

The Warning Behaviors of Anders Breivik

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The conflicting reports and diagnoses presented by forensic psychiatrists at the trial of Anders Breivik did not address the threat posed by him prior to his crimes, that is, the warning behaviors that were evident that may have indicated *accelerating patterns of risk* during the period prior to his attacks on July 22, 2011. In this case study, the authors analyze his activities and mental state through the lens of 8 warning behaviors that may indicate proximal and dynamic patterns of risk for targeted violence: pathway, fixation, identification, novel aggression, energy burst, leakage, last resort, and directly communicated threats. Breivik was positive for 6 of these warning behaviors. Although such superordinate patterns have yet to be shown to predict targeted violence, and may be very difficult “signals” to detect amid the “noise” of other cases, they may prove more useful in the threat *assessment* of such targeted or intended violence toward others than the accuracy of psychiatric diagnosis, whether a personality disorder or a mental illness; the latter is most germane to the threat *management* of the case. Such warning behaviors, although etiologically nonspecific, are discussed in the context of current attempts to validate these dynamic patterns of concern to threat assessors.

Keywords: forensic psychiatry, violence risk, threat assessment, diagnosis, warning behaviors

The crimes and motivations of Anders Breivik on July 22, 2011—the Norwegian lone terrorist who killed 77 people in two separate attacks, a bombing in Oslo and a mass murder utilizing two firearms on the island of Utøya—were analyzed during his criminal trial in Norway amid a stark debate concerning his diagnosis. On the one hand, two psychiatric evaluators initially opined that he had paranoid schizophrenia (Sorheim & Husby, 2011), whereas two subsequent psychiatric evaluators opined that he did not have schizophrenia but instead had a severe personality disorder (Torrissen & Aspaas, 2012). These differences of opinion

were recently investigated in the context of the insanity defense in Norway in two studies (Melle, 2013; Roth & Dager, 2014), and a third utilized forensic linguistic analysis to understand his psychopathology (Leonard, Annas, Knoll, & Tørrissen, 2014). The forensic psychiatrists in the Breivik trial, moreover, were only asked to determine his criminal responsibility after his crimes, which, in Norwegian law, is solely based upon the rendered diagnosis. He was eventually found by the court to be sane at the time.

From a violence risk and threat assessment perspective, diagnostic opinions may offer little help to threat assessors tasked with determining the level of concern before a possible attack, and little hope to ameliorate the larger safety and security issues concerning threats to the public at large from such “lone actor terrorists” or “lone offenders” (Borum, Fein, & Vossekul, 2012; Corner & Gill, 2015; Gill, 2015; Gill, Horgan, & Deckert, 2014; Gruenewald, Chermak, & Freilich, 2013; Meloy & Yakeley, 2014; Simon, 2013), who represent an infinitesimal number of those with any mental or personality

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disorder. Such individuals commit acts of targeted or intended violence (Calhoun & Weston, 2003; Fein & Vossekuil, 1998) and represent the ideologically motivated subset of those perpetrators who commit other acts of targeted violence for other reasons. Targeted or intended violence, in turn, is psychobiologically rooted in *predatory* or so-called instrumental violence—behavior that is offensive, planned, purposeful, and emotionless; its evolutionary genesis is hunting. The other, more common mode of violence, *affective* or so-called reactive violence, is accompanied by high states of autonomic arousal, anger, or fear, and is an immediate response to a perceived threat; such a mode of violence finds its genesis in defense of oneself or others to live another day (Meloy, 2006). These two modes of violence—*affective* and *predatory*—are somewhat biologically distinctive and find their provenance in mammalian research stretching back into the early and mid-20th century (McEllistrem, 2004; Wasman & Flynn, 1962). Their differences have been explored in humans utilizing neuroimaging (Prehn et al., 2013; Raine et al., 1998), neuropsychology (Hanlon, Brook, Stratton, Jensen, & Rubin, 2013), psychophysiology (DeLisi, Umphress, & Vaughn, 2009; Raine, 2013), neurochemistry (Seo, Patrick, & Kennealy, 2008), and criminal investigative analysis (Woodworth & Porter, 2002). There is an ongoing hypothesis held by some, including these authors, that all humans have a primitive and evolved psychobiological capacity for both affective and predatory violence, although mostly males of the species ever behaviorally express it (Bailey, 1987).

Targeted or intended violence is not a disorder of impulsivity or dyscontrol, yet is ubiquitous in our species. Unfortunately, it has historically received little attention in the mental health community at both a clinical and research level, with a few exceptions (Blair, Mitchell, & Blair, 2005; Eichelman, 1992; Siever, 2008); the bias among mental health professionals is to attribute any human violence to deficiency or psychopathology, and therefore the clinical focus is upon diagnosis and treatment of such patients. This has also been reflected in the traditional violence risk assessment literature, in which there is a striking paucity of risk assessment research or forensic instruments that draw a distinction between predatory and affective

violence (Viding & Frith, 2006). Most germane to the mental health community, a precise psychiatric diagnosis, which was debated in retrospect in the Breivik trial, has little incremental validity when *threat assessing* a person who warrants concern that he might perpetrate an act of intended or targeted violence, but greater relevance when *threat managing* a case. Moreover, research suggests that the most relevant information for ascertaining the relationship between psychosis, if present, and violence in general is at the level of positive symptoms and their relationship to the motivation for violence (Douglas, Guy, & Hart, 2009; Hoffmann, Meloy, Guldemann, & Ermer, 2011), rather than diagnosis. This was highlighted 20 years ago in the pioneering work of the U.S. Secret Service, which studied U.S. public figure attackers and assassins since 1949 (Fein & Vossekuil, 1998, 1999; Fein, Vossekuil, & Holden, 1995), and more recent studies of public figure attackers in other countries (Hoffmann, Meloy, & Sheridan, 2014; James et al., 2007). It has been consistently found that despite the high frequency of severe mental illness among the perpetrators, the operational importance of diagnosis is low; what is most germane is whether or not the person is on a pathway to violence, and whether his thought content—delusional or not—is motivating an attack on a public figure (Fein & Vossekuil, 1999).

