Exploratory analyses of crime-scene characteristics in cyber-related homicides

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Abstract

Despite the alarming nature of homicides in which the offender meets the victim online, or cyber-initiated homicides, little empirical attention has been devoted to this phenomenon. The present study was designed to explore the behavioral patterns found prior to and during a cyber-initiated homicide event. Data on 61 homicide cases from various countries were collected through news media and legal sources. Smallest space analysis revealed that cyber homicides were characterized by four distinct themes: Excessive violence; fatal escalation; crime-related incidents; and predatory behavior. Implications of the findings and avenues for future research are discussed.

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Introduction

The increasing availability of the internet and the development of social media platforms over previous decades have substantially facilitated communication between people who have had no prior face-to-face encounters. Individuals communicate with strangers in online environments to meet new friends (Subrahmanyam, Reich, Waechter, & Espinoza, 2008; Wang & Edwards, 2016), seek romantic and sexual partners (e.g., Couch & Liamputtong, 2008; Griffiths, 2001), conduct business transactions (Castle & Lee, 2008), and seek employment (Kroft & Pope, 2014), among other purposes. Some acquaintanceships in cyberspace do not result in offline encounters, while many others do.

Offline encounters between strangers who became acquainted online expose individuals to a range of predatory outcomes, such as personal robbery and sexual victimization (Mitchell, Finkelhor, Jones, & Wolak, 2010). For example, social media has been described as a trigger for serious acts of violence between young people through, among other avenues, social pressure to seek revenge against those whom they have perceived as disrespecting them in terms of their status and/or reputation (Irwin-Rodgers & Pinkney, 2017).

The most serious consequence of an offline encounter with a stranger (as well as the one that is most pertinent to the present study) is homicide. As such, the current study will focus on cyber-related homicide, defined here as a homicide event that occurs during the first face-to-face meeting between two or more people who became acquainted online. Residents of the United States may recall the case of Richard Beasley, who lured two men using a fake Craigslist job advertisement and shot them to death, with the help of a teenage accomplice (Goode, 2011). Prior to that, Beasley fatally shot a man he had met at a homeless shelter. Another high-profile case originated in Argentina, where 12-year-old Micaela Ortega thought that she was going to meet a teenage female friend on Facebook. An investigation

subsequently revealed that an escaped convict named Jonathan Luna used a fake Facebook

profile to lure the young girl to a meeting, in which he proceeded to beat and strangle the

victim to death (AFP, 2016).

Despite the alarming nature of cyber-initiated homicides, very little empirical research

has been conducted to investigate this phenomenon, as discussed further below. The scant

research on this topic published to date has primarily focused on homicides related to a

specific platform (Wiederhold, 2013; Yardley, 2017; Yardley & Wilson, 2015). The current

study was designed to address these gaps in the literature: It examines in depth the

characteristics of cyber-initiated murder and broadens the scope of the research to numerous

types of online platforms.

Review of the Literature

Homicide in Society

Close to 500,000 people are killed around the world in non-conflict related intentional

homicides per year, according to data from 2012 (United Nations Office on Drugs and Crime,

2013). To the best of the authors' knowledge, world-wide estimates regarding the prevalence

of stranger-perpetrated homicides, which are of particular interest to the present study, are not

available. However, stranger-perpetrated homicides in the United States have been reported

to be one of the highest homicide rates among industrialized nations, with Harrell (2012)

observing that more than 20% of homicides in the U.S. between 1993 and 2008 were

perpetrated by strangers. Moreover, the percentages of stranger-perpetrated homicides in

European Union (EU) countries have ranged from 10% to approximately 20%, based on data

from several Northern European and Scandinavian countries (Liem, van Buuren, de Roy van

Zuijdewijn, Schonberger, & Bakker, 2018), France (Mucchielli, 2012), Germany (Birkel &

Dern, 2012), and England and Wales (Soothill & Francis, 2012).

The topic of stranger-perpetrated homicide has been extensively evaluated in prior research. Previous studies conducted in the U.S. have found that homicides between strangers were more likely to be committed by men (e.g., Cooper & Smith, 2011; Muftić & Baumann, 2012; Zahn & Sagi, 1987), members of racial and ethnic minorities (e.g., Osho & Williams, 2013), ideologically-motivated offenders (Gruenewald & Pridemore, 2012; Klein & Allison, 2018), in a public location (e.g., Zahn & Sagi, 1987), and using a firearm (e.g., Fox & Allen, 2014). Studies conducted outside the U.S. reported that stranger-perpetrated homicides were more likely to occur in a public location, and less likely to involve alcohol, premeditation, and offenders who are older and married (e.g., Pridemore & Eckhardt, 2008).

Stranger-perpetrated homicides have also been examined in the context of instrumentality and expressiveness (Salfati, 2000). Instrumental violence is inflicted with the purpose of obtaining some type of an external and non-aggressive goal, such as a material object (e.g., money, goods) or status (Feshbach, 1964; Salfati & Canter, 1999). The primary aim of instrumental homicide offenders is not to hurt the victim, but rather to achieve their aim. Expressive violence, which Feshbach (1964) characterized as "hostile", is meted out to resolve a conflict; it stems from anger and frustration, and its primary aim is to brutalize the victim (Adjorlolo & Chan, 2017; Salfati & Canter, 1999).

Homicides committed by a stranger have been traditionally conceptualized as instrumental (Block, 1981; Riedel, 1987). Conversely, expressive violence has been understood as a behavior that is likely to occur between individuals who are closely related (i.e., relatives, intimate partners, and friends) (e.g., Loftin, 1986). Scholars in prior research have often contended that encounters between strangers did not elicit the type of emotion needed for an expressive homicide to occur, in contrast to people who had an intimate relationship with each other.

In line with this theoretical framework, empirical evidence regarding the relationship between stranger homicides and motive has been mixed. For example, Salfati and Haratsis (2001) examined a sample of 210 homicides committed in Greece between 1983 and 2000, and limited the scope of their investigation to homicides that occurred between strangers. The authors identified crime scene characteristics prevalent in instrumental and expressive homicides and reported that more than 50% of the cases in the sample had a dominant expressive theme, while only 8% of cases had a dominant instrumental theme. In contrast, other studies found that stranger-perpetrated homicides were more likely to contain an instrumental motive (e.g., Fox & Allen, 2014; Salfati & Park, 2007).

