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Abstract

The aim of the current study was to compare and contrast non-cannibalistic from cannibalistic serial killers. Using case study data, the present study assesses common patterns among the life histories of cannibalistic serial killers compared to a controlled sample of serial killers. These include but are not limited to childhood experiences, socio economic status, biological abnormalities, life events, etc. results may be used to identify potential warning signs or triggers for cannibalistic behaviour. Results indicated that factors which may differentiate cannibals from non-cannibals likely result from childhood influences, rather than influences at the time of the kill.

KEYWORDS: Homicide; Serial killers; cannibalism; risk factors; profiling

1 **An investigation into the association between cannibalism and serial killers**

2 Homicide is a global term used to describe the unlawful taking of a person's life. Though
3 a relatively rare form of homicide (Hodgkinson, Prins, & Stuart-Bennett, 2017), serial killing is
4 pervasive in media representation and remains one of the most violent and extreme forms of
5 human crime (Flowers, 2002; Palermo & Kocsis, 2005; Simpson, 2017). While it has been
6 suggested that serial homicide accounts for less than 1% of all homicides, worldwide, this may
7 not be a true reflection of base rates, given the number of unsolved homicides and missing
8 person's cold cases per annum. A significant number of serial killers demonstrate post-mortem
9 manipulation, mutilation, and/or cannibalism of their victims (Ressler & Schactman, 1997; Wiest
10 et al., 2016). Thus, researchers and profilers have been building profiles or typologies to group
11 offenders accordingly. An understanding of these crime scene behaviours and characteristic
12 signatures from the victims' bodies aid law enforcement officers in the detection and
13 apprehension of serial killers (Douglas, Ressler, Burgess, & Hartman, 1986; Wiest et al., 2016).
14 The focus of the current paper is on a specific sub-group of serial killers that are known to eat
15 parts of their victim, commonly referred to as cannibalism (Berry-Dee, 2011). The current study
16 highlights the similarities and differences between serial killers that engage in cannibalism with
17 those that do not.

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19 Within different countries, and even States, exact definitions of homicide may vary,
20 including first- and second-degree, or manslaughter, as well as types of homicide, like mass,
21 spree, and single offenders. The legal intricacies of homicide is beyond the scope of the current
22 paper, suffice to say that the broad definition of the illegal act of taking another person's life will
23 be used. Defining *serial* homicide, however, is another contentious issue in the literature (Dietz,

1 1996; Hale, 1998; Holmes & DeBurger, 1998; Ferguson et al., 2003; Canter & Wentink, 2004).
2 Several researchers have suggested that the taking of 3 lives, with a *cooling off* period between
3 kills is what constitutes serial homicide; however, the Federal Bureau of Investigation (FBI)
4 began using 2 victims as a criterion level (FBI, 2008, p. 12). Further classification criteria, to
5 distinguish serial homicide from other forms of mass killing (e.g., spree killing or mass murder)
6 include a *cooling off* period in which the killer returns to their daily life schedule, before killing
7 again. Recently, other researchers have suggested further classification criteria, such as focusing
8 on the psychological elements of criminals (Reid, 2017). For the purpose of the current research,
9 a serial killer was defined as an individual that killed 2 or more people on separate occasions,
10 with the separation being marked by a return to the killer's daily routines (Ressler, Burgess, and
11 Douglas 1988).

12
13 Fascination of serial killers has become deeply embedded in Western cultures (Aliverti et
14 al., 2006; Grover & Soothill, 1999; Schmid et al., 2008). In fact, several scholars have described
15 the "celebritization" of serial killers across mass media (Beasley et al., 2004; Caputi et al., 1993;
16 Eschholz & Bufkin, 2001). Research has shown that the depiction of serial killers usually falls
17 under one of two categories; serial killers as wicked monsters, or celebrities (Egger et al., 1998;
18 Vronsky et al., 2007). For example, the case of Ed Gein who wore the skin of his victims
19 inspired the character of "Buffalo Bill" in the movie "Silence of the Lambs" (LaBrode et al.,
20 2007). However, despite the evident fascination and entertainment appeal of serial murder,
21 public fear of serial killers is second only to public fear of terrorism (Schlesinger et al., 2000).