Purpose

For the past 5 years, we have been investigating warning behaviors for targeted or intended violence in attackers and assassins of public figures, school shooters, school threateners, spousal homicide perpetrators, terrorists, and adolescent and adult mass murderers (Hoffmann et al., 2011; Meloy, 2011; Meloy & O'Toole, 2011; Meloy, Hoffmann, Roshdi, & Guldemann, 2014; Meloy, Hoffmann, Guldemann, & James, 2012). We have identified eight such warning behaviors—superordinate accelerating *patterns* that are dynamic and proximal to the event—derived from the extant research, our forensic experience, and that of other clinicians. Our rationally derived typology has received some empirical support by applying it to disparate samples of instrumentally violent individuals (Meloy, Hoffmann, Roshdi, Glaz-Ocik, et al., 2014), German public figure attackers (Hoffmann et al., 2011), discriminating between small

samples of German school shooters and other students of concern (Meloy, Hoffmann, Roshdi & Guldemann, 2014), individual terrorists (Meloy, Roshdi, Glaz-Ocik, & Hoffmann, 2015), and theoretically detecting “weak signals” for “lone wolf” behavior through linguistic data mining on the Internet (Brynielsson et al., 2013; Cohen, Johansson, Kaati, & Mork, 2014). We herein analyze the behavior of Anders Breivik prior to his crimes, and find that six warning behaviors were present, with the exception of novel aggression and a directly communicated threat to the target—the latter warning behavior an expected negative (absent) finding among both mass murderers and public figure attackers (Meloy, Sheridan, & Hoffmann, 2008), of which Breivik was both.¹ This single case analysis does not advance the concurrent or predictive validity of the typology, but does illustrate, through a detailed fact pattern, how such a typology could be operationally useful to threat assessors when scrutinizing an individual case for behavioral patterns and planning risk interventions.

Method

We define each of the warning behaviors according to our previously published definitions and provide examples from Breivik’s history (Meloy et al., 2011, Meloy, Hoffmann, Roshdi, Glaz-Ocik, et al., 2014). Our sources of data are both primary and secondary, including the psychiatric reports generated for trial; portions of the trial transcripts; available investigative data; an extract in English of the July 22, 2001, Commission report; the English version of the prosecution indictment; and both print and electronic media. Any errors or omissions are our own.

Results: The Warning Behaviors of Anders Breivik

Pathway Warning Behavior

This pattern is defined as any behavior that is part of research, planning, preparation, or implementation of an attack (Fein & Vossekuil, 1998, 1999; Meloy et al., 2011). These are the latter markers on the pathway to violence as discerned by Calhoun and Weston (2003).

Anders Breivik reportedly saved and earned money between 2002 and 2006, yet pessimisti-

cally wrote in his *Manifesto* (2011), “I am required to build a capital base in order to fund the Creation of the compendium. I do not know if I will ever Proceed with a martyrdom operation at this point as it simply seems too radical” (p. 1416).

Police estimate he made approximately 600,000 Euros running an online diploma mill and stock investments, but was declared bankrupt in 2006 and returned to live with his mother at age 27 because it helped him save. This appears to mark the beginning of his pathway, as he began to socially withdraw, and research, plan, and prepare for his terrorist acts. The year he started writing the manifesto he also conducted research on weapons, body armor, and explosives (Manifesto, p. 1416). In 2009 he created a company called Geofarm to provide a plausible reason for the purchase of detonation devices, accelerants, and fuel for explosives (pp. 1417, 1430). In the spring of 2011, he rented a farm. He had previously set up two Facebook accounts to collect nationalists’ e-mail addresses, and reportedly accumulated 8,000 e-mail addresses by March 2010 of culturally conservative individuals. He also continued to worry about appearing on government counterterrorism databases (p. 1420). Because automotive transport was vital to his planning, he obtained a medical certificate for a new driver’s license in 2010.

In July, a year before the attacks, he buried body armor in a Norwegian forest. Later that summer, he traveled to Prague to purchase firearms, but failed because he could not successfully approach “shady figures” (Manifesto, p. 1423). He was issued a rifle permit to hunt deer in October (p. 1424). He began pistol training the next month, and did so for 15 sessions to fulfill the government’s requirement for a purchase; he had joined a pistol club 5 years earlier to increase the probability of legally securing a Glock semiautomatic pistol. He also took three rifle training lessons to acquire skill with the Ruger Mini 14, the second weapon he would use on the island.

¹ Breivik told the police that his plan was to also capture and videotape the beheading of former Labor Party Minister Gro Harlem Brundtland, but she had left the island hours earlier (Roth & Dager, 2014).

Breivik also began to buy chemicals for the bomb (Manifesto, p. 1416). His fear of detection increased, which he ameliorated with caffeine, steroids, the computer game World of Warcraft, and his favorite music performed by SAGA and Helene Beksele. To promote himself and his manifesto, he created a so-called “marketing movie trailer,” between February 15 and 26, 2011, five months before the attacks (p. 1432). During this same period, he converted the listing of Geofarm to “agricultural,” which allowed him to rent and register an actual farm and be assigned a farming identification number. This, in turn, allowed him to order large quantities of fertilizer (p. 1428); when fertilizer, which is ammonium nitrate, is combined with fuel oil (ANFO), a cheap and powerful explosive is created. Breivik then again moved back in with his mother in May 2011, and he rented a Fiat Doblo as early as April 6, obliterating all the AVIS rental insignias from the car (p. 1454). Three hundred kilograms of fertilizer were ordered on April 27, 2011, and he tested it as an explosive device in a remote location on June 13, 2011. A neighbor observed during this time that he had darkened the windows of the farmhouse.

Breivik also began paying closer attention to his physical fitness. He trained and utilized anabolic steroids (stanozolol, 50 mg a day, and dianabol tablets) in three cycles beginning in early 2010, hoping to become a “one man army” (Skaug, 2011). On the day of the attacks, he testified that he utilized an “ECA-stack” (combination of ephedrine, caffeine, and aspirin), and traces of ephedrine were found in his system the day after. A forensic toxicologist considered him lightly to moderately drugged by central nervous system stimulants at the time of the offenses (Professor Joerg Moerland of the Norwegian Institute of Public Health, testimony of May 30, 2012).

In July, Breivik prepared to carry out his attack. He familiarized himself with the routes to the targets and programmed his GPS (Manifesto, p. 1464). He dug up his body armor and bought hollow point ammunition (p. 1465). He rented a van, a Passat, on July 15, and again removed all the rental stickers (p. 1469). He placed the fertilizer bomb in the Passat between July 18 and 19, and utilized mattress stuffing and cardboard to transport the booster and detonators separately (pp. 2348–2349). He parked

the van in a western part of Oslo on July 20, and then drove the van into the city center on July 22. He had written out a time schedule for the attack, but would fail to follow his own plans.

