

## Reflections on a Mass Homicide

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### Introduction

The names “Virginia Tech” and “Cho” will be associated forever with the tragic mass homicide of 32 persons *cum* suicide by Seung-Hui Cho on 16 April 2007. In the aftermath, many questions have been posed: “What happened and why?”, “Was he crazy?”, “Could it have been prevented?”, “Could it happen here?” This was the third mass killing in a US campus, with the largest number of fatalities. The first was in 1966 in the University of Texas with 16 dead and 31 wounded, then the Columbine High School shooting in 1999, in which 13 students were killed. We do not profess to know more about what happened in Blacksburg, Virginia, or Cho’s neuropsychiatric condition than whatever is published in the popular press.<sup>1</sup> But through a series of questions, we reflect on this tragedy, attempt to place it into a human and psychiatric perspective, and offer insights into if, and how, it can be averted in the future.

### Question 1: Was Cho insane?

Cho was described as a shy and quiet child, who was good in mathematics, but struggled with English. There were allegations of him being taunted and bullied in school since young. Both his pastor and relatives had suspected he might be autistic and suggested professional assistance. There was no record of him being involved in overt violence except that he had harassed 2 female classmates, one of whom called in the campus police.

He expressed suicidal ideation and was involuntarily committed by a judge in a mental health facility briefly for assessment. A psychiatrist wrote in his chart, “Affect is flat and mood is depressed” and “Insight and judgment are normal,” and released him. He was supposed to have been on some treatment regimen but may not have adhered to it. In English Literature classes he wrote on haunting themes of violence and death. Moreover, from the rantings of his final macabre video, it can be inferred that he had grandiose and persecutory thoughts.

One could conceivably argue that anybody who murders *en masse* and then commit suicide must be insane. But insanity is an imprecise term that is no longer in the psychiatric lexicon. So we ask if he met criteria for a diagnosis based on Diagnostic and Statistical Manual of

Mental Disorders-IV (DSM-IV) or International Classification of Disease-10 (ICD-10)? Or was he of a criminal antisocial or psychopathic mind? Unfortunately without having interviewed him or having access to his records, we cannot say for sure. We could speculate that he was depressed with delusional thoughts, and perhaps had undiagnosed Asperger’s disorder (a mild variant of autism), or was taking illicit substances. But we do not have enough evidence to be certain of a definitive psychiatric condition that could account for his extremely violent behaviour.

### Question 2: Was it due to psychosocial developmental difficulties?

Cho emigrated at the age of 8 years from South Korea and had difficulty speaking English. He was reportedly ostracised by his classmates and was isolated. The effects of migration on mental health are well described in the literature. In the US, alienation is a problem for many Asians. Among Southeast Asians, the Hmong feel the most alienated, followed by Cambodians, Laotians, and Vietnamese.<sup>2</sup> Many symptoms could be due to acculturative difficulties, racism, and overwork. A migrant faces difficulties with 3 main areas; changes in social environment, changes in interpersonal relations, and cultural differences.<sup>3</sup> Reports from those who knew Cho strongly supported the roles of these 3 factors in his maladjustment to the new country. From his video and writings, it is evident that he had tremendous envy and rage projected onto better-adjusted and well-to-do American kids.

Southeast Asian refugees have higher rates of brief reactive psychosis and paranoid psychosis compared to other Americans.<sup>4,5</sup> Sometimes paranoia develops among Southeast Asians when they are dealing with a new environment and experiencing “varying degrees of miscommunication, fear of rejection, and feeling mistreated, slighted or discriminated against”.<sup>6</sup> Psychosis among Southeast Asians can take the form found in many ethnic groups, e.g. “Aliens’ paranoid psychosis”, a syndrome characterised by a usually short-lived xenophobia and by feelings of persecution because one belongs to an ethnic minority group.<sup>7</sup>

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On the other hand, the overwhelming majority of immigrants and minorities are well-adjusted and functioning, despite having endured many of the same stressors that Cho endured. In particular, his sister, who shares much of his genetic substrate and environmental milieu, had apparently been doing very well. Many immigrants may have coping difficulties, but they do not usually resort to violence. The other 2 campus mass murderers were neither immigrants nor from minority groups. So, whereas difficulties relating to migration probably played a part in his violence, it would be simplistic to attribute it to primarily these stressors. Instead it would be a disservice to the large immigrant and ethnic minority communities.

### **Question 3: What factors may have precipitated Cho's sudden outburst?**

There is a small literature considering situational factors and triggers that have consistently been found to be important in initiating a homicidal episode. Triggers for murder in Ressler et al's study<sup>8</sup> included financial, legal, employment, marital and other conflicts. Emotional states such as frustration, anger, hostile moods, and feeling agitated and excited were reported at a lower frequency. Levin<sup>9</sup> has offered a four-factor model of sudden indiscriminate mass killing. First, the potential offender has led a "life of frustration"; second, he has access to, and the ability to use, firearms; thirdly, there is a significant destabilising experience of a loss of "social controls", such as moving to a new area or the loss of an important relationship; fourth, there must be a precipitating event such as unemployment or divorce. Gresswell and Hollin<sup>10</sup> have suggested that a more useful way of conceptualising the "firearms" component would be to consider that a fascination with weapons indicates a style of coping with stress, frustration, and low self-esteem that includes violent fantasies involving weapons. In such cases, the nature of such fantasies may be the best predictor of a homicidal response to a stressful event.

