CASE REPORT



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PSYCHIATRY & BEHAVIORAL SCIENCE

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The Swedish School Attack in Trollhättan*

ABSTRACT: This is a case report of the offender and offense characteristics of a targeted attack on a Swedish school using a sword, with a particular focus upon the offender's history, the relationship between mental disorder and ideology, and whether or not it was an act of terrorism. Findings indicate that the offender had no drug or psychiatric treatment history, but postoffense analysis suggests autism spectrum disorder, depression, and both suicidal ideation and intent. The offender planned and prepared for his attack, and the triggering event appeared to be the loss of a temporary job. He expressed chronic anger concerning immigrants to Sweden and blamed them for his failures. Comparison of the fact pattern to other cases of lone actor terrorists in Europe and North America—including right wing extremists—and contributes to further understanding of ideologically motivated mass murder.

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KEYWORDS: forensic science, mass murder, hate crime, terrorism, suicide by cop, targeted violence, threat assessment, lone actor terrorist, school shootings

School shootings are disturbingly familiar in several European countries and the United States (1-4). In Sweden, however, they are very unusual. In 1961, there was a shoot-out at the Kungälv grammar school, now Thorildskolan. Seven young people were injured, of which one died. In 1979, a teacher was stabbed to death on Svartedalsskolan in Gothenburg by a drunken 15-year-old boy. In 2001, a 16-year-old boy was found dead in a toilet at Bromma gymnasium; he had been shot to death. That same year, an 18year-old woman was killed and a 19-year-old man was severely injured in a knife attack on Västermalms secondary school in Sundsvall. In 2004, three boys planned to carry out a massacre at Slottsstadens School in Malmö on the fifth anniversary of the shootings at Columbine High School in the United States. The attack did not occur, and all of the boys went free. In 2007, there was a lecturer at Örebro University stabbed to death by his cousin (5,6). The attack in Trollhättan in 2015 is the school attack that has cost the most lives in Sweden, although it did not involve a firearm and instead utilized an edged weapon. The usual fact pattern of a school attack suggested that the offender himself had been a pupil at the school and was driven by the desire for revenge. Anton Lundin Pettersson the offender, however, had not been at the Kronan school in Trollhättan, but chose it because he knew that more than 90% of the students were of foreign origin, for example, Kurdistan in Turkey, Somalia, Lebanon, and Syria.

Methods

This is a case study of the Kronan School attack and the offender who murdered three people and injured another

seriously on the 22nd of October 2015. The material for this case report is in large part taken from the first book published about the attack, Det som aldrig fick ske: Skolattentatet i Trollhättan (7). The investigative research and writing of this book were done by the first author. All of the quotations, proper names, places, events, and other circumstances that are cited herein are referenced in this book, which is available in Swedish. All of the information disclosed in this case study pertaining to the assailant, his relatives, the victim, and events surrounding this assassination can now be found in the public domain, albeit in Swedish. The first author interviewed more than 80 people, 50 of whom are identified by name; 30 wished to remain anonymous. This study, and the book, partially relied on the police investigation, but also the investigative efforts of the first author, including people who were not interviewed by the police and evidence that was not discovered by the police. Both authors have carried out the analysis of this case through the lens of the Terrorist Radicalization Assessment Protocol (TRAP-18) (8). The purpose of this case study was to provide in English a detailed analysis of the offender and his offense characteristics, with a particular focus on his mental disorders, and to test the hypothesis that this case should be considered an act of individual terrorism.

Results

The Offense

The school day started at Kronan on Thursday, the 22nd of October 2015, at 9 o'clock in the morning. The teaching assistant Lavin Eskandar, 20, who actually was off duty but had decided to help a colleague that was ill this day, sits in the school's café with his pupil David Issa, 14. On the school's upper floor is the student Wahed Kosa, 15, sitting in class, and the teacher Nazir Amso, 42, is teaching in another classroom on the same floor. The student Ahmed Hassan, 15, has woken up late and is hurrying to school (7).

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At home in his two-room apartment in a middle class neighborhood in the center of Trollhättan, Anton Lundin Pettersson is doing his final preparations. He paints his whole face white except for black eyeliner and sprinkles glitter in his hair. He puts on his home-made uniform: a newly purchased World War II Nazi helmet which he painted black, a black face mask, a long black coat, black boots, a newly purchased Viking style sword, and a Japanese dagger. He goes on Facebook to see his older brother one last time. At 0911, he logs in to a gaming site and sends a private message to one of his two gaming friends (9). Then, he goes out to his father's car, drives to his brother who is already at work, opens the door with his own key, and puts his mobile phone and his last money on his brother's kitchen table. He gets back in the car and drives to Kronan.

At 1006, he marches through a side door at the school and sees the assistant Lavin Eskandar and the pupil David Issa sitting in the back of the café. Pettersson walks straight up to them and cuts Eskandar diagonally across the front of his head with the sword, inflicting a deadly wound. Eskandar tumbles to the floor. Pettersson stabs him twice in the back, one wound penetrating his right lung and his aorta. David Issa yells, "What the hell are you doing?!" and is immediately hit by the sword on his arm but manages to escape.

On the second floor of the school are the educator Owe Einarsson and his colleague, the assistant principal. They are eyewitnesses to the murder of Lavin Eskandar, and following the offense, said that the offender appeared "from nowhere." Einarsson thought that the masked man was joking because it was Halloween. A woman who stood behind the counter of the café threw herself on the floor and pushed the emergency alarm. Two cleaning ladies that came into the café also witnessed the last two stabbings in the back of Eskandar.

At 1008, the first emergency call to the police by the assistant principal is registered. The principal Dzenan "Djeno" Mahic-informed by Einarsson what has just happened-begins running around the school, risking his own life, to warn the students and teachers. "Lock yourselves in, a maniac is loose!" he yells. His colleagues also begin to run through the school to warn other staff and pupils. Pettersson is now marching around the school in search of more victims. He walks like a soldier, playing loud music on his mobile phone -the song "Dragula" by Rob Zombie—and searching systematically through the corridors and the library, where a full class of 6-year-old children is trying to hide in their yellow excursion jackets under the tables and chairs. Pupils barricade themselves in the other classrooms and the cleaning ladies try to hide in the cleaning closet. On the second floor, a teacher sits in a window, ready to jump.