It appears that Breivik spent his last night at his mother’s home. He had difficulty installing a high-powered modem to distribute his manifesto when he awoke at about 0800. He drove the Fiat to Hammersborg Square at 1100, a short walk from the government center, and returned to his mother’s in a taxi, uploaded his marketing video, and made his last manifesto entry: “I believe this will be my last entry. It is now Fri July 22, 12.51. Sincere regards, Anders Berwick, Justiciar Knight Commander, Knights Templar Europe, Knights Templar Norway.” He then tried to send it to his 8,000 e-mail addresses (Skaug, 2011).

Breivik had posted a sign in the van that said “Sewer cleaning in progress” to avoid drawing attention to the smell of sulfur emanating from the homemade explosives. He changed into military clothes and placed blue lights on the roof of the van so he could approach the target—the government buildings area—undetected. When he parked the van, he put on his helmet and vest. He ran away from the Passat at 1517 with his Glock in his hand, an image caught on surveillance and later published. After driving two blocks in his second vehicle, the Fiat, he heard the explosion. It was 1525. At 1630, he arrived at Utvika, 35 km from Oslo, now dressed as a police officer, with fake identification papers, and told the guards (camp participants) that he was there to do a routine security inspection of Utøya. At 1717, he left the pier for the island and began killing 4 min later, a spree that lasted about 75 min. Five hundred sixty-four persons were on the island; over 10% were murdered. The most effective escape route was into the sea (Meyer, 2013).

Fixation Warning Behavior

This pattern is defined as any behavior that indicates an increasingly pathological preoccupation with a person or cause (Mullen et al., 2009). It is measured by (a) increasing perseveration on the person or cause; (b) increasingly strident opinion; (c) increasingly negative characterization of the object of fixation; (d) impact on the family or other associates of the object of fixation, if present and aware; and (e) angry

emotional undertone. It is typically accompanied by social or occupational deterioration (Meloy et al., 2012).

During the previous decade before his attacks, Breivik became more and more preoccupied with his cause, and apparently decided to take violent action. His cause was strong opposition to the Islamization of Europe and the multicultural advocacy of liberal politicians and their political dominance within the Norwegian government. As the date of the attack approached, he became increasingly socially isolative by telling his few remaining friends that he had a book deal (Manifesto, p. 1435). He eschewed romantic relationships because of his fixation. His mother reported to forensic experts that his behavior became more erratic and he would continuously lecture her about politics. His friends independently confirmed this accelerated preoccupation with politics in the months before the attack on the rare occasions when they were together. He appeared depressed to some, but shortly before the attack it seemed as if he became more energized, perhaps what Collins (2012) has referred to as *clandestine excitement*—the emotional consequence of holding a highly valued secret from others:

The would-be rampager is playing a much more exciting game, hiding from others his horrendous plans; and this excitement feeds the emotional input that drives his private ritual. His backstage ritual is in a deepening spiral, a unique source of emotional excitement: as the prospective rampager gets into increasingly serious preparations, the excitement level rises. . . . The positive energy comes from the ongoing adventure of doing something illicit, collecting weapons and hiding them, making specific plans—the excitement is that of carrying out a secret mission. (p. 9)

Identification Warning Behavior

This pattern is defined as any behavior that indicates a psychological desire to be a “pseudocommando” (Dietz, 1986; Knoll, 2010), have a “warrior mentality” (Hempel, Meloy, & Richards, 1999), closely associate with weapons or other military or law enforcement paraphernalia, identify with previous attackers or assassins, or identify oneself as an agent to advance a particular cause or belief system (Meloy, Mohandie, Knoll, & Hoffmann, 2015).

Breivik showed clear evidence of his identification as both a pseudocommando and having a warrior mentality, the terms being largely equivalent; the former focuses on observable

behavior and the latter is more concerned with the internal thinking and fantasy life of the subject that is manifest in behavior. Dietz (1986) defined *pseudocommando* as those “who are preoccupied by firearms and commit their raids after long deliberation” (p. 482). A *warrior mentality* is the fantasy and behavior of being a soldier/warrior, often with the goal of targeting unarmed civilians, in the absence of actual participation in state sanctioned warfare as a trained soldier/warrior against an identified enemy combatant. Breivik took photos of himself for his manifesto posted to the Internet in the hours before the attack. In one, he is wearing a wet suit with insignias, and pointing a rifle with laser lights and a scope in a modified offhand standing position. In the second, he is wearing a dress “military” uniform with epaulets and various medals, including his personally designed insignia on his arm: a skull with the symbols for Nazism, communism, and Islam on its cranium being penetrated by a red sword/cross. Both of these uniforms were his creation. He demanded at trial that he be given a military medal for combating “Islamic colonization.”

Breivik admired the Israeli Defense Force and wore one of their vests during the attack (Manifesto, pp. 1510–1513). He deeply identified with the Knights Templar of the 12th century, the “special forces” of the Christian Crusades against Islam, and claimed that he attended a meeting of the Knights in London in 2002. Subsequent investigation revealed no evidence of such a meeting, and this was likely a fantasy. He referred to himself as “Commander Breivik who just performed an operation on behalf of the Knights Templar” while talking to the police by telephone during his attack. At the trial, he apologized to “militant nationalists” for not killing more people. He played the video game *World of Warcraft*, a game of military strategy, and told his first psychiatric examiners it was his martyrdom gift. He also named his Ruger firearm “Gungnir,” after the spear of Odin who hurled it to begin the AEsir-Vanir War, two groups of gods in Norse mythology.

Another aspect of identification as a warning behavior is the study of previous attackers and assassins. Breivik copied and pasted many of the passages in his manifesto from the U.S. serial bomber Theodore Kaczynski, the so-called “Unabomber,” replacing words such as

“leftist” with “cultural Marxist.” He often plagiarized Kaczynski’s own manifesto, which was eventually published in the *Washington Post* on September 22, 1995, and led to his apprehension when his brother, a social worker, recognized his writings. Kaczynski killed three and injured 23 between 1978 and 1995 as he railed against technology and industrialism.

