THE DEVELOPMENTAL PSYCHOLOGY OF A SERIAL KILLER: A CASE STUDY

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I, THE UNDERSIGNED MEMBER OF THE COMMITTEE,
HAVE APPROVED THIS THESIS

THE DEVELOPMENTAL PSYCHOLOGY OF A SERIAL KILLER: A CASE STUDY

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ABSTRACT

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May 2020

The term serial killer was coined by an FBI investigator in the 1970s, and since then has been used to describe criminals who have committed two or more premeditated murders. In an attempt to understand what motivates these individuals, it is integral to investigate the unique experiences that every serial killer has and point out similarities between them, as well as the stark differences. A thorough biographical examination of a serial killers’ life was obtained using the case study method, and specific moments from birth to conviction were analyzed (Keatley, Golightly, Shephard, Yaksic, & Reid, 2018).

Specifically, the biopsychosocial developmental timeline approach was utilized to examine the factors that occurred over the individual’s lifespan to potentially examine the relationship to his homicidal behavior. The following factors were identified: alcohol/substance abuse, need for belonging, sexual deviation, and history of criminal behavior. Additionally, aspects such as environment and prior criminal history were taken into consideration during the analysis. The current research surrounding developmental psychology in serial killers is limited. With that being said, this study aims to provide insight as to how different life experiences lead these individuals to a life of crime and the eventual homicides they commit.
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CHAPTER 1

INTRODUCTION

The purpose of this study is to gain a more comprehensive understanding for what drives an individual to commit murder, using a timeline method to examine life experiences. Serial killers have been the focal points of many studies throughout psychology and other fields, respectively. However, the point of interest of each individual is usually their history of violent behavior and the causes of it. Research seldom involves the biological, psychological, and psychosocial factors that may play into their violent behavior. Current research suggests that a multitude of factors impact the development of such individuals and for that reason, their developmental psychology must be examined.

When examining timelines of a serial killer’s life, paying close attention to their childhood is necessary in order to detect any deviation in their behavior and tracing it throughout their lifespan. Many of the violent thoughts begin at a very young age and are later brought to fruition in their adulthood (Miller, 2014). Some experts believe that the violent fantasies these individuals experience are in response to threats or mistreatment (Allely, Minnis, Thompson, Wilson, & Gillberg, 2014). The problem is that serial killing is incredibly rare, which is why it is difficult to pinpoint what exactly drove that person to commit such offenses.
This research study incorporates an in-depth review of literature with respect to the formative factors that have been proposed to impact aggressiveness, violence, sequential homicide, and mass homicide. These elements have either evolved or happened through the span of a person's lifetime. The methodology and design of this mixed-methods study is also interpreted. The biopsychosocial developmental timeline approach is utilized, and the subsequent analyses are explained to note the developmental differences within a serial killer’s lifespan. The implications for the future of such research are likewise considered.
CHAPTER 2

REVIEW OF THE LITERATURE

The act of serial killing is an extremely violent form of criminal behavior that a small percentage of criminals partake in. Formerly, the FBI would say that a serial killer was classified as a person who commits three or more homicides with a cooling off period in between, but the threshold was lowered to two or more (Fridel & Fox, 2018). There has been a constant debate over how to define the term “serial killer,” but the bigger question is how to distinguish between the types of individuals that are more likely to commit these types of crimes. In the past, statistical analyses have been used to determine the cooling off period between different serial killers (Keatley, Golightly, Shephard, Yaksic, & Reid, 2018). Recently, mapping out the geographical location of where murders occur has been the method used to track a serial killer. A common area of research has been how to detect when there is an active serial killer and how to apprehend that person. However, there is minimal research about what type of life events could potentially lead a person down this path, to commit these serial offenses (Keatley et al., 2018).

Developmental psychology has been a primary focus for many researchers, specifically when studying the behaviors that motivate serial killers. However, since this is an area of research that is still in its early stages, most is very outdated and is not representative of the individuals within this category (Keatley et al., 2018). There are
obvious gaps within the past research, a major one being that a serial killer’s behavior has been analyzed to create a checklist of traits common within other serial killers (Keatley et al., 2018). However, this checklist is completely generalized and does not take into consideration different factors such as: time period, relationships, or family dynamics. With that being said, in order for developmental psychology to be a successful area of research, more needs to be done regarding studying the individuals past, specifically focusing on the individual’s childhood and any abnormal or antisocial behaviors that start at an early age and carry out throughout the killer’s lifespan.