The offender, however, is ignorant of the school's floor plan and several times finds himself in front of locked doors. He does not attack the younger pupils, girls, or women. Pettersson continues up the stairs to the second floor, finds the pupil Ahmed Hassan, and stabs him in the abdomen. Hassan staggers down the stairs and falls to the floor in the café.

Back on the second floor, two pupils see the masked man, think it is a joke, and ask whether they can take a picture together with him. The offender nods and signs with his hands that they can come forward. On the image, blood from Eskandar and Hassan is seen on the sword while the killer keeps his arms around one pupil (Fig. 1).

The teacher Nazir Amso comes forward, thinks it is inappropriate to wear a mask in school, and tries to tear it from him, asking "Who are you?" He is also stabled in the abdomen. The students and the teacher realize the seriousness of the event and begin to run out of the school.

Amso runs forward, bleeding profusely. Outside of school, he collapses on the grass and others try to help him. Pettersson begins to chase him, but soon stops before he comes out from the school and marches back into the corridor on the second floor. He knocks on a classroom door which the student Wahed Kosa opens, sees the masked man and asks "Who are you?" Pettersson stares at him for about 20 sec and then stabs Kosa in the stomach. Kosa, now the fourth stabbed victim, manages to close and lock the door despite his severe injuries. His classmates see the blood draining from his stomach but think it is a joke, and some of them yell, "Now it is war!" Kosa escapes out of the room in search of help. He falls down in a teacher's lounge where a few educators are trying to stop his blood flow.

The first police patrol arrives at 1016 to the school— 10 minutes after the attack began. They rush in to see the murdered Eskandar and severely injured Hassan on the floor. Almost immediately they see the offender marching on the second floor. The police officers run up the stairs and yell, "Police! Drop the sword!" The offender stops, raises his sword and moves toward them. He is simultaneously shot by both, the discharges sounding as one. One of the two bullets hits the offender in the abdomen and he falls to the floor, and the other bullet hits the inner roof. First Pettersson asks the police officers for help, but then



FIG. 1—The offender pausing during his school attack to pose with two pupils who are unaware of the mass murder in progress.

he lies quietly in handcuffs on the floor staring into space. When the officers take off his mask and ask his name, he answers "Anton Lundin Pettersson."

Both the perpetrator and three of the victims are taken to the hospital Norra Älvsborgs Länssjukhus (NÄL) in Trollhättan. Lavin Eskandar died in the school, Ahmed Hassan died at the hospital later the same day, Nazir Amso died at the hospital after 6 weeks, and Wahed Kosa was injured but survived. The perpetrator Anton Lundin Pettersson who was shot by police died at the hospital the same day.

The Offender-Early Years

The offender was a 21-year-old Swedish citizen. He was a deeply isolated person and had no friends except for his older brother. He spent most of his time in front of his computer, where he played games such as World of Warcraft, Skyrim, and Might and Magic (9). He was born on 22 June 1994 in Trollhättan, Sweden, as the youngest of four siblings, including his oldest brother and two half-brothers with whom the family had little or no contact. The mother worked as an assistant nurse, and the father worked at the Swedish Maritime Administration. They lived in a townhouse in a middle class neighborhood. As a very young child, Pettersson avoided eye contact. When he was 4 years old, he got a pair of sunglasses which he wore all the time, even indoors. He was developmentally delayed in speech, had a noticeably stiff walk, was kind and quiet, but evidenced an explosive temper if things did not go according to his will. He was inflexible in both thought and behavior. He did play with his brother in the woods until he was 8 years old, but then became even more isolative.

He and his brother had a strong interest in weapons and had several soft air guns at home. He also liked fast vehicles, and by the age of 12, Pettersson was driving around on a mini motorcycle. When the brother asked what he would do if the police came, he said, "I'd drive away from them." Another common interest was martial arts, and Pettersson trained with his brother until puberty. Then he abruptly stopped. Pettersson had a type of scoliosis and was ashamed of his deformed chest. He was reticent to change clothes in front of other people and refused to participate in sports classes in school. Otherwise, his academics were good, and he got the highest score in English and Aesthetics.

There is disagreement in the known history as to whether he was bullied. Some classmates testified that he was and would at times fight his bullies. Others said that he was not bullied and was not completely alone at school. In his late adolescence, he befriended three classmates. They drove Mopeds together, played computer games, and bought candy. But when they quit school, the friendships lapsed. The brother does not believe that those boys were genuine friends and said that his little brother felt like a lonely outsider even among them.

After primary school, Pettersson's isolation increased. He started at the industry school Lichron in Trollhättan, but never made any new friends in that school. Instead, he sat alone, far away from the others, during lunch breaks. Pettersson was very meticulous, pedantic, and would get lost in the details. He was selected in the finale of the 2012 Swedish youth championship in lathing. The teacher and students described him as, "quiet, you had to drag words out of him, he said like five words in 3 years, never said what he felt or thought." He was also described as "loyal as a dog" to those whom he thought deserved it, and one could persuade him to do almost anything.

If he was asked to do something, however, one had to explain it in exact detail. Pettersson was often described as an animal lover, but it appeared to be driven by anxiety concerning the animal's welfare. He did not, for example, go fishing with his family because he felt sorry for the fish. He also refused to feed the family iguana with locusts, and the iguana eventually died.

The Offender—Onset of Violence, Criminality, and Psychiatric Decompensation

Pettersson had nurtured a long-standing interest in violent video games, firearms, horror movies, and fast vehicles. He used to sleep under a samurai sword, which hung above his bed. After primary school, his few friends did make some attempts to keep in touch with him, but he demurred, wanting to return to his computer. Pettersson's mother sometimes noticed that her son lied to his friends by telephone, saying that he was too busy to see them. Then Pettersson would return to his computer.

One time when they actually were together and watching a war film, Pettersson suddenly got up, took the samurai sword and his friends out in the garden, and said, "Now I'll show you the optimal cut!" He stuck a melon on a stick and attacked it with the sword that he had hanging on the wall in his bedroom. Then, they went back inside and continued to watch the movie. His friends thought it was a joke. His big brother later reported that he would cut into water bottles with his sword.

