenced by their many online posts on the subject.

All the perpetrators were well armed and carried with them large amounts of ammunition. Egged on by their use of militant language, they projected an image of armed-to-the-teeth soldiers going to a war against their school. Often, this deliberate display of prowess, drive, determination and physical power concealed an intimate, highly emotional and symbolically charged relation to one or several of the weapons, judging from the diary entries, photographs and online narratives examined.

Discussion and conclusions

To return to our three main research questions, how useful, to begin with, can one conclude the examined theory of rampage school shootings to overall be in contexts where socio-cultural conditions and shooters' modus operandi differ even notably from those in

the theory's original focus? Based on our results, it indeed appears to have transferability in this regard, showing relevance also to cases in which the socio-cultural matrix is different. What our study shows is the fact that, and the way in which, school shooters in Europe (Finland, Germany, Greece, Spain), Brazil and China all made references to various kinds of anti-heroes (including earlier school shooters), expressed nihilistic views and value judgements, affirmed a desire for fame and glory, advocated violence as a way to solve problems and staged attacks based on precedents and models that they had studied and commented on. Their actions took place in a context and format that suggests the existence of an online school shooting subculture, and through their active engagement in online communities they seemingly contributed to the growth and proliferation of this culture. At the point they appear in our material, they are themselves on their way towards achieving a desired subcultural hero status. In addition, the fact that all five of Newman's necessary conditions could be observed in the four cases in our sample where the perpetrators used weapons other than firearms, speaks for the transferability of the theory.

Which of the five conditions and/or their aspects might then warrant particular attention? Before entering into any further discussion of this question, it is important to note that the five necessary conditions set forth in Newman and collaborators' theory are not entirely mutually comparable. To begin with, since the phenomenon at issue is completed school shootings, the conditions "staying under the radar" and "access to weapons" are logically implied. They are, in consequence, of greater, or more immediate, importance for preventive work than in their status as identifiers of any potential causal factors behind school shootings. Secondly, in view of the materials analysed, the condition "presence of psychosocial vulnerability" as examined in this study is relatively weaker, since, ideally speaking, it ought to be based on confirmatory data from health or medical records or other independent source of factual information. In the absence of such explicit data, this study relied to a large extent on school shooters' self-reported descriptions of their

psychosocial vulnerability. Nevertheless, it is not these somewhat negative reasons alone that then speak for the crucial significance of the remaining two conditions, “social marginalization” and “access to, and influence, of cultural scripts”. There are also good theoretical arguments for focusing on them in particular. They represent a well established, even if still much debated, push factor (social marginalization) and an important pull factor (cultural scripts). It is in the interrelationship between the two that we can identify the dynamic core contained in Newman and collaborators’ theory. The interface between them is where the connecting points linking a perceived or experienced condition of social marginalization to an attractive solution in the form of a pre-formulated action model are located (cf. Böckler et al. 2014). With this, the analysis can become integrative, incorporating different social levels – the individual self, the social and cultural context and the situated actions (cf. Henry 2009).

Indeed, in nearly all of the cases examined in this study, it was possible to conclude that perceived subjection to social marginalization had played a key role in the process ultimately leading to the lethal attack. Moreover, the fact that marginalization can take place in several different social arenas, either in parallel or sequentially, implies that this condition needs to be investigated and conceptualized as something more than just the result of school bullying. Regardless of where the victimization in this study took place, however, it notably often involved harassment in the form of insults to masculinity, likely affecting the victims’ personal self-understanding and identity. The resulting doubts and loss of direction in these regards can then be assumed to have contributed to, and increased, the vulnerability of the individuals in question to social marginalization. Access to, and influence, of cultural scripts, on the other hand, played a major role in the transformation of feelings of marginalization and vague thoughts about revenge into concrete actions – a process that frequently ended with the perpetrators committing suicide. One of the main findings of this study is then the significance of this condition, highlighted and concretized in our

analysis of the shooters' substantive values, ideals, interests, notions and expressive own creations as made accessible by the particular kinds of primary material used for our research.