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1 Additionally, serial killers typically continue to kill unless they die or are apprehended
2 (Bureau of Justice Statistics, 2003; Chan & Heide, 2009; Flowers et al., 2002; Palermo and
3 Kocsis, 2005). Thus, research aiding the detection and apprehension of serial killers is crucial for
4 prevention. Advancements in policing techniques such as the use of profiles or typologies to
5 group offenders has led to an increase in the number of serial killers being identified and
6 captured. Profiles consist of aggregated data collected from several sources, which combine to
7 indicate specific characteristics relevant to the offender (Douglas, Ressler, Burgess, & Hartman,
8 1986).

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10 When Law Enforcement Organisations (LEO) or researchers investigate a homicide,
11 they typically begin by looking at the actions performed at the scene of the crime. The
12 behaviours performed at a crime, which are necessary to complete the crime are referred to as the
13 *modus operandi* (MO). Every crime has a related MO that details the crime commission process;
14 however, it has been widely noted that serial killers also engage in extra-criminal behaviours,
15 which are not necessary for the completion of the crime, per se (Promish & Lester, 1999). These
16 behaviours reflect a personal motivation, fantasy manifestation or ritual, and are termed
17 *signatures* (Promish & Lester, 1999; Seltzer, 1998). Several signatures have been suggested,
18 including neck-breaking and decapitation, asphyxiaphilia, overkill/mutilation, and cannibalism (
19 Benedetti, 1972; Keppel, & Birnes, 2008). The importance of identifying and studying signatures
20 is that while MO may be malleable or more likely to change depending on the context or
21 environment of the kill; the signature is less likely to change and may be used to link crimes
22 (Miller, 2014). As well as giving us insight into the psychological fantasy of the offender,
23 understanding the differences between signatures may be useful for investigations. When law

1 enforcement investigates a crime, if they have indication of cannibalism, it would help to
2 understand better the background of individuals who have engaged in this type of behaviour.

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4 **Cannibalism**

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6 Cannibalism in humans is the act or practice of humans eating the flesh or internal organs
7 of other human beings. Although formerly believed to be a rare and/or 'abnormal' human
8 behaviour (Stoneking et al. 2003), it is well established that cannibalism was common practice
9 among our ancestors (Ferna & Rosell, 1999; Lindenbaum 2004; Marlar et al. 2000). Although
10 several forms of cannibalism have been acknowledged, most anthropologists agree on the
11 classification of three main types of cannibalism in humans: ritual, survival, and pathological
12 (Lindenbaum et al., 2004)

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15 Ritual cannibalism involves the ingestion of human beings by tribal groups as a result of belief
16 systems. For example, the Wari' tribe in western Brazil would cannibalise their fellow tribe
17 members after they had passed, as they believed that the consumption of a deceased group
18 member would transfer their spirit into the bodies of the living (Conklin et al., 2001). Survival
19 cannibalism results from the fundamental human instinct to survive by any means. Survival
20 cannibalism is committed by individuals who believe they have no other options and would
21 normally be averse to the idea, such as in situations of acute starvation, such as famines, military
22 sieges, or shipwrecks (Price, 2004; Byard & Maxwell-Stewart, 2018). Famous examples exist,
23 such as the Uruguayan national rugby team plane crash in the Andes in 1972 and the Donner

1 Party in 1846. Survivors in both instances admitted to resorted to eating those who had died
2 (Dixon et al., 2010). The consumption of human flesh has also been documented in France,
3 china, and Cambodia during periods of famine (Becker et al., 1999; Kristof et al., 1993; Rawson
4 et al., 2001). Pathological cannibalism is rare and involves an individual voluntarily consuming
5 the flesh, body parts, and/or organs of another human being. Cases of pathological cannibalism
6 attract a great deal of media attention and is strongly condemned by society (Raymond, Léger, &
7 Gasman, 2019). Famous cases include that of as F. Haarmaan who was convicted of killing and
8 selling the body parts of 24 boys as food (Pfäfflin et al., 2008), and J. Dahmer who murdered and
9 cannibalised 17 men (Jentzen et al., 1994). Serial killers who engage in cannibalism of their
10 victims' bodies are classified as pathological cannibals.

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13 Lester, White, and Giordano (2015) examined a sample of 345 serial killers, 31 of whom had
14 engaged in cannibalism. Those who engaged in cannibalism typically grew up in adverse
15 environments, often experiencing physical abuse, family-member suicides, psychiatric illness of
16 the mother, etc. Cannibalism was also associated with existing psychiatric problems including
17 psychiatric diagnoses and psychiatric hospitalizations. In terms of profiling, cannibalism can be
18 used to identify a certain crime signature, which may help to link crimes. However, due to its
19 rare occurrence, limited scientific research exists regarding cannibalism among serial killers.