Pettersson also repeated racist jokes, such as "Do you know how to save a Negro from drowning?" "No?" "Good!" The people around Pettersson laughed and thought everything was a joke. The last years of his life, Pettersson lived with his mother in a small flat in Trollhättan. The last 6 months, he lived there alone. The mother and the father had moved to a house outside the city. Ever since he took his examinations at secondary school in 2013, Pettersson had been unemployed and referred by the authority of labor without result. He applied for over 80 jobs in 2 years and felt ashamed that he was never called for an interview. His oldest brother, who had the same education, had gotten a job right away. The reasons for his lack of interviews are unclear, but he clearly blamed immigrants for not getting a job. Job loss was also the triggering event for his massacre.

In the summer of 2015, a few months before the killings, the family noticed how Pettersson began to change (10). He slept all day and would take days to answer phone or text messages. One time his mother was so worried that she drove several miles late in the evening to look after her son. Pettersson, who had been asleep, was furious. On another occasion, Pettersson took a soft air gun and shot against his windowpane because the neighbors opposite his apartment had been playing loud music. They were frightened and immediately turned the music off. His mood was changing, and he was angrily impatient if someone was a few minutes late. His conscience was also dwindling, and he began to be truant from the internship to which he had been designated. His loneliness was a sensitive issue that nobody talked about. The only one who seems to have reflected on this pattern was his oldest brother, who wondered whether Pettersson had some neuropsychiatric disability such as autism or Asperger's syndrome.

Pettersson had long been critical of immigration into Sweden, just like his family and his relatives. But during these last months, he was very frustrated and would angrily cuss over immigration policy. He believed that Sweden did not take care of its own citizens first and blamed both his own and the society's problems on immigration. Pettersson identified himself with the older people "that built this country" and thought that they were forgotten in favor of the migrants. He said to a minor relative that somebody "should do something" (7).

In 2015, Sweden underwent the largest refugee crisis since World War II, and approximately 163,000 asylum seekers arrived in just 1 year. During the month of October, when the attack was done, the number of asylum seekers reached a new record. The mood throughout Swedish society was tough and polarized, and the issue of refugees dominated the national conversation. The number of attacks against detention centers, mosques, and residential worker homes hit a record high of 36, according to the Global Terrorism Database. However, in several cases, the perpetrator was unknown. (https://www.start.umd.edu/ gtd/search/Results.aspx?search=sweden&sa.x = 31&sa.y = 4&sa =Search, accessed 13 July 2016).

Pettersson voted for the Sweden Democrats party, which made several high-profile moves concerning immigration in 2015. For example, the parliamentarian Kent Ekeroth spoke in the city of Trelleborg just a few days before the attack and said that immigration means, "the road to ruin. It means a rather short-term end for Sweden as a Swedish nation." Ekeroth turned to the audience and said, "You are a spearhead to take our country back"(https://www.youtube.com/watch?v=pb1wltJMabs, accessed 12 July 2016). The same morning as the attack, the general director of the Swedish Migration Board held a press conference where he said, "We note that the current refugee situation is unprecedented in modern times." He said that the EU's external border was no longer working and metaphorically said that the Swedish land border would soon be next to Turkey. The Swedish Migration Board warned that there would not be enough homes or shelters for all the refugees, despite the proposed extraordinary solutions.

In his farewell note (10) which Pettersson left in the hall in his apartment before he drove to the school, he blames his deed on immigration and on society and declares that he was forced to attack: "The blood is on your hands". He also wrote another, secret farewell note that he did not believe that anyone would find. It was sent less than an hour before the killings to a gaming friend online, a 25-year-old man in Holland, and that note differs significantly from the letter that the offender knew that the police would find:

"Hey man! I don't have a lot of time so I'll get right down to it. I'm going to be dead in the next hour or two, max. I remember all the fun we had playing SWTOR together and I want you to know that you're the best friend I've ever had, you're awesome. I'm going to miss you so much, even though I know I could have been more active, but you know me, fucking hate myself. If there's an afterlife I hope to see you there! Those fucking cops better aim straight; I really don't want to survive the rampage. Anyway. I love you.//Anton."

The police did not go through his emails, his Facebook account, and his gaming account on the Internet; the letter was found by the first author and published in her book in September 2017.

Immediate Postoffense Behavior

When the first police arrived on site at the Kronan school, they saw the offender and ordered him to drop the sword (10); he did not comply with their directive, raised the sword, and was hit with one shot by one of the officers. The school attack was clearly a "suicide by cop" (7); Pettersson had bought firing range targets that he had intended to attach to his chest in order to help the police officers' aim, and he had studied a picture (a collage) of the Norwegian terrorist Anders Breivik wearing such firing range targets. However, Pettersson never had the time to attach the signs, and one of them was later found on the floor in the school's café. Despite the fact that the offender had a desire to die, he changed his mind after having been shot and asked the police to help him. He died a few hours later in the hospital.

The Police Investigation

The police concluded that the offender acted alone. In ordinary cases, no police investigation is done when the offender is dead. But this case was so unusual, and the interest from the public was so strong, a full investigation ensued. Over 130 persons were interviewed and the police profiling group (GMP, gärningsmannaprofilgruppen) tried to fully understand the offender's personality, motives, and driving forces. Furthermore, another investigation of the police shooting concluded that the shooting of the offender was justified.

Herein follows the report from the police profiling group, GMP (10):

Methodology

On 23 October 2015, the day after the attack, the detective superintendent Thord Haraldsson of the police in region Väst asked that the GMP make a statement on the murders and attempted murder at the Kronan school, Trollhättan. GMP was directed to give a description of the offender as accurately as possible and answer the question as to whether he was alone in the planning of the offense. GMP would also clarify whether there were any indications that this act would happen and whether it could have been prevented.

On 25 February 2016, the GMP made a verbal presentation for about 50 police and police personnel in the Väst region who were involved in the case. An official report was published the 10th of March 2016.

