Journal Pre-proof
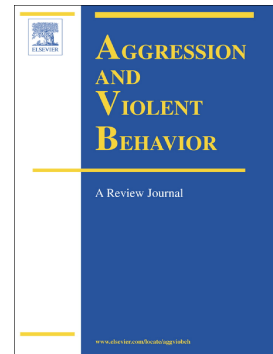
The interface between homicide and the Internet. A classification

M.C.A. Liem, M.E.F. Geelen

The Interface between Homicide and the Internet. A classification.

Dr. M.C.A. Liem
M.E.F Geelen, Msc

Leiden University
Faculty of Governance and Global Affairs
Institute of Security and Global Affairs
P.O. Box 13228
2501 EE The Hague
The Netherlands
M.C.A.Liem@fgga.leidenuniv.nl
M.E.F.Geelen@fgga.leidenuniv.nl

Corresponding Author:
Dr. M. C. A. Liem
Telephone: +31 70 800 9069
m.c.a.liem@fgga.leidenuniv.nl
Leiden University
Faculty of Governance and Global Affairs
Institute of Security and Global Affairs
P.O. Box 13228
2501 EE The Hague
The Netherlands

It has been argued that the Internet presents numerous new opportunities for crime, including homicide. So far, empirical scholarly research in this domain is rather limited. In order to discover how perpetrators have used the Internet in the homicides they have committed, we conducted an international newspaper search (2006 – 2017). Based on this analysis, we identify five distinct types of Internet use in homicides, namely Internet as an encyclopedia, Internet as a platform, Internet as a trigger, Internet as a market place, and Internet as a meeting place. Our findings indicate that these types do not significantly differ from key characteristics of homicides in general to the degree that they constitute unique forms of homicide. Rather, Internet-related homicides constitute a replication, or facilitation of already existing forms of homicide assisted through new technological means.

The Interface between Homicide and the Internet. A classification.

1. Introduction

Over the last decades, the Internet has been increasingly implicated in a growing number of violent crimes, ranging from homicide and assisted suicide, to sex offences, gang violence, and even cannibalism (e.g. Bryce 2010; Patton, Eschmann, and Butler 2013; Wykes 2010; Yardley and Wilson 2015). Noteworthy examples include cases as those of Philip Markoff, also known as the 'Craigslist killer' due to his alleged method of finding of victims on the popular classified advertisements website Craigslist, and Armin Meiwes, the infamous Rotenburg cannibal, who achieved international notoriety for killing and consuming a voluntary victim whom he had met by way of the Internet.

Such examples of seemingly 'Internet-related' offences have since triggered numerous debates on the connection between the 'digital' realm and criminal behavior in the actual physical world. Central to these debates lies the question of whether or not the Internet generates specific opportunities for new types of criminal activity. Similar discussions have arisen within the academic community, resulting in a growing body of literature on the transformative impact of the Internet on criminal behavior (Jewkes, 2007; King, Walpole & Lamon, 2007; Yar 2005; Wall, 2005). Collectively, this literature has led to the emergence of an entirely new field of criminological study, known as 'Cyber Criminology' (Jaishankar 2007).

While these developments have since done much to advance our understanding of cybercrime, significant obstacles for its study remain. Within the field, definitional disagreements between criminologists have resulted in a wide variation of perspectives

on the impact of the Internet on criminal behavior, ranging from considering Internet as an alternate social space where new types of criminality materialize (Capeller 2001), to skepticism on whether distinctive Internet-related offences exist at all (Graboski, 2001; Maguire 2012; Yardley and Wilson 2015). This is further complicated by a substantial lack of empirical data on the prevalence, nature, and extent of certain online offences, making it almost impossible to come to some kind of consensual conceptualization and/or theoretical advancements (Diamond & Bachmann 2015; Ngo and Jaishankar, 2017; Wall, 2001;).

This study seeks to address the current empirical gap in academic literature by studying the ways in which perpetrators have used the Internet in the homicides they have committed. Whilst we acknowledge that a range of criminal behaviors may be associated with the use and widespread availability of the Internet, in this contribution we focus on one particular type of crime: homicide, as – in contrast to other types of crime – it is the most readily measurable and clearly defined form of criminal offence (UNODC 2014). Towards this purpose, an international newspaper search was conducted. Based on this analysis, we identify and describe six categories of Internet homicides, their characteristics, patterns, and common traits.

2. Methodology

2.1. Data Sources

In order to derive extant data on Internet homicides, an international newspaper analysis was conducted. Printed media have proven a useful resource in estimating the number of intentional injuries, including rare types of homicide (Aderibigbe, 1997; Danson &

Soothill, 1996a, 1996b; Malphurs & Cohen, 2002; Liem & Koenraadt, 2007; Liem et al., 2013; Liem & Reichelmann, 2013). Because of the violent and relatively uncommon nature of Internet homicides, they are thought to receive large amounts of media coverage.

Due to the rare occurrence of (a) homicide in general, and Internet-related homicide in particular, and (b) in order to overcome possible cultural and national differences in reporting, we included newspapers from four Western countries: Australia (Daily Telegraph) the United Kingdom (Daily Mail), the United States (USA Today), the Netherlands (De Telegraaf). Each of these newspapers was selected based on their total average circulation, constituting the largest, or almost largest, number of readership in the selected countries. Newspaper articles on Internet homicides were retrieved through the search engines LexisNexis Academic and Factiva, two electronic databases containing national (the Netherlands) and international (Australia, United Kingdom, United States) news media outputs respectively. For LexisNexis Academic, which was used to search the Dutch newspaper, we used the terms *moord AND Internet OR doodslag AND Internet OR online AND vermoord OR online AND doodslag*. For all international newspapers, we used the search terms *Murder AND Internet OR Internet AND Death OR Internet AND Killing OR Homicide AND Internet OR Murder AND Online OR homicide AND online OR killing AND online*. Both searches were conducted in a time period from 1 January 2006, up to and including 31 December 2017. For the Factiva search, the subject filter murder/manslaughter was applied to filter out unrelated articles. Due to a low number of hits (n = 11), no subject filter was applied for the LexisNexis search. Combined, these searches generated a total of 710 results, related to 48 unique cases.