Cyber-Initiated Sexual Aggression

Prior studies on cyber-initiated aggression have primarily focused on predatory grooming of minors, and sex crimes in general. Online sexual grooming refers to the process of gaining the trust of a victim (typically an adolescent or a child) through digital communication to initiate an exploitative sexual relationship (Whittle, Hamilton-Giachristis, Beech, & Collings, 2013). According to McGuire and Dowling (2013), approximately 50 individuals in the United Kingdom (UK) are prosecuted on average, each year, for a sexual offense against a minor after grooming him/her on the internet. Moreover, Mitchell et al. (2010) reported that more than 200 offenders were arrested in the United States in a single year for initiating a sexual relationship with a minor on the internet. Evidently, while the prevalence of internet-initiated sex crimes is not as high as other types of sex crimes (e.g., molestation and sexual assault against juvenile victims by adult family members), the fact that sexual predators are able to gain access to unsuspecting children and adolescents and succeed in arranging a face-to-face meeting is quite unsettling.

Numerous studies discussed the characteristics of offenders who target children and adolescents online for sexual exploitation. For example, Briggs, Simon, and Simonsen (2011)

reported that men who groom minors on the internet with the intention of assaulting them in person tended to be White, below the age of 30, non-married, employed, and without a prior criminal record. Tener, Wolak, and Finkelhor (2015) developed a typology of offenders who used the internet to commit sexually oriented crimes against minors. They reported that online predators ranged from those classified as "experts", who were sophisticated at manipulating their victims and accrued a large number of victims throughout their criminal careers, to "affection-focused" offenders, who did not display manipulative behaviors and sought to form a genuine emotional bond with their victims.

Grooming Strategies

Several prior studies have analyzed grooming and luring strategies used by internet predators who target minors. Marcum (2007) presented various case studies of adult men who sexually exploited minors on the internet and found that, while some offenders try to lure juvenile victims to a face-to-face meeting by manipulating them into thinking that the encounter is their idea, other offenders attempt to elicit pity from the victims as a strategy for arranging a meeting.

Relying on transcripts from communications between adult men and children, some of whom were as young as 11, Kloess, Seymour-Smith, Hamilton-Giachritsis, Long, Shipley, and Beech (2017) evaluated the strategies utilized by online predators in the United Kingdom to gain the trust of their victims and achieve their goals. The researchers found that some offenders subtly introduced sexuality into mundane conversations with the victims through compliments, whereas other offenders' communications with the victim were inundated with sexual suggestions and commands, which eventually resulted in face-to-face meetings and sexual assaults.

While most of the research on cyber-initiated aggression has examined sex-related offending, a handful of studies have indeed assessed homicides that resulted from an online

encounter.

Cyber-Initiated Homicide

Carabellese, Candelli, Barbieri, and Catanesi (2014) theoretically explored the phenomenon

of cyber-initiated deviant behavior in Italy and supplemented their conceptual analysis with

three case studies; one of these case studies involved a homicide committed by a man who

developed a romantic relationship with a woman he met in a chatroom. When the woman

refused to meet him in person and sought to end the communication between them, he

tracked her down and killed her following a confrontation. The authors warned about the

vulnerability of individuals who transition from cyber-based interactions to those occurring in

the "real world" and encouraged further criminological research on victim-offender dynamics

in cyber-initiated killings (Carabellese et al., 2014).

A descriptive study by Makinde, Odimegwu, Abdulmalik, Babalola, and Fawole

(2016) highlighted the dangerous nature of meeting strangers online in Nigeria. They

discussed the individual cases of five women who communicated with strangers on Facebook

and proceeded to meet with them in person. During the first meeting between the offenders

and victims, three of the women were raped, one of whom was strangled to death following

the rape. The two remaining women jumped out of a window to avoid being raped. Some of

the cases included multiple perpetrators. The authors suggested that these cases of cyber-

initiated violence were a component of the larger issue of male violence against women in

Nigeria and stressed the need to teach young people how to use social media in a responsible

matter.

Only one study to date has examined the risk associated with exposure to online

environments by focusing solely on homicide victimization. Yardley and Wilson (2015)

restricted the scope of their investigation to Facebook and presented 48 homicide cases from

countries across the world that were tied to Facebook in one way or another.

The researchers discussed six different types of offenders who used Facebook to facilitate the commission of a homicide (reactors, informers, fantasists, imposters, predators, and antagonists). The most relevant cases in terms of the present study were those in which the offender used a fake Facebook profile to lure victims who were strangers to their death; accordingly, Facebook had a direct link to the victims' death in these cases, unlike the majority of remaining cases, which involved individuals who had a relationship prior to the homicide event. For example, some of these offenders posed as women in their Facebook profiles to groom male victims and lure them to a meeting. The authors classified these offenders as "predators", and cases involving this type of offender accounted for 12.5% of the sample (n = 6; Yardley & Wilson, 2015).

Another type of case in which the offender and victim were sometimes strangers to one another consists of a Facebook-based argument that escalates and ends in a deadly face-to-face meeting. Due to their confrontational nature, these offenders were classified as "antagonists" by Yardley and Wilson (2015). Homicides within this category typically involved teenagers or very young adults who became engaged in a dispute on Facebook (often with people they had not previously offline) and ultimately decided to settle their dispute in person, which led to the death of one of the participants.

The research by Yardley and Wilson (2015) provided useful insights into the use social networking sites in homicide cases, but the researchers did not attempt to explore whether other types of online platforms, such as dating sites are used in a comparable manner by homicide offenders. Mitchell et al. (2010) reported that at the time of their study, offenders used social networking sites to meet minors in only 33% of cases, which demonstrates a need to widen the parameters of research on online-initiated victimization.