Breivik probably identified most closely with Timothy McVeigh, who bombed a U.S. federal building in Oklahoma City on April 19, 1995, leaving 168 people dead. Here is one reference to McVeigh in his manifesto: “I am really beginning to understand why Mr. McVeigh limited his manufacturing to 600 kg. He probably encountered much of the issues I did and he probably had to learn everything the hard way just as I have done” (Manifesto, p. 1466). In this passage, and in his mind, he is just like McVeigh in his behavior and learning. McVeigh, however, was an actual soldier/warrior and distinguished himself during the first Iraq–U.S. conflict in 1990 to 1991—a stature that Breivik clearly yearned for and admired. Breivik also reported liking a movie about Baader-Meinhof, a German left-wing terrorist group, and utilized one of their bomb-making techniques (pp. 1425, 1458). Breivik clearly identified himself as an agent to advance a particular cause or belief system: a resistance fighter against multiculturalism, Marxism, and the Islamization of Europe.

Novel Aggression Warning Behavior

This is characterized by an act of violence committed for the first time that appears unrelated to any targeted violence pathway. Such behavior may be utilized to test the ability (de Becker, 1997) of the subject to actually do a violent act, and may be a measure of response tendency, that is, the motivation to act on the environment (Hull, 1952), or a behavioral try-out (MacCulloch, Snowden, Wood, & Mills, 1983). It may be a “proof of kill” if a homicide occurs (G. Deisinger, personal communication, February 2011; Meloy et al., 2012).

Although this warning behavior is not present in the Breivik case, he did engage in what we refer to as *virtual violence*, played out on the Internet or through video gaming in first-person shooter scenarios; such behavior may not be neurally rewarding (Mathiak et al., 2011) but

may increase motivation through “aggression immersion” (Meloy & Mohandie, 2001), and may also enhance tactical skills with real firearms (Whitaker & Bushman, 2014).

Breivik’s engagement in the video game *World of Warcraft* was evidence of his virtual novel aggression. More closely related to the massacres, he stated that he trained for his acts using the computer first-person shooter game *Call of Duty: Modern Warfare*. He reportedly practiced with a “holographic aiming device” he purchased for the war simulation game. He claimed the game helped him rehearse various combat scenarios, including fighting his way out of the government quarter if he was surrounded after detonating the fertilizer bomb. In the U.S. military, first-person shooter games—not the ones for civilian entertainment—are now being utilized at Ft. Benning, Georgia, in a Virtual Interactive Combat Environment for the U.S. Army (Strength through Humility, 2010). They are also being employed at Ft. Bragg, North Carolina, the home of U.S. Special Forces Training (The Daily, 2012).

Energy Burst Warning Behavior

This pattern of behavior is indicated by an increase in the frequency or variety of any noted activities related to the target, even if the activities themselves are relatively innocuous, usually in the days or weeks before the attack (Meloy et al., 2012; Odgers et al., 2009). This is an admittedly difficult warning behavior to identify unless much is known about the amount of daily activity of the person of concern over a period of time—then it is possible to calibrate the person’s current activity in relationship to his typical activity frequency.

Breivik appears to have become increasingly active during the 2 years before as he became more absorbed in the preparation for his attacks. Although needing to be alone on the rented farm, he purposely maintained few social relations so that no one would become suspicious (Manifesto, p. 1461ff).

On June 11, 2011, he enlisted God’s help as work accelerated:

I prayed for the first time in a very long time today. I explained to God that unless he wanted the Marxist–Islamic alliance and the certain Islamic takeover of Europe to completely annihilate European Christendom within the next hundred years he must ensure that the warriors fighting for the preservation of European

Christendom prevail. He must ensure that I succeed with my mission and as such; contribute to inspire thousands of other revolutionary conservatives/nationalists; anti-Communists and anti-Islamists throughout the European world. (Manifesto, p. 1459)

He was also very concerned about his complete social isolation in the month before the attacks:

Choosing complete isolation and asocial behavior, in phases like these, would probably be a more pragmatic approach for ensuring secrecy. However, complete isolation and asocial behavior can also defeat the whole purpose if you end up losing the love for the people you have sworn to protect. Because, why would you bless your people with the ultimate gift of love if every single person hates you? (Manifesto, p. 1463)

He felt the pressure of time on July 10, as he needed to increase his work schedule:

In any case; I feel I've been really slacking the last week and I really need to step up the pace now. At least now, everything is set so I do not have to research any more techniques and methods. (p. 1466)

And by July 18, he was completely fatigued:

Exhausted!!! Good workout though. I'm drinking 4 x protein shakes per day now to maximize muscle generation. At this point in time I should be fearful, but I'm just too exhausted to think much about it. . . . Went to a higher quality restaurant in the southern town and feasted. Yummy! I've been working extremely hard the last few days and I'm completely exhausted. I have been using ECA stack to help keep this pace. Looks like I will have to take one more today. (pp. 1469–1470)

Energy burst is an acceleration of activity related to the targeted violence. It could have a psychiatric component, such as hypomania or mania; on the other hand, as in Breivik's case, it appears it did not (Torrissen & Aspaas, 2012). In most cases, energy burst may simply be the offender's underestimation of the amount of final preparations necessary for his targeted violence, and therefore a need to accelerate his behavior to get them done before the planned time of the event.

Leakage Warning Behavior

This pattern is the communication to a third party of an intent to do harm to a target through an attack (Meloy & O'Toole, 2011). It could be quite specific or very vague. Such leakage is increasingly found posted on the Internet or transmitted through social media (Meloy et al., 2011), but historically has included written nar-

atives or oral communication to family members, friends, or acquaintances. The definition is limited to any communication that was known, or could have been known, by others prior to the targeted violence to maintain its operational usefulness. In the context of clinical work, such leakage might trigger a legal duty to warn both law enforcement and the identified victim (*Tarasoff v. Regents of the University of California*, 1974, 1976). Leakage is very common among those who both threaten and engage in targeted violence (Hempel et al., 1999; Meloy, Hoffmann, Roshdi, Glaz-Ocik, et al., 2014; Meloy & O'Toole, 2011), and is often the point of entry for a threat investigation.

Breivik appears to have tweeted the following quote online 5 days before the attacks: "One person with a belief is equal to the force of 100,000 who have only interest." This phrase was from the writings of the 19th-century British philosopher John Stuart Mill, a proponent of individual liberty against the tyranny of the state. Although it is not leakage per se, it does speak to his determination and commitment to his belief system. Actual leakage occurred within hours of the attack when he posted his manifesto online containing the details of his preparation and planning—although it did not state his specific targets—and a 12-min-long marketing video on his Facebook page. Such postings memorialized his presence and proefense thinking online, but did not allow time for interdiction.