2.2. Inclusion criteria

The year 2006 was chosen as a cut-off point, as in that year the use of the Internet was substantially higher than in previous years, reaching 17.6 per cent of the world's total population (International Telecommunication Union 2017). Moreover, gaining access to the Internet was greatly facilitated in the following years, as the global coverage by a 3G network, which qualifies as mobile broadband and provides high-speed access to the Internet, started around 2006, and rose to around 50 per cent by 2017 (International Telecommunication Union 2017). As a result, by 2017 global Internet penetration rates soared to new heights in Europe (84%), The Americas (65%), and Asia and the Pacific (48%) (International Telecommunication Union 2017). Taken together, these events had major impacts upon, or are testament to, the growing evolution, and increase of Internet usage worldwide.

Cases were included if they were published between 1-1-2006 and 31-12-2017 in the selected newspapers, and if they fit our inclusion criteria, namely if the article (a) described cases in which a homicide offence was reported and (b) in which the perpetrators' use of Internet had been noted as essential to the crime in media reporting of the case. Cases were included regardless of the country the homicide took place. All articles concerned with general comment; where no homicide offence was reported, online tribute pages to victims, book/film reviews, as well as duplicates (N = 9) were excluded from the study. In cases where a lack of detail prevented accurate and complete recording, additional newspapers reporting on the same cases were consulted.

Discarding the duplicates, applying our inclusion criteria, a total number of 48 unique Internet-related homicide cases were identified. For each case, we recorded details making use of the statistical program SPSS (v.23.0.0.3, IBM 2016).

2.3. Coding

Identified homicides were coded using the European Homicide Monitor framework (EHM) (Granath et al., 2012; Liem et al., 2013; 2018). The EHM framework is an internationally established coding scheme consisting of variables reflecting case, victim and perpetrator characteristics, and is extensively applied in homicide research. For each identified homicide event in this study, we coded 19 variables relating to the details of the incident, the victim(s) and the perpetrator(s). Case-related variables included time of the homicide (year and month), location (country), and modus operandi. Victim and perpetrator-related variables included age and gender and relationship between victim and perpetrator. In addition, we included a variable reflecting the way in which the perpetrator had used the Internet. To determine this variable, we used content analysis, going through all identified cases separately and collectively, to distinguish common types of Internet usage in homicide. This process resulted in a 6-point classification; 1= 'Internet as an encyclopedia'; 2= 'Internet as a podium'; 3 = 'Internet as a hunting ground'; 4 = 'Internet as a trigger'; 5 = 'Internet to acquire murder tools and paraphernalia'; 6 = 'Internet as an organizational tool'.

To ensure the reliability of our data, an interrater reliability rate was calculated by both authors separately coding 15 newspaper articles. We reached an average interrater rate of 93% with an average Kappa of 0.8. After the coding process all cases were reviewed by both authors, and the suggested common categories for the way in which the

perpetrator had used the Internet to commit the homicide were discussed and definitively determined through consensus.

We consecutively conducted descriptive analyses, in which we analyzed case, victim and perpetrator characteristics; for those cases that included multiple victims and/or multiple perpetrators, we report characteristics based on the principal victim and principle perpetrator. Following the European Homicide Monitor framework, principle victims were determined through the following hierarchy: First, by victim's relationship to the perpetrator (i.e. the victim with the closest victim-perpetrator relationship being coded as principle victim); second, if no difference in closeness could be established, by coding the first victim (i.e. the first to get attacked in the homicide event), and third, if no difference in closeness or victim order could be established, by the victim's age (i.e. the oldest victim being coded as principle victim) (Granath et al., 2012). The principal perpetrator was also determined following the EHM framework, based on the most severe sanction, or the closest relationship to the victim, respectively (Granath et al., 2012).

3. Results

An analysis of four international newspapers in the period 2006-2017 revealed a total of 48 unique Internet homicide events, resulting in 209 deaths. This disproportionate number of deaths can be attributed to the inclusion of several mass-casualty homicide events in this study, including the Virginia Tech shooting in 2007, the Aurora shooting in 2012, and the 2011 Norway Attacks.

Geographically, the majority of newspaper-covered homicides (see Table 1) took place in the UK (51%), or the United States (19%), followed by Australia (9%), the

Netherlands (4%), and Norway (4%). The number of homicides steadily increased over time, from one annually (2%) in 2006, to seven in 2016 (15%) and 2017 (15%).

[Table 1 about here]

The overwhelming majority (90%) of perpetrators were male (see Table 2), with five exceptions of female perpetrators (10%). Perpetrator age ranged from 14 to 63, averaging 29.48 (SD = 12.07). Roughly five out of six perpetrators were aged 18 and over (83%). Half of all victims were male (see Table 3). Victim age ranged from 11 months to 76 years, with an average age of 29.83 years (SD = 16.62). The youngest victim concerned an 11-month old baby, whose killing was Facebook live streamed by her father, who acted out of anger as his wife was going to leave him. The oldest victim in our dataset was Liviu Librescu, who, at age 76, was among the 32 people who were murdered in the Virginia Tech shooting.

As reflected in Table 4, roughly three out of ten homicides occurred between strangers (29%), followed by acquaintances (24%) and (estranged) intimate partners (20%). The least common relationships in Internet-related homicides consisted of what we coded as 'other relationships', such as teachers, schoolmates, prostitutes, neighbors, house/flatmates (16%) and family members (11%). The most common methods used by perpetrators were knives (39%) and firearms (25%), poisoning (9%), strangulation (9%), and blunt weapons (9%). Less common methods included explosives (2%), corrosive substances (2%), drowning (2%), and physical violence without weapons (2%).