The GMP consists of several different professions, and its work has been a collaboration among behavioral scientists, investigators, forensic specialists, a forensic psychiatrist, and a forensic pathologist. The GMP analysis was based on cumulative evidence from the 23rd of October 2015 until 25 February 2016. GMP's work is based on probability and does not represent any absolute truths. New facts could change these estimates. The GMP group's assessments and conclusions are based on the following sources of information concerning the offender:

Interviews with family and relatives

Interviews with former schoolmates

Interviews with the people that worked at the company Mape Sweden AB where Pettersson had a temporary job

Interviews with witnesses to the events inside of Kronan School

Interviews with police personnel who were on site Pettersson's school records

Medical records from school health services

Data from interviews with the administrators of the Social Insurance, Employment services, and Social services

Banking transactions

Documentation and materials from his apartment, car, and the crime scene

The emptying of the content of his computer and mobile phone

Calls to the emergency unit SOS Alarm

In addition to the above materials, the commission also made contact with child and youth psychiatry, acute psychiatry, and the hospital and other health care centers in the relevant areas. Contact has also been made with the Swedish Army to ascertain whether Anton showed interest in the military.

Police Conclusions Concerning the Offender

- He was not convicted of any crime nor known to the police. He did not appear in any of the police registers. He has not been treated within any psychiatric facility.
- He had no documented history of mental illness.
- Pettersson had never been physically ill and was doing well at school, at work, and in his contacts with the authorities; his home was in good order, he was careful with his personal hygiene, and he never discussed mental illness with family or friends. There are no clear external markers for mental illness. However, there are some indications of depressive disorder in Pettersson for a couple of months preceding the attack; he also had thoughts of suicide. He had a number of parallel scars on one forearm, and our assessment is that these were a result of self-injury that is further back in time. On the basis of the material found in his computer in combination with the information from the people in his surroundings, it is apparent that Pettersson had been socially withdrawn and that he experienced himself as different. Two weeks before the offense, he completed a test for depression on the web and then searched for information about depressive disorders. He subsequently sought out live suicide videos online and also clicked through to a page belonging to a help organization for people with suicidal thoughts. A large amount of the material that Pettersson saved in his computer had content concerning hopelessness, being misunderstood, self-hate, violence, and death. There was also material suggesting uncertainty about his sexual identity.
- There are no signs of ongoing drug abuse.
- There are no reports from his family or environment that he had a problematic relation to alcohol. He seems to have drunk moderately and showed no aberrant behavior in connection with alcohol intake. There are also no indications that he used drugs. Analysis in connection with the autopsy showed no traces that he was under the influence of alcohol, drugs, or medication during the attack.
- He was not politically engaged. He was not a member of any political party, youth organization, association, or organization. Furthermore, there is no evidence that he sought such contacts, nor had access to, or was excluded from such forums.
- Pettersson had no communication with other people to engage with their thoughts, values, and ideologies. Instead, he consumed and saved images and film material whose content expressed racism, Islamophobia and Nazism. Often this material was in the form of "jokes."
- The attack was planned, and he prepared slightly over a 2week time period. He chose the place, weapons, attire, and music. He went to the hair dresser, asked his boss whether he could be absent the 22nd of October to go to the dentist, bought things with his last money, wrote a letter of farewell, and folded his working clothes on his bed. There was

pronounced planning and a desire for suicide by cop. When the police came to the school and got in contact with Pettersson, he confronted them. In his farewell note, he expressed the desire that he should not survive the attack and made such preparations. He wanted to end his own life during the attack, and we consider it a suicide by cop.

• The act has the clear motive of a hate crime. He chose the Kronan school as he knew that there was a high representation of people with immigrant backgrounds. He chose his victims on the basis of their skin color. He did not attack several people that he had the opportunity to attack, including women, girls, and younger children.

Police Investigation Conclusion

Pettersson linked his own personal failures to immigration and turned his disappointment, anxiety, and aggression against the society which, according to him, made people with support needs the wrong priority. He believed that persons with an immigrant background were collectively guilty.

There are no indications that there existed any other perpetrator who planned or mounted the attack. The largest part of the planning seems to have been done through his computer. There was no communication with other persons concerning these plans and preparations. According to witnesses, he was alone when he arrived at Kronan, and there is no indication that he had someone with him inside the school. The act appears to have been triggered by his perceived social and economic failures.

After finishing secondary school, he was unemployed. For more than 2 years, he tried to get a job without success, and when his savings ran out, he sought financial assistance from the social services.

Pettersson had long been interested in images and information relating to suicide and negative views on immigration. In the weeks before the act, he held a temporary job and thought it would become permanent. On the 6th of October, he was told there would be no further employment. He then began to plan and prepare the attack which he carried out the day before his job would have ended.

His social and economic failures were exacerbated by his aloneness, isolation, and insecure identity. His clear interest in and consumption of violence gave him a mental preparedness to use violence as a method to deal with his perceived life problems. The expression of this violence reflects his aversions and misplaced aggression, where he made a whole group of people collectively responsible.

There was no communication with others or other circumstances that could have prevented the attack. He did not communicate his plans and intentions to his environment. He carried on living his ordinary daily life and the people around him did not notice any different behaviors. The planning was done in solitude and he did not leak to his environment.

End of GMP report (10)

(note that the first author did find that he had communicated his plans to his Dutch friend subsequent to this report)

Conviction and Evaluations

As the offender was shot to death, there was no trial or judgment. The police investigation of the two police officers who fired their weapons was closed after 2 weeks and concluded that they had done nothing wrong. The attack was termed a "hate crime with racist motives" (10), based on the hand written letter that Pettersson left at home before the attack (a classified document which the first author has read), his uniform, and his manner of victim selection based upon skin color. Hate crime is a Swedish legal term since 1994 and includes crimes that are committed with racist, antireligious, or homophobic motives. Judgment shall be harsher. It is a way to show society's abhorrence for this type of crime, which is conceived as a simultaneous attack at three levels: against the victim, against the group to whom he or she belongs, and toward society itself.

An intense debate broke out afterward as to whether the crime should instead be classified as a terrorist offense—an issue that we address in this case study with the TRAP-18 (13). The Swedish law concerning penalties for terrorist offenses was introduced after the European Union adopted a framework for combating terrorism in 2002. It includes approximately 20 offenses in the Swedish penal code such as murder, manslaughter, assault, and sabotage; these crimes, under certain circumstances, can be labeled terrorist offenses. A terrorist offense in Swedish law can seriously harm a state or an intergovernmental organization, and the intent is to:

- Seriously intimidate a group of people,
- Unduly compel a public body or an intergovernmental organization to take or refrain from taking an action, *or*
- Seriously destabilize or destroy the fundamental political, constitutional, economic, or social structures of a state or of an intergovernmental organization (26).