Prior research on cyber-initiated aggression indicates that offenders use several tactics to groom their victims, and juveniles in particular, either for an offline encounter or an online

interaction that satisfies their needs. Online grooming of young people that leads to an offline encounter leaves youth very vulnerable to homicide victimization, because the meeting is likely to take place in an environment controlled by the adult offender and many grooming victims are seen merely as objects to be exploited by their offenders (Ioannou, Synnott, Reynolds, & Pearson, 2018). Knowledge on the extent to which cyber homicide offenders use grooming techniques to lure victims is quite limited, based on a small sample of cases from Yardley and Wilson's (2015) study. Moreover, very little is currently known about characteristics of and motivations in cyber-initiated homicides, which represents a gap in understanding of an emergent class of homicides.

The Present Study

As demonstrated in the review of the literature above, prior studies on cyber-initiated violence and homicide (Carabellese et al., 2014; Yardley & Wilson, 2015) have not examined cases linked to more than one type of online platform and have only provided descriptive portraits of these crimes.

The present study is an exploratory investigation of homicides that followed an online encounter and occurred between people who had never met one another in person prior to the fatal incident and can thus be considered strangers. In order to gain a better understanding of cyber homicide events, this study statistically assesses whether certain crime scene characteristics are linked to particular types of offenders and victims who are involved in this crime. Moreover, special attention is devoted in the study to techniques used by some offenders to persuade their victims to arrange a meeting.

The current study is in line with a new direction in homicide research, which aims to explore different subtypes of homicide (Ioannou & Hammond, 2015). As further discussed in the results section, incidence of cyber-initiated homicide has increased in the past decade, and there is little reason to believe that this trend will not continue in the coming years.

Cyber-initiated homicides that receive widespread media coverage tend to be committed by methodical and predatory offenders, such as the above-mentioned killings committed by Richard Beasley or the Craigslist-initiated robbery-homicide committed by medical student Philip Markoff (Goodnough, 2009). Identifying distinct offending styles of cyber homicide offenders could be crucial for prevention and intervention measures, in terms of: (1) identifying and implementing such tools by policy makers, (2) aiding police investigations, and (3) increasing awareness about this type of crime amongst homicide scholars and the public (e.g., Youngs, Iaonnou, & Eagles, 2016). Research on cyber homicide offenders may begin to illustrate whether they represent a unique concern for law enforcement or an extension of homicide offenders who target their victims in offline environments.

Hence, the study is guided by the following research questions: (1) Do cyber homicide offenders use particular strategies to lure their victims?, (2) Which crime scene and pre-crime patterns can be identified in a sample of cyber-initiated homicides?, (3) Do cyber homicides represent a unique type of homicide?

Method

Sample

The sample consists of 61 cases of cyber-related homicide. The search for cases was restricted to offenses that occurred between 2000 and 2017 to ensure a contemporary sample and maximize the probability of finding detailed accounts of cases. Furthermore, the likelihood that offenders and victims from homicide cases prior to 2000 had met in an online environment is quite slim. The data indicate that the proportion of cases that were found in the search nearly doubles between 2011 and 2017, compared to the previous decade. This observation preliminarily suggests that cyber-initiated murder is a growing issue.

Mattinson (2001) differentiates strangers from acquaintances on the basis that the victim knew the offenders at least by sight. In the present study, cyber-initiated homicides are classified as homicides committed by offenders who are strangers to their victims due to several reasons: first, interactions initiated in cyberspace for financial purposes (buying/selling of goods or services) do not typically involve the exchange of photos between the buyer and the seller; therefore, a victim of a homicide that results from commercial interaction online would not be familiar with his/her offender's appearance prior to the homicide incident. Second, even when photos are exchanged (e.g., prior to an online-initiated date), the argument can be made that people do not truly know one another, including physical appearance, until they meet in person. Furthermore, in several cases in the sample, offenders had lied about their identity in order to lure their victims (i.e., men who pretended to be women), and can be considered nothing else but strangers to their victims.

The homicides took place in several countries, including the United States (55%), England (10%), Germany (8%), Canada (6.5%), France (5%), Brazil (5%), Argentina (3%), Australia (1.5%), Japan (1.5%), Romania (1.5%), South Korea (1.5%), and Sweden (1.5%). Eight cases included more than one offender (the crime scene was considered as one case combining the actions of multiple offenders). Seven cases involved a serial killer (two or more victims in separate incidents with cooling-off period between each homicide, not necessarily all met through internet). For these offenders, only the cases that involved an online-initiated encounter were included in the analyses to keep the focus on cyber-related homicide cases. One case included an offender who killed two victims in a single event (single crime scene), and it was randomly decided to include the first victim in the data set in the analysis (the only difference between the victims was that one was male and one was female, and the remaining characteristics did not differ). The decision to include cases involving multiple offenders or serial killers was made to obtain a more accurate picture of

the types of offenders who might be involved in this type of homicide and would therefore be

reflected in the attempt to construct a typology.

Data Collection

The search for cases took place between December 2016 and June 2017. Data were collected

through several unobtrusive means, including West Law UK (online legal database including

UK case law and UK legislation), Lexis Nexis (electronic database encompassing national

and international news media outputs), news media articles, published reports or court cases,

and published peer-reviewed studies containing case studies.

Specific search terms were used to search for cases to be included in the sample:

(Facebook or social media or internet or online or forum or dating website) AND (homicide

or murder* or kill* or manslaughter), using Boolean operators and double quotation marks

where needed. These terms were translated by native speakers when a potential case was

identified during the search in English (if the case occurred in a non-English speaking

country). Additionally, searches for potential cases were performed directly in French,

German, Spanish, and Portuguese. When cases were identified, the name of the

offender/victim was used to search for further information. Searches were performed in

languages other than English to increase the chance of identifying international cases, which

may not have received attention in English-speaking media outlets.

Cases included in the final sample were restricted to those in which offenders and

victims became acquainted online via any type of online environment, such as gaming or

dating websites, social network sites (e.g., Facebook, twitter), or messaging applications (e.g.,

WhatsApp, Snapchat). Cases were excluded from the study if: (1) There was insufficient

information available to verify details about the case, (2) there was evidence that the offender

and the victim knew each other before making contact online as opposed to meeting online,

and (3) the offender killed a victim that he/she knew and subsequently used a social

networking site for purposes other than meeting the victim.