3.1 Types of Internet-related Homicides

Based on our analysis of 48 unique homicide events, six distinct categories, or sub-types, of Internet-related homicides were identified (see Table 1). The following section outlines the characteristics of each subtype based the principal perpetrator (Table 2), the principal victim (Table 3), and on the characteristics of the case (Table 4). The first category entailed homicide events in which Internet was used as a *podium* to share motives for the homicide, to showcase the crime (e.g. through live broadcasting or posting of images), or to announce intent (e.g. publishing of a manifesto). Representative cases in this category include the murder of Robert Godwin Sr. in April 2017 and the 2011 Norway attacks. In the former case, 74-year-old Robert Godwin Sr. was shot and killed by 37-year-old Steve Stephens in Cleveland in 2017, who live broadcasted a video of the shooting on his Facebook account. As a result, Stephens was labeled as the "Facebook killer" by numerous news outlets (BBC News, 2017). In the latter case, Anders Behring Breivik, who was found guilty of killing 69 victims on the Norwegian island of Utøya and eight victims in Oslo in July 2011, had used Facebook as a means to distribute his 1518-page right-wing extremist manifesto shortly before committing these acts (Vervaeke 2011). Of the total number of 48 Internet-related homicides, the majority (29%) fitted within this category (see Table 1). As shown in Table 2, perpetrators in this category were also mostly male (93%), and relatively young (M 26.58, SD = 8.80). In half of the cases (see Table 3), victims were male (50%), with an average age of 35 years (SD = 22.02), with the largest age groups made up by $31 - 49$ years (33%). Almost half of these cases (46%) occurred between strangers (see Table 4), and the most common modus operandi included firearms (57%).

[Table 2 about here]

The second category consisted of homicide events in which perpetrators used the Internet as an encyclopedia, i.e. to gather information to commit the homicide, or to obscure evidence. This information included details on the homicide victim themselves (e.g. victim whereabouts), the modus operandi, or the aftermath of the homicide event (e.g. "how to get rid of a dead body"). An exemplary case in this category is that of Thomas Alexander Mair, the 52-year old Briton who was found guilty of the murder of British Labour politician Jo Cox in the United Kingdom. On 16 June 2016, while on her way to a constituency meeting, Mair shot Cox with a .22 sawn-off rifle, and stabbed her outside a library in Market Street. Prior to the act, Mair had conducted Internet searches for information about Mrs Cox. After browsing her Wikipedia page, Mair looked at an Internet post entitled: "Is a .22 round deadly enough to kill with one shot to a human's head?" (Spillet & Tonkin 2016). Another typical case in this category is the killing of Zoe Morgan and her partner Lee Simmons in Cardiff, the United Kingdom, in 2016. Days before stabbing them to death, perpetrator Andrew Saunders searched the Internet for the best methods to kill people, including information on how to make a pipe bomb, how to rig a car so it explodes when started, how to illegally buy a gun, and how to inflict knife injuries (BBC News 2017). Out of all homicide events included in this study, this type of Internet usage formed the second largest category (21%) (see Table 1). The majority of perpetrators were male (90%), with an average age of 34 years (SD = 16.43). The most common age groups consisted of 18 − 30 years (50%) and 50+ years (30%). As depicted in Table 3, victims were most commonly aged between 31 − 49 years (60%), and on average 36,70 years old (SD = 13.07), with females making up most victims (70%).

About one third (30%) of the homicides in this category included strangers and one third (30%) took place between (estranged) intimate partners (see Table 4) Regarding method, knives formed the largest category (57%).

[Table 3 about here]

The third category consisted of homicides in which the Internet served as a *hunting ground* between the perpetrator(s) and the victim(s). This category contained cases in which the victim and the perpetrator were primarily known to one another through online activity, with their first 'real life' meeting resulting in a homicide. Exemplary cases of this category include the murder of Ashleigh Hall by Peter Chapman in the United Kingdom in 2009, who contacted her through Facebook by pretending to be a nineteen-year-old teenager. Chapman, who had served seven years in prison for raping two prostitutes, persuaded Hall to meet with him, after which he kidnapped, raped and killed her. After his arrest, Chapman confessed to the crime and was sentenced to thirty-five years imprisonment (BBC News 2010). Another notable example consists of the 2011 so-called "backpage.com murders" in the United States in which four women were killed after connecting with James Brown, 26, through online escort ads (Hall 2014). These homicides formed the third largest category overall (21%) (see Table 1). Perpetrators in this category were exclusively male (100%), with an average age of 29 (SD = 10.58). Victims in this category were female in about half of the cases (60%). The average age of victims was relatively young (M = 20.40, SD = 5.06), with 60% of victims aged between 18 – 30 years and 40% aged between 0 – 17 years (see Table 3). As shown

in Table 4, the most prevalent relationships between victim and the perpetrator in this category included acquaintances (80%), followed by (estranged) intimate partners (10%) and other relationships (10%). In terms of modus operandi, poisoning (43%) was frequently used, followed by knives and other sharp objects (29%).

[Table 4 about here]

The fourth category consisted of cases in which the Internet was used to *acquire murder weapon(s) or related paraphernalia*, such as ammunition, or body armor, which were subsequently used in the homicide event. Notable cases include those of Thomas Hemming, who was found guilty of stabbing his neighbors to death in Australia, in 2014 with a knife he had acquired online (Carlyon 2014) and the so-called Aurora shooting in 2012, in which perpetrator James Holmes acquired ammunition and body armor through several online purchases (Huffington Post 2013). As reflected in Table 1, out of the 48 cases identified in this study, this category was found to be the fourth largest (13%). In this category, perpetrators were mostly male (83%) and victims were exclusively male (100%). The average age was 24 years (SD = 11.99) for perpetrators and 33.33 years (SD = 20.15) for victims (see Table 2 and Table 3). Half of the homicides in this category involved other relationships (50%). The other half was made up of strangers (33%) and (estranged) intimate partners (17%). When the murder weapon, or components of the murder weapon, or other material(s) used in the homicide event were acquired online, knives or other sharp objects (50%) and firearms (33%) formed the largest two categories, followed by corrosive substances (17%).