Last Resort Warning Behavior

This is a discernable pattern of a violent "time or action imperative" (Mohandie & Duffy, 1999), or increasing desperation or distress through declaration in word or deed, forcing the individual into a position of last resort. There is no other alternative than violence, and the consequences are justified (de Becker, 1997). The subject feels trapped (S. White, personal communication, October 2010; Meloy et al., 2011). Although circumstances might dictate last resort behavior, in most cases, the state of mind of the subject has largely determined that he has no other choice. Other options are available but are denied or ignored.

Breivik had lost confidence in the democratic process (Manifesto, p. 1401). Because multiculturalism was rapidly spreading, a *time imperative* for his actions was evident in his writings. An

action imperative was also apparent because he concluded that alternatives to violence had not worked. He believed that the media carried most of the responsibility for his attacks because they did not publish his opinions beforehand (Skaug, 2011). He wrote that “the time for dialogue is over” (p. 1377) and quoted Napoleon: “He who saves the country violates no law” (p. 684). During the trial, he displayed his last resort mentality when he said, “I did this out of goodness, not evil. I acted in self-defense on behalf of my people, my city, my country. I would have done it again” (Breivik Testimony, 2012).

Directly Communicated Threat Warning Behavior

This pattern is the communication of a direct threat to the target or law enforcement beforehand. A threat is a written or oral communication that implicitly or explicitly states a wish or intent to damage, injure, or kill the target or individuals symbolically or actually associated with the target (Meloy et al., 2011). The finding that direct threats are unusual in targeted violence cases—with the exception of prior sexual intimacies—has been repeatedly validated (Meloy & Hoffmann, 2014).

There is no publicly available evidence in the Breivik case that he communicated a direct threat to anyone before his attacks. On the contrary, there is voluminous evidence that he strove to keep a very low profile, recognizing that as he proceeded down a pathway toward violence, the criminality of his activities (building an ANFO bomb) and the intensity of his activities (surveillance, equipment procurement, practicing, implementation) increased the likelihood of discovery by others. In this regard, he behaved the way most mass murderers and public figure attackers behave (Hempel et al., 1999; Meloy et al., 2008).

Discussion

The identification of six out of eight warning behaviors in the Breivik case does not validate the typology because it is an individual case and the patterns have been retrospectively applied. Warning behaviors contain within them dynamic rather than static variables, the former making more substantial, and often more accurate, contributions to assessments of acute and short-term violence risk (Gray et al., 2004; Mc-

Niel, Gregory, Lam, Binder, & Sullivan, 2003; Nicholls, Brink, Desmarais, Webster, & Martin, 2006; Skeem & Mulvey, 2001). Acute, fast-changing, or accelerating risk is typically the domain of threat assessors who are attempting to operationally manage very low-frequency, but intentional, acts of violence directed toward a specific individual or target (Calhoun & Weston, 2003). Although threat assessment (Borum, Fein, Vossekuil, & Berglund, 1999) was developed as an idiographic approach to overcome this low base rate problem by emphasizing risk management rather than prediction, these warning behaviors as superordinate accelerating patterns may be relevant to both idiographic and nomothetic approaches to violence risk (Meloy & Hoffmann, 2014; Otto & Douglas, 2010). Meloy, Hoffmann, Roshdi, and Guldemann (2014) found that five warning behaviors—pathway, identification, fixation, novel aggression, and last resort—did discriminate between a sample of German school shooters and other students of concern. The findings were significant ($p < .001$) and all effect sizes were large ($\phi > .50$).

Although the consideration of psychiatric diagnosis in the Breivik trial was crucial to a determination as to whether he was legally insane or not, it is a mistake to assume that a precise diagnosis will play a central role in the threat *assessment* of such a similar patient if he or she happened to present in a clinical setting. An operational context, moreover, such as clinical or forensic psychological consultation to law enforcement or security, would be the more likely point of contact. Once again, if a psychiatric condition is apparent, and there is concern about violence risk, especially targeted violence, the focus for threat *management* should be upon the content of the symptoms and whether or not they provide a motivation to act (Douglas et al., 2009; Hoffmann et al., 2011; James et al., 2009). Douglas et al. (2009) found in their meta-analysis that the relationship between symptoms and violence for various psychotic disorders was statistically significant, but was not statistically significant for diagnosis and violence, with the exception of schizophrenia. The latter as a diagnosis and as a cluster of symptoms had very similar effect sizes in relation to violence (odds ratios of 1.71 vs. 2.07, respectively, for 77 effect sizes). The largest effect size across various psychotic diagnoses

was for positive symptoms (median odds ratio of 2.32 across 62 studies). There was also a significant effect size for hallucinations/delusions (odds ratio = 2.31, based on 37 effect sizes). Swanson et al. (2006) similarly found that positive symptoms, especially persecutory delusions, increased the risk of serious violence in a large U.S. study of schizophrenia. Negative symptoms decreased risk. The waxing and waning of symptoms may make a small contribution to violence risk, which could be medically managed, but the effect size is usually small (Douglas et al., 2009). Another problem is the comorbidity of mental disorders, which makes symptoms or behavioral patterns more relevant and applicable for risk management than the diagnoses themselves. Acute symptoms are relevant for threat management, but the time criterion for their persistence may not be met, so a diagnosis cannot be made in a given case. It would seem absurd in this context to not clinically react if relevant symptoms were present but the time criteria for diagnosis had not yet been fulfilled.

Our endeavor to focus upon Anders Breivik, moreover, must be viewed with great caution, because it is prone to both hindsight and confirmatory bias: It is much easier to identify retrospectively such warning behaviors prior to the crimes than it would be prospectively, as it is extremely difficult to separate the *signals* of Breivik from the *noise* of other terrorist threats in Norway prior to July 22, 2011; and we may have inadvertently excluded disconfirming evidence of each warning behavior in his case in our desire to successfully support our hypothesis. Our analysis is also complicated by the multiple sources of information upon which we relied, both primary and secondary. We have attempted, however, to carefully fact-check across these various sources of information, and have eliminated unverified or questionable information on the case. A third source of bias is overconfidence that the data are complete—the pervasive problem that researchers do not know what they do not know.

