Cooling-off periods and serial homicide: A case study approach to analysing behaviour between murders

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ABSTRACT

Understanding cooling-off periods is an important step towards conceptualising life course events of serial killers, between their murders. Analysing the behaviours of serial killers between each homicide may give insight into when or if they will kill again, as well as informing definition criteria of what constitutes a serial killer as opposed to mass or spree killing. Research in this area typically analyses aggregate, large-scale data; however, this can often miss the idiosyncratic, specific details that are needed in real-word cases. To provide a more detailed account, an in-depth case study approach was taken to analyse the behaviours of Dennis Rader and Lonnie Franklin Jr., two well-known American serial killers, throughout their criminal career and identify patterns in their dormancy periods between murders. The analysis highlights that trophy-taking, the use of letters to communicate with the public, and offending-orientated fantasy may increase the length of a cooling-off period by suppressing homicidal urges. In contrast, the need for homicidal control may influence the effectiveness of such suppressing factors over time. The present research suggests that life-events can influence intervals between murders, even acting as a catalyst at times, which may help legal decision making.

1. Cooling-off Periods and Serial Killers: A Case Study Approach to Analysing Behaviour Between Kills

Homicide is widely considered to be one of the most serious and harmful crimes a person can commit. Those that commit serial homicide (more commonly referred to as serial killers) are some of the most dangerous criminals. There have been many studies into serial killers throughout recent decades; however, even with the weight of the academic field investigating the topic, there remain issues with core conceptualisations of what classifies someone as a serial killer1 (Haggerty, 2009; Hinch & Hepburn, 1998; Keppel & Walter, 1999). Recently, the Federal Bureau of Investigation (FBI) updated their classification of a serial killer by reducing it to two or more victims unlawfully killed by the same offender(s), in separate events (National Centre for the Analysis of Violent Crime, 2005). By reducing the number of victims, it allows law enforcement the flexibility to assign resources at an earlier stage to protentional serial homicide. Furthermore, by removing the ‘cooling-off period,’ it reduces the confusion and definitional problems; however, defining ‘separate events’ is still an issue. A classic linguistic example is asking people whether the bombing of the World Trade Centre towers was one event, or two events (for each tower). This is more than a semantic debate; it is a core issue about how to classify a serial killer (separate event kills) and a mass murder (sequential murders counted as ‘one event’).2

There are various definitions of a cooling-off period in the literature, it has been debated and changed multiple times, and the current understanding is still rather vague (Burgess, 2006; Douglas et al., 1986; Yaksic, 2015). Multiple publications use a cooling-off period to distinguish between a mass/spree killer and serial killer, although it is not clearly defined (Bartol & Bartol, 2016; Choi & Lee, 2014; Geberth, 1986; Gresswell & Hollin, 1994; Miller, 2013). Researchers have used different terms either interchangeably or make small changes, such as: emotional cooling-off period (Douglas et al., 1986), inter-murder intervals (Simkin & Roychowdhury, 2011), time intervals between murders (Osborne & Salfati, 2014), and dormant period (Yaksic, 2015). Clear understanding of what is meant by ‘cooling-off’ allows investigators the opportunity to

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track or classify different typologies of killers. The aim of the present research, therefore, is to provide further insight in this area by outlining some of the key issues in current attempts to classify and quantify ‘cooling-off’. An approach involving two case studies will be taken to provide an in-depth account of patterns in serial killers’ cooling-off periods. While case studies appear to have declined in prevalence in the literature recently, they are still a useful and supported methodological approach in Criminology (Travis, 1983). The current research will also help to inform legal decision making, by offering evidence that life-events can have an effect on intervals between murders and may act as a catalyst to kill again.

The emotional cooling-off period refers to an offender returning to their normal way of life between homicides (Douglas et al., 2013). This indicates that the cooling-off period is unique to each individual. Furthermore, caution should be taken over what constitutes ‘normal’, for example a ‘normal way of life’ does not necessarily indicate absence of crime or other activities that may surround murder, such as stalking of other potential victims. A cooling-off period is what separates a spree/mass killer from a serial killer (Morton, 2005). However, Morton (2005) highlights that the distinction is of little use to law enforcement, owing largely to the ambiguity over the term, and the fact it is impossible to know in ‘real time’ whether the serial killer is returning to normal life or the next homicide has not been linked. Even retrospectively, it may not always be possible to know if every murder is accounted for in a serial killer’s crime history. While previous research has proven formative and enlightening regarding these issues, the question remains: why do some serial killers appear to stop or take breaks? In addition, why does the length of these inter-murder-intervals change between killers? There are a handful of publications that explore the concept further (Osborne & Salfati, 2014; Simkin & Roychowdhury, 2011); however, more research is needed to understand what a cooling-off period may consist of, including the length, and behavioural characteristics. Moreover, research now needs to take a more focused, applied approach, as the ecological fallacy indicates that we cannot clearly apply aggregate data to individual cases.

At present, there is no universally accepted definition and classification of the length of time a ‘cooling-off’ period lasts. There are relatively few studies that attempt to determine or measure different factors that may influence the duration, and the underlying understanding of what a cooling-off period encompasses (Lynes & Wilson, 2015; Osborne & Salfati, 2014). Further, there is disagreement within the literature on the standard length of a cooling-off period, with Geberth (2006) suggesting it could range from days to months and Bartol and Bartol (2008) suggesting it is more likely months or years. Many of these studies use aggregate data, which while informative, cannot be easily applied to the individual, known as the ecological fallacy in research. Therefore, given the inability to clearly relate aggregate data to the individual, case study approaches can be a useful method for understanding relatively rare behaviours (Keatley, 2020). There is little understanding of what behaviours are present during this period and what the norm for these serial killers are. A return to normal life for most people would be becoming a functional member of society with employment or continued education, perhaps being a functional family member. For a serial killer, they may ostensibly return to ‘daily routines’; however, it is likely that the fantasy and perhaps planning of future murders remains throughout the cooling-off period. By psychologically re-living past experiences/murders, and fantasising or planning about future crimes, this may influence the length of the cooling-off period (Warren et al., 2013). More is needed to be known about the link between fantasy and preparation for crimes, as it is in the preparation phase that the criminal may exhibit behaviours that investigators can become aware of (LeClerc, & Wortley, 2013).