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1 **The present study**

2 To understand why a serial killer may cannibalise their victims, it is important to
3 understand better the common patterns or themes among cannibals, and how these differ from
4 non-cannibals. Thus, the aim of the present study is to explore multiple risk-factors and events in
5 the life histories of cannibalistic serial killers, to identify potential warning signs or triggers for
6 cannibalistic behaviour. The current study provides one of the largest investigations into
7 cannibalistic and non-cannibalistic serial killers, involving multiple possible risk-factors. The
8 current research is important not only in showing which risk-factors are predictive, or indicative
9 of later cannibalism, but results can be used *a posteriori* to narrow down suspect lists when
10 investigators arrive at a crime scene. If cannibalism is suspected or shown at a crime scene, the
11 current research will show which life-history events to use to narrow down a suspect list. As the
12 current research is exploratory in nature, no formal hypotheses are made. However, considering
13 previous literature into physical abuse leading to later violent behaviour (Widom & Wilson
14 2014; Wilson, Stover & Berkowitz, 2009), the experience of physical abuse is expected to be
15 increased in the cannibalistic sample (it is unclear whether it will be significantly different
16 between cannibals and non-cannibals. Furthermore, taking into consideration biological
17 explanations for cannibalism (Soldevila et al., 2005), it is expected that there will be an increase
18 in biological abnormalities in the cannibal sample compared to non-cannibals. Due to the lack of
19 empirical research, it is not possible to make assumptions on behavioural or social influences.

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Methods

22 **Sample**

1 An all-male sample of 42 serial killers who cannibalised their victims was compared to a
2 sample of 42 serial killers who did not cannibalise their victims. The year the serial killers were
3 active ranged from 1939-2009 in several different countries; Australia (N=1), Canada (N=1),
4 China (N=2), England (N=2), France (N=2), Germany (N=2), Hungary (N=1), India (N=3),
5 Japan (N=1), Khazikstan (N=1), Poland (N=1), Russia (N=5), South Africa (N=1), South Korea
6 (N=1), Spain (N=2), Turkey (N=1) and U.S. (54).

7 For the cannibalistic serial killers, the average age at first kill was 29 (SD=9.8), and the
8 average age at last kill was 35 (SD=11.8). For the non-cannibalistic serial killers, the average age
9 at first kill was 28 (SD=8.1), and the average age at last kill was 34 (SD=9.9). The average
10 number of victims across the cannibalistic sample was 15 (SD=31.9), compared to an average of
11 5 (SD=3.6) in the non-cannibalistic sample. Data was unavailable on whether the sample of
12 cannibals cannibalised their victims in every case, thus the inclusion criteria for such group was
13 the cannibalisation of victims in at least one case. The inclusion criteria for the opposing group
14 was no evidence of cannibalism in any case.

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16 **Materials**

17 Information about the sample was generated via a number of databases as well as online
18 and offline resources (e.g., lexisnexis, documentaries, media reporting, [auto-] biographies, court
19 and declassified police documents). In all cases, information for each killer was gained from
20 multiple resources and cross-checked for validity. This approach has been used in previous
21 studies using similar datasets and offers a reliable, valid approach to information gathering of
22 real-world cases.

23 **Variables:**

1 A number of variables were investigated in relation to cannibalism:

2 **Childhood abuse:** The presence/absence of abuse during childhood was recorded for killers.

3 Three main types of abuse were explored; Psychological, physical and sexual abuse.

4 **Biological abnormalities:** The presence/absence of any brain abnormalities was recorded. This
5 also included whether or not the killer had any kind of head Injury, and if they had a medical
6 complication at birth.

7 **Background Factors:** The background factors of the subjects were examined, such as the killer's
8 Education Level Prior to killing. This included but was not limited to; no education, drop Out,
9 bachelor's degree and diploma. In this section, it was also recorded whether or not the killer had
10 been orphaned or abandoned by a parental figure.

11 **Socio-economic status in Youth:** The SES of the killer during their childhood and adolescence
12 was recorded.

13 **Family history:** The criminal histories of close family members were recorded, this included
14 whether the killer had any relatives who were murderers, and if their parents had been
15 incarcerated for any offence.

16 **Criminal History:** The criminal histories of the subjects were recorded, this included whether or
17 not the killer had a juvenile record, and if the killer had any non-convicted offences in his youth.