The Swedish security service, Säkerhetspolisen, whose task is to prevent terrorist offenses, announced the day after, on October 23rd, that they were not interested in taking part in the continuing investigation (26).

The Tactical Response

The police effort was applauded by politicians, the media, and the public. On the same day as the attack occurred, Prime Minister Stefan Löfven said: "They have very likely saved several people from getting attacked" (11). The King and Queen of Sweden subsequently visited Trollhättan.

The Police National Operations Department, NOA, made their own evaluation (12), which was reported in February 2016. It began with the assumption that the initial deployment was very successful, but then the tactical operation deteriorated. For example, people were running through and behind the police barriers at the school, straight into the scene of the crime. Evidence trails could have been contaminated or erased. If the offender had not been alone, or managed to escape, such poor control of the crime scene and the security perimeter could have been exceedingly dangerous. There were many favorable factors that probably prevented more victims: The perpetrator had poor geographical knowledge of the school. Students and personnel were able to lock themselves in rooms and hide. The police in Trollhättan were well staffed at the time since it was a training day for the police with lessons and practical exercises. Therefore, more staff than normal were at the station. The first patrol car was near the school when the violence began. It could have taken more than half an hour to drive there if the timing had been different. The police command center in Gothenburg was well staffed and had at that moment a low workload. NOA also stated that there were too few investigators (two persons) working with the subsequent investigation. The decision to delay the forensic analysis of Pettersson's digital tracks over the weekend was also judged to be a mistake.

The first author (7) found that the police failed to investigate a large part of the offender's digital life: his Hotmail account, his Facebook account, and his gaming accounts. It was on one such gaming site that she found the secret farewell note quoted earlier in this case study. When the first author investigated this error, it was clear that no one assumed final responsibility for the completion of this task, including the investigator, IT forensics, and the police national computer cybercrime center—there was both a lack of initiative and a lack of communication. As a result of this, the police handbook on how to investigate serious crimes (PUG, also called the Murder Bible) was updated. A new version in October 2017 made it clear that one of the first things to be done is to secure digital traces and contact the national ITcybercrime center.

The person who received Pettersson's secret, digital farewell message was located and interviewed by the first author. The 25-year-old Dutch man was openly transsexual or homosexual and described how Pettersson flirted with him and the other transsexual men online and never showed any racist tendencies. He was shocked over what happened and questioned if Pettersson really had racist motives. The first author also found another digital friend, a British young man, who was also openly transsexual or homosexual. The British man described Pettersson as kind and thoughtful. Both of these friends were genitally male at birth, but were unclear as to both their sexual identities and orientations, and communicated their lack of clarity through their social media accounts. Once the British man was depressed, and Pettersson did all he could to cheer him up.

Pettersson's contact with these two men broadens the picture of the offender and his motives: Pettersson was an acutely suicidal man filled with self-loathing and lived in a world where it was unthinkable to be anything other than a white, heterosexual man. Pettersson never revealed his sexual orientation and his family refused to believe that it was true. The first author's investigation into Pettersson's digital traces also shows that he consumed a particular type of pornography involving shemales. This is a nickname for men who undergo surgery to become a woman, but keep their penis. Pettersson did not consume any other type of pornography and significantly increased his consumption in the weeks before the attack. One of the last things he did the night before the attack was to watch a shemale porn video (7). Although both Pettersson's sexual identity and orientation were unclear at the time of his death, it is evident that he wanted to associate with those in the HBTQ digital world.

Media Aftermath

Media attention was worldwide but short-lived. The first author wrote in her book, "It was like Sweden drew a collective sigh, decided it was 'a lone madman.' And now he was gone" (7, p. 265). In *Aftonbladet*, Sweden's largest newspaper, the columnist Cantwell (27) developed the same theme under the heading, "Why is there such silence concerning this horrible deed?" Several explanations were in order: the brevity of the news cycle throughout the world, the ongoing refugee crisis in Sweden, and bias within the Swedish media to highlight terrorist attacks from jihadism rather than extreme right wing or ethnic nationalist ideologies. Pettersson's brother thought that he wanted to become immortal and die as a warrior. But he did not impress the right wing extremist groups, apart from some greetings on Facebook and positive comments on right wing forums after the offense.

The Offender and the TRAP-18

The Terrorist Radicalization Assessment Protocol (TRAP-18) (8,13) is a structured professional judgment instrument for the threat assessment of a lone actor terrorist. The TRAP-18 consists of eight proximal warning behaviors and 10 distal characteristics, and has demonstrated inter-rater reliability (16; Kappa mean = 0.895, range: 0.691-1.0). Other studies to date have demonstrated both content (22) and criterion validity (8) on samples of lone actor terrorists and terrorists acting in autonomous cells. The instrument has also demonstrated generalizability when used to compare jihadist, extreme right wing, and single issue terrorists in North America and Europe, and has been able to discriminate between thwarted and successful terrorists (8). However, there are no published predictive validity studies at present. The TRAP-18 (13) is marketed by Multi-health Systems (mhs.com) and is owned by the second author who benefits financially from the sale of the instrument, manual, and training. In this case study, the definition of each indicator is followed by the fact pattern in the Pettersson case that does or does not confirm the presence of the indicator.

Proximal Warning Behaviors

 Pathway—Research, Planning, Preparation for, or Implementation of an Attack

Pettersson started to research, plan, and prepare his attack on the Kronan school slightly more than 2 weeks earlier. He took his last money from the bank. He studied the route from his home to the school, he looked up when the school was closed for autumn leave, he studied pictures of the building and the facilities, the pupils, and the teachers. He bought a black coat, boots, the viking sword and the knife, the black mask, and the helmet. He looked at films on the Internet showing how to use the sword.

• Fixation—An increasingly pathological preoccupation with a person or a cause, accompanied by a deterioration in social and/or occupational life.

Over the years, Pettersson was preoccupied with the belief that all the problems in Sweden and his own problems were caused by immigrants. The last two years, when he failed at 80 different job applications, the Muslims became his fixation and his target. His fixation was accompanied by failures in both work and relationships.