A variation of the concept of ‘cooling-off’ was the term ‘inter-murder intervals’, which was introduced by Simkin and Roychowdhury (2011) and identified that the intervals between murders followed a power-law distribution. Power-law distributions are when a relative change in one quantity or variable results in a proportional relative change in another. In terms of serial homicide, researchers showed that the probability distribution of time intervals between murders was a smooth decreasing function of interval length (Yaksic et al., 2021). Researchers originally studied three serial killers (Simkin & Roychowdhury, 2014) and then later 1012 serial killers (Yaksic et al., 2021). Yaksic et al. (2021) also suggested that there is only a quantitative difference between serial and spree killers, and that decade long inter-murder intervals are not abnormalities and can be described by the same power-law distribution. Simkin and Roychowdhury (2011) are the only researchers, to the authors’ knowledge, to use the term ‘inter-murder intervals’. Therefore, for consistency with the wider terminology, the current paper will continue to use ‘cooling-off period’; though, readers should be aware of these different terms.

By removing the emotional and motivational components, the cooling-off period has recently been re-conceptualised by Osborne & Salfati (2014) and is referred to as time-intervals between murders. Using victim selection, the level of social interaction, and geographical factors as starting points could give further insight into these time intervals (Osborne & Salfati, 2014). Furthermore, it was outlined that different types of violent crime could incorporate different psychological aspects and temporal elements that could influence the length of the cooling-off period (Osborne & Salfati, 2014). While removing emotional and motivational components from the conceptualisation of cooling-off periods allows a more stringent approach for mapping time intervals, it may also remove the opportunity to understand the individual’s personal reasons for cooling-off – something that may mean opportunities for comprehension and apprehension are lost. It may be oversimplified to consider that serial killers have some ‘internal clock’ that needs to tick a certain length before they decide to kill again, much more likely is that life events or occurrences act as a catalyst to prompt serial murders.

Intermittency is a similar concept to a cooling-off period that also has received relatively little theoretical or empirical attention in criminology (Baker et al., 2015). Although some studies have used novel temporal methods to track the sequences of serial killers’ life histories, they seldom measure time intervals, and so are of little use to investigating intermittency between crimes (Keatley, 2018; Keatley et al., 2018). Within developmental and life-course criminology, intermittency is often referred to as time gaps between criminal events (Baker et al., 2015). Intermittency can be applied to different types of crime, such as arson or burglary. It divides the population into either an offender or non-offender through the notion of criminal career onset (D’unger et al., 1998). The parameter strengthens a model it is applied to when periods of activity and inactivity are factors (Horney et al., 1995; Nagin & Land, 1993). However, due to there being no theoretical explanation of why intermittency occurs, Nagin and Land (1993) suggest the concept could be problematic. The parameter and theory suggest that periods of inactivity could reflect dormancy rather than the termination of their criminal career (D’unger et al., 1998). Intermittency has also been noted within the social sciences; however, within criminology, although it has been considered to relate to offending, it has yet to be developed to be operational (Baker et al., 2015).

1.1. The present research

What follows are two case studies of serial killers, defined as an individual who has killed at least two people in separate events (as per FBI), with varying lengths of ‘cooling-off’ periods between kills. These cases are provided to highlight the underlying reasons and causes of the serial killers stopping and then re-starting their series. To a large degree, this reduces generalisability in contrast to large sample studies; however, it aims to provide a more in-depth account of two serial killers that may offer more details for real-world police investigation. The current research is exploratory in its nature, and therefore hypotheses were not formulated, a priori. Typically, in temporal research, individual factors may be known from previous research, but the pattern and order are not
(see Keatley et al., 2018; Marono et al., 2020); therefore, clear hypotheses about the timelines are not possible. The current research is not, however, without prior research and theory, and thus various patterns were expected within the data, such as the role of fantasy, trophy-taking, and life stressors or catalysts that lead to further murders.

2. Methods

2.1. Sample

An initial list of 20 serial killers (19 men, 1 woman) were found via an online serial killer database (Radford serial killer database) and through an offline database created by Dr Sasha Reid. The list included those serial killers who exhibited some form of cooling-off period and for whom detailed biographies were available. They also had differing demographics, with the majority (15) being American, one African American, one Canadian, one Australian, one Soviet-Ukrainian, and one Hong Kong-American. Owing to the greater proportion of serial killers being male, only male serial killers were investigated for the current research. The list was then reduced to only two, Dennis Rader (Rader) and Lonnie Franklin Jr (Franklin), for the final analysis. The main reason for choosing these two serial killers was the depth and quality of information about them, including their actions and behaviours leading up to, during, and after their cooling-off periods. Given the case study approach in the current design, it was necessary to have in-depth information on the serial killers to build explanations on. Rader’s State Summary of Evidence and Transcript of Testimony are available online and provided an in-depth account of his offences as well as his personal life. Franklin provided an in-depth account, but owing to his life history (of which some information is limited) and crime patterns (changing modus operandi) he also provided a slightly different account to Rader. During the trial, both cases were also covered extensively by the media.