Serial killers and mass murderers have constantly been an area of interest for many researchers, not only because of the crimes they commit, but also because of the motivations behind the act. In several past studies, researchers concluded that many serial killers also had developmental problems (Allely, Minnis, Thompson, Wilson, & Gillberg, 2014). There is not one single factor that determines the behavior and motives of serial killers, which is why so many researchers conduct case studies in order to extensively dissect a person’s history (Dogra et al., 2012). Even then, it is also important to note the years that the serial killer was active because some research has shown that the years in which they had their killing spree could also be a result of historical or social occurrences (Haggerty & Ellerbock, 2011).

A detailed profile of serial killers and mass murderers grew out of numerous studies and included the notion that many of these individuals grew up with self-esteem issues (Knight, 2006). Starting with trouble in their childhoods, a lot of eventual serial killers grew up with absent caregivers, most often, their father abandoned them and the mother was left trying to care for the child (Knight, 2006). Being that these individuals
were often left alone to care for themselves, there was really no one ever there to steer
them in the right direction. Additionally, if one of the parents abandoned the child, it was
not uncommon that the other parent would abuse the child, psychologically, physically,
or emotionally (Leary, Southard, Hill, & Ashman, 2017). Past studies have connected
parental abuse with the predisposition to go on to commit murder in the future. Many of
the deviant behaviors that serial killers possess manifest during their childhood and are
usually easily distinguishable (Murray, 2017). Deviant behaviors include inappropriate
sexual fantasies at a young age and the three behaviors as mentioned in the MacDonald
Triad. This triad includes animal cruelty, arson, and bedwetting. If any two of the
behaviors are present, there is significant research to show they are also associated with
later violent offenses (Leary et al., 2017). Moreover, a study done by the FBI found that
many convicted murderers had participated in some form of animal cruelty in their past,
which pointed to a possible correlation between this behavior and later violent offenses
(Leary et al., 2017).

Developmental psychology tries to focus on the individual holistically in order to
create a temporal compilation of all the major events and any behavioral deviations, in
order to understand why they committed their crimes. Human development is not always
a straight path, as demonstrated by these serial killers (Reid, Katan, Ellithy, Della Stua,
Denisov, & Beauregard, 2019). It is important to look at the developmental psychology
of these individuals because a lot of them are prenatally exposed to toxins that may cause
biological abnormalities. From then on, because of this exposure, this may be one way to
explain the behavior and traits they begin to display as they grow up and when they
eventually commit their crimes. Without this in depth look at serial killers’ lives,
researchers might look past something like this. Within this field and specifically for this type of research, it is extremely important to look at all of the major events throughout their life and see how each one has an effect on the next and if there is a way to connect them back to each other.

It is extremely difficult to find relevant research on the developmental psychology of serial killers. Most of the research that exists are mainly case studies because as mentioned earlier, the focus is on the individual's childhood, traumatic experiences, and any abnormal behaviors. While this type of research is extremely detailed, it is a very extensive process. A major limitation to these types of studies is the availability of data. Additionally, since researchers must synthesize so much of these individuals' life histories, there is also the aspect of sifting through what is relevant to include in such research studies. Researchers are looking at the individual's entire life, and any events prior to birth and leading up to their crime spree that potentially motivated them to begin their life of crime.

**Examination of the Developmental Lifespan of a Serial Killer**

Research in developmental psychology involves extensive exploration of the lifespan and human development, starting from birth and ending with death (Reid et al., 2019). It is imperative to note that every person has different life experiences, therefore comparisons are not always accurate in cases such as this. However, when an individual’s experiences or behaviors become distressing, deviating, dysfunctional, or dangerous, it is at that point that researchers must pay close attention to the changes that occur. Based on past studies, it is difficult to definitively explain why serial killers exist or why people murder, that is why the research in this field is ongoing and everchanging. While it is
difficult to give an exact answer, there are several motivations spanning across different categories, that may help society understand why these individuals commit murder and the violence behind their actions.

**Psychological Factors**

Former research has considered that serial killers act out in such ways in order to distinguish themselves within a society where they feel useless (Ferguson, White, Cherry, Lorenz, & Bhimani, 2003). However, experts deduce that individuals cannot possess such abnormal conduct without being somewhat psychologically disturbed (Ferguson et al., 2003). As opposed to sequential homicide being a deviant way of dealing with stress for pressure or a poor adolescence, with certain people, sequential homicide may act as a form of gratification by exerting needless control over people the suspect sees as a mere conduit of their own aggression.