• Identification—A psychological desire to be a pseudocommando; have a warrior mentality; 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.

Pettersson was a thin, young man who looked like a girl. But he idolized and identified with alpha males, Vikings, warlords, and body builders. He consumed related YouTube channels, such as The Golden One—known as the Swedish PT (personal trainer) of racists, The Amazing Atheist, Angry Foreigner, and many Nazi films from World War II. He loved weapons and hung a samarai sword above his bed.

• Novel Aggression—An act of violence that appears unrelated to the intended act of concern and is committed for the first time; it is typically done to test the subject's ability to carry out his or her act of violence.

Pettersson would use a melon and practice slicing and stabbing it with his sword. He said: "I would like to try this on people." (1, p. 295). On one occasion, as noted, he fired a soft air gun at the window when his neighbors were playing loud music, which frightened them.

• Energy Burst—An increase in the frequency or variety of any noted activities related to the target, even if the activities themselves appear relatively innocuous, usually in the weeks, days, or hours before the attack. Social media activity may increase or decrease during this period of time.

The last few weeks he was febrile, living in front of his computer, switching between planning for his attack, and surfing porn sites with shemales. His stress increased since he wanted to attack on October 22, his lucky number, and the week after that the school would close for autumn holiday. He bought all his paraphernalia during this period, researching and purchasing a World War II helmet, a long black coat like the ones worn by the Columbine killers, boots, a mask, and makeup. The invoice was to be paid on October 23. He searched for discussions on 4chan about "quick and easy ways to die please," "what would your last meal be?" and also, "why is it so hard making friends?" His febrility was determined through his digital traces, interviews with his brother, and the police investigation records.

• Leakage—Communication to a third party of an intent to do harm to a target through an attack; the third party may be an Internet audience and/or any social media audience.

He told a young boy who was his relative that he was angry about immigration and that "one should do something." He wrote the digital letter to his Dutch friend to say farewell less than an hour before the attack: "I'm going to be dead in the next hour or two. I really don't want to survive the rampage." There was no manifesto nor any comments on the Internet or social media concerning the attack.

• Last Resort—Evidence of a "violent action imperative" and/ or "time imperative"; it may be a signal of desperation or distress. Often it is the result of an unexpected triggering event, or one which is anticipated, that involves a loss in love and/ or work. The subject believes he/she has no other choice and must act now.

Pettersson could not tolerate Sweden any more. He felt he was being forced to do something. He was convinced that the attack was his only alternative: "The blood is on your hands." The triggering event was the imminent loss of his temporary employment.

• Directly Communicated Threat—The communication of a direct threat through any means to the target or law enforcement beforehand.

There were no directly communicated threats.

Pettersson met criteria for 7 of 8 proximal warning behaviors on the TRAP-18.

Distal Characteristics

 Personal grievance and moral outrage—the joining of both personal life experience and particular historical, religious, or political events. Personal grievance is defined by a major loss in love or work, feelings of anger and humiliation, and the blaming of others. Moral outrage is a vicarious identification with a group, which has suffered, even though the lone actor terrorist usually has not experienced the same suffering.

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Pettersson never could get a permanent job. He felt humiliated, unfairly treated, and angry. He solely blamed the immigrants that came to Sweden to take the jobs (personal grievance). He vicariously identified with the suffering of older people and retirees and that Sweden ignored them (moral outrage).

• Framed by an Ideology—The presence of beliefs that justify the subject's intent to act. Usually, it is a religious belief system, a political philosophy, a secular commitment, a oneissue conflict, or an idiosyncratic justification. Beliefs are usually superficial and selected to justify violence.

Pettersson did what the Swedish police call "copy paste:" when one concocts and mixes his own ideology. He combined the beliefs of the Sweden Democrats Party, white power, counter jihad, neo-Nazism, and the ZOG (Zionist Operated Government) conspiracy theory. His handwritten suicide note echoed other right wing perpetrators: "you forced me to this, the blood is on your hands" (from the classified police note). He studied several mass murderers, for example, the Columbine killers, Anders Breivik from Norway, and Elliot Rodger from Santa Barbara, California, USA. He listened to the Angry Atheist and the Swed-ish Angry Foreigner. In his suicide note, he stated that in Swed-ish society, "the Muslims get a pat on their heads when they rape our beautiful country" (from the police classified note).

• Failure to Affiliate with an Extremist or Other Group—The experience of rejecting or being rejected by a radical, extremist, or other group with which the subject initially wanted to affiliate.

There was no evidence of attempts to join an actual group and then being rejected, although he did suffer because he was lonely. He considered joining a shooting club but could not afford it.

• Dependence on the Virtual Community—Use of the Internet through social media chat rooms, emails, listservs, texting, tweeting, posting, searches, etc., for virtual interaction (e.g., reinforcement of beliefs) or virtual learning (e.g., planning and preparation).

The computer was his only friend, except for his older brother. Here, he could dream away, fantasize among warlords, develop predicates for hatred on YouTube, and play computer games built on military tactics. He also read a lot of comments on 4chan about loneliness, hatred, not being sure of one's sexual identity, and wanting to commit suicide. He developed his friendship with his Dutch companion through the Internet and also a British friend. He also used the Internet for both reinforcement of his beliefs (virtual interaction) and planning and preparation for his attack (virtual learning). He stopped contacting his Dutch and British friends on the Internet several months before the attack, but then sent the last note to his Dutch friend.

• Thwarting of Occupational Goals—A major setback or failure in a planned academic and/or occupational life course.

Pettersson admired his older brother and went to the same school and received the same education. But unlike his brother, Pettersson failed to develop a career and/or pursue further education.

 Changes in Thinking and Emotion—Thoughts and their expression become more strident, simplistic, and absolute. Argument ceases and preaching begins. Persuasion yields to imposition of one's beliefs on others. No critical analysis of theory or opinion, and the mantra, "don't think, just believe," is adopted. Emotions typically move from anger and argument to contempt and disdain for others' beliefs, to disgust for the outgroup and a willingness to homicidally aggress against them. Violence is cloaked in self-righteousness and the pretense of superior belief. Humor is lost. Engagement with others in virtual and/or terrestrial reality may greatly diminish or cease once the subject has moved into operational space.