Dennis Rader is from the United States of America, is male, and pleaded guilty to killing 10 people, two males and eight females. His youngest victim was 9 years old, and the oldest victim was 62 years old. Lonnie Franklin Jr. was an African American male, he was convicted of killing 11 females. His youngest victim was 15 years old, and his oldest victim was 35 years old. Only the victims that both serial killers were convicted of were included; however, there are ongoing police investigations that possibly link more victims to these serial killers.3

2.2. Materials/Data collection

For both Dennis Rader and Lonnie Franklin Jr., a combination of online sources, police reports, books, court publications, case studies and journal articles were used to collect biographical data. Two researchers independently searched through databases (e.g., LexisNexis, Radford serial killer database, Dr Reid’s database) and official court and police records to provide detailed timelines of the two serial killers. Information was compared and verified through multiple sources. To establish validity, criteria inclusion was based on the accessibility of multiple sources of verifiable data through cross-referencing. Sources of information included a combination of online media accounts: LexisNexis, journal articles, biographies, legal documents, and databases such as Radford Serial Killer Database and the Serial Homicide Database created by Dr Sasha Reid (Marono et al., 2020) were collected and collated into timelines. Data gathered from official sources, such as legal documents, were given preference, and information gathered from sources, such as the media, were used as supplementary information.

Each source was cross-referenced with sources that provided information on the same topic to ensure accuracy and validity. This provided an in-depth life-history account. The data were retrieved by two researchers and sorted into files. Information for each case was reviewed by both researchers and they came to an agreement on terms before analyses. Where discrepancies occurred, the data was reviewed, evaluated and either excluded, or included and highlighted that there are discrepancies with the data.

3. Results

3.1. Case 1 - Dennis Rader

Dennis Rader is infamously known as ‘BTK,’ a name he coined himself and stands for: ‘Bind them. Torture them. Kill Them.’ He was born on the 9th of March 1945 in Pittsburg, Kansas. He attended Riverview Elementary School, and Wichita Heights High School in 1963. Rader attended Kansas Wesleyan University after high school, he dropped out after a year. Following his Father’s footsteps, at the age of 21 he enlisted into the United States Air Force during the Vietnam War. As shown in Fig. 1, in 1970 Rader was discharged, and returned to Wichita, Kansas, where he became a part of the reserves. He found employment in the meat department of a Leekers IGA supermarket, his mother was the bookkeeper. Rader attended Butler Community College in El Dorado in 1973, he completed an associates degree in electronics. Rader then enrolled at the Wichita State University, he graduated with a Bachelor of Science in 1979, he majored in Administration of Justice. He married Paula Dietz in 1971 and was a Father to two children, Brian and Kerri. Dennis Rader is currently held in the El Dorado Correctional Facility in Kansas. He was charged with 10 counts of first-degree murder; he is serving 10 consecutive life sentences with a minimum of 175 years. During an evidence sweep, police found items that linked him to his victims, such as identification cards and photographs. Items that belonged to his victims were also found in him communications with the police and media, such as crime scene photos, a necklace and identification cards. It is possible that these items were trophies, as a trophy is an item that holds intrinsic value, often belonging to the victim (Holmes & Holmes, 2008; Warren et al., 2013).

As shown in Table 1, Rader had 10 known victims, of them only two were male and eight were female. In his testimony transcript, Rader stated that he assigned project numbers to potential victims that he stalked, and that Shirley Vian was the only ‘random’ victim out of the 10. Rader typically strangled or suffocated his victim, and often carried a gun to intimidate his victims. The first seven victims were left at the crime scene and Vicki Wegerle (victim 9), and victim eight and ten were transported to dump sites4 via car. Marine Hedge was first taken to the Christ Lutheran Church in Wichita after her death, where Rader posed her in various bondage positions and took photographs. He then transported her to a dump site, and left her in a low ditch, on the north side of the road. The second victim that was transported was Dolores Davis, he dumped her and her clothes in separate locations. Rader then returned to the Davis household to find his gun. Later that day he returned to the site he dumped Davis and moved her to a second location. According to his testimony transcript, he used three different ruses. The first ruse was that he was a wanted criminal from California and needed money and a getaway car. He applied this ruse against The Oteros, Kathryn Bright, and Dolores Davis. The second ruse was that he had sexual fantasies and that he would tie them up. This ruse was used against Shirley Vian and Nancy Fox. The third ruse used was that he was a telephone repairman and this was used against Vicki Wegerle. All victims were tied up, either

3 While we could have speculatively included such possible victims, the intention of this line of research is to discover patterns in offending, meaning eventually we can say with more clarity whether a potential victim is likely to be linked to the suspect. At present, we decided it was better to use only confirmed murders, to build a more valid framework.

4 This term is the one used by researchers and practitioners working on these types of cases. While we appreciate it may seem confronting to readers, we have opted to keep it to make the paper more accessible to professional practitioners who use these terms (see Keatley, O’Donnell, et al., 2021).
with handcuffs, rope or nylon stockings. Rader also stated in the testimony transcript that he took personal items from Hedge, The Oteros and Fox, and he only took items when he had time and was in control.