The fifth category of Internet-related homicides consisted of relatively rare cases in which Internet activity, in the form of online posts or messages on social media or other online sources served as an important motivation, or *direct trigger*, for the homicide. Notable cases within this category consisted of instances in which online arguments escalated into 'real-world' violent events, or entirely digital content (such as sensitive images) served as the main motivator to the homicide event. An illustrative case in this category is the murder of Joyce "Winsie" Hau in the Netherlands in 2012, commonly known as the 'Facebook Murder'. Hau was stabbed to death at her home by a 14-year-old boy after having gossiped about alleged promiscuous behavior of her (best) friend Polly W. on Facebook. The 14-year old boy, later identified as 'Jinhua K.' had been hired by Polly and her boyfriend in order to retaliate for the online remarks (BBC News 2012). Another example is the death of Qandeel Baloch, who was killed by her brother Muhammad Waseem Baloch in Pakistan in 2016. Qandeel, who was a famous social media star in Pakistan, was drugged and then asphyxiated by her brother in retaliation for explicit Facebook posts, which he claimed brought dishonor upon his family (Curtis 2016). Out of all identified cases (see Table 1), this category of homicides was the least common (10%). As indicated in Table 2 and Table 3, victims were female in about half of the cases (60%), whereas perpetrators were mostly male (80%). The average age of perpetrators was 32.40 years old (SD = 13.61). Victims were on average 27.00 years old (SD = 9.82). Two out of five cases involved strangers (40%), and in terms of modus operandi, knives (40%) and hanging or strangulation (40%) were most often used (see Table 4).

The sixth category consisted of homicides in which the Internet was used as an *organizational tool*, as part of the M.O. Three cases were classified as such, including the killing of Sofyen Belamouadden by an armed gang which had been organized on Facebook by perpetrator Victoria Osoteku (BBC 2012); and the murder of a one-year-old girl organized over Skype by Ammaz Qureshi, a 35-year old British man who had instructed her Norwegian mother to submerge her in a bucket of water (The Guardian 2014). The final case included in this category included that of Andrew Warren, an Oxford University employee, and Wyndham Lathem, an associate professor of microbiology-immunology at Northwestern University, who killed the 26-year old Trenton Cornell-Duranleau as part of a homicide-suicide sexual fantasy they devised while chatting online (The Guardian 2017). As reflected in Tables 2, 3 and 4, these cases differed considerably in terms of demographic characteristics of perpetrators, victims, as well as in victim-perpetrator relationship and modus operandi.

4. Discussion

This study constitutes one of the first systematic studies into Internet-related homicides and the characteristics, patterns and common traits related to these events. Based on our newspaper analysis of 48 unique homicide events, we identified six distinct categories of Internet-related homicides, including:

- Internet as a *podium*, or homicide events in which the Internet was used either to showcase the crime or to announce intent;

- Internet as an *encyclopedia*, or homicide events in which the Internet was employed by the perpetrator(s) to gather information useful for the homicide event;

- Internet as a *hunting ground*, or homicide events in which the Internet served as a hunting ground of sorts, where the perpetrator(s) and victim(s) came in (first) contact;

- Internet as a means *to acquire murder tools and paraphernalia*, or homicide events in which the Internet was used to acquire (parts of) the murder weapon(s).

- Internet as a direct *trigger*, or homicide events in which Internet activity, in the form of online posts or messages on social media or other online sources served as an important motivation, or trigger, for the homicide event.

- Internet as an *organizational tool*, or homicide events in which the Internet was used for perpetrators to coordinate the offense, and/or as part of the modus operandi.

Overall, the characteristics of Internet-related homicides mirrored the characteristics of homicide in general. Similar to characteristics of homicide globally, the vast majority of perpetrators are male, who make up some 95 per cent of all perpetrators (92% in Europe, 95% in Asia, and 96% in the Americas) (UNODC 2014), which resembles the 90% male perpetrators in our sample, including the male overrepresentation in subsamples of Internet-related homicides. Homicide victims are also typically relatively young with over half of all homicide victims under the age of 30 (51%) and slightly less than one third aged 30-44 (UNODC 2014), which also roughly resembled the victims in our

sample (see Table 3). In addition, prevalent modus operandi in our sample (knives and firearms) were similar to modus operandi in homicides generally, firearms (41%) being used most frequently, followed by sharp objects (24%) (UNODC 2014).

At the same time, our findings indicate a number of differences compared to general characteristics of homicide, including victim gender and relationship between victim and perpetrator. First, while homicide overall mostly takes place between men (Brookman, 2005; UNODC 2014), our sample of Internet-related homicides involved female victims in one out of every two cases. Second, overall homicide statistics indicate that the relationship between victim and perpetrator often involves a social connection (UNODC 2014). Yet, although our sample showed that close social relationships were present in many cases (N = 14; 31%), cumulatively over half of all homicides in our sample occurred between strangers (N=13; 29%) and acquaintances (N=11; 24%).

Such differences leave us to question to what extent Internet-related homicides constitute 'new' or unique forms of killing. In answering this question, let us take a closer look at the subtypes of Internet-related homicide we identified. First, homicides in the category Internet as a *podium* involve the usage of the Internet to showcase (ideological) violence, or to announce intentions to commit lethal violence. Typical examples include the placing and distributing of online manifestos through online channels, which have been witnessed in numerous high-profile cases in recent decades, including the Jokela school shooting in Finland, in 2007 (BBC 2007) and the Breivik case included in this study. One may argue that such homicides, including the use of manifestos in such homicides, are not entirely 'new'. Before widespread access to the Internet, the posting of an online manifesto also prominently featured in other (mass) homicide cases, albeit

through different means. Notable examples include the publication of the so-called Unabomber manifesto written by Theodore Kaczynski. In 1995, after having committed numerous mail bombings that killed three people and injured twenty-three, Kaczynski mailed several letters to media outlets outlining his goals and demanding that his 35,000-word essay 'Industrial Society and Its Future' (later known as the Unabomber Manifesto) be printed verbatim by a major newspaper. The essay was eventually published in both The New York Times and The Washington Post (Kurtz 1995).