News media sources that were drawn upon consist of news websites (e.g., BBC News,

CBC News, ABC News, CNN News, RTBF1) and online newspapers that are considered to

be of high-quality and reliable (broadsheet; e.g., The Times, The Telegraph, The

Independent, The Guardian, New York Times, USA Today, The Washington Post), and news

magazines (e.g., Time, Newsweek). Data were obtained from multiple countries in Asia,

Australia/Oceania, Europe, North America, and South America; the decision was made to

only include countries with a high percentage of people connected to the internet in the

search for cases, due to the much higher likelihood that people in these countries would be

connected with others in cyberspace. Attempts were made to examine as many countries as

possible across all continents. However, language barriers in terms of information that could

be understood by the authors of the study, lack of accurate reporting in numerous

international news sources, and lack of transparency (i.e., with respect to homicide dynamics)

in the criminal justice systems of some countries, including African states, precluded a

sample from a wider array of countries.

The use of archival sources to collect data has been used in several studies looking at

different types of atypical homicides (Gerard, Whitfield, Porter, & Browne, 2014; Fox &

Levin, 1985; 1994; 2005) and its advantages and disadvantages have been widely discussed.

Measures taken to ensure that data collected were of high quality include assessing and

scrutinizing each case thoroughly (to the greatest extent possible with the resources listed

earlier) to avoid missing details, and using at least two different sources for each case. In

addition, publicly available archival data provide the possibility of exploring behavioral

characteristics for infrequent events which tend to be poorly represented in coroner and

police reports at county-level data (see Shon & Roberts, 2009).

CYBER RELATED HOMICIDES

The data collected contained information on offender and victim characteristics, location of crime scene, murder weapon, type of online environment in which the offender and victim met, nature of interaction between the offender and victim, offender's motivation, and persuasion tactics used by the offender (when applicable). Therefore, the data were well-suited to examine the research questions of this study.

Data Coding and Analysis

Based on a review of the existing literature on homicide crime scene characteristics (e.g. Salfati, 2000; Salfati & Haratsis, 2001), common offender and offense characteristics were recorded from the data. As such, offender and offense characteristics were incorporated into a coding dictionary, where each variable was clearly defined (available upon request). A code of 1 was ascribed when a particular characteristic was present in a case while 0 was ascribed when that characteristic was not present. Variables with no information available or unclear information about them were coded as 9.

Interrater reliability of coding between the first and second author was measured based on the double-coding of 15% of the cases (n = 9). The average value of Cohen's Kappa (Cohen, 1960) was κ = .77, which is considered good reliability (Landis & Koch, 1977). All cases were reviewed by two researchers and any disagreements between the two raters were resolved after discussion. Descriptive statistics were used to explore the characteristics of the offender, crime scene, and victims, as well as the strategies used by the offenders to meet the victim. Subsequently, Smallest Space Analysis (SSA) was conducted on 23 dichotomous crime scene variables included in the analysis (see Table 2 for list of variables). SSA is a non-metric multidimensional scaling procedure which provides a visual and spatial representation of correlations between crime scene variables (coefficient of association is computed). This method has frequently been used in research examining homicide themes (Salfati & Canter, 1999; Thijssen & Ruiter, 2011).

Guttman-Lingoes' coefficient of alienation was calculated to assess how well the spatial representation fits the actual correlations. Shye, Elizur, and Hoffman (1994) have argued that a small coefficient of alienation in few iterations suggest a good fit. The Hebrew University Data Analysis Package (HUDAP, 8.0) was used to analyze the data with Jaccard's coefficient, which computes the correlations between dichotomous variables, taking into account the occurrence rather the non-occurrence between variables. Jaccard's coefficient was chosen because the sample was derived from materials not primarily designed for the current research purposes. Considering the type of archival data (media sources) that was used, the use of this coefficient was found to decrease the reliance of the researcher on non-occurrence. This was found to be particularly useful in studies of criminal behavior due to the difficulty of knowing with certainty whether an action did not occur, or whether the action/behavior was simply not recorded as occurring (Taylor, Donald, Jacques, & Conchie, 2012). Kuder-Richardson Formula 20 (KR-20) was applied to determine internal consistency and to support the delineation between the borders of the thematic regions. This process has been used successfully in previous studies (e.g., Canter, Bennell, Laurence, & Reddy, 2003). According to Shye et al., (1994), the regional contiguity patterns (the variables that share a common facet element are located in the same area of the plot) and their assistance in building hypotheses and constructing theory are a major strength of SSA. Furthermore, these patterns provide an alternative when examining the structure of the data, which is not possible in other types of classification analyses, such as cluster or factor analysis.

The specificity of thematic split was subsequently calculated, using a method of proportionality to assign a case to a dominant single theme (see Häkkänen, Lindlöf, & Santtila, 2004). The variables in each region were added together for each case, with the resulting scores being transformed to percentages. Each case was classified as belonging to a

particular theme if the percentage of applicable variables in that theme was greater than the sum of the other themes.

Results

Sixty-one cases were identified, as previously discussed, in which 70 offenders killed 68 victims. The first case found was from 2001 and the last case was from 2016. Approximately 70% of the cases occurred in 2010 or later, which is not surprising considering the increase of internet use in everyday life since the beginning of this decade.

Offender Characteristics

Sixty-two offenders were male, and eight were female. The offenders ranged in age from 16 to 55 years, with a mean age of 27.5 years (SD = 8.8). Of the 70 offenders, 41 were White, 11 were Black, 14 were of "other races" (Hispanic, mixed race, North African) and four were of unknown races. Additionally, 42 offenders were from the USA, six were from England, five from Germany, four from Canada, three from Brazil and three from France, two from Argentina and one from the following countries: Australia, Japan, Romania, South Korea and Sweden. Most of them acted alone to kill a single victim (n = 49; 70%).

Previous convictions were for violent crimes (20%), theft/robbery (17%), and sexual offenses (14.3%). There was little information concerning the familial background of the offenders. Among the seven offenders who had information on this, five were physically abused and two were sexually abused and one was both physically and sexually abused.