What such an analysis does invite, however, is consideration and further research that such proximal and dynamic patterns of risk for targeted violence may prove—although etiologically nonspecific—much more useful in the threat assessment of individual cases, in particular, and the public safety, in general, than

preciseness of psychiatric diagnosis. Such diagnoses are important to *manage and mitigate a threat*, and are sometimes reliable (Regier et al., 2013), but they may also be only slightly relevant to the *assessment of a threat* toward others if an intended act of violence is being planned. The warning behaviors offer an additional lens through which the behaviors of a subject of concern can be studied and managed.

References

- Bailey, K. (1987). *Human paleopsychology: Applications to aggression and pathological processes*. Hillsdale, NJ: Erlbaum.
- Blair, R. J. R., Mitchell, D., & Blair, K. (2005). *The psychopath: Emotion and the brain*. Oxford, UK: Blackwell.
- Borum, R., Fein, R., & Vossekuil, B. (2012). A dimensional approach to analyzing lone offender terrorism. *Aggression and Violent Behavior, 17*, 389–396. <http://dx.doi.org/10.1016/j.avb.2012.04.003>
- Borum, R., Fein, R., Vossekuil, B., & Berglund, J. (1999). Threat assessment: Defining an approach for evaluating risk of targeted violence. *Behavioral Sciences & the Law, 17*, 323–337. [http://dx.doi.org/10.1002/\(SICI\)1099-0798\(199907/09\)17:3<323::AID-BSL349>3.0.CO;2-G](http://dx.doi.org/10.1002/(SICI)1099-0798(199907/09)17:3<323::AID-BSL349>3.0.CO;2-G)
- Breivik Testimony. (2012, April 18). *New York Times*, p. A9.
- Brynielsson, J., Horndahl, A., Johansson, F., Kaati, L., Mårtenson, C., & Svenson, P. (2013). Harvesting and analysis of weak signals for detecting lone wolf terrorists. *Security Informatics, 2*, 11. <http://dx.doi.org/10.1186/2190-8532-2-11>
- Calhoun, T., & Weston, S. (2003). *Contemporary threat management*. San Diego, CA: Specialized Training Services.
- Cohen, K., Johansson, F., Kaati, L., & Mork, J. C. (2014). Detecting linguistic markers for radical violence in social media. *Terrorism and Political Violence, 26*, 246–256. <http://dx.doi.org/10.1080/09546553.2014.849948>
- Collins, R. (2012). Clues to mass rampage killers: Deep backstage, hidden arsenal, clandestine excitement. *The Sociological Eye*. Retrieved at <http://sociological-eye.blogspot.com/2012/09/clues-to-rampage-killers>
- Corner, E., & Gill, P. (2015). A false dichotomy? Mental illness and lone-actor terrorism. *Law and Human Behavior, 39*, 23–34.
- de Becker, G. (1997). *The gift of fear*. New York, NY: Random House.
- DeLisi, M., Umphress, Z., & Vaughn, M. (2009). The criminology of the amygdala. *Criminal Justice and*

- Behavior*, 36, 1241–1252. <http://dx.doi.org/10.1177/0093854809343119>
- Dietz, P. E. (1986). Mass, serial and sensational homicides. *Bulletin of the New York Academy of Medicine*, 62, 477–491.
- Douglas, K. S., Guy, L. S., & Hart, S. D. (2009). Psychosis as a risk factor for violence to others: A meta-analysis. *Psychological Bulletin*, 135, 679–706. <http://dx.doi.org/10.1037/a0016311>
- Eichelman, B. (1992). Aggressive behavior: From laboratory to clinic. Quo vadit? *Archives of General Psychiatry*, 49, 488–492. <http://dx.doi.org/10.1001/archpsyc.1992.01820060068012>
- Fein, R. A., & Vossekuil, B. (1998). Preventing attacks on public officials and public figures: A Secret Service perspective. In J. R. Meloy (Ed.), *The psychology of stalking: Clinical and forensic perspectives* (pp. 175–191). San Diego, CA: Academic Press. <http://dx.doi.org/10.1016/B978-012490560-3/50028-1>
- Fein, R. A., & Vossekuil, B. (1999). Assassination in the United States: An operational study of recent assassins, attackers, and near-lethal approachers. *Journal of Forensic Sciences*, 44, 321–333. <http://dx.doi.org/10.1520/JFS14457J>
- Fein, R. A., Vossekuil, B., & Holden, G. (1995). *Threat assessment: An approach to prevent targeted violence* (NCJ 155000). Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.
- Gill, P. (2015). *Lone-actor terrorists: A behavioural analysis*. London, UK: Routledge.
- Gill, P., Horgan, J., & Deckert, P. (2014). Bombing alone: Tracing motivations and antecedent behaviors of lone-actor terrorists. *Journal of Forensic Sciences*, 59, 425–435. <http://dx.doi.org/10.1111/1556-4029>
- Gray, N. S., Snowden, R. J., MacCulloch, S., Phillips, H., Taylor, J., & MacCulloch, M. J. (2004). Relative efficacy of criminological, clinical, and personality measures of future risk of offending in mentally disordered offenders: A comparative study of HCR-20, PCL:SV, and OGRS. *Journal of Consulting and Clinical Psychology*, 72, 523–530. <http://dx.doi.org/10.1037/0022-006X.72.3.523>
- Gruenewald, J., Chermak, S., & Freilich, J. (2013). Distinguishing “loner” attacks from other domestic extremist violence. *Criminology & Public Policy*, 12, 65–91. <http://dx.doi.org/10.1111/1745-9133.12008>
- Hanlon, R., Brook, M., Stratton, J., Jensen, M., & Rubin, L. (2013). Neuropsychological and intellectual differences between types of murderers: Affective/impulsive verses predatory/instrumental (premeditated) homicide. *Criminal Justice and Behavior*, 40, 933–948. <http://dx.doi.org/10.1177/0093854813479779>
- Hempel, A. G., Meloy, J. R., & Richards, T. C. (1999). Offender and offense characteristics of a nonrandom sample of mass murderers. *Journal of the American Academy of Psychiatry and the Law*, 27, 213–225.
- Hoffmann, J., Meloy, J. R., Guldemann, A., & Ermer, A. (2011). Attacks on German public figures, 1968–2004: Warning behaviors, potentially lethal and non-lethal acts, psychiatric status, and motivations. *Behavioral Sciences & the Law*, 29, 155–179. <http://dx.doi.org/10.1002/bsl.979>
- Hoffmann, J., Meloy, J. R., & Sheridan, L. (2014). Contemporary research on stalking, threatening, and attacking public figures. In J. R. Meloy & J. Hoffmann (Eds.), *International handbook of threat assessment* (pp. 160–177). New York, NY: Oxford University Press.
- Hull, C. (1952). *A behavioral system*. New Haven, CT: Yale University Press.
- James, D. V., Mullen, P. E., Meloy, J. R., Pathé, M. T., Farnham, F. R., Preston, L., & Darnley, B. (2007). The role of mental disorder in attacks on European politicians 1990–2004. *Acta Psychiatrica Scandinavica*, 116, 334–344. <http://dx.doi.org/10.1111/j.1600-0447.2007.01077.x>
- James, D. V., Mullen, P. E., Pathé, M. T., Meloy, J. R., Preston, L. F., Darnley, B., & Farnham, F. R. (2009). Stalkers and harassers of royalty: The role of mental illness and motivation. *Psychological Medicine*, 39, 1479–1490. <http://dx.doi.org/10.1017/S0033291709005443>
- Knoll, J. L., IV. (2010). The “pseudocommando” mass murderer: Part I, the psychology of revenge and obliteration. *Journal of the American Academy of Psychiatry and the Law*, 38, 87–94.
- Leonard, C. H., Annas, G. D., Knoll, J. L., IV, & Tørrissen, T. (2014). The case of Anders Behring Breivik: Language of a lone terrorist. *Behavioral Sciences & the Law*, 32, 408–422. <http://dx.doi.org/10.1002/bsl.2117>
- MacCulloch, M. J., Snowden, P. R., Wood, P. J., & Mills, H. E. (1983). Sadistic fantasy, sadistic behaviour and offending. *The British Journal of Psychiatry*, 143, 20–29. <http://dx.doi.org/10.1192/bjp.143.1.20>
- Manifesto of Anders Behring Breivik. (2011). *2083-A European Declaration of Independence*. Retrieved July 23, 2011, from https://fas.org/programs/tap/_docs/2083_-_A_European_Declaration_of_Independence.pdf
- Mathiak, K. A., Klasen, M., Weber, R., Ackermann, H., Shergill, S. S., & Mathiak, K. (2011). Reward system and temporal pole contributions to affective evaluation during a first person shooter video game. *BMC Neuroscience*, 12, 66. <http://dx.doi.org/10.1186/1471-2202-12-66>
- McEllistrem, J. (2004). Affective and predatory violence: A bimodal classification system of human