His brother reported to the first author that Pettersson became increasingly angry in the months preceding his attack. He was chronically frustrated and would have angry outbursts, cussing the immigrants. He despised the outgroup, especially Muslims. "He really thought they were awful." He would sleep all day and stopped answering his phone. When his worried mother inquired, he was furious. He would skip appointments. He developed new interests in both fishing and being photographed. He lost his patience with others even when slightly late.

• Failure of Sexually Intimate Pair Bonding—The historical failure to form lasting sexually intimate relationships. The sexualization of violence may be a secondary component.

Pettersson never had a girl or boyfriend, and probably never had sexual contact with another person. He grew up in an extremely masculine world, but was unsure of his own sexual identity.

• Mental Disorder—Evidence of a major mental disorder by history or in the present.

There is strong evidence that Pettersson was both clinically depressed and also met criteria for a diagnosis of autism spectrum disorder. The parents did not want to explore the possibility of such issues, although his older brother after the offense thought that he had ASD. Former teachers also confirmed that no one investigated ASD and some of them have regrets. One pediatrician who studied the case stated his belief that he had ASD. Pettersson had gotten a pair of sunglasses when 4 years old and wore them all the time. He avoided eye contact. A former employer reported that he had Pettersson wait for a few minutes, forgot about him, and went back thirty minutes later. He found Pettersson waiting in exactly the same place, just standing there. He was cognitively rigid and insisted things should be done his way. The brother also reported a test of personality that Pettersson had taken, stating that he often did not know what to answer, "because he didn't know how to understand the feelings of other persons," nor "imagine someone else's situation." The first author also discovered that Pettersson was yelling at a spam bot that was disturbing him by sending him emails; Pettersson would answer over and over again in a fury, not understanding that it was not an actual person who was sending him the emails. The depression is evident in his Internet searches, self report testing, and his suicide by cop: the latter confirmed by his aggression toward the police in the face of their lethal capacity and his letters to the police and his Dutch friend that he did not want to survive the rampage. He also had scars on his arms from an earlier attempt to harm himself, according to the police profiling group, GMP (1). His British friend, however, reported that when he himself was depressed, Pettersson would try to cheer him up. He considered Pettersson to be kind and thoughtful. Pettersson was also grandiose in his self-perception. He told his brother he did not want to commit suicide in front of a train; instead, "he wanted to die like a warrior, he wanted to be immortal." There is also the suggestion of a gender identity disorder due to his interest in shemale pornography.

Other psychiatric disorders were considered in this case and ruled out. There was no indication that Pettersson was psychotic prior to the attack or at any other point in his life: None of the evidence available suggests the presence of delusions or hallucinations, despite his depression. Given the absence of a diagnostic examination, we did not attempt to further specify the depression, such as disruptive mood dysregulation disorder, major depressive disorder, or persistent depressive (dysthymic) disorder. We also had insufficient data to determine the presence or absence of a specific personality disorder, although a clinical examination might have revealed narcissistic, schizoid, or borderline traits.

• Creativity and Innovation—Evidence of tactical thinking outside the box. The planned act is creative (a major aspect has not been done before in contemporary times) and/or innovative (may be imitated by others).

Pettersson made his own uniform and was careful with the details. He marched into a school and killed and injured four people with a sword. He was photographed together with two unaware pupils, pausing between kills while blood was dripping from his Viking sword from American Cold Steel (http://www.coldsteel.c om/viking-sword.html). He also had with him a Tanto knife, a Japanese dagger, that he did not use. These behaviors are innovative in the sense that they have not been done before in contemporary times; the passage of time will measure whether or not these behaviors are imitated by others.

 Criminal History—Evidence of instrumental criminal violence in the subject's past, demonstrating a capacity and willingness to engage in predation for a variety of reasons, such as a history of armed robberies or planned assaults on others for material gain.

There were no criminal records and nothing in the police registers. The police initially thought they had identified the wrong person due to this absence.

Pettersson met criteria for 8 of 10 distal characteristics on the TRAP-18. Combining both the proximal and distal indicators, Pettersson met 15 of 18 (83%). Comparing his quantitative results to other studies, a majority of both individual terrorists and terrorist members of autonomous cells in Europe were positive on 72% of the indicators (22). In another larger study composed of 111 lone actor terrorists in North America and Europe (8), 70% of the subjects demonstrated at least half of the TRAP-18 indicators. Pettersson also displayed the following indicators which discriminated the successful from the thwarted attackers: failure of sexually intimate pair bonding, creativity and innovation, and fixation warning behavior. However, he also displayed dependence on the virtual community and pathway warning behavior, which were significantly more frequent in the thwarted attackers (8). If the subsample of extreme right wing attackers (n = 43) is extracted from this large study (8), the most prevalent warning behaviors were pathway (81%), identification (86%), leakage (88%), and fixation (65%). The most prevalent distal characteristics were personal grievance and moral outrage (67%), framed by an ideology (100%), changes in thinking and emotion (84%), and failure of sexually intimate pair bonding (86%). Pettersson coded positive on all eight of these indicators.

Although the absence of predictive validity studies precludes using the TRAP-18 to predict risk of a targeted attack, it is clear that there is an excellent goodness of fit between this case and other cases of individual terrorists in both North America and Europe, empirically supporting our hypothesis that this school attack was an act of terrorism.

Discussion

This case study is a psychological autopsy of Anton Lundin Pettersson, combining the findings and conclusions of the police profiling group (GMP), the police investigation, the independent investigation of the first author, and integration of the results into the research on school attackers and lone actor terrorism. Although such acts as these, given their particular rarity in Sweden, cannot be predicted, they can be prevented. The paradox is that if such acts are prevented through mental health, social support services, and police investigations-often combined in what are referred to as multidisciplinary threat assessment teams (20) -we will never know if the adolescent or young adult who was diverted from his violence would have committed such violence in the first place if there had not been an intervention. Although this paradox is troubling, it should not prevent the establishment of such threat assessment teams in communities, educational settings, and corporate settings, because they work (17). In a few states in the United States, such threat assessment teams are required by law, particularly in educational settings, and were prompted by massacres such as the one at Virginia Tech in 2007 and Sandy Hook in 2012 (18-19). Threat assessment teams are also being established throughout Europe (19) with the formation of multidisciplinary efforts in both universities and corporate settings. These teams typically meet regularly to assess threats and plan interventions to prevent targeted violence toward others in their respective communities (20). An important networking group for this development is the Association of European Threat Assessment Professionals (aetap.eu).