18 **Mental health:** The mental health of subjects was recorded, this included whether the killer was
19 diagnosed with a mental disorder following the arrest.

20 **Deviant sexual interests:** The presence of any paraphilia's were recorded, this included but was
21 not limited to; sexual sadism, chronophilia and paedophilia, etc.

1 ***Alcohol and Drugs:*** Alcohol and drug use was noted from a variety of sources. This was
2 measured during their youth and during the period of their first kill. These were recorded
3 separately.

4

5 **Results**

6 **Analysis**

7 The study contains data from serial killers who have cannibalised their victims and those
8 who have not cannibalised their victims. Common patterns were assessed in the life histories of
9 serial killers who cannibalise their victims; taking into consideration multiple interacting
10 variables. An identical process conducted on an equal control sample of serial killers who did not
11 cannibalise their victims.

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13 Overall differences between cannibal and non-cannibal serial killers were analysed with a
14 Chi-square (χ^2) test, $\chi^2(26) = 41.39, p = .023$. Therefore, there were significant differences in the
15 overall model comprising all of the variables related to cannibal and non-cannibal serial killers.
16 To explore where these main differences were, adjusted standardised residuals were calculated,
17 and the results are shown in Table 1. Several variables were significantly different between
18 cannibal and non-cannibal serial killers: brain abnormality, medical complications at birth, low
19 Social Economic Status (SES) during their youth; and abandonment by a parental figure. Across
20 all of these variables, the scores were significantly higher in the cannibal serial killer group, than
21 the non-cannibal serial killer group. Indeed, across every variable in the study, the cannibal
22 group scored higher than the non-cannibal group, except variables related to sexual abuse in

1 childhood and all of the paraphilias (sexual, chronophilia, and paedophilia. This may indicate
2 that cannibalism is markedly separate from other paraphilias, and is not comorbid.

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-TABLE 1 ABOUT HERE PLEASE -

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7 A distinction in the SES of serial killers during their youth was found between those who
8 cannibalised their victims and those who did not. Although there was no difference in high SES
9 between the two groups, there was a dramatic increase in those from low SES in cannibals. This
10 indicates a possible social influence of cannibalism. This supports research suggesting that social
11 exclusion may be concerned in the cause of cannibalisation (Young et al., 1999).

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Discussion

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The aim of the current study was to elucidate the differences between cannibal and non-
cannibal serial killers. This is the first study to compare real life case studies of serial killers who
cannibalised their victims and those who do not, whilst taking into consideration biological,
behavioural, social and parental influences. These include but are not limited to: biological
abnormalities, Social Economic Status, life events, childhood, deviant sexual interests, etc. The
clear and simplistic presentation of data allows for an instant understanding of the similarities
and dissimilarities between the two groups. This is important given the vast number of
influencing factors suggested throughout literature (Obeyesekere et al., 2005; Murphy &
Mallory, 2000; Andrews & Fernández-Jalvo, 2003).

1 Several significant patterns were shown in the current data. For example, there was an
2 increased prevalence of biological abnormalities in paraphilic serial killers, when they were
3 cannibals compared to the non-cannibal sample. Thus, a biological explanation for sexual
4 deviance is assumed in such sample. This supports research on the biological foundations of
5 paraphilias (Langevin et al., 1992). Some research studies of testosterone levels in paraphilic
6 individuals with deviant sexual interests suggest that elevated testosterone levels may be
7 correlated with violent sexual behaviour (Rada, Laws & Kellner 1976). However, this specific
8 hypothesis cannot be supported by the results of the current study, as testosterone levels were not
9 investigated. Rather, results of the current study support research into the neurological systems
10 of the body being implicated in the cause of paraphilia's (Briken, Habermann, Berner & Hill
11 2005). However, the correlation between sexual deviance and biological abnormalities were not
12 investigated thoroughly enough in the present study to make any formal assumptions. Therefore,
13 future research should conduct an in-depth analysis on the correlation between deviant sexual
14 interest and biological abnormalities in serial killers who cannibalise their victims.

15 The experience of abuse was slightly increased in those who cannibalised their victims
16 compared to those who did not. The prevalence of psychological abuse and particularly physical
17 abuse was increased; however, experiences of sexual abuse were slightly decreased in cannibals.
18 Considering this and the decrease in all other sexual interests in cannibals compared to non-
19 cannibals (sexual sadism, chronophilia and paedophilia), it is unclear whether cannibalisation of
20 victims stems from a sexual desire.