- aggression and violence. *Aggression and Violent Behavior*, 10, 1–30. <http://dx.doi.org/10.1016/j.avb.2003.06.002>
- McNeil, D. E., Gregory, A. L., Lam, J. N., Binder, R. L., & Sullivan, G. R. (2003). Utility of decision support tools for assessing acute risk of violence. *Journal of Consulting and Clinical Psychology*, 71, 945–953. <http://dx.doi.org/10.1037/0022-006X.71.5.945>
- Melle, I. (2013). The Breivik case and what psychiatrists can learn from it. *World Psychiatry; Official Journal of the World Psychiatric Association (WPA)*, 12, 16–21. <http://dx.doi.org/10.1002/wps.20002>
- Meloy, J. R. (2006). Empirical basis and forensic application of affective and predatory violence. *Australian and New Zealand Journal of Psychiatry*, 40, 539–547. <http://dx.doi.org/10.1080/j.1440-1614.2006.01837.x>
- Meloy, J. R. (2011). Approaching and attacking public figures: A contemporary analysis of communications and behavior. In C. Chauvin (Ed.), *Threatening communications and behavior: Perspectives on the pursuit of public figures* (pp. 75–101). Washington, DC: Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral Social Sciences and Education, The National Academies Press. Available at www.nap.edu
- Meloy, J. R., & Hoffmann, J. (Eds.). (2014). *International handbook of threat assessment*. New York, NY: Oxford University Press.
- Meloy, J. R., Hoffmann, J., Guldumann, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Behavioral Sciences & the Law*, 30, 256–279.
- Meloy, J. R., Hoffmann, J., Roshdi, K., Glaz-Ocik, J., & Guldumann, A. (2014). Warning behaviors and their configurations across various domains of targeted violence. In J. R. Meloy & J. Hoffmann (Eds.), *International handbook of threat assessment* (pp. 39–53). New York, NY: Oxford University Press.
- Meloy, J. R., Hoffmann, J., Roshdi, K., & Guldumann, A. (2014). Some warning behaviors discriminate between school shooters and other students of concern. *Journal of Threat Assessment and Management*, 1, 203–211. <http://dx.doi.org/10.1037/tam0000020>
- Meloy, J. R., & Mohandie, K. (2001). Investigating the role of screen violence in specific homicide cases. *Journal of Forensic Sciences*, 46, 1113–1118. <http://dx.doi.org/10.1520/JFS15107J>
- Meloy, J. R., Mohandie, K., Knoll, J. L., & Hoffmann, J. (2015). The concept of identification in threat assessment. *Behavioral Sciences & the Law*, 33, 213–237. <http://dx.doi.org/10.1002/bsl.2166>
- Meloy, J. R., & O'Toole, M. E. (2011). The concept of leakage in threat assessment. *Behavioral Sciences & the Law*, 29, 513–527. <http://dx.doi.org/10.1002/bsl.986>
- Meloy, J. R., Roshdi, K., Glaz-Ocik, J., & Hoffmann, J. (2015). Investigating the individual terrorist in Europe. *Journal of Threat Assessment and Management*, 2(3/4), 140–152. <http://dx.doi.org/10.1037/tam0000036>
- Meloy, J. R., Sheridan, L., & Hoffmann, J. (Eds.). (2008). *Stalking, threatening, and attacking public figures: A psychological and behavioral analysis*. New York, NY: Oxford University Press.
- Meloy, J. R., & Yakeley, J. (2014). The violent true believer as a “lone wolf”: Psychoanalytic perspectives on terrorism. *Behavioral Sciences & the Law*, 32, 347–365.
- Meyer, S. (2013). Impeding lone-wolf attacks: Lessons derived from the 2011 Norway attacks. *Crime Science*, 2, 7. <http://dx.doi.org/10.1186/2193-7680-2-7>
- Mohandie, K., & Duffy, J. (1999, December). First responder and negotiation guidelines with the paranoid schizophrenic subject. *FBI Law Enforcement Bulletin*, 8–16.
- Mullen, P. E., James, D. V., Meloy, J. R., Pathé, M. T., Farnham, F. R., Preston, L., . . . Berman, J. (2009). The fixated and the pursuit of public figures. *Journal of Forensic Psychiatry & Psychology*, 20, 33–47. <http://dx.doi.org/10.1080/14789940802197074>
- Nicholls, T. L., Brink, J., Desmarais, S. L., Webster, C. D., & Martin, M. L. (2006). The Short-Term Assessment of Risk and Treatability (START): A prospective validation study in a forensic psychiatric sample. *Assessment*, 13, 313–327. <http://dx.doi.org/10.1177/1073191106290559>
- Odgers, C. L., Mulvey, E. P., Skeem, J. L., Gardner, W., Lidz, C. W., & Schubert, C. (2009). Capturing the ebb and flow of psychiatric symptoms with dynamical systems models. *The American Journal of Psychiatry*, 166, 575–582. <http://dx.doi.org/10.1176/appi.ajp.2008.08091398>
- Otto, R., & Douglas, K. (Eds.). (2010). *Handbook of violence risk assessment*. New York, NY: Routledge.
- Prehn, K., Schlagenhauf, F., Schulze, L., Berger, C., Vohs, K., Fleischer, M., . . . Herpertz, S. C. (2013). Neural correlates of risk taking in violent criminal offenders characterized by emotional hypo- and hyper-reactivity. *Social Neuroscience*, 8, 136–147. <http://dx.doi.org/10.1080/17470919.2012.686923>
- Raine, A. (2013). *The anatomy of violence*. New York, NY: Pantheon Books.
- Raine, A., Meloy, J. R., Bihrlé, S., Stoddard, J., LaCasse, L., & Buchsbaum, M. S. (1998). Reduced prefrontal and increased subcortical brain functioning assessed using positron emission tomography in predatory and affective murderers. *Behavioral Sciences & the Law*, 16, 319–332. <http://dx.doi.org/10.1002/bsl.986>