Dennis Rader had four lengthy cooling-off periods between murders that were long in contrast to other periods, as shown in Fig. 1. The first period occurred between the murder of Kathryn Bright and Shirley Vian. During this three-year period Rader started working for ADT (founded as American District Telegraph) security and in 1975 his son was born. The second cooling-off period was eight years and occurred between the homicides of Nancy Fox and Marine Hedge. The first news conference in relation to the murders occurred during this time, Rader also graduated from university and his daughter was born. The third cooling-off period

Fig. 1. Dennis Rader’s personal life and criminal history timeline.
was five years and it occurred between the murders of Vicki Wegerle and Dolores Davis. During this time period, Rader stopped working for ADT and began working for the United States Census Bureau. By 1991, his son was five years old and his daughter was 13 years old. Dolores Davis was the final victim that Rader was convicted for, and once arrested his fourth cooling-off period for 14 years ended. During the 14 years, Rader held a long-term position as the Park City Compliance Officer, he was appointed to the Sedgwick Country Animal Control Advisory Board and began working for the United States Census Bureau. By 1991, his son was five years and it occurred between the murders of Vicki Wegerle and Dolores Davis. During this time period, Rader stopped working for ADT and began working for the United States Census Bureau. By 1991, his son was five years old and his daughter was 13 years old. Dolores Davis was the final victim that Rader was convicted for, and once arrested his fourth cooling-off period for 14 years ended. During the 14 years, Rader held a long-term position as the Park City Compliance Officer, he was appointed to the Sedgwick Country Animal Control Advisory Board and began working for the United States Census Bureau. By 1991, his son was five years old and his daughter was 13 years old.

Of interest in understanding the motivations and behaviours of Rader, it is worth noting he contacted the local news and law enforcement repeatedly (a behaviour shared by other serial killers including Edward Edwards, and the unsolved Zodiac murders). Dennis Rader communicated with local news agencies and the local police force, via letters and packages, for the duration of his criminal career, as shown in Table 2. After the police broadcasted his voice from a 911 call in 1979, there was a large gap of no media or police communication directly related to Rader’s victims. It is proposed⁵ that an article published by the Wichita Eagle about the 30th anniversary of the Otero’s murders prompted Dennis Rader to start communicating again. After sending a computer disk to the police, they were able to track him back to the church he was president of, which eventually led to his arrest.

It is worth noting that there is a possibility that Rader had an eight-year cooling-off period owing to the temporal proximity of the birth of his two children. If his wife had a full nine-month term, the pregnancy of Kerri would have been known at the time Nancy Fox was murdered. At the beginning of the year of Kerri’s birth (1978), his next two communications were sent. The following year was when the letter “Anna Williams” was sent relating to Rader waiting for Mrs Williams. Furthermore, being employed full-time as the Park City compliance supervisor may have also contributed to the lengthy cooling-off period due to time constraints and possibly being able release the need to exert power over people through his authoritative role. Having two teenage children at the time, involvement in the church, and a full-time job may have considerably reduced his spare time for active homicidal behaviours.

Rader held a long-term position at ADT Security from 1974 until

| Name          | Sex | Age | Date of death | Cause of death | Weapon used |
|---------------|-----|-----|--------------|----------------|-------------|
| Joseph Otero | M   | 38  | January 15, 1974 | Suffocated     | Plastic bag |
| Julia Otero  | F   | 33  | January 15, 1974 | Strangled Rope | Rope        |
| Joseph Otero, Jr. | F | 9   | January 15, 1974 | Suffocated     | Plastic bag |
| Josephine Otero | F | 11  | January 15, 1974 | Hanged from a drainpipe/strangled | Rope        |
| Kathryn Bright | F  | 21  | April 04, 1974 | Multiple stab wounds | Knife       |
| Shirley Vian  | F   | 24  | March 17, 1977 | Strangled Rope and plastic bag | Rope and plastic bag |
| Nancy Fox     | F   | 25  | December 08, 1977 | Strangled Belt | Belt        |
| Marine Hedge  | F   | 53  | April 27, 1985 | Strangled Hands | Hands       |
| Vicki Wegerle | F   | 28  | September 16, 1986 | Strangled Nylon | Nylon       |
| Dolores Davis | F   | 62  | January 19, 1991 | Strangled Pantyhose | Pantyhose   |

Table 2

Communication with police and the media.

| Date          | Name                        | Brief description | Location          | Type   |
|---------------|-----------------------------|-------------------|-------------------|--------|
| October 22, 1974 | Bind Them, Torture Them, Kill Them | Letter found in a book at a public library, contained details of Otero murders, and BTK name suggestion | Public Library, Wichita Eagle Beacon | Letter |
| January 31, 1978 | Shirley Locks | Poem referring to Vian homicide, patterned after ‘Curley Locks’ nursery rhyme. | Wichita Eagle Beacon | Poem, painting |
| February 10, 1978 | How Many do I Have to Kill … | Child painting set on an index card | | |
| April 28, 1979 | Anna Williams | Killer waits for homeowner, but leaves and sends a letter announcing his presence, with drawing of nude bound women, scarf and jewellery (June 15, 1979) | 615 S. Pinecrest | Letter |
| August 15, 1979 | 911 Voice Broadcast | Broadcast of BTK voice from 1977 911 call | | Voice recording |
| February 05, 1988 | Another One | A poem and picture of young nude bound girl near hot tub sent to Mary Fager. Did not claim the Fager homicides responsibility for Otero, Vian, and Fox | Fager residence | |
| January 17, 2004 | 30th Anniversary | Article of 30th anniversary of Otero murders published | Wichita Eagle | Article |
| March 17, 2004 | Bill Thomas Killman | Letter, photocopy of Wegerle’s driver’s license, and 3 pictures of bound female | Wichita Eagle | Letter |
| May 04, 2004 | MO-ID-RUSE | Letter that contain a chapter with ‘heading ‘BTK Story, ‘Special Officer’ badge, photocopy of two ID cards, and word puzzle | KAKE TV | Letter |
| June 13, 2004 | Death on A Cold January Morning | Package found, taped to stop sign. Letter contained details of Otero murders, drawn nude and gagged female and chapters of ‘BTK Story’ | Corner of 1st and Kansas | Letter |
| July 17, 2004 | Jakey | Package found, contained a story about ‘Jakey’ (Jakey Allen), 4 pictures of a male in bondage, and a threat of another victim | Wichita public library | |
| October 22, 2004 | C2. Dawn/ BTK Field Grams | Package found, more ‘BTK story’ and pictures of children with drawn bondage | Omni Centre drobot | Package |
| December 14, 2004 | PJ Fox Tail – 12-8-1977 | Package found, contained Fox’s | Murdoch Park | Package |