Similarly, one may argue that our second category of Internet-related homicides, Internet as *encyclopedia*, does not constitute a completely new type of homicide. This category typically consisted of homicide perpetrators gathering online information they used for committing a homicide, including the disposal of evidence, the effectiveness of different modus operandi, or retrieving victim's personal information. While the Internet has arguably allowed for greater access to information than ever before, what our analysis showed is that the type of information that is accessed is by no means unique or 'new' in the context of homicide. Prior to the Internet, such information was contained within books, which were freely available either through commercial purchase or through library loan. Famous examples include the Anarchist cookbook, a diagram- and recipe-filled manifesto that contains, amongst others, recipes for drugs, weapons, and bombs (Sandomir 2017). This book, which was reported to have sold at least two million copies since its publication in 1971, has since been linked to numerous violent incidents, including the Columbine shooting and the Oklahoma bombing (McEvers 2017). While many search terms in our analysis related to specific types of killing, we did not find

evidence of 'new' types of information relating to homicides that could not have been acquired through traditional offline publications.

The third category of Internet-related homicides, Internet as a *hunting ground* also did not include homicides that did not occur in an offline era. Whereas prior to the widespread use of Internet, individuals with mutual interests could come in contact with one another through newspaper ads or personals, the Internet now facilitates a range of contacts through online fora, social media, online dating, and many other forms of online activity. Prior to the advent of the Internet, perpetrators of such homicides were commonly referred to as 'lonely hearts killers' or 'want-ad killers', referring to the newspaper section in which their advertisements are placed (Bovsun 2009'; Cocks 2004). These individuals were typified by the false pretenses under which they placed the advertisement, commonly through the use of a fake name or alias. In our analysis, homicide perpetrators in this category manifested themselves in a similar manner, through creating a fake online profile in order to come into contact with potential victims. Perhaps the most notorious case included in this study was that of British serial killer Stephen Port, who killed several victims whom he came into contact with through the dating app Grindr (Simone 2016). Nevertheless, although this category may not constitute a 'new' type of homicide, what sets it apart from more 'traditional' types of homicide is the increase of offenders' reach of opportunity, and the novel ways in which it allows perpetrators to engage with victims leading up to the homicide (Wall 2005). This is perhaps best exemplified by two cases in our study; the case of Ali Ali, an Australian man who was arrested in the Philippines for the killing of Alona Alvarez, a 17-year-old girl whom he had met on the Internet (Escalante 2015) and the case of Tony

Bushby, an English man who was convicted for killing Catherine Wynter, a 19-year-old girl whom he convinced to meet up with him by using multiple fake online profiles to gain her trust (BBC 2012).

The fourth category, consisting of Internet-related homicides in which Internet was used *to acquire murder tools and paraphernalia*, similarly does not present us with a new category of homicide. While the Internet and (perhaps to a larger extent) the Dark Web, now potentially enable the ordering of a wide array of lethal weapons without any physical gathering (Persi Paoli et al. 2017), this does not constitute a new practice in homicide, as previously an individual could acquire firearms, knives, or otherwise deadly weapons through either criminal contacts or commercial purchases (Pierce et al. 2004). In our analysis, we did not find evidence of weapons that could only have been acquired through online means. Examples include the online purchase of ammunition and/or firearms by James Holmes, responsible for the Aurora Shooting in 2012 (Healy 2012), and Seung-Hui Cho, who committed the Virginia Tech Shooting in 2007 (CNN 2018). In both these cases, the purchased items could be legally obtained (Carbone 2012; Isikoff 2007).

The fifth category, in which Internet served as direct *trigger*, differed from the aforementioned categories in that it mostly resembled homicides that resulted from off-line triggers. Such triggers involve arguments, that have traditionally served as the most prevalent trigger for a wide array of homicide events, including arguments arising out of property disputes, honor confrontations, and conflicts between individuals living in family contexts (Brookman 2005; UNODC 2014). Similar dynamics were evident in the cases identified in this study, including the cases of Qandeel Baloch and Winsie Hau.

Finally, we found that Internet serving as *an organizational tool* for a large part facilitated the respective homicide to take place, and informed future offenders to behave in a certain way. It remains to be questioned, however, to what extent such homicides would have been facilitated by other means, in the absence of online platforms.

4.1. Limitations and Future Research

For this study, newspaper surveillance was chosen to identify homicide cases in which the Internet was used by the perpetrator. Newspaper surveillance using database search engines present several limitations. Firstly, it is dependent on the number of newspapers included in the searches, and on variability in editorial decisions to publish and post homicide stories (Malphurs and Cohen 2002). In some cases, for example homicides involving less sensational news value or when unwritten journalistic rules prevent publishing sensitive information, this can result in under-reporting of homicides and thus exclusion from this study (Liem and Koenraadt 2007). On the other hand, due to their highly sensational nature, as well as their perceived novelty, this may also mean that homicides that involve an online component may be reported on more often and more extensively than homicides that do not. Fears related to perceived dangers of the online world may also lead to overstatements of the impact of the Internet on homicides (Jewkes 2007; Marwick 2008). Secondly, the accuracy of information in newspapers is not guaranteed and underreporting of important details of homicides may lead to cases being mistakenly included or excluded in this study and/or incomplete coding (Liem et al. 2013; Roma et al. 2012;). This was most notable in our study when trying to ascertain the relationship between the victim and the perpetrator, which often proved difficult to determine using newspaper sources alone. Future research could address this issue by

incorporating multiple sources to ensure triangulation of data, which may include police files, or legal sources such as transcripts from criminal trials (Liem 2010). Such accuracy would improve our understanding of Internet usage by perpetrators of homicide by providing more accurate and detailed accounts of how this occurred in each case.