### **Questions 4: Is there a neurological basis for aggression?**

Aggression refers to behaviour that is intended to cause harm, and is the behavioural manifestation of disturbances in the brain or mind. We now have some, though incomplete, appreciation of various neuroanatomical structures that may be involved in aggression. These structures include the prefrontal cortex, amygdala, hypothalamus, and temporal lobe. In particular, some evidence suggests frontal lobe dysfunction in violent and criminal behaviour, especially in the presence of focal orbitofrontal lobe injuries.<sup>11</sup> Brower and Price<sup>11</sup> proposed that clinically significant focal frontal lobe dysfunction is associated with aggressive dyscontrol. Orbitofrontal syndrome is associated

with behavioural excesses, impulsivity, disinhibition and mood lability. Outbursts of rage and violent behaviour occur after damage to the inferior orbital surface.<sup>12</sup>

Abnormal brain concentrations of the neurotransmitters serotonin, dopamine and gamma-aminobutyric acid are implicated in impulsivity and aggression.<sup>13</sup> Pharmacotherapy with selective serotonergic reuptake antagonists, antipsychotics as well as mood stabilisers have all been used in treatment, with mixed results.

Studies of aggression in patients with brain injury suggest that their aggression tends to be (1) reactive, i.e., triggered by modest stimuli; (2) non-reflective, i.e., not premeditated or planned; (3) non-purposeful, i.e., does not serve long-term goals; (4) explosive; (5) periodic; and (6) ego-dystonic.<sup>12</sup> Some of these features describe Cho's aggression. But we do not know, and may never know, if a definable lesion was present in Cho's brain, or if present, whether that was severe enough to account for the violent behaviour.

With the evolving science on aggression, a discussion about "nature versus nurture" often arises, i.e. whether murderers are born or bred. Research has now demonstrated that genetic aberration per se is not the sole reason leading to violence; environmental factors such as childhood adversities play a significant part in the development of violent behaviour.<sup>14</sup> Gene expression is influenced by environmental factors, and brain circuits are affected by life experiences.

### **Question 5: How is dangerousness assessed?**

Psychiatrists are often called upon to determine how much a threat someone will pose to others and society, also known as dangerousness. Dangerousness is a subjective assessment of the element of danger attributed to a particular person and is qualitative in nature. Predicting dangerousness, particularly in an extreme form such as mass homicide, has been an elusive goal for those investigators who have attempted it. It is often said that "Hindsight is 20/20". When a person is exposed to be a murderer, we tend to focus on those warning signs in his character and biography that were previously ignored. For a category of violence such as mass homicide, however, the low base rate and consequent likelihood of finding false-positive results are overwhelming.<sup>15</sup>

Just as in Cho's instance, numerous questions were raised about the concerns of his teachers and the psychiatric assessment in November 2005. It must be emphasised that the assessment of dangerousness is not an exact science, and cannot yield a black-and-white result of "dangerous" versus "not dangerous". In our psychiatric assessments, we weigh various factors such as past history of violence, history of mental illness, personality, social background,

context and state of mind in which dangerous behaviours manifest.

Past behavioural patterns provide the best insight into future behaviours. However, the accuracy of dangerousness assessments quoted in the literature is as low as 0.33.<sup>16</sup> Mossman<sup>17</sup> in 1994 extracted 58 datasets from 44 published studies, and revealed that mental health professionals' violence predictions were better than chance. Current risk assessment tools such as the Historical/Clinical/Risk Management 20-item (HCR-20)<sup>18</sup> and Psychopathy Checklist (revised) (PCL-R)<sup>19</sup> offer a structured and more systematic approach to violence prediction, but none could tell with consistent (surely not 100%) accuracy that a person would re-offend.

Homicide is clearly the most serious of all crimes. Approximately two-thirds of homicides involve the killing of a victim by a partner, relative, friend or acquaintance. This may partly explain why the clear-up rate for these crimes is particularly high – the police do not need to look very far in order to solve the majority of murders.<sup>20</sup>

The relation between mental illness and dangerous behaviours has been overemphasised, especially in the eyes of the public. There is a tendency to believe that murderers are mentally ill. However, a recent study among homicides in Singapore showed that 57% of murderers have no mental illness. Out of the 110 charged with murder, depressive disorders accounted for 9.1% and schizophrenia, 6.4%.<sup>21</sup>

The proportion of foreigners (defined here as non-citizens and non-permanent residents) who committed murder in Singapore was significantly higher compared with locals, which supports the earlier point about the stressors of migration. Also, foreigners tend to suffer from more serious psychiatric disorders, are less likely to have a known history of violence, and are more likely to be new to psychiatric services.<sup>22</sup> This implies that the first violent outburst is usually the first presentation to psychiatric services. Cho did not have a history of overt violence prior to April 16.