**Abandonment**

In psychology, an individual’s environment is always carefully examined whenever any abnormalities are present in their behavior. In one particular study, in a sample of thirty-nine men, 56% were abandoned by one parent in their early childhood (Reid, Katan, Ellithy, Della Stua, Denisov, & Beauregard, 2019). Fathers were typically the parent that was absent in their child’s life. The absence of a father figure was found to increase the child’s chance of developing a conduct disorder (Reid et al., 2019). The earlier the abandonment occurred, the higher the likelihood that the person would be affected later in life. Even if the parent never physically abandoned their child, some men from this study reported feeling emotionally distant or abandoned by one of their parents, if not both. This detached relationship dynamic could also lead to psychological trauma.
as the person may feel like they were never worthy of their parent’s attention (Reid et al., 2019). Children who are rejected by their parents have the propensity to display behaviors of aggressiveness and hostility, and have a difficult time developing psychologically and psychosocially (Reid et al., 2019).

**Deviant Fantasies**

In a study that examined 50 serial killers, 68% were found to have experienced some form of maltreatment or another form of abuse, at some point in their childhood (Mitchell & Aamodt, 2005). The traumatic memories these experiences produce enable the individual to suppress the pain they felt, oftentimes resulting in deviant fantasies (Carlisle, 1993). Over time, these fantasies can become entangled in the individual’s everyday life to the point where the fantasies become a controlling feature in their life (Carlisle, 1993). These deviant fantasies can either be violent or sexual in nature and might involve specific actions that cannot be acted out in reality (Carlisle, 1993). It could also be the case that the individual becomes so wrapped up in their fantasies, that they begin to dissociate from reality and it becomes difficult to differentiate between what is real and what is imagined. The person shifts back and forth between their true identity and their imagined identity, both becoming equally incorporated in their personality. This imagined identity becomes a source where the individual is able to live out their violent urges and eventually may even act on them (Carlisle, 1993).

**Biological Factors**

The existence of a specific biological or genetic basis for serial killings is currently an unresolved matter (Allely, Minnis, Thompson, Wilson, & Gillberg, 2014). However, the association between neurochemical imbalances and aggressiveness has
been confirmed. Low serotoninergic levels in humans is commonly associated with impulsive, self-destructive behavior while increased levels of synaptic serotonin were associated with aggression (Allely et al., 2014). Findings indicate that children whose biological parents were convicted of crimes are more likely to commit violent and antisocial acts themselves (Coren, 1999). Other biological factors include traumatic brain injuries, brain abnormalities, and hereditary factors (Mitchell & Aamodt, 2005).

**Early Drug and Alcohol Abuse**

Many studies have identified that oftentimes, serial killers have had a long history of abusing alcohol and drugs. In some cases, there is even a prenatal exposure to these different substances that could very well have a biological impact on the fetus (Reid, Katan, Ellithy, Della Stua, Denisov, & Beauregard, 2019). This prenatal period is critical for developing fetuses and studies show that more than 60% of individuals are born to at least one parent with a substance abuse problem to illicit drugs or alcohol (Reid et al., 2019). Prenatal exposure has been found to deregulate critical neurotransmitters, including dopamine and serotonin, which both have adverse effects on human behavior and development. The absence of some of these key neurotransmitters can lead to aggression and sometimes even comorbid disorders like antisocial personality disorder (Reid et al., 2019). It is not always the case that people who are exposed prenatally to drugs or other substances end up becoming serial killers, it is simply that the serial killers who have been studied have a higher prevalence for this. Individuals may be exposed to drugs and other substances in their childhood, by their peers or older siblings. If the individual starts early enough, there is always the possibility of the individual developing an addiction to the substance and may depend on it for a majority of their life. The
addiction often results in the individual resorting to petty crimes in order to pay for drugs and that can escalate until they commit their first homicide.

**Head Injuries**

Traumatic brain injuries (TBI) are characterized by the loss of consciousness or ongoing cognitive impairment that follows a strong blow to the head (Vaughn, Salas, DeLisi, & Perron, 2014). Traumatic brain injuries can have detrimental effects that last throughout a person’s lifetime and may even lead to developmental disruptions (Allely, Minnis, Thompson, Wilson, & Gillberg, 2014). TBI’s are most prevalent in children under the age of 4 and individuals aged 15-19 years-old. Additionally, they are more common in males (Vaughn et al., 2014). Many studies have even analyzed the connection between neurodevelopmental disorders and criminal behavior (Allely et al., 2014). Based on a study of incarcerated juveniles, those with a TBI were frequently found to be males with a higher prevalence for depression and hostility as well as a propensity for drug usage (Vaughn et al., 2014). From a theoretical perspective, TBI’s are situated between two significant theories of behavior, criminal and antisocial (Vaughn et al., 2014). These theories state that males with TBI’s may exhibit some behavioral issues during their youth, which eventually subsides, while a small percentage of these males will reoffend throughout the course of their life.