21 Furthermore, due to the increase in family members who committed murder in cannibals,
22 it is possible that there may also be a hereditary or early socialised influence of general
23 criminality. Although cause and effect cannot be established by the data provided in the current

1 study, results do support a biological causation for crime (Brookfield et al., 2003). However,
2 taking into consideration the decrease in SES in cannibals compared to non-cannibals, it is also
3 possible that the increase criminal histories may be due to the social circumstances, rather than
4 inherited factors. Clearly, a complex set of variables are risk factors for cannibals, and further
5 research is required to elucidate the interaction between risk factors.

6 Patterns in the criminal histories of cannibals and the criminal histories of family
7 members was found. In the sample of non-cannibals, there were no cases in which the killer had
8 any relatives who were murderers. Although, the criminal histories of cannibals were increased
9 compared to the non-cannibal sample, this included both the presence of a juvenile record and
10 any non-convicted offences in youth. Moreover, in the sample of cannibals who had relatives
11 who were murderers, all also had non-convicted offences in their youth. This would suggest a
12 heritability of general criminality in cannibals, or the effects of shared developmental
13 upbringing. It may be that the childhood of cannibal serial killers also leads to other criminal
14 behaviours of their siblings. Further temporal research focusing on life histories of serial killers
15 would help to clarify this (Marono et al., 2020; Keatley, et al., 2018).

16 Although the prevalence of substance abuse in serial killers is decreased in those who
17 cannibalised their victims compared to those who did not, the prevalence of a substance abuse
18 issue in youth is increased. This is consistent with research suggesting that early substance abuse
19 can result in later violent and aggressive behaviour (Boles & Miotto, 2003). Furthermore,
20 literature on extreme violence seems to suggest that the origins tend to be found in adverse life
21 experiences in childhood (Anda et al. 2005), inclusive in this is low SES in youth (Ellickson, &
22 McGuigan, 2000), parental abandonment (Chapple, Tyler & Bersani, 2005) and childhood abuse
23 (Lansford et al. 2007). This was supported in several cases of non-cannibalistic serial killers,

1 however the prevalence of multiple adverse childhood experiences increased in the cannibalistic
2 sample. Importantly, the number of adverse life events existing at the time of the kill (aka. drug
3 or alcohol abuse issue) was not increased in the cannibal sample. This Indicates that factors
4 which may differentiate serial killers who cannibalise their victims from those who do not likely
5 result from childhood influences, rather than influences at the time of the kill (De Zulueta et al.
6 2006).

7 A strength of the present study was that it allowed for a wider scope of all interacting and
8 contributing factors. However, due to the cross-sectional nature of the data, a limitation was that
9 it is not possible to establish cause and effect of influences, only that there is a difference
10 between cannibals and non-cannibals across certain variables. Clearly, follow-up studies should
11 focus on establishing causal relationships in the life history of cannibal and non-cannibal serial
12 killers, possibly using temporal frameworks (e.g., Keatley et al., 2018).

13

14 **Conclusions**

15 The aim of this paper was to compare some of the demographic and life history variables
16 of serial killers that engaged in cannibalism with those that did not. Analyses indicated that
17 various risk factors were associated with both cannibal and non-cannibal serial killers (e.g., being
18 a victim of childhood abuse; head injuries; and alcohol and drug abuse). There were, however, a
19 number of risk factors that occurred statistically significantly more times for cannibal serial
20 killers (e.g., brain abnormalities, low social economic status, and abandonment by a parental
21 figure). This shows the overlap between the types of serial killer and presents areas for further
22 research to understand the temporal effects of risk factors.

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4 References added: (will clean up last)

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References

- Abler, T. S. (1992). Scalping, Torture, Cannibalism and Rape: An Ethnohistorical Analysis of Conflicting Cultural Values in War. *Anthropologica*, 34(1), 3. doi:10.2307/25605630
- Aliverti, A. (2006). Natural Born Celebrities. *Serial Killers in American Culture*. By David Schmid (Chicago: The University of Chicago Press, 2005, 327pp.,£ 16.65 hb.). *British Journal of Criminology*, 46(3), 527-530.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., ... Giles, W. H. (2005). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174–186. doi:10.1007/s00406-005-0624-4
- Andrews, P., & Fernández-Jalvo, Y. (2003). Cannibalism in Britain: taphonomy of the Creswellian (Pleistocene) faunal and human remains from Gough's Cave (Somerset, England). *Bulletin of the Natural History Museum: Geology Series*, 58(S1), 59-81. DOI: <https://doi.org/10.1017/S096804620300010X>
- Arens, W. (1979). *The Man-Eating Myth: Anthropology and Anthropophagy: Anthropology and Anthropophagy*. Oxford University Press, USA.