#### **Question 6: What about the psychological trauma to family and friends of the victims?**

For those who saw their friends getting shot and killed, those who were injured and those who survived unharmed, the families and friends of the victims, it would be very difficult to collectively summarise the ordeal they went and are still going through, as each will have their own individual experience of it. Some may be at high risk of posttraumatic stress disorder (PTSD), but others will cope fairly well with milder symptoms. But it is safe to say that life will never be the same again. And we must not forget the hapless and unfortunate family of Cho, whose suffering cannot be

fathomed.

There were positive measures taken by the school and public authorities in the aftermath that are worth learning. The measures included leave from school, time and ceremony to grief, and the provision of counsellors to all students of the school. School events such as examinations and convocation ceremonies continued as usual in an attempt to restore normalcy.

The telecast of Cho's video on national TV was highly controversial. Many others around the world later saw Cho's nefarious video and images of the "massacre". The national broadcast potentially traumatised viewers and re-traumatised survivors. In addition, it helped Cho achieve his aim of broadcasting his views, possibly achieving "martyrdom", and it may inadvertently encourage copycat murderers, as if a race were on to increase the body count. We would strongly urge that TV network companies and their regulating agencies revisit the guidelines and regulations on such telecasts.

#### **Question 7: Can it happen to us?**

Mass murder in a US school or college is a relatively rare event – three times in 40 years, despite the widespread availability of firearms and the large numbers of disenfranchised youths. Hence, it can be described as a low-probability, catastrophic-outcome event, like an earthquake occurring on a given day. The probability of its happening is very low, but once it hits, the results may be catastrophic. For countries with strict firearm and explosive control laws, the risk of a mass murder on the same scale is much lower.

With the benefit of hindsight, to discuss what the psychiatrist or the judge should have diagnosed or done is moot now. There was and always will be a balance between protection for society and infringement of the individual's civil liberties. This dilemma is all the more difficult if the assessment is made before a crime is actually committed. It would be virtually impossible for a psychiatrist to predict which of the patients would commit violence, least of all mass murder. If the decision is to commit the patients as a preventive measure, how long should the internment last, and who would set him free?

Nevertheless, for psychiatrists and all doctors, this is a timely reminder to be thorough and diligent in the assessment for dangerousness, and to acknowledge that we are far from perfect in our assessments. Under Section 34 of the Mental Disorders and Treatment Act (1973, revised in 1985), any registered physician in Singapore may refer a patient suspected to be of unsound mind or requiring psychiatric treatment to the Institute of Mental Health (IMH) for evaluation and treatment. IMH is the only gazetted mental hospital that has the statutory authority to hold patients

involuntarily, should the person be deemed to be suffering from a mental illness, and detention serves the person's best interests and those of other persons.

For the majority of patients who are deemed not to need involuntary hospitalisation, there is little we can do to enforce treatment, other than relying on the family to supervise medications and appointments. If we suspect that a patient may pose a specific threat to another person, we may face an ethical dilemma with regard to confidentiality. This issue brings us back to the landmark Tarasoff case where the Californian courts found the therapist negligent for not warning the intended victim of a threat.<sup>23</sup> Kok et al<sup>24</sup> discussing this case with regard to the applicability of the Tarasoff ruling in Singapore, concluded that in the absence of local case law, a psychiatrist caught in this situation should consult the Singapore Medical Council prior to breaching doctor-patient confidentiality.

The Cho case also brings to mind the problems of troubled youths in Singapore – a combination of disengagement from society, low self-esteem, poor coping with rising expectations, and academic pressures. These forces predispose them to seek alternative forms of release and validation, such as using illicit substances and joining street gangs. Therefore, parents and school authorities should always be on the lookout for troubled or poorly adjusted youths. If need be, they should be referred to mental health professionals for evaluation and treatment. Another lesson in the local context would be for us, as a society, to be more tolerant and empathic to those who are less well-adjusted and successful, especially foreigners and migrants, so as to minimise resentment and wrath.

## Conclusion

In summary, as we try to make sense of this apparently senseless violence, we find ourselves in the recurring debate of nature versus nurture. We probably will never know what Cho was really thinking when he pulled the trigger repeatedly, or nor can we be sure if he had a psychiatric condition that fulfilled DSM IV or ICD-10 criteria. Our hypothesis is that he had an underlying neurobiological or genetic vulnerability; he endured developmental psychosocial stressors in a chronic invalidating environment; and that finally some yet unknown “third-hit” triggered his rampage. Nevertheless, we highlight the need for thorough assessments of dangerousness by mental health professionals despite the limitations of our tools; the need for a system to attend to the psychological anguish of the survivors and loved ones of the victims; and the need for us collectively to adopt a more empathic stance towards our less fortunate brethren.

We also remember the 33 lives extinguished and countless more traumatised on that Spring day in 2007.

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