- .1002/(SICI)1099-0798(199822)16:3<319::AID-BSL311>3.0.CO;2-G
- Regier, D. A., Narrow, W. E., Clarke, D. E., Kraemer, H. C., Kuramoto, S. J., Kuhl, E. A., & Kupfer, D. J. (2013). DSM-5 field trials in the United States and Canada, Part II: Test-retest reliability of selected categorical diagnoses. *The American Journal of Psychiatry*, *170*, 59–70. <http://dx.doi.org/10.1176/appi.ajp.2012.12070999>
- Roth, W. T., & Dager, S. R. (2014). Psychiatry on trial: The Norway 2011 massacre. *Journal of Nervous and Mental Disease*, *202*, 181–185. <http://dx.doi.org/10.1097/NMD.000000000000109>
- Seo, D., Patrick, C. J., & Kennealy, P. J. (2008). Role of serotonin and dopamine system interactions in the neurobiology of impulsive aggression and its comorbidity with other clinical disorders. *Aggression and Violent Behavior*, *13*, 383–395. <http://dx.doi.org/10.1016/j.avb.2008.06.003>
- Siever, L. J. (2008). Neurobiology of aggression and violence. *The American Journal of Psychiatry*, *165*, 429–442. <http://dx.doi.org/10.1176/appi.ajp.2008.07111774>
- Simon, J. (2013). *Lone wolf terrorism*. Amherst, NY: Prometheus Books.
- Skaug, C. (2011). *Psychiatric forensic report translated into English*. Retrieved from <http://www.document.no/2012/02/forensic-psychiatric-statement-anders-behring-breivik-iii/>
- Skeem, J. L., & Mulvey, E. P. (2001). Psychopathy and community violence among civil psychiatric patients: Results from the MacArthur Violence Risk Assessment Study. *Journal of Consulting and Clinical Psychology*, *69*, 358–374. <http://dx.doi.org/10.1037/0022-006X.69.3.358>
- Sorheim, S., & Husby, T. (2011). *Anders Breivik psychiatric report submitted to the Oslo District Court, November 29, 2011* [Available in Norwegian with names and certain details redacted]. Retrieved from http://www.vg.no/nyheter/innenriks/22-juli/psykiatrisk_vurdering/
- Strength through Humility. (2010). *Military FPS video game simulations: Team war practice by V* I* C* E* [Video file]. Retrieved March 2014, from <https://www.youtube.com/watch?v=CwQOEZISDT4>
- Swanson, J. W., Swartz, M. S., Van Dorn, R. A., Elbogen, E. B., Wagner, H. R., Rosenheck, R. A., . . . Lieberman, J. A. (2006). A national study of violent behavior in persons with schizophrenia. *Archives of General Psychiatry*, *63*, 490–499. <http://dx.doi.org/10.1001/archpsyc.63.5.490>
- Tarasoff v. Regents of the University of California (1974). 529 P. 2d 553.
- Tarasoff v. Regents of the University of California (1976). Reargued 17 Cal. 3d 425, 551 P. 2d 334, 131 Cal. Rptr 33.
- The Daily. (2012). *U.S. soldiers train using virtual reality* [Video file]. Retrieved March 2014 from, <https://www.youtube.com/watch?v=NND7Hk5fYdI>
- Torrissen, T., & Aspaas, A. (2012). *Anders Breivik psychiatric report submitted to the Oslo District Court, January 13, 2012* [Available in Norwegian with names and certain details redacted]. Retrieved from http://www.vg.no/nyheter/innenriks/22-juli/psykiatrisk_vurdering
- Viding, E., & Frith, U. (2006). Genes for susceptibility to violence lurk in the brain. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, *103*, 6085–6086. <http://dx.doi.org/10.1073/pnas.0601350103>
- Wasman, M., & Flynn, J. P. (1962). Directed attack elicited from hypothalamus. *Archives of Neurology*, *6*, 220–227. <http://dx.doi.org/10.1001/archneur.1962.00450210048005>
- Whitaker, J., & Bushman, B. (2014). “Boom, headshot!”: Effect of video game play and controller type on firing aim and accuracy. *Communication Research*, *41*, 879–891. <http://dx.doi.org/10.1177/0093650212446622>
- Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology*, *111*, 436–445. <http://dx.doi.org/10.1037/0021-843X.111.3.436>

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