Which parts of the theory of the five necessary conditions for school shootings to occur might then warrant further development, in light of our findings above? As already noted, it seems evident that our understanding of the influence of social marginalization patterns on the likelihood of an individual's turning into a school shooter would clearly benefit from further exploration of the topic (cf. Sommer et al. 2014). This includes the role played by certain masculine norms and ideals as conveyed, reproduced and transformed through identification with, and reliance on, particular cultural scripts or their elements. The significance of cultural scripts (their content, transmission and performative expression), for its part, appears to be a complex and multi-faceted phenomenon. What our results point to in particular here is the importance of elements of such scripts focused around notions like "the right of the strong" and "justified wrath", especially when combined with violent fantasies and feelings of omnipotence.

In conclusion, one may then concur with the criticism levelled by Böckler and collaborators (2014) against studies geared solely to isolating independent, a-theoretical risk factors, and endorse their call for broader-based approaches more attuned to the general socialization processes and causal mechanisms identified as contributing to the occurrence of the phenomenon. The importance of the interplay between social marginalization (as a push factor) and cultural scripts (as a pull factor) as highlighted in this study, moreover, implies that future research would do well here to turn towards older theoretical traditions in sociology and criminology to seek inspiration from work such as that of Mills (1940) on situated actions and vocabularies of motive, Sykes and Matza (1957) on techniques of neutralization and Scott and Lyman (1968) on accounts. Yet this should not lead to neglect of more recent research, in particular that on the transformation of individual frustration into self-sacrificing devotion for the sake of a "greater

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cause” (e.g., in terms of crystallization of dissatisfaction [Smelser, 2007] and processes of radicalization [Horgan 2008]). That way, we can continue to improve our understanding of the fundamental social-psychological mechanisms that serve to minimize in individuals the distance between self-image and “unthinkable” actions in the interest of achieving cognitive consonance in cases like those investigated above in this article (cf. Festinger 1957).

Appendix: Sample of cases studied

Case	Date of incident	Country	Name	Age	Weapon(s)
1	24 Sep. 2003	USA	John J. McLaughlin	15	Pistol
2	13–15 Feb. 2004	China	Ma Jiajue	22	Hammer
3	20 Nov. 2006	Germany	Sebastian Bosse	18	Two rifles, two pistols, knife, machete and home-made smoke bombs
4	7 Nov. 2007	Finland	Pekka-Eric Auvinen	18	Semi-automatic pistol
5	23 Sep. 2008	Finland	Matti J. Saari	22	Semi-automatic pistol and home-made Molotov cocktails
6	3 Apr. 2009	USA	Jiverly A. Wong	41	Two semi-automatic pistols
7	10 Apr. 2009	Greece	Dimitris Patmanidis	19	Two pistols and hunting knife
8	17 Sep. 2009	Germany	Georg R.	19	Molotov cocktails and axe
9	7 Apr. 2011	Brazil	Wellington Menezes de Oliveira	23	Two revolvers
10	27 Feb. 2012	USA	Thomas M. Lane III	17	Pistol
11	27 Aug. 2012	USA	Robert Gladden, Jr.	15	Shotgun
12	14 Dec. 2012	USA	Adam Peter Lanza	20	Carbine rifle and semi-automatic pistol
13	13 Apr. 2013	USA	Dylan Quick	20	Knife and scalpel
14	20 Apr. 2015	Spain	N/A	13	Crossbow, knife and Molotov cocktails

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	Victims killed	Non-fatal injuries	Suicide	Data sources
	2	0	No	Court documents, including copies of primary material
	4	0	No	Media reports
s,	0	22 (5 of gunfire)	Yes	Primary data (collected by the authors)
l	8	13 (1 of gunfire)	Yes	Primary data (collected by the authors) and official documents
e	10	11 (1 of gunfire)	Yes	Primary data (collected by the authors) and official documents
	13	4	Yes	Primary data reproduced in media and online
	0	3	Yes	Primary data (collected by the authors) and media reports
d	0	15	No	Official documents
	12	12	Yes	Primary data reproduced online and media reports
	3	3	No	Primary data (collected by the authors) and media reports
	0	Several students (1 of gunfire)	No	Primary data (collected by the authors) and official police hearing records
ii-	27	2	Yes	Primary data reproduced online and official documents
	0	14	No	Media reports about the trial
	1	4	No	Media reports

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