Beasley, J. O. (2004). Serial murder in America: Case studies of seven offenders. *Behavioral Sciences & the Law*, 22(3), 395-414.

Becker, J. (1998). *Hungry ghosts: Mao's secret famine*. Macmillan.

Benedetti, J. (1972). *Gilles de rais*. Stein and Day.

Berry-Dee, C. (2011). *Cannibal serial killers: Profiles of depraved flesh-eating murderers*. Ulysses Press.

Boles, S. M., & Miotto, K. (2003). Substance abuse and violence. *Aggression and Violent Behavior*, 8(2), 155–174. doi:10.1016/s1359-1789(01)00057-x

Briken, P., Habermann, N., Berner, W., & Hill, A. (2005). The Influence of Brain Abnormalities on Psychosocial Development, Criminal History and Paraphilias in Sexual Murderers. *Journal of Forensic Sciences*, 50(5), 1–5. doi:10.1520/jfs2004472

Brookfield, J. F. Y. (2003). Human evolution: a legacy of cannibalism in our genes? *Current Biology*, 13(15), R592–R593. doi:10.1016/s0960-9822(03)00522-0

Byard, R. W., & Maxwell-Stewart, H. (2018). Cannibalism amongst penitentiary escapees from Sarah Island in nineteenth century Van Diemen's Land. *Forensic Science, Medicine and Pathology*, 14(3), 410-415.

Canter, D. V., & Wentink, N. (2004). An empirical test of Holmes and Holmes's serial murder typology. *Criminal justice and behavior*, 31(4), 489-515.

Caputi, J. (1993). American psychos: The serial killer in contemporary fiction. *Journal of American Culture*, 16(4), 101-112.

Chan, H. C., & Heide, K. M. (2009). Sexual homicide: A synthesis of the literature. *Trauma, Violence, & Abuse*, 10(1), 31-54.

Chapple, C. L., Tyler, K. A., & Bersani, B. E. (2005). Child Neglect and Adolescent Violence: Examining the Effects of Self-Control and Peer Rejection. *Violence and Victims*, 20(1), 39-53. doi:10.1891/vivi.2005.20.1.39

Conklin, B. A. (2001). *Consuming grief: compassionate cannibalism in an Amazonian society*. University of Texas Press.

Dietz, M. L. (1996). Killing sequentially: Expanding the parameters of the conceptualization of serial and mass killers. *Serial and mass murder*, 109-122.

Dixon, K. J., Novak, S. A., Robbins, G., Schablitsky, J. M., Scott, G. R., & Tasa, G. L. (2010). "Men, women, and children starving": archaeology of the Donner family camp. *American Antiquity*, 627-656.

- Douglas, J. E., Ressler, R. K., Burgess, A. W., & Hartman, C. R. (1986). Criminal profiling from crime scene analysis. *Behavioral Sciences & the Law*, 4(4), 401-421.
- Eisner, M. (2001). Modernization, Self-Control and Lethal Violence. The Long-term Dynamics of European Homicide Rates in Theoretical Perspective. *British Journal of Criminology*, 41(4), 618–638. doi:10.1093/bjc/41.4.618
- Ellickson, P. L. & McGuigan, K. A. (2000) Early predictors of adolescent violence. *American Journal of Public Health*, 90(4), 566–572. doi:10.2105/ajph.90.4.566
- Eschholz, S., & Bufkin, J. (2001, December). Crime in the movies: Investigating the efficacy of measures of both sex and gender for predicting victimization and offending in film. In *Sociological Forum* (Vol. 16, No. 4, pp. 655-676). Kluwer Academic Publishers-Plenum Publishers.
- Ferguson, C. J., White, D. E., Cherry, S., Lorenz, M., & Bhimani, Z. (2003). Defining and classifying serial murder in the context of perpetrator motivation. *Journal of Criminal Justice*, 31(3), 287-292.
- Fernaández-Jalvo, Y., Carlos Díez, J., Cañeres, I., & Rosell, J. (1999). Human cannibalism in the Early Pleistocene of Europe (Gran Dolina, Sierra de Atapuerca, Burgos, Spain). *Journal of Human Evolution*, 37(3-4), 591–622. doi:10.1006/jhev.1999.0324

Flowers, R. B. (2002). *Murder, at the end of the day and night: a study of criminal homicide offenders, victims, and circumstances*. Charles C. Thomas

Flowers, R. B. (2002). *Murder, at the end of the day and night: a study of criminal homicide offenders, victims, and circumstances*. Charles C. Thomas.