⁵ The Wichita Eagle published an article (August 13th, 2005) stating that in an interview with a psychologist Rader claimed that the article published about the 30th university of the Otero’s murder prompted him to communicate again.
work-related tasks may have helped to facilitate his offending oriented 
cognition and taunting that played a key part in Rader’s offending 
orientation. Another One Prowls send any letters after the broadcast of the 911 call of his voice until 
February 25, 2005 -01-15-1974

| Date       | Name                     | Brief description                      | Location | Type          |
|------------|--------------------------|----------------------------------------|----------|---------------|
| January 25, 2005 | PJ-Little Mex            | Postcard that details location and contents of a Post Toonies cereal box. Box contained a doll representing Josephine Otero, jewellery, and various letters | KAKE TV and 9th North and Seneca | Postcard and cereal box |
| February 03, 2005 | Happ Kakeman             | A postcard with return address of ‘Happ Kakeman’ promise of a ‘test run’ and a thank you for ‘quick response on #7 and 8’ | KAKE TV | Postcard |
| February 16, 2005 | This is a Test           | Receives ‘communication #11, included is a computer disk, gold chain with locket and index card | KSAS TV | Letter and computer disk |

1988, which gained him access to people’s homes to install home security systems. He was able to engage in work-related activities whilst seemingly pursuing his offending oriented fantasies. In other words, the authors suggest that the knowledge that Rader gained whilst completing work-related tasks may have helped to facilitate his offending oriented fantasies of murder by ‘rigging’ potential victims’ homes, and simultaneously developing skills he could potentially use to his advantage. Furthermore, whilst working for Park City, the authors suggest that Rader was able to display a lot of control and influence within his community, which may have supressed his urge to kill during his final cooling-off period.

The letter ‘Another One Prowls’ was sent to Mary Fager whose two daughters and husband had recently been murdered. The letter did not claim responsibility and the contents did not depict the crime scene accurately. However, the author, thought to be Dennis Rader, praised and admired the murderer’s ‘work’. Between 1979 and 2004, it is believed that this is the only form of communication from Rader and it occurred three years prior to the death of his last victim. Rader did not send any letters after the broadcast of the 911 call of his voice until ‘Another One Prowls’, nine years later. It was then another six years until the murder of Marine Hedge. It could be speculated that the length between the 911 broadcast and the death of Marine Hedge could have been influenced by his fear of being caught. Communications with the media and local police suggest that Rader wanted notoriety, but the silence after the 911 broadcast also suggest he did not want to get caught. News headlines of the time would have warned of the danger towards women, which may have fuelled Rader’s fantasies and provided him a sense of control, therefore the urge to kill again may have been supressed. Either circumstance could have contributed to the extended length between the murder of Shirley Vian Relford and Marine Hedge.

Fig. 2 shows Rader’s timeline to continue to kill was apparent when “Bind Them, Torture Them, Kill Them” was sent disclosing a name for himself. After the murder of Nancy Fox, three more letters were sent out, but, abruptly stopped after the broadcast of a recording of a 911 call assumed to be BTK. After this broadcasting, Rader did not murder another victim for almost eight years, that we know of. Even after the murder of Vicki Wegerle, the only letter sent was in regard to an offence that BTK did not commit. It was 13 years after the murder of Dolores Davis when Rader started communicating again. From then until his arrest, eight communications were recovered in quick succession. Hypothetically, it is the authors’ opinion that there is a role of communication and taunting that played a key part in Rader’s cooling-off periods.

3.2. Case 2 - Lonnie Franklin Jr

Lonnie Franklin Jr., who is also widely known as the Grim Sleeper, was born August 30, 1952. He grew up and settled in South Central, Los Angeles. He later married a woman named Sylvia, and fathered two children, Christopher and Crystal. When Franklin was 16, he was arrested for auto theft (1969), as well as arrested for firearm and burglary offences. In 1993 and 2003 Franklin was charged for possession of stolen property for which he served time for one of these charges, in 1997 he was charged with one misdemeanour battery, and in 1999 he was charged with misdemeanor assault in 1999. He was apprehended on the 7th July 2010 and then on the 5th of May 2016 he was convicted of 10 counts of murder and one count of attempted murder and was sentenced to death. After an evidence sweep of his house, police found 1000 photographs and videotapes of women and teenage girls, as well as other items, such as identification cards. Franklin was found in an unresponsive state and pronounced dead in his cell on the March 28, 2020 at San Quentin State Prison. Lonnie Franklin Jr. served in the United States Army in 1974 and was stationed in Germany. He was given a dishonourable discharge in 1975 to serve time in a German prison after being convicted in a German court for raping a 17-year-old female with two other men in 1974. Franklin was sentenced to three years and four months; however, he did not serve the full term, and it unclear why. He returned to Los Angeles and found employment as a mechanic servicing the Los Angeles Police Departments vehicles, then later became a sanitation worker. Whilst working in sanitation, Franklin filed multiple injury claims and went on medical leave numerous times, it is unclear what the injury claims were or why he went on medical leave. Numerous media reports indicate that when Franklin took medical leave, it coincided with disappearances or murders that occurred in South Central. In 1991, he was placed on permanent disability (though the exact reasons are not known to the authors), and started to receive disability cheques. Sources also suggest that he ran a ‘retail shop’ and backyard mechanical service from his own home and many of the items were suggested to be stolen. It is also reported that he volunteered a lot of time in helping the elderly community with servicing and changing tires on their vehicles. Lonnie Franklin Jr. was charged with multiple counts of grand theft auto, burglary, and battery, he was known within the community to assault women, and according to media reports to enjoy the company of sex-workers. It is known that he was against drug and alcohol use himself, and looked down on others who did engage with this; however, he did use drugs to incapacitate women.