5. Conclusion

This study addressed the definitional and empirical challenges facing the field of cyber criminology by investigating whether, and to what extent, the Internet (or 'cyber') has impacted homicidal violence. Based on detailed analysis of each of these categories, we conclude that whilst the Internet has had an impact on each of these homicides, its impact has not been transformative in nature. Indeed, most homicide characteristics were not significantly dissimilar from key characteristics of homicides to the degree that they constituted a new or unique form of killing. Rather, all of these events shared characteristics with existing forms of homicide, yet assisted through new technologies means, which either replicated or facilitated already existing practices. Consequently, instead of acting as a new channel, or environment, for committing homicide, the Internet primarily functioned as a support system for criminal action (Capeller 2001; Snyder 2001; Wall 2005). As posited by Wall (2005), perhaps one of the most useful principles for defining a new form of crime, including certain types of cybercrime, is the so-called transformation test, in which it should be questioned whether these killings would disappear if the Internet were taken away? (Wall 2005). Based on our findings, we hold that this would not be the case and that we seem to be dealing with new wine in old wineskin.

References

Aderibigbe, Y. A. (1997). Violence in America: A survey of suicide linked to homicides. *Journal of Forensic Sciences, 42,* 662–665.

Bovsun, M. (2009, April 4). Lonely Hearts Murderer. New York Daily News. Retrieved from http://www.nydailynews.com/news/ny_crime/2009/04/05/2009-04-05_lonely_hearts_murderer.html

Brookman, F. (2005). *Understanding homicide*. London, United Kingdom: Sage Publications.

Briton jailed in Norway over death of toddler (2014, May 16). *The Guardian*. Retrieved from https://www.theguardian.com/uk-news/2014/may/16/briton-ammaz-qureshi-jailed-norway-toddler-death

Bryce, J. (2010) Online sexual exploitation of children and young people. In Y. Jewkes & Yar, M. (Eds.), *Handbook of Internet crime* (pp. 320 – 342). Devon: Willan Publishing.

Carbone, N. (2012, July 21). Colorado Theater Shooter Carried 4 Guns, All Obtained Legally. *Time.* Retrieved from http://newsfeed.time.com/2012/07/21/colorado-theater-shooter-carried-4-guns-all-obtained-legally/.

Capeller, W. (2001). Not such a neat net: Some comments on virtual criminality. *Social & Legal Studies*, *10(2)*, 229–242.

Carlyon, P. (2014, October 13). Melbourne couple murdered in 'thrill kill', attacker Thomas Hemming wanted to know what killing was like, court hears. *ABC News*. Retrieved from http://www.abc.net.au/news/2014-10-13/thomas-hemming-murdered-melbourne-couple-in-thrill-kill/5809142

Cocks, H.G. (2004) Peril in the personals: the dangers and pleasures of classified advertising in early twentieth- century Britain, *Media History, 10(1)*, 3-16.

Curtis, J. (2016, July 17). 'I'm not embarrassed. Of course I strangled her': Arrested brother of 'Pakistan's Kim Kardashian' admits he killed her because she refused to stop posting provocative photographs on Facebook. *Daily Mail*. Retrieved from http://www.dailymail.co.uk/news/article-3694345/Of-course-strangled-Arrested-brother-Pakistan-s-Kim-Kardashian-killed-refused-stop-provocative-Facebook-posts.html

Danson, L., & Soothill, K. (1996a). Murder followed by suicide: A study of the reporting of murder followed by suicide in The Times (1887 – 1990). *The Journal of Forensic Psychiatry, 7(2)*, 310–322.

Danson, L., & Soothill, K. (1996b). Child murder and the media: A study of the reporting of child murder in The Times (1887 – 1990). *The Journal of Forensic Psychiatry, 7(3)*, 495–503.

Diamond, B., & Bachmann, M. (2015). Out of the beta phase: Obstacles, challenges, and promising paths in the study of cybercriminology. *International Journal of Cyber Criminology, 9(1),* 24–34.

Dutch teenager convicted of Facebook murder. (2012, September 3). *BBC News*. Retrieved from https://www.bbc.com/news/world-europe-19467308

Escalante, S. (2015, February 4). Melbourne criminal Ali Ali arrested in Philippines over 17-year-old Alona Alvarez's 'brutal' death. *ABC News*. Retrieved from hhttp://www.abc.net.au/news/2015-02-04/australian-charged-with-murdering-teen-in-philippines/6068332

'Facebook killer' Steve Stephens found dead after car chase. (2017, April 18). *BBC News*. Retrieved from https://www.bbc.com/news/world-us-canada-39634681

Facebook murderer to serve at least 35 years. (2010, March 8). *BBC News*. Retrieved from http://news.bbc.co.uk/2/hi/uk_news/england/wear/8555221.stm

Grabosky, P. (2001) 'Virtual Criminality: Old Wine in New Bottles?', *Social & Legal Studies, 10(2)*, 243–249. DOI: 10.1177/a017405

Hall, C. (2014, April 16). Backpage.com killer stays in cell on sentencing day. *USA Today*. Retrieved from https://eu.usatoday.com/story/news/nation/2014/04/15/backpagecom-killer-stays-in-cell-on-sentencing-day/7759789/

Healy, J. (2012, July 22). Suspect Bought Large Stockpile of Rounds Online. *New York Times*. Retrieved from https://www.nytimes.com/2012/07/23/us/online-ammunition-sales-highlighted-by-aurora-shootings.html

James Holmes Received Six Shipments Of Ammo From Internet Retailer BulkAmmo.com In Weeks Before Shooting (2013, May 23). *Huffington Post*. Retrieved from https://www.huffingtonpost.com/2013/05/23/james-holmes-received amm_n_3327140.html

International Telecommunication Union. (2017, November 15) Global ICT developments 2001 – 2017. Retrieved from https://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2017/Stat_page_all_charts_2017.xls

Isikoff, M. (2007, April 18). Did Co buy the guns legally? *Newsweek*. Retrieved from https://www.newsweek.com/did-cho-buy-guns-legally-97565

Jaishankar, K. (2007). Cyber criminology: Evolving a novel discipline with a new journal. *International Journal of Cyber Criminology, 1(1),* 1-6.