Victims' Characteristics

Sixty-eight victims were killed, two of them being a couple who were killed during the same event. The victims' ages ranged from 12 to 69 years (M = 31; SD = 13) Thirty-six victims were female (53%), and 32 were male (47%). The majority of the victims (n = 43) were White, followed by Asians (n = 6), Black (n = 4), other (n = 4, e.g., Hispanic) whilst the ethnicity was unknown for the rest of the sample.

Luring Strategies

Although it appears that there are various definitions of "luring" in the literature (e.g., Lang & Frenzel, 1988), it was decided to adopt the following definition for the current study: The victim was persuaded to meet with the offender under false pretenses. As can be seen in Table 1, six different categories were identified under this definition: (1) No luring, (2) promise of an intimate encounter, (3) fake identity, (4) promise of providing a job/product/service, (5) promise of paying for a product/service, and (6) promise of providing help. One case could not be classified. An example of the "No luring" category is that a man and a woman met through Facebook, spent the weekend together, which ended with the man shooting the woman in the head following an argument. The "lured with the promise of an intimate encounter" strategy can be illustrated through the following case: a man convinced a woman through Craigslist to meet him for a date, with the intention of killing her for a thrill, and proceeded to stab her 88 times. A representative case for the "lured using a fake identity" strategy involved an adult man who posed as a young girl on Facebook and convinced a 12-year-old girl to come to his house, where he subsequently killed her.

An example of the "lured with promise of providing of job/product/service" strategy involved a young male offender who lured a woman to his house under the pretense of a babysitter job, and shot her in the back when she tried to escape, whereas an example of "lured with the promise of paying for a product/service" entails a case in which man solicited a teenage prostitute with no intention of paying her, and stabbed her in the throat when she protested. The example for the "lured with the promise of providing help" category is of a female offender who lured a pregnant woman to her house under the pretense of giving her baby clothes, but instead killed her and sliced the victim's abdomen to steal her baby.

Lastly, the case that could not be classified under the current definition of luring involved a male offender who convinced a woman to meet him to commit suicide together,

but instead suffocated her to death. It is important to highlight that the "no luring" category

included nine cases that constituted a "date gone wrong" (32%; this category did not include

dates with prostitutes).

INSERT TABLE 1 ABOUT HERE

Smallest Space Analysis Findings

The SSA plot shown in Figure 1 displays the correlations between the crime scene

characteristics that are listed in Table 2. The SSA plot is the vector 1 by vector 2 (front face)

projection of the three-dimensional representation. A three-dimensional representation was

chosen because it had the lowest Guttman–Lingoes' coefficient of alienation, namely, .14 in 8

iterations, which indicates a very good degree of fit (Shye et al., 1994). The frequency of

each characteristic occurring is presented in parentheses in the plot.

INSERT FIGURE 1 ABOUT HERE

The SSA plot depicts four regions reflecting the behaviors displayed at the homicide

crime scene and interpreted thematically. The underlying hypothesis behind SSA is that

similarly themed variables will occur in the same region of the plot (Salfati & Canter, 1999).

Once these regions were identified, Kuder–Richardson 20 (K-R 20) was used to determine

internal consistency for each region. When variables were situated on the edge of a region, K-

R 20 was used to guide the partitioning and where to draw the lines; if the internal reliability

of a region was greater with these variables, they were included in that region (Alison &

Stein, 2001). Due to the grouping of characteristics in each region, they can be labeled as

follows: Excessive violence (top left); Fatal Escalation (top right); Crime-Related (Bottom

left); Predatory Behavior (Bottom right). Gradual distinctions can be seen between the

themes as each region reflects an offense in which the victim is being harmed intentionally,

an offense in which a non-criminal interaction escalates and ends in a homicide, an offense

that exhibits the characteristics of an organized crime, and an offense characterized by

predatory behaviors.

The region titled "Excessive Violence" ($\alpha = .78$) is comprised of four variables:

Multiple wounds were inflicted across the different body parts (42%), the offender used a

sharp weapon (37%), the victim bore injuries to the torso (30%) and the victim's body was

mutilated (9%). The grouping of all the variables in this region suggests that the offender

wanted to harm the victim and used excessive amount of violence.

The second region, titled "Crime-related" ($\alpha = .66$) is comprised of four variables:

The offender brought a weapon to the crime (55%), Craigslist was used to set up the

encounter between offender/victim (33%), a gun was used (25%), and multiple offenders

were involved in the homicide (13%). This thematic region highlights overtly criminal

actions, where the offender may have had an instrumental aim (e.g., Craigslist was used by

the offender to steal from a victim).

The region titled "Fatal Escalation" ($\alpha = .64$) is comprised of ten variables, which are

as follows: The victim was killed inside a residential setting (58%), the victim and offender

had arranged a "romantic" date (55%), the victim was female (52%), the victim's body was

moved from where the killing took place (51%), the crime occurred at night (49%), the

victim was strangled (28%), the offender took steps to remove or conceal forensic evidence,

such as cleaning the crime scene or wearing a condom (22%), the victim's body was found

naked (19%), and the victim's body was buried by the offender (15%). The grouping of these

variables suggests a pre-arranged interaction between the offender and the victim that

suddenly became lethal for the victim. This theme includes the cases of "dating gone wrong",

which consisted of seemingly legitimate romantic encounters that ended in a fatal conflict. In

some of these cases, the victim appeared to have refused to engage in sexual relations, which

led to an escalation of violence by the offender. Additionally, cases in this theme included

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forensic awareness on the part of the perpetrators who took deliberate steps (e.g., hiding or

burying the body and getting rid of forensic evidence) to cover-up their crimes.