The known victims of Lonnie Franklin Jr. were African American, and most are believed to have been sex-workers and/or individuals seeking drugs (See Table 3). It is likely that many of his victims did not have strong relationships with others, such as family, that would have been able to ask for police assistance without fear of recrimination. The victims were often found either in garbage bins or under rubbish piles in alleyways. It does appear he changed his modus operandi, a particular method or way of killing (Douglas & Munn, 1992), for Princess Berthomieux and Valerie McCorvey, as they were strangled to death rather than shot. Lonnie Franklin Jr. had one lengthy cooling-off period after Enietra Washington survived an attack, as shown in Fig. 3. It lasted 14 years and was likely prompted by Washington surviving in the authors’ opinion.

Two possible theories that could explain Franklins cooling-off period after Washington Surviving is detection avoidance (Beauregard &
Fig. 2. Dennis Rader's police and media communications timeline.
offender can exhibit, to an extent, deductive reasoning, if the conditions can be constrained by the ability of the offender, time, and information rational choice, the rational choice perspective outlines that offenders women found on polaroid pictures in Franklin Jr. murders, even though evidence was linked in 2004 and 2005 by the South Central Los Angeles was. It was not until 2007 that a task force Fighting Back Serial Murders was founded by Margaret Prescott ment (LAPD) to identify drug use or sex-worker involvement (Walks, 2019). The caution for their profession or activity at the time (Walks, 2019). The stopped picking up women altogether. Further, it is also possible in the rectify by taking another victim soon thereafter. Thus, it is possible that Washington surviving posed a risk of enabling other potential victims and law enforcement to identify Franklin. Thus, to avoid being sighted and reduce risk, Franklin may have stopped killing victims for 14 years, or changed location or MO.

Though it is known that not all criminal behaviour is the result of rational choice, the rational choice perspective outlines that offenders make decisions to engage in criminal activity or not based on weighing the risk, effort and rewards associated with the act (Beauregard & Martineau, 2016). A cost-benefit analysis can be time consuming and can be constrained by the ability of the offender, time, and information available (Johnson & Payne, 1986). However, it does suggest that the offender can exhibit, to an extent, deductive reasoning, if the conditions allow, as intoxication and cognitive ability can influence the effectiveness of their analysis (Beauregard & Martineau, 2014; Johnson & Payne, 1986). It is possible that Franklin found out about his surviving victim, and deduced that continuing his offending behaviour could put him at a higher risk of capture. The benefit of avoiding capture outweighed his possible loss of control from and unsuccessful homicide and his need to rectify by taking another victim soon thereafter. Thus, it is possible that Franklin either refrained from murdering women he picked up or stopped picking up women altogether. Further, it is also possible in the authors’ view that if he continued to offend, Franklin changed his MO within this time and therefore these cases were not linked. 

Lonnie Franklin Jr. did not seek the attention of the media, which could be a contributing factor that enabled him to stay undetected for the majority of his criminal career. It is likely that because he targeted women of colour who tended to be sex-workers, they were sometimes not reported missing, difficult to track their actions or there were investigative issues at the time (Morton, Tillman, & Gaines, 2014). It is also likely that many witnesses did not come forward in fear of prosecution for their profession or activity at the time (Walks, 2019). The homicides occurred in a low social economic area of town that, for a period, was known for high levels of PCP and crack cocaine usage, and high homicide rates. A lot of Franklins’ victims were called in as NHI (no human involved), a code often used by the Los Angeles Police Department (LAPD) to identify drug use or sex-worker involvement (Walks, 2019). LAPDs poor reputation in the 1970s to the 1990s with race and discrimination is also reflected by the riots of the time. The Black Coalition Fighting Back Serial Murders was founded by Margaret Prescott around the time of the early murders to try to make the community aware that many women were being murdered and how dangerous South Central Los Angeles was. It was not until 2007 that a task force was assembled by Chief Bill Bratton dedicated to the South Los Angeles murders, even though evidence was linked in 2004 and 2005 by the police. The police did seek the public’s help in identifying hundreds of women found on polaroid pictures in Franklin Jr.’s possession, but to this day many women are still not identified.

Table 3

| Name               | Age | Sex | Date body found | Cause of death          |
|--------------------|-----|-----|-----------------|-------------------------|
| Debra Jackson      | 29  | F   | August 10, 1985 | Gunshot wounds          |
| Henrietta Wright   | 34  | F   | August 12, 1986 | Gunshot wounds          |
| Barbara Ware       | 23  | F   | January 10, 1987| Gunshot wounds          |
| Bernita Sparks     | 26  | F   | April 15, 1987  | Gunshot wounds          |
| Mary Lowe          | 26  | F   | November 01, 1987| Gunshot wounds          |
| Laetitia Jefferson | 22  | F   | January 30, 1988| Gunshot wounds          |
| Alicia Alexander   | 18  | F   | September 11, 1988| Gunshot wounds         |
| Enietra Washington | 30  | F   | Survived        | N/A                     |
| Princess Berthomieux| 15  | F   | March 19, 2002  | Strangled               |
| Valerie McCorvey   | 35  | F   | July 11, 2003   | Strangled               |
| Janecia Peters     | 25  | F   | January 01, 2007| Gunshot wounds          |

Known victims of Lonnie Franklin Jr.