Jewkes, Y. (2007) 'Killed by the Internet': cyber homicides, cyber suicides and cyber sex crimes. In Y. Jewkes (Ed.), *Crime online* (pp. 1 – 11). Devon: Willan Publishing.

King, J. E., Walpole, C. E., & Lamon, K. (2007). Surf and turf wars online—growing implications of Internet gang violence. *Journal of Adolescent Health, 41(6)*, S66-S68.

Kurtz, H. (1995, September 19). Unabomber Manuscript is Published. *The Washington Post*. Retrieved from: https://www.washingtonpost.com/wp-srv/national/longterm/unabomber/manifesto.decsn.htm??noredirect=on

Liem, M. C. A., Koenraadt, F. (2007). Homicide-suicide in the Netherlands: A study of newspaper reports, 1992–2005. *The Journal of Forensic Psychiatry & Psychology, 18(4)*, 482-493. DOI:

Liem, M.C.A. (2010). Homicide followed by suicide: A review. *Aggression and Violent Behavior, 15(3)*, 153-161. DOI: 10.1016/j.avb.2009.10.001

Liem, M. C. A., Reichelmann, A. (2013). Patterns of Multiple Family Homicide. *Homicide studies: an interdisciplinary & international journal*, *18(1),* 44-58.

Liem M.C.A., Levin, J., Holland, C. & J. Fox. (2013), The Nature and Prevalence of Familicide in the United States, 2000-2009. *Journal of Family Violence, 28(4)*, 351-358.

Liem M.C.A., Buuren G.M. van & Schönberger H.J.M. (2018), Cut from the Same Cloth? Lone Actor Terrorists versus Common Homicide Offenders, *ICCT-Research papers 9*, 1-22.

Malphurs, J. E., & Cohen, D. (2002). A newspaper surveillance study of homicide-suicide in the United States. *The American Journal of Forensic Medicine and Pathology, 23(2)*, 142–148.

Man kills eight at Finnish school. (2007, November 7). *BBC News*. Retrieved from http://news.bbc.co.uk/2/hi/europe/7082795.stm

Marwick, A.E. (2008) 'To catch a predator? The MySpace moral panic'. *First Monday*, *13(2).* Retrieved from http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2152/1966

McEvers, K. (3 April 2017) Documentarian Says 'Anarchist Cookbook' Author Was Filled With Remorse. *National Public Radio*. Retrieved from https://www.npr.org/2017/04/03/522474967/documentarian-says-anarchist-cookbook-author-was-filled-with-remorse?t=1530544180491

Ngo, F. and Jaishankar, K. (2017) Commemorating a Decade in Existence of the International Journal of Cyber Criminology: A Research Agenda to Advance the Scholarship on Cyber Crime. *International Journal of Cyber Criminology, 11(1)*. 1 – 9.

Oxford University worker and US professor plead not guilty to murder. (2017, September 29). *The Guardian*. Retrieved from https://www.theguardian.com/us-news/2017/sep/29/oxford-university-worker-professor-plead-not-guilty

Patton, D. U., Eschmann, R. D., & Butler, D. A. (2013). Internet banging: New trends in social media, gang violence, masculinity and hip hop. *Computers in Human Behavior, 29(5)*, A54-A59.

Persi Paoli, G., Aldridge, J., Ryan, N., & R. Warnes. (2017). Behind the curtain: The illicit trade of firearms, explosives and ammunition on the dark web. *Rand Corporation*. Retrieved from https://www.rand.org/pubs/research_reports/RR2091.html.

Pierce, G.L., Braga, A.A., Hayatt Jr., R.R. & Koper, C.S. (2004) Characteristics and dynamics of illegal firearms markets: Implications for a supply-side enforcement strategy, *Justice Quarterly, 21(2)*, 391-422.

Roma, P., Spacca, A., Pompili, M., Lester, D., Tatarelli, R., Girardi, P., & Ferracuti, S. (2012). The epidemiology of homicide–suicide in Italy: A newspaper study from 1985 to 2008. *Forensic Science International, 214(1-3),* e1-e5.

Sandomir, R. (29 March 2017). William Powell, 'Anarchist Cookbook' Writer, Dies at 66. *New York Times*. Retrieved from https://www.nytimes.com/2017/03/29/arts/william-powell-anarchist-cookbook-writer-dies.html

Simone, Daniel de. (25 November 2016) Stephen Port: The killer the police missed. *BBC News*, Retrieved from https://www.bbc.co.uk/news/resources/idt-d32c5bc9-aa42-49b8-b77c-b258ea2a9205

Snyder, F. (2001). Sites of Criminality and Sites of Governance. *Social and Legal Studies, 10(2)*, 251-256.

Spillett, R. and S Tonkin (23 November 2016) Loner who murdered Jo Cox MP had researched killing his mother on the Internet and may have been on his way to do so when police pounced on him. *The Daily Mail*, Retrieved from http://www.dailymail.co.uk/news/article-3963728/Thomas-Mair-GUILTY-murdering-MP-Jo-Cox.html

Tony Bushby guilty of murdering babysitter Katie Wynter (2012, July 24). *BBC News*. Retrieved from https://www.bbc.co.uk/news/uk-england-beds-bucks-herts-18954705

Vervaeke, L. (25 Juli 2011). Manifest Breivik: fascinerende kijk in het hoofd van een terrorist. *De Volkskrant*. Retrieved from https://www.volkskrant.nl/buitenland/manifest-breivik-fascinerende-kijk-in-het-hoofd-van-een-terrorist~a2817678/

Virginia Tech Shootings Fast Facts. (2018, May 2). *CNN*. Retrieved from https://edition.cnn.com/2013/10/31/us/virginia-tech-shootings-fast-facts/index.html

Wall, D. (2001) Cybercrimes and the Internet. In D. Wall (Ed.), *Crime and the Internet* (pp 1 – 17). London: Routledge.