The last region is titled "Predatory behavior" (α = .57), and is comprised of five

variables: The victim's body was found in an isolated area (40%), the offender lied about

his/her identity (34%), the victim was sexually assaulted (24%), the offender/victim was

seeking a homosexual relationship (22%), and the perpetrator fit the definition of a serial

killer (19%). This thematic region reflects a predatory pattern of behavior, in which the

victim may have been used as a vehicle to satisfy the perpetrators' needs. A modulating facet

in terms of frequencies, although not as clear-cut as in some other studies (e.g., Gerard,

Whitfield, & Browne, 2017), can be observed with most of the higher frequencies

agglomerated in the middle of the plot and lower frequencies located on the outskirts of the

plot. All KR-20 values are over 0.5 but the lower values of some of the regions might be

explained by the values' sensitivity to the number of variables within the analysis (Häkkänen

et al., 2004), and a higher number of themes (i.e., four themes), which tends to reduce the

alpha coefficients (Alison & Stein, 2001).

INSERT TABLE 2 ABOUT HERE

The Specificity of the Thematic Split

To test whether this model is useful for classifying each of the homicide cases in the sample,

the same criteria used by Salfati and Canter (1999) and Salfati and Park (2007), and

explained in the methodology section, were used to test the specificity of the thematic split.

Cases were assigned to a particular theme when the variables that correspond to that theme

occurred at a greater frequency than the sum of scores for the other themes. When no

dominant theme was evident, the case was classified as "Hybrid". Table 3 displays the

number of cases that can be classified according to the model.

INSERT TABLE 3 ABOUT HERE

Table 3 shows that the four themes account for 66 % of the cases, while 34% of the cases fit the criteria for multiple themes (i.e., hybrid cases). The highest proportion of cases that exhibit a dominant theme fit the criteria for the fatal escalation theme (43%), followed by the crime-related theme (32%), the excessive violence theme (14%) and the predatory behavior theme (11%).

Discussion

This is the first study to examine the thematic interpretation of crime scene characteristics displayed in cyber-related homicide cases. Regarding the first research question, the findings highlighted different types of internet-initiated contacts between the offenders and victims, with 54% of cases involving some type of luring strategy used to meet victim offline. Five types of luring strategies were displayed by offenders in the current study, all characterized by different levels of deception, ranging from lying about a job offer, a service or a purchase that offenders wanted to make with the intent of stealing from their victim, to lying about their identity to meet, abuse, and kill their victim.

Most of the victims in the current sample were adults. In contrast, most studies that have examined online aggression, and online-initiated sexual exploitation in particular, have focused on juveniles, as these tend to be more vulnerable victims. As highlighted in Wolak, Finkelhor, Mitchell, and Ybarra (2008), media reports concerning epidemics of sex offenses after internet contact have raised alarms concerning the safety of young people online. While it is true that the use of online modes of communication makes it easier to prey on victims and conceal one's identity, Wolak et al. (2008) indicated that the majority of online-initiated sex crimes involved adult males using a range of internet communication to contact and groom their victim into an offline meeting, without deceiving the youths on their adult status. Some cases in the current study involved adult males who did not deceive their victims about

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their age, whilst others pretended to be teenagers. In a majority of cases, the internet and

other cyberspace tools were used to initiate an online contact or relationship with the victim.

An additional noteworthy finding with respect to luring of victims was the presence of

the nine cases in which the offender and victim agreed to have a first date together, seemingly

without malicious intentions (based on the location of the killing and weapon type, as well as

offender's statements), but the situation escalated into a lethal event. Reasons behind the

killings included, but were not limited to, the fact that some victims were not ready for a

sexual encounter on the first date, which angered the perpetrators and led to a fatally violent

reaction. In one of these cases, the victim had taken the precaution of telling her best friend

where she will be meeting her date and agreed on calling upon arrival and keeping the friend

updated. The friend raised the alarm when the victim disappeared but the offender managed

to avoid detection at the time, by eliminating any incriminating evidence. It could be

hypothesized that these cases of "a date gone wrong" can be compared with cases of

domestic violence that lead to domestic homicide (e.g., Dobash, Dobash, & Cavanagh, 2009).

In the above example, although both the offender and the victim were honest in their

profile, the perpetrator could have constructed an image that differed from reality regarding

his online partner or their first offline meeting, thus resulting in anger and violence when the

encounter did not fit the fantasy.

Understanding how an online interaction can escalate into offline aggression and

assessing which risk factors are present during these situations could support potential

victims and the police in efforts to prevent physical harm. This study can be used in the

development of risk assessment tools for violent cyber offenders that will allow tailored

intervention from law enforcement. Additionally, in terms of investigation, understanding the

type of online exchange that took place between the offender and the victim and the presence

of luring strategies will also help law enforcement and prosecutors to understand the

motivations of the offender and the degree of premeditation that might have existed when

building a case for the prosecution.

The primary results of the study, which pertain to the second research question,

indicated that crime scene characteristics in cyber-related homicides display four distinct

themes. The SSA technique permitted creating a tentative typology by dividing the sample

into four categories with offenses characterized by excessive violence, an unplanned fatal

escalation in violence, the commission of another felony, or predatory motivations. More

than 40% of cases were classified as a "fatal escalation", suggesting that the offender and

victim had both decided to meet face to face, and situational factors led to escalating

aggression and ultimately the death of the victim, which could be tied to studies that found

stranger homicide to be mainly characterized by impulsive and reactive actions (Salfati &

Canter, 1999).

This model can also be viewed within the framework of the instrumental/expressive

typology found in several prior studies that examined crime-scene behaviors in stranger-

perpetrated homicides. In the current study, the categories of "Fatal escalation" and

"Excessive violence" could be classified as expressive. Cases within these categories include

offenders who can suddenly become angry in response to insults or personal failure, among

other things, and may want to hurt and punish the victim, similar to perpetrators of expressive

homicides discussed in prior research (Fesbach, 1964; Salfati, 2000).

The "Crime-related" and "Predatory behavior" categories could be characterized as

consisting of instrumental homicides, in which the offender's intention was to obtain objects

(e.g., phone, car, money), status, or the gratification of an urge to hurt others and was

prepared to harm the victim to fulfil his/her desire. However, the assertion that most

homicides committed by a stranger are driven by instrumental needs (Block, 1981; Riedel,

1987) is not supported in the current study (n = 19), possibly due to the nature of the

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interaction between the offender and the victim or the lack of frustration tolerance in the

offender. For example, in some of the cases within the fatal escalation theme, the offender

and victim spent several hours together (e.g., during a romantic date) before the situation

escalated and the victim was attacked. Accordingly, despite the fact that the offender and

victim were strangers prior to meeting, the offender would have had ample opportunity to

become angry and, due to a lack of prosocial coping skills and/or intoxication, fatally attack

the victim.