Martineau, 2016) and the rational choice perspective (Beauregard & Martineau, 2014). Detection avoidance refers to techniques used by an offender to avoid or evade detection from others, usually law enforcement (Beauregard & Martineau, 2016). It is also possible that Washington surviving posed a risk of enabling other potential victims and law enforcement to identify Franklin. Thus, to avoid being sighted and reduce risk, Franklin may have stopped killing victims for 14 years, or changed location or MO.

As shown in in Fig. 3, the majority of Franklin Jr.’s homicides occurred whilst he was employed by the City of Los Angeles in sanitation. After he stopped working, it is unknown to the authors if Franklin sought formal employment again, though he did receive disability checks for an injury. However, his next known victim, Princess Berthomieux, was murdered 14 years later.

4. Discussion

The aim of the current research was to investigate the life histories of two well-known serial killers, to explore potential reasons for cooling-off periods. The research took a biographical, case study approach to provide an in-depth analysis of behaviours exhibited by the individuals. We suggest that offending-orientated fantasy and victim control may influence the length of a cooling-off period. Engaging in trophy-taking behaviours, photographing victims, and communicating with the public may have later acted as reminders of their victims. These items can then be used for arousal release as they psychologically re-lived the crime or used to supress offender specific urges to kill (Warren et al., 2013).

Dennis Rader’s reasons for communicating with the media may have been influenced by his offending-orientated fantasies, which may have been sexual in nature and along the power/control dimension (Knoll & Hazelwood, 2009; Miller, 2014; Myers et al., 2008). Using a pseudonym and disclosing certain aspects of his offending allowed him to control, to an extent, what information and perception the media had about BTK. As shown in Fig. 2, Rader typically communicated with the media or police sometimes months or years after a murder. Communication with police typically preceded an extended cooling-off period, especially when the Police released the 911 call. It is possible that by reminding the public of his existence generated fear in the community, which could have given Rader perceived power over his victims and members of the community. However, when police released the 911 call, it may have scared Rader into hiding.

Evidence taken from Lonnie Franklin Jr.’s home and the new victims presented during his penalty hearing suggest that his cooling-off period may not be as long as indicated by his convictions. The linked cases are Sharon Dismuke in 1984, Thomas Steele in 1986, Inez Warren in 1988, Georgia May Thomas in 2000, and Rolenia Adele Morris in 2005. As shown in Fig. 3, without the possible linked cases the cooling-off period extends from 1986 to 2002, whereas, if the linked cases were included, the cooling-off period is only reduced by two years (1998–2000); therefore, the findings related to Franklin’s cooling-off period remain even if these additional cases are included. It is worth noting that the collection of Polaroid pictures could act as a means to relive experiences and fantasies, suppress homicidal urges, and generate pornography (see Warren et al., 2013). This type of trophy-taking may have given Franklin a continued sense of control over his victims that supressed his urge to have homicidal-control (Petreca et al., 2020), allowing him to take extended cooling-off periods between certain victims.

Even with the linked cases, there appears to two distinct clusters, with each victim taken in quick succession of one another. Therefore, it is possible that Franklin did have an extended cooling-off period, but, not as long as convictions would suggest. Between the two clusters, it is possible his collection of trophies aided in extending his cooling-off period (Warren et al., 2013). Franklin, to the authors’ knowledge, did not have another means or outlet to suppress his urges, like Rader arguably did through communication and trophy taking. However, the combination of Franklin’s second conviction and the survival of Enietra Washington may in the authors’ view have deterred him or caused a change in modus operandi in an attempt to avoid detection.

When comparing detection avoidance techniques used by Dennis Rader and Lonnie Franklin Jr., it seems they had contrasting knowledge. Rader was more forensically orientated he brought his own murder kit, and wore gloves, making sure to leave as little trace as possible; he learnt not to have another means or outlet to suppress his urges, while Franklin may have acted as reminders of their victims. These items can then be used for arousal release as they psychologically re-lived the crime or used to supress offender specific urges to kill (Warren et al., 2013).
organised approach (Beauregard & Bouchard, 2010). This indicates that Rader could have been more of an organised, planned type of serial killer, which may have aided him to avoid detection for so long. Therefore, behaviours related to planning and stalking may have influenced the length of his cooling-off period due to its importance in his fantasy and routine (Knoll & Hazelwood, 2009; Myers et al., 2008; The State of Kansas v Dennis L. Rader, 2005). It takes time to learn another person’s routine, stake out the house, and plan a homicide, it is possible that Rader’s employment and parental commitments restricted his ability to carry out stalking related activities (The State of Kansas v Dennis L. Rader, 2005). Fantasising within the cooling-off period about previous kills with photos (photos taken of victims and photos he took of himself in self-bondage) or trophies, as well as planning future kills could reinforce these cognitive scripts on how to act, becoming more

Fig. 3. Lonnie Franklin Jr. personal life and criminal career timeline.
reinforced every time he engages in the actual behaviour (Keatley, 2018). Essentially, for Rader, he could sustain his urges to murder through reliving past murders (with the aid of trophies), engaging in self bondage and stalking potential victims, and planning future crimes (Myers et al., 2008; The State of Kansas v Dennis L. Rader, 2005).