**Psychosocial Factors**

In a study of more than sixty serial killers, psychosocial factors were a common aspect in most of their childhood’s (Allely et al., 2014). Examples of psychosocial factors include abuse, rejection, bullying, loneliness, marital status and work environment. Research into the consequences of childhood neglect on the violent actions of adults who
are now serial killers found that those individuals who were physically, emotionally, and sexually abused as children were three times more likely to behave aggressively when compared to adults who did not experience any type of abuse (Allely et al., 2014). However, it is difficult to make this comparison with the non-criminal population, so researchers are unable to specify whether serial killers have suffered more in childhood (Allely et al., 2014). Many cases identify early adoption, abuse, and abandonment as some of the characteristics of childhood that may account for violent crime and serial killing (Allely et al., 2014).

**Antisocial Behavior (ASB)**

When referring to serial killers, the term psychopath is often used as a descriptor for their violent behavior. However, the terms psychopath and serial killer are not interchangeable and “criminal psychopath” may be a better representation for serial killers that demonstrate consistent antisocial behavior throughout their lifespan (Leary, Southard, Hill, & Ashman, 2017). Research on the Macdonald Triad suggests that animal cruelty, fire setting and enuresis (“bed-wetting”) are often a result of parental abuse and may be indicators of future violent behavior (Leary et al., 2017). These triadic behaviors may occur in accordance with a dysfunctional familial setting, which suggests a greater propensity for later aggressive and antisocial behavior (Leary et al., 2017). Based on case studies involving some of the most prolific serial killers, such as Jeffrey Dahmer and Dennis Nilsen, high degrees of isolation and loneliness in childhood were found to be significant predictors of later antisocial behavior (Martens & Palermo, 2005). Extreme isolation and loneliness may potentially lead to social and emotional desensitization as well as violence and aggression later on in life (Martens & Palermo, 2005).
Limitations of Previous Research on Multiple Homicide Offenders

To date, the empirical literature on multiple murder remains in its nascent stages—often qualitative in design and at times merely quasi-scientific in nature. Numerous limitations characterize this small but growing body of work. For example, narrative accounts of the lives of multiple murderers have indeed found popularity in the “true crime” literature (Aamodt & Moyse, 2003), and narrative-style case histories utilizing a similar approach have appeared in more scholarly outlets, including scientific journals (Aamodt & Moyse, 2003). While the narrative approach has demonstrated some utility in the study of multiple murder, it nonetheless is characterized by some key limitations. First, thorough examinations within case histories of biological, psychological, and psychosocial factors are rare in the literature. True, these factors may be mentioned within case history presentations; however, they are rarely conceptualized as separate (and perhaps interacting) contributors toward violence, and their individual etiological trajectories within the lives of multiple homicidal individuals have gone largely unexplored. Second, while the narrative approach may make for interesting reading, it nonetheless may prove cumbersome—even overwhelming—to the reader attempting to gain a meaningful understanding of the chronological sequencing of events in a multiple homicide offender’s life leading up to the act of killing. In essence, it becomes difficult to “see the forest through the trees” utilizing this approach.

Furthermore, correlational research on violence in general does not address temporal relationships between biological, psychological, and psychosocial factors and onset of homicide events (i.e., “which came first?”). As such, this type of research cannot
address causation—arguably one of the most sought-after answers and valued lines of
inquiry in the study of multiple murder.

A Developmental Timeline Approach to the Study of Multiple Murder

A solution to both of the limitations described above—that of an effective
organization of large quantities of life event data which (1) permits both meaningful
conceptual understanding of a multiple homicide offender’s life, and (2) allows for
speculation into cause-and-effect relationships between biological, psychological, and
psychosocial factors and homicide events—may come from the field of clinical
psychology, in the form of timelines.