Although they only constitute 11% of the sample, offenders who displayed predatory

behavior are particularly worrisome as their crimes were mostly premeditated or involving

the response to a murderous need (e.g., serial killers). Serial killings tend to attract media

attention and disproportionately create a climate of fear (Labuschagne, 2000). As highlighted

by Labuschagne (2000), there is a rising concern of online serial murderers, preying on

emotionally vulnerable victims and luring them via chatrooms to meet offline and avoid

police detection. The findings indicate that only one case was consistent with this scenario, in

which the offender lured solitary and vulnerable men through Craigslist through the false

promise of a dream job in order to rob and kill them,

Although the current study differed from the work by Yardley and Wilson (2015),

who included in their study cases in which the offender and the victim knew each other

before the homicide (such as the "announce intention to kill" and "announce homicide

committed via Facebook" categories), some of the themes found in the current study are

similar. As such, the offenders in this study displayed behaviors consistent with three types of

engagement with Facebook in Yardley & Wilson (2015), across different cyberspace

platforms: "Establish relationship with victim", "Support fantasy" and "Impersonate

another", which were all used to lure victims in the predatory behaviors theme in this study.

The excessive violence theme could be equated with the "reactor" category from Yardley and Wilson's (2015) study, in terms of the anger felt by the perpetrator that resulted in homicidal violence, and the antagonist type who could have resolved a conflict in a more peaceful manner. The reactor and antagonist types might also be compared to the fatal escalation theme in cases where an offender does not want to lose face during the offline meeting and the situation escalates to a fatal event. The informer type was not found in this study, but some of the offenders in the present study used online communication to create the illusion that their victim was still alive to avoid detection by the police.

The results suggest that the perception that cyber offenders are exclusively predators is erroneous. Less than 50% of cases that exhibited a dominant theme were characterized by a predatory motive (the "crime-related" and "predatory behavior" themes). Accordingly, the majority of offenders who engage in online-initiated aggression do not use cyberspace as a vehicle for finding victims for the purpose of a violent attack in a premeditated fashion.

The findings in this study could help policy makers to identify the most suitable prevention and intervention initiatives for reducing the risk of cyber homicide victimization. Recommendations for avoiding this type of victimization resemble those that are intended to prevent sexual violence victimization (see Fisher, Daigle, & Cullen, 2008; Ullman, 2007). As such, educating individuals on how to decrease the risks of meeting with strangers met online could provide them with strategies to protect themselves. Regardless of the purpose for the meeting, the first offline encounter between individuals who became acquainted with one another in cyberspace should take place in an outdoor public location during the daytime. Night-time meetings and those that take place in private residences increase the risk for victimization due to isolation from potential bystanders; the victims in the present study primarily met their assailant under the aforementioned circumstances. Even if the initial meeting did not take place in a secluded location, as occurred in the case described below, the

victim was eventually isolated and subsequently killed. Furthermore, the use of drugs and

alcohol prior to and during the meeting will affect the victims' senses, rendering them more

vulnerable to attacks.

Some of the victims in the sample took precautions when meeting with the eventual

offender, but they were not sufficient to guarantee their safety. Cases in which the death of

the victim was not the primary intention of the offender, such as crime-related murders, might

be more difficult to prevent, as they involve situations that spin out of the control of the

offender and the victim, and become deadly. In one case, a young couple arranged a meeting

in a public parking lot with a man who advertised a cell phone on Craigslist. The man posted

the advertisement to commit a robbery, and he knew that a public location was not well-

suited for a robbery. Accordingly, he said to the couple that he forgot the phone in his home

and persuaded his way into their vehicle, driven by a 19-year-old man, under the pretense of

taking them to his house to retrieve the phone. At one point, in a location judged by the

offender to be isolated, he directed the driver to stop on the side of the road and pulled out a

pistol. While attempting to rob the male victim, the offender shot him in the head and killed

him.

Lastly, with respect to the third question guiding the present study, the findings

suggest that cyber homicide offenders are not particularly different from other types of

homicide offenders that target strangers. The crime scene characteristics displayed by these

offenders are similar to those displayed by other types of stranger homicide offenders that

have been described in the literature (e.g., Salfati & Canter, 1999; Salfati & Haratsis, 2001);

the distinguishing factor is that cyber homicide offenders use diverse online platforms to get

in contact with their victims. Therefore, they might not represent a new type of homicide

offender, but it must be emphasized that the motivations of cyber homicide offenders varied:

some used online platforms as a tool to meet a dating partner and the meeting ended in an

impulsive homicide, while others used it deliberately and in a predatory fashion. In terms of

practice, this means that reconstructing the digital footprint of the offender from the online

interactions with the victim will allow law enforcement to understand the modus operandi

and motivation behind the crime and to solve the crime. This crime scene model might also

support practitioners working with such offenders as it shows that cyber related homicide

offenders are heterogeneous and thus need to receive treatment tailored to the group to which

they belong.

Limitations

Every effort has been made to identify cases in which offender and victim developed a

relationship online that led to a homicide during the first offline meeting. However, it has

been shown that cases containing unsettling and gruesome characteristics are more likely to

be reported by the media (Boots & Heide, 2006). As such, a limitation of using newspaper

sources is that cases that were included in this study might be those found to be newsworthy

by the media.

 Data collected using archival sources have two key disadvantages: data are not

originally collected for the purposes of research, and there is no scientific control over data

collection (Alison, Snook, & Stein, 2001). However, the use of journalistic sources in seminal

research on homicide, such as Fox and Levin's (e.g., 1985) detailed accounts of offender

characteristics and motivations for committing murder, as well as the exploratory nature of

this study indicate that archival data are appropriate for analyzing the research questions.

 It is also possible that there are other cases that involved an offender that initiated

online contact with their victim prior to killing him/her, but they were not investigated as

cyber-related homicides because the offender was able to conceal evidence of online

communication with the victim from law enforcement, or media outlets did not report about

them. Moreover, some relevant homicides may not have been solved yet, which impedes

proper identification of these cases as cyber-related homicides.