Grover, C., & Soothill, K. (1999, July). British serial killing: Towards a structural explanation. In *The British Criminology Conferences: Selected Proceedings (Vol. 2)*.

Gurr, T. R. (1981). Historical Trends in Violent Crime: A Critical Review of the Evidence. *Crime and Justice*, 3, 295–353. doi:10.1086/449082

Hale, R. (1998). The Application of Learning Theory to Serial Murder, or "You Too can Learn to Be a Serial Killer. *RM Holmes, & ST Holmes, Contemporary Perspectives on Serial Murder*, 75-84.

Hodgkinson, S., Prins, H., & Stuart-Bennett, J. (2017). Monsters, madmen... and myths: A critical review of the serial killing literature. *Aggression and violent behavior*, 34, 282-289.

Jarvis, B. (2007). Monsters Inc.: Serial killers and consumer culture. *Crime, Media, Culture: An International Journal*, 3(3), 326–344. doi:10.1177/1741659007082469

Jentzen, J., Palermo, G., Johnson, L. T., Ho, K. C., Stormo, K. A., & Teggatz, J. (1994).

Destructive hostility: The Jeffrey Dahmer case: A psychiatric and forensic study of a serial killer. *The American journal of forensic medicine and pathology*.

Keatley, D. A., Golightly, H., Shephard, R., Yaksic, E., & Reid, S. (2018). Using behavior sequence analysis to map serial killers' life histories. *Journal of interpersonal violence*, 0886260518759655.

Keppel, R. D., & Birnes, W. J. (2008). *Serial violence: Analysis of modus operandi and signature characteristics of killers*. CRC Press.

Knauff, B. (1999). *From Primitive to Postcolonial in Melanesia and Anthropology*.
doi:10.3998/mpub.10934

Kristof, N. (1993). A tale of red guards and cannibals. *NY Times*, Jan, 6, A8.

LaBrode, R. T. (2007). Etiology of the psychopathic serial killer: An analysis of antisocial personality disorder, psychopathy, and serial killer personality and crime scene characteristics. *Brief Treatment and Crisis Intervention*, 7(2), 151.

Langevin, R. (1992). Biological Factors Contributing to Paraphilic Behavior. *Psychiatric Annals*, 22(6), 307–314. doi:10.3928/0048-5713-19920601-07

- Lester, D., White, J., & Giordano, B. (2015). Cannibalism. *OMEGA-Journal of Death and Dying*, 70(4), 428-435.
- Lindenbaum, S. (2004). Thinking about cannibalism. *Annu. Rev. Anthropol.*, 33, 475-498.
- Marlar, R. A., Leonard, B. L., Billman, B. R., Lambert, P. M., & Marlar, J. E. (2000). Biochemical evidence of cannibalism at a prehistoric Puebloan site in southwestern Colorado. *Nature*, 407(6800), 74-78.
- Marono, A. J., Reid, S., Yaksic, E., & Keatley, D. A. (2020). A behaviour sequence analysis of serial killers' lives: from childhood abuse to methods of murder. *Psychiatry, psychology and law*, 27(1), 126-137.
- Marono, A., Clarke, D. D., Navarro, J., & Keatley, D. A. (2017). A Behaviour Sequence Analysis of Nonverbal Communication and Deceit in Different Personality Clusters. *Psychiatry, Psychology and Law*, 1-15. doi:10.1080/13218719.2017.1308783
- Marono, A., Clarke, D., Navarro, J., & Keatley, D. (2017). A Sequence Analysis of Nonverbal Behaviour and Deception. *Journal of Police and Criminal Psychology*. doi:10.1007/s11896-017-9238-9
- Miller, L. (2014). Serial killers: I. Subtypes, patterns, and motives. *Aggression and Violent Behavior*, 19(1), 1-11.