In a field such as psychology, when it comes to analyzing results within a study, a
statistical analysis is typically conducted in order to show any anomalies or statistical
significance between factors. While the statistics within such studies yield significant
results for practitioners in the field and others alike, the statistics are not always easy to
interpret at first glance. For that reason, an empirical method involving a timeline
approach was used in this study. Timelines are particularly useful for studies involving
plotting various data points to show their progression over time. Timelines can display
variables across a short- or long-term time period, even encompassing an individual's
entire lifespan, with specific emphasis on the more troubling areas within the lifespan
(Marland, McNay, Fleming, & McCaig, 2011). Timeline research may provide valuable
historical and contextual information and help to recognize the effect on thought,
emotions, and behaviors associated with experiencing traumatic events.

Delineating life events through a timeline promotes the perception and
comprehension of complex changes of events, as it helps put together interrelated
thoughts and perceptions that might be difficult to verbally synthesize and convey (Mazzetti & Blenkinsopp, 2012). Visual images are important presentation tools; powerful means of expressing ideas to others. Displays are built on the basis of integrated data patterns and may reflect the influence of the underlying variables, such as time or place (Berends, 2011). While using visual timelines might lessen the complexity of understanding copious amounts of information, there are obvious difficulties in portraying life events in a condensed manner, events may be open to interpretation, if not presented with explicit details (Berends, 2011).

There are very few studies that utilize timelines as a means for analyzing copious amounts of data. One exception is Pettit and Schug (2015), who—in a study of serial murderer Jeffrey Lionel Dahmer—extracted over 300 data points from multiple published and unpublished sources including FBI and court documents, scholarly articles, and interview material from mental health professionals who spoke with Dahmer directly. These authors then coded the data points in chronological order into separate biological, psychological, and psychosocial timelines. Results from 100 preliminary data points indicated markers for biological impairments were more predominant in the early years of Dahmer’s life (i.e., in utero and early childhood) and largely absent from his later years. Markers for psychosocial impairments developed afterwards (i.e., at age 3) and persisted throughout his lifespan, whereas markers for psychological impairment appeared to develop last. Moreover, results from analyses of variance (ANOVAs) indicated that the mean distances from data points to the initial and last homicide events (i.e., their “proximities”—calculated by subtracting the age at each data point from the age of the respective homicide events, and represented in number of years) were
significantly different among biological, psychological, and psychosocial data points. Specifically, biological events were significantly more distal to the initial homicide event (at age 18), followed by psychosocial and then psychological events; and psychological events were significantly more proximal to both initial and last homicide events (i.e., homicides 12 – 17, at age 31; all ps < 0.05). Results may also suggest, in the case of Jeffrey Lionel Dahmer, a series of murders driven more so by psychological factors (i.e., the more proximal data points to the murders) than psychosocial or biological factors.

While this initial pilot work was limited to secondhand data related to an already-deceased (though widely written-about) serial killer, subsequent efforts (Frankot, Tabata, & Schug, 2017; Schug, Tabata, & Lucas, 2018) have improved upon the methodology by recruiting living, incarcerated serial murderers for firsthand data collection and subsequent timeline development. As such, it is clear that the application of timelines to the study of multiple homicide offenders represents a significant advantage in terms of chronologically organizing and understanding large quantities of developmental data, and suggest a methodology that would be a significant leap forward in the scientific study of serial and mass murder, which has lacked any substantive empirical progress over the past several decades. For that reason, this study examines the life of a serial killer using the visual timeline approach.

**Study Hypotheses**

The present study will test the following hypotheses:

**Hypothesis 1.** The biopsychosocial developmental timeline approach will provide an effective method for the visual examination of the developmental progression of
biological, psychological, psychosocial, and antisocial behavioral risk factors in chronological order in the life of an individual convicted of multiple homicide offenses.

**Hypothesis 2.** Visual examination of the overlaid biological, psychological, psychosocial, and antisocial behavioral timelines will reveal that specific risk factors (i.e., biological, psychological, psychosocial, or antisocial behavioral) will be concentrated in different age ranges throughout the individual’s life (i.e., childhood, adolescence, and/or adulthood).

**Hypothesis 3.** Visual examination of the overlaid biological, psychological, psychosocial, and antisocial behavioral timelines will reveal that specific risk factors (i.e., biological, psychological, and/or psychosocial) will “overlap” with the developmental progression of antisocial behavior across the individual’s lifetime.

**Hypothesis 4.** Specific risk factors (i.e., biological, psychological, psychosocial, and/or antisocial behavioral) will be particularly salient in the period of time immediately preceding the individual’s homicidal behavior.
CHAPTER 3

METHODOLOGY

The present study and all of its procedures were approved by the Institutional Review Board at California State University, Long Beach. The case study presented in this paper examines a serial killer and the developmental factors that played a role in shaping this individual. For the purpose of this study and to ensure the confidentiality of the individual, “the participant” is used to refer to the individual within this case study. A review of the literature on serial killers' states that developmental psychology has been a primary focus for many researchers, specifically when studying the behaviors that motivate serial killers. Due to the heinous crimes these serial killers commit and the behaviors that accompany them, the best method of study, and subsequent analysis, derives from the research technique, a case study.