Another issue was the difficulty to find reliable sources and broadsheet sources in

some cases. For example, cases in South American countries reported information on

YouTube channels sometimes, rather than in online newspapers. There were also large

differences in terms of how the media in different countries reported cases and what type of

information was disclosed (e.g., Germany does not tend to publish the name of the offender

or the victim but might use initials). Furthermore, some cases might have been reported in the

local news rather than on internet and were not available to the researchers. Additionally,

only languages that were spoken by the research team were used to search for cases.

Lastly, the assessment of whether cyber homicide offenders differed from general

homicide offenders was based on prior research; the study did not test for differences

between cyber homicide offenders and their non-cyber counterparts. Future research in this

area would benefit from directly comparing a sample of cyber homicide offenders and other

types of homicide offenders on variables related to lifestyle, criminal record, and homicide

characteristics.

With these limitations in mind, this is the first study that has focused on cyber-

initiated homicide cases across the world and provided a tentative typology of these cases.

Additional research is needed to assess whether this typology can be tested on a larger sample

and how it can be of use to law enforcement. Direct access to offenders or studies looking at

transcripts of chat log between offenders and victims in cyber homicide-related cases are

needed to further understand exploitative interactions taking place on diverse internet

platforms.

In conclusion, a thematic model of the offense characteristics displayed by cyber

homicide offenders at an international level revealed four types of crime scenes,

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characterized by excessive violence, a non-premeditated fatal escalation of events, murder

during the commission of another felony, and predatory actions. Cyber homicide offenders

represent a heterogeneous group that, based on the data in this study, is more likely to commit

a homicide in conflict-related circumstances, although a high proportion of these offenders

commit crime-related homicides. The findings in this study are important in furthering

understanding regarding the rare, but lethal, incidence of such homicides, both in terms of the

theoretical development and for police investigations and treatment evaluation of these types

of offenders. As such, offenders who displayed expressive characteristics during their crime,

such as excessive anger or inability to deal with conflictual situations will benefit from

different treatment programs, compared to a calculating offender driven by predatory

motivation.

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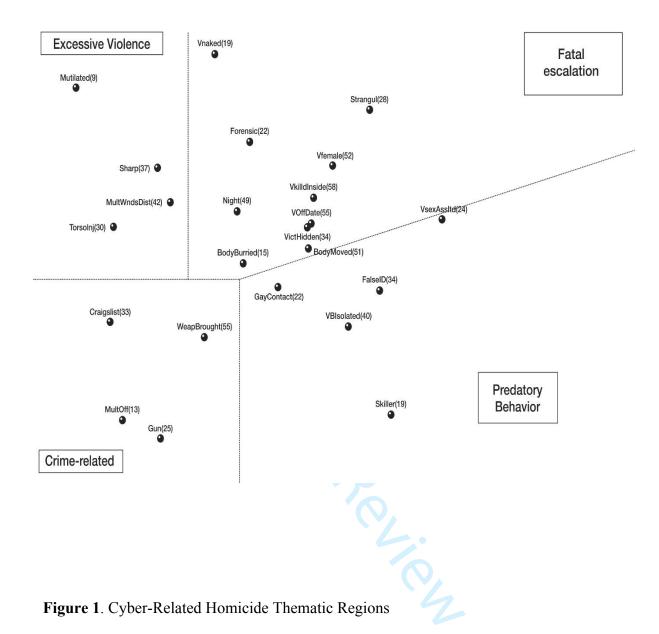
CYBER RELATED HOMICIDES

Figure 1. Cyber-Related Homicide Thematic Regions

CYBER RELATED HOMICIDES   40

Table 1. Luring Strategies Used by Offenders

Type of Luring	Percentages of cases
No luring	46%
Promise of an intimate encounter	15%
Fake identity	15%
Promise of providing a job/product/service	13%
Promise of paying for a product/service	7%
Promise of providing help	2%
Could not be classified	2%

CYBER RELATED HOMICIDES

Table 2. Frequency of Crime Scene Characteristics Per Thematic Region (*n* = 67)

Crime Scene Characteristics	%
Excessive Violence (α = .78)	
MultWndDistr: Multiple wounds were distributed across the body	42
Sharp: Sharp weapons were used during the offense (e.g., knives, swords)	37
TorsoInj: The victim suffered torso injuries (including breast)	30
Mutilated: Victim's body was mutilated and body parts cut off	9
Crime-related (α = .66)	
WeapBrought: The offender brought the weapon used during the offense to the crime scene	55
Craigslist: Offender and victim got in contact via Craigslist	33
Gun: A firearm was used to commit the offense	25
MultO: More than one offender was involved in the offense	13
Fatal Escalation (α = .64)	
VkilldInside: The victim was killed indoors, inside residential dwelling	58
VOffDate: Victim and offender had arranged to go on a date	55
Vfemale: The victim was female	52
BodyMoved: The victim's body was moved from where the killing occurred	51
Night: The crime was committed in the evening or at night (dark outside)	49
VictHidden: The offender hid the victim's body after the murder, hidden from public's view	34
Strangul: The victim had been strangled	28
Forensic: Forensic evidence was removed intentionally by the offender	22

Vnaked: The victim's body was found completely naked	19
BodyBurried: The offender buried the victim	15

Predatory behavior ($\alpha = .57$)

VBIsolated: The victim's body was found in an isolated area (e.g., bushland, sewer)	40
falseID: Offender lied about his/her identity (e.g., gender, name, age, marital status, occupation); excluding fake advertisements	34
VsexAssltd: The victim experienced an attempted or completed sexual assault	24
GayContact: The offender/victim was seeking homosexual relationship	22
Skiller: The perpetrator is a serial killer	19

CYBER RELATED HOMICIDES

Table 3. Cases that can be classified according to thematic region ($n = 57$)

Themes	f	%
Dominant	44	66
Hybrid	23	34
Fatal Escalation	19	43
Crime-related	14	32
Excessive Violence	6	14
Predatory Behavior	5	11