- Murphy, E. M., & Mallory, J. P. (2000). Herodotus and the cannibals. *Antiquity*, 74(284), 388–394. doi:10.1017/s0003598x00059470
- Obeyesekere, G. (2005). Cannibal TalkThe Man-Eating Myth and Human Sacrifice in the South Seas. doi:10.1525/california/9780520243071.001.0001
- Palermo, G. B., & Kocsis, R. N. (2005). *Offender profiling: An introduction to the sociopsychological analysis of violent crime* (Vol. 1107). Charles C Thomas Publisher
- Palermo, G. B., & Kocsis, R. N. (2005). *Offender profiling: An introduction to the sociopsychological analysis of violent crime* (Vol. 1107). Charles C Thomas Publisher.
- Pfäfflin, F. (2008). Good enough to eat. *Archives of sexual behavior*, 37(2), 286-293.
- Price, M. L. (2004). *Consuming passions: The uses of cannibalism in late medieval and early modern Europe* (Vol. 20). Routledge.
- Promish, D. I., & Lester, D. (1999). Classifying serial killers. *Forensic science international*, 105(3), 155-159.
- Rada, R. T., Laws, D. R., & Kellner, R. (1976). Plasma Testosterone Levels in the Rapist. *Psychosomatic Medicine*, 38(4), 257–268. doi:10.1097/00006842-197607000-00004

- Rawson, C. J. (2002). *God, Gulliver, and genocide: barbarism and the European imagination, 1492-1945*. Oxford University Press, USA.
- Raymond, S., Léger, A. S., & Gasman, I. (2019). The psychopathological profile of cannibalism: a review of five cases. *Journal of forensic sciences*, 64(5), 1568-1573.
- Rennison, C. M. (2003). Bureau of justice statistics crime data brief: intimate partner violence, 1993–2001. Washington, DC: US Department of Justice Office of Justice Programs.
- Ressler, R. K., & Shachtman, T. I. (1997). *Have Lived in the Monster: Inside the Minds of the World's Most Notorious Serial Killers*; St. Martin's Paperbacks: New York, NY, USA.
- Ressler, R. K., Burgess, A. W., & Douglas, J. E. (1988). *Sexual homicide: Patterns and motives*. Simon and Schuster.
- Saladié, P., Huguet, R., Rodríguez-Hidalgo, A., Cáceres, I., Esteban-Nadal, M., Arsuaga, J. L., ... Carbonell, E. (2012). Intergroup cannibalism in the European Early Pleistocene: The range expansion and imbalance of power hypotheses. *Journal of Human Evolution*, 63(5), 682–695. doi:10.1016/j.jhevol.2012.07.004
- Schechter, H. (2012). *The A to Z encyclopedia of serial killers*. Simon and Schuster.

Schlesinger, L. B. (Ed.). (2000). *Serial offenders: Current thought, recent findings*. CRC Press.

Schmid, D. (2008). *Natural born celebrities*. University of Chicago Press.

Seltzer, M. (1998). *Serial killers: Death and life in America's wound culture*. Psychology Press.

Simpson, P. L. (2017). Serial Killing and Representation. In *Oxford Research Encyclopedia of Criminology and Criminal Justice*.

Soldevila, M. (2005). The prion protein gene in humans revisited: Lessons from a worldwide resequencing study. *Genome Research, 16*(2), 231–239. doi:10.1101/gr.4345506

Stoneking, M. (2003). Widespread prehistoric human cannibalism: easier to swallow? *Trends in Ecology & Evolution, 18*(10), 489–490. doi:10.1016/s0169-5347(03)00215-5

Tanaka, T., & Tanaka, T. (1996). *Hidden horrors: Japanese war crimes in World War II* (p.

127). Boulder, CO: Westview

Widom, C. S., & Wilson, H. W. (2015). Intergenerational transmission of violence. In *Violence and mental health* (pp. 27-45). Springer Netherlands. Press.

Widom, C. S., & Wilson, H. W. (2014). Intergenerational Transmission of Violence. *Violence and Mental Health, 27–45*. doi:10.1007/978-94-017-8999-8_2

Wiest, J. B. (2016). Casting cultural monsters: Representations of serial killers in US and UK news media. *Howard Journal of Communications*, 27(4), 327-346.

Wilson, H. W., Stover, C. S., & Berkowitz, S. J. (2009). Research Review: The relationship between childhood violence exposure and juvenile antisocial behavior: a meta-analytic review. *Journal of Child Psychology and Psychiatry*, 50(7), 769–779. doi:10.1111/j.1469-7610.2008.01974.x

Young, J. (1999). Cannibalism and Bulimia: *Theoretical Criminology*, 3(4), 387–407. doi:10.1177/1362480699003004001