Rader made it more difficult for investigators to prioritise him by taking extended cooling-off periods and using a pseudonym to remove his identity from the crimes. Franklin either did not understand or care as much for forensic awareness, notably leaving DNA and ballistic evidence at crime scenes that eventually helped to link cases (Beauregard & Bouchard, 2010). However, by selecting vulnerable women and attacking them at night in quiet, low-risk areas, he engaged in a form of avoidance style, even though the murders were more opportunistic or impulsive (Alderden & Lavery, 2007; Beauregard & Martineau, 2014). Cases involving sex-workers are less likely to be solved by police owing to the possibility of ‘victim preferencing’ or the lack of information available on victims and witnesses (Beauregard & Martineau, 2014; Black, 2010). It is possible that Franklin was aware that the police at the time were not investigating every disappearance, owing to the presence of The Black Coalition Fighting Back Serial Murders mentioned previously. Franklin’s awareness of police investigations may have influenced his apparent lack of forensic detection avoidance techniques. This may also be why clusters were seen when Franklin felt relatively ‘safe’ from detection.

When comparing the behaviours of Lonnie Franklin Jr. and Dennis Rader, theoretically, the time between murders makes more sense for Rader due to the influence of his offending-oriented fantasies and consistent major life events. Whereas due to the linked cases, societal influences, and potential change of MO, it is unclear if Franklins cooling-off period is as lengthy as first suggested. More methods of crime linkage have also been developed in recent years, including behavioural fingerprinting (Keatley, 2018) and victim face similarity matching (Hackett et al., 2019) which may help with further case linkage investigation.

Psychologically, many serial killers may be driven by the need for control (Sharma, 2018). Rader’s use of bondage on his victims, and trophy-taking, also suggests that power and control played a major role in his offending-oriented fantasies (Taylor et al., 2012). Therefore, reliving his offending through the media and trophies may have suppressed the need to create new fantasies with more victims, thus allowing him to take extended cooling-off periods between victims. However, the authors suggest that communicating via letters and trophy-taking may not have the same effect as homicidal control, thus the urge for homicidal control slowly returned. Homicidal control refers to the need or urge to be in control during the commission of the crime for example demanding the victim move or perform certain behaviours, or moving (posing) the victim post-mortem. This notion of control is similar to Keppel and Birnes (2008) dependency factor of their “3 Ds of serial homicide” (dread,7 dependency, and degradation). Being in control whilst killing a victim is what may drive the offender to take more victims to maintain the feelings of control and experience a psychological release of internal stressors. Homicidal control could be the ultimate form of release for the offender and reliving the crime through a trophy is a secondary manner of reliving the experience (Karakasi et al., 2016; Miller, 2014; Warren et al., 2013). By reliving that homicide through a trophy, the trophy could act as an anchor for the fantasy, enabling the individual to relive the experience (Warren et al., 2013). However, the effectiveness of the fantasy may not be as sufficient as time goes on. Thus, the need or urge to kill once again may slowly return.

4.1. Limitations

A clear limitation of the current research is that only two case studies were used, which may limit generalizations. We also do not know the actual mental state of Radar and Franklin during the commission of their crimes. In profiling, the actual mental state of the suspect may not be known. Instead, behaviours are analysed and then profilers extrapolate from these about an individual’s mental state. Psychological profiling has largely been replaced with more scientific behavioural approaches to profiling (Canter & Youngs, 2009). A case study approach allows an in-depth understanding of the individuals, which may help future investigations; however, the two serial killers in the current study are clearly not representative of all serial killers who have cooling-off periods. A further limitation was that we used only legally confirmed cases in the current data. Of course, it may be possible that the killers had additional unknown victims; but using only legally supported cases provided a clearer distinction to build the framework. If there are more victims, then the cooling-off periods may change, and thus the proximal, antecedent determinants of the cooling-off periods may also change. The serial killers in the current study were purposefully chosen because of the depth of information about them. In most serial killer research and cases there always remains the chance of unknown victims being ‘hidden’ in their timelines. The authors chose to include only confirmed crimes to build a more informed, clearer foundation. Including speculative cases may reduce the validity of the research. This is, of course, a trade-off in terms of inclusion of possible victims and known victims. A further limitation is in terms of generalization to women. As our research focused on two men, it is unclear if similar patterns would be observed for women who are serial killers.

5. Conclusion

Analysing a serial killer’s cooling-off period may help investigators understand behaviours, activities or rituals that may occur that influence the length, beginning or end of a cooling-off period. Within this case study approach, it was found that victim control and offending-orientated fantasy may heavily influence the length of a cooling-off period through the suppression of homicidal urges. More specifically, behaviours such as taking trophies, communicating with the public, and photographing victims, could potentially be later used for arousal release through psychologically reliving past experiences/murders, or suppressing urges to kill that are specific to the offender. These findings offer some insight into cooling-off periods and communication styles. While the case study approach here allows in-depth understanding, future research should seek to support these patterns. Future research could provide similar brief, but in-depth summaries of other serial killers (perhaps with different typologies or styles of kill) who have a cooling-off period, to begin seeing which findings in the current study can generalise. Further research into this theory is required before evidence-based conclusions can be reached. More case-specific research is needed to help understand how behaviours affect serial killers cooling-off lengths. Such as the use of trophies to satiate the killers’ appetites, and the influence that fantasy, power, and control may have on the length of a cooling-off period. Recommendations for future research include investigating the interplay between the media prompting a cooling-off periods due to detection avoidance or possible offending-orientated fantasies. Also, developing an operational model that can be used by law enforcement to identify particular behaviours that may elude to an extended cooling-off period. Furthermore, more research will help develop our understanding of the behaviours that may occur during a cooling-off period. As the literature increases, it may help aid in investigations of serial killers, and linking victims to offenders by further understanding what behaviour or activities may be present between homicides.

7 The need for dread may be fulfilled by sending letters and police announcements creating fear in the community.
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