Wall, D. (2005) The Internet as a conduit for criminal activity. In A. Pattavina (Ed.), *Information Technology and the Criminal Justice System*. Thousand Oakes, CA: Sage Publications.

Woman jailed for Victoria station killing of Sofyen Belamouadden. (2012, April 26). *BBC News*. Retrieved from https://www.bbc.com/news/uk-england-london-17850995

Wykes, M. (2010) Harm, suicide and homicide in cyberspace: assessing causality and control. In Y. Jewkes & Yar, M. (Eds.), *Handbook of Internet crime* (pp. 320 – 342). Devon: Willan Publishing

Yardley, E., & Wilson, D. (2015). Making Sense of 'Facebook Murder'? Social
    Networking Sites and Contemporary Homicide. *The Howard Journal of Criminal
    Justice, 54(2)*, 109-134.

Yar, M. (2005). The novelty of 'cyber crime': An assessment in Light of Routine
    Activity Theory. *European Journal of Criminology*, *2*(4), 407-427.

Case characteristics	N	%
Type		
Internet as Encyclopedia	10	21
Internet as Podium	14	29
Internet as Hunting Ground	10	21
Internet as Trigger	5	10
Internet to Acquire Weapons	6	13
Internet as Organizational Tool	3	6
Country		
Canada	1	2
United States	9	19
Netherlands	2	4
France	1	2
United Kingdom	24	51
Norway	2	4
Germany	1	2
Australia	4	9
Thailand	1	2
Pakistan	1	2
Libya	1	2
Year		
2006	1	2
2007	1	2
2009	2	4
2010	4	8
2011	4	8
2012	5	10

2013	4	8
2014	7	15
2015	6	13
2016	7	15
2017	7	15

Table 1: Internet-related homicides, case characteristics (N=48).

Table 2: Internet-related homicides, perpetrator characteristics by subtype (N=48 principal perpetrators).

Type	Internet as Encyclopedia		Internet as Podium		Internet as Hunting Ground		Internet as Trigger		Internet to Acquire Weapons		Internet as Organizational Tool		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Gender														
Male	9	90	13	93	10	100	4	80	5	83	2	67	43	90
Female	1	10	1	7	0	0	1	20	1	17	1	33	5	10
Age														
0 – 17	1	10	3	25	1	10	1	20	2	33	0	0	8	17
18 – 30	5	50	4	33	4	40	1	20	3	50	2	67	19	41
31 – 49	1	10	5	42	5	50	3	60	1	17	1	33	16	35
50+	3	30	0	0	0	0	0	0	0	0	0	0	3	7
Mean	34.40 ± 16.43		26.58 ±8.80		29.0 ± 10.58		32.40 ± 13.61		24.67 ± 11.93		29.33 ± 12.06		29.48 ± 12.07	

Table 3: Internet-related homicides, victim characteristics by subtype (N=48 principal victims).

Type	Internet as Encyclopedia		Internet as Podium		Internet as Hunting Ground		Internet as Trigger		Internet to Acquire Weapons		Internet as Organizational Tool		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Gender														
Male	3	30	7	50	4	40	2	40	6	100	2	67	24	50
Female	7	70	7	50	6	60	3	60	0	0	1	33	24	50
Age														
0 – 17	1	10	3	25	4	40	1	20	2	33	2	67	13	28
18 – 30	2	20	2	17	6	60	2	40	2	33	1	33	15	33
31 – 49	6	60	4	33	0	0	2	40	0	0	0	0	12	26

| 50+ | 1 | 10 | 3 | 25 | 0 | 0 | 0 | 0 | 2 | 33 | 0 | 0 | 6 | 13 |
| Mean | 36.70 ± 13.07 | | 35.33 ± 22.02 | | 20,40 ± 5.06 | | 27.00 ± 9.82 | | 33.33 ± 20.15 | | 14.00 ± 12.53 | | 29.83 ± 16.62 | |

Table 4: Internet-related homicides, case characteristics by subtype (N=48).

Type	Internet as Encyclopedia		Internet as Podium		Internet as Hunting Ground		Internet as Trigger		Internet to Acquire Weapons		Internet as Organizational Tool		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Relationship														
Family Member (Estranged)	2	20	1	9	0	0	1	20	0	0	1	33	5	11
intimate partner	3	30	2	18	1	10	1	20	1	17	1	33	9	20
Stranger	3	30	5	46	0	0	2	40	2	33	1	33	13	29
Acquaintance	1	10	1	9	8	80	1	20	0	0	0	0	11	24
Other	1	10	2	18	1	10	0	0	3	50	0	0	7	16
Modus Operandi														
Firearm	1	11	8	57	0	0	0	0	2	33	0	0	11	25
Knife	5	57	3	21	2	29	2	40	3	50	2	67	17	39
Strangulation	0	0	1	7	1	14	2	40	0	0	0	0	4	9
Poisoning	1	11	0	0	3	43	0	0	0	0	0	0	4	9
Explosive	1	11	0	0	0	0	0	0	0	0	0	0	1	2
Corrosive substance	0	0	0	0	0	0	0	0	1	17	0	0	1	2
Drowning	0	0	0	0	0	0	0	0	0	0	1	33	1	2
Physical violence	0	0	0	0	1	14	0	0	0	0	0	0	1	2
Blunt weapon	1	11	2	14	0	0	1	20	0	0	0	0	4	9

Highlights

- Based on a newspaper analysis, 48 newspaper articles were uncovered reflecting a relationship between Internet and homicide;
- Six categories were identified, reflecting the use of Internet in homicides;
- Categories include Internet as (1) a podium; (2) an encyclopedia; (3) a hunting ground; (4) a means to acquire murder tools; (5) a trigger; (6) an organization tool.
- Whilst the Internet has had an impact on each of these homicides, its impact has not been transformative in nature.