Work to prevent targeted violence, such as the Kronan case, has another component besides the establishment of threat assessment teams in schools, colleges, and universities. This component is the actual threat assessment through the use of structured professional judgment instruments, organizing tools that are empirically derived and help such teams to focus upon relevant criteria when assessing a particular individual. There are a number of such instruments for general violence risk, such as the HCR-20 V3 (21) which has both demonstrable reliability and validity.

In the case of Pettersson, we selected a new instrument, the TRAP-18, for several reasons: its reliability and developing validity (8); its focus upon targeted or intended violence (14,16,20), rather than general violence; and the fact pattern within the Pettersson case which strongly suggests a nexus between psychiatric disorder(s) and ideological motivation. Although the crime was not considered an act of terrorism according to current Swedish law, and was instead classified as a hate crime, from an operational perspective, it was clearly ideologically motivated violence against noncombatants—which contained within it hatred for a particular group of people, non-white immigrants.

The TRAP-18 findings confirmed our hypothesis that Pettersson's history and behavior were quite consistent with findings from a sample of individual terrorists in Europe (22) and also a large sample of lone actor terrorists in Europe and the United States (8). He also met criteria for 7 of 8 proximal warning behaviors, which have been shown to be present in many different types of targeted violence, including school shooters and public figure attackers who were not ideologically motivated (20). The one warning behavior that was absent was a directly communicated threat, which is expected as most subjects who carry out acts of targeted violence do not warn their victims beforehand for obvious tactical reasons.

Eight of the 10 distal characteristics of the TRAP-18 were also present in the Pettersson case, revealing an excellent goodness of fit with other lone actor terrorists. The only two distal characteristics that were absent were a failure to affiliate with an extremist or other group, and a violent criminal history. Pettersson was also positive on three of the five TRAP indicators which discriminated between successful and thwarted terrorist attacks in one large study of European and North American terrorists (8): He was fixated, creative, and innovative, and had failed to have a sexual pair bond at any time in his history.

Rather than arguing that the Kronan attack was not an act of terrorism because it did not fit the elements of current Swedish law, we would assert that the behavioral science findings in this case clearly point to Pettersson as a lone actor terrorist, albeit from the extreme right, and suggest that the Swedish interpretation of terrorism should be changed. We would recommend that the law, police, and prosecutors focus upon the intent of the perpetrator rather than if the perpetrator is acting in the name of an organization. For example, the attack at Drottninggatan in Stockholm on 7 April 2017 resulted in five deaths, almost the same number of casualties as the Kronan attack. But the perpetrator Akilov said he acted in the name of IS, and it is being investigated as an act of terrorism. There appears to be a bias in both Sweden and the United States to more readily label jihadist attacks as terrorism than attacks from the extreme right, often white ethnic nationalists.

Pettersson, however, was not just ideologically motivated, but also appeared to suffer from both autism spectrum disorder and clinical depression. This raises the clinical question of a nexus between psychiatric disability and ideology (16), and also the risk of violence among individuals who are diagnosed with an autism spectrum disorder.

The nexus refers to the adoption of a conscious belief system, often extreme and sometimes nihilistic, to manage the anxiety surrounding a psychological disorder or defect. In this case, Pettersson managed his personal failures caused by his likely neurodevelopmental impairment by blaming an outside grouprecent immigrants to Sweden-and then framing this moral outrage with a right wing, ethnic nationalist "copy paste" ideology. This would both reduce his chronic shame concerning his failures and also nurture his hatreds toward the blamed outside group. In psychological parlance, he utilized projection and denial as defenses to manage a depleted narcissism. Such compensation, however, did not work very well, and it appears that he decompensated into a depressive state of mind with suicidal intent in the weeks before the mass murder. Given the high rates of suicide among most adult mass murderers (3)-self-inflicted or provoked by the police-when ideological motivation is present, it may facilitate the offender redefining his suicidal wish as an act of martyrdom for his identified cause, thus providing a positive valence to propel him forward.

The risk of violence among those with autism spectrum disorder is controversial but also important. Although there is no simple relationship between ASD and violence, there are three deficits in ASD that may contribute to violent criminal behavior: *Theory of mind* deficits, in which individuals with ASD may become confused, especially under stress, and not be able to process social information, including the impact of their actions on others; *emotional dysregulation* in which the ASD individual demonstrates poor impulse control, aggression, and negative peer interactions; and deficits in *moral reasoning*, a social-cognitive process by which one judges an action to be worthy of praise or blame (23). Comorbid psychiatric conditions are also present when ASD subjects commit serious crimes, as occurred in the Pettersson case (24). There is a growing body of literature on successful programs and treatment targeting ASD core difficulties, such as social skills deficits, emotional dysregulation, and pathological fixations. The vast majority of individuals with autism spectrum disorder, however, are never violent toward self or others.

Conclusion

The case study of Anton Pettersson illustrates that attacks on schools and other public venues may be motivated in part by troubled individuals whose psychopathology is magnified by social and economic volatility, and the political movements, often extreme, that rise to address them. Such individuals are not "lone wolves"-a moniker that implies stealth, skill, and aloneness that these individuals often do not possess-but instead, are often mentally disordered individuals who foster ties with online radical milieus which maintain their motives and support their limited capabilities (25). We have emphasized the complexity of the relationship between mental disorder and ideological motivation, and the need for structured professional judgment instruments to assess risk and prioritize cases for mental health and law enforcement intervention. We have also emphasized the importance of threat assessment teams to diminish the "silo effect:" the failure of academic, corporate, and governing institutions to both collect and connect the dots (G. Deisinger, personal communication, January 2018). Perhaps, the most difficult concept we advance is the paradox that prevention does not require prediction. There were many points during the brief life course of Pettersson where social and mental health intervention may have made a difference and prevented this violent outcome, but if such interventions were successful one would never know whether, in fact, targeted violence had been deterred.

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