The case study method is a careful, detailed, and methodical examination and interpretation of particular data or material in an effort to identify patterns, themes, biases and meanings. Typically, case studies are used when trying to examine specific behavioral patterns of a particular person or group of people.

Participant

The participant of this case study was an individual convicted of two homicides and is currently serving a life sentence at Oregon State Penitentiary (OSP). He was 62-years-old at the time of this study. He is an African-American male who had a seemingly
normal upbringing in Oregon. The participant admitted to both homicides that he committed at age 30.

**Materials**

**Childhood Psychosocial Deprivation Questionnaire** (Ishikawa et al., 2001). This 20-page questionnaire assesses areas of health, family life, school adjustment, work history, career goals, finances, sex/relationships, personality functioning, childhood/adolescent antisocial behavior, and adult antisocial behavior.

**Criminal/Antisocial Behavior.** History of self-reported antisocial behavior—including theft, drug offenses, and violent crime—was assessed by an adult extension (Raine et al., 2000) of the National Youth Survey self-report delinquency measure (Elliot, Ageton, Huizinga, Knowles, & Canter, 1983).

**Structured Clinical Interview for DSM-5 Personality Disorders** (SCID-5-PD; First, Williams, Benjamin, 2016). The SCID-5-PD is a semi-structured diagnostic interview for assessing the 10 different personality disorders outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; APA, 2013). The SCID-5-PD can be utilized to render diagnoses of personality disorders, either categorically (i.e., present or absent) or dimensionally (i.e., by summing the ratings of 0, 1, or 2 for each diagnosis and treating these sums as dimensions).

**Structured Clinical Interview for DSM-5—Research Version** (SCID-5-RV; First, Williams, & Spitzer, 2015). The SCID-5-RV is a semi-structured interview guide for rendering diagnoses of the major DSM-5 mental disorders (formerly diagnosed on Axis I). It is administered by a clinician or a trained mental health professional who is knowledgeable about the DSM-5 classification and diagnostic criteria. The SCID-5-RV is
the most comprehensive version of the SCID-5, containing more disorders and all of the subtypes and severity and course specifiers in the DSM-5.

**OSU TBI Identification Screening Tool** (Corrigan, & Bogner, 2007). This tool is a 1-page questionnaire that assesses lifetime history of brain injury.

**Procedures**

All interviews were conducted by a licensed psychologist with extensive experience in structured and semi-structured clinical interviewing and psychological assessment for research and clinical purposes (Robert A. Schug, Ph.D.), who also administered the SCID-5-PD, SCID-5-RV, childhood psychosocial questionnaire, and OSU TBI Identification Screening Tool. Interviews and questionnaires were conducted and administered via telephone, as well as through face-to-face visits with the participant at OSP in January of 2020. All telephone interviews were recorded with the participant’s permission.

Audio recordings were subsequently transcribed and “mined” for risk factor datapoints, which were coded by type (i.e., biological, psychological, psychosocial, or antisocial behavioral factors) according to the following specifications:

**Biological.** Biological risk factors included data related to prenatal trauma/illness/substance use, birth complications, disease or medical illness, and head injury.

**Psychological.** Psychological risk factors included data related to emotions or affects, behaviors, fantasies, mental illness diagnosis, and psychiatric symptoms.

**Psychosocial.** Psychosocial risk factors included data related to childhood psychosocial deprivation (Ishikawa et al., 2001), current psychosocial functioning (Schug
et al., 2010), and psychosocial and environmental problems as outlined in the DSM-TR-IV Axis IV (American Psychiatric Association, 2000).

**Antisocial behavioral.** Antisocial behavior included actual criminal behavior, as well as behavior that reflected “disregard for and violation of the rights of others” (American Psychiatric Association, 2013, p. 659).

Given the importance for the chronological sequencing of data for generating timelines, each datapoint was also coded for date of occurrence. When exact dates could not be ascertained, datapoints were coded by the participant’s age at the time, using his birthdate as a proxy date of occurrence. Data were coded as individual or singular “point-in-time” datapoints, as well as data ranges when factors were recurrent over a period of time.

Data points and ranges were subsequently entered into Office Timeline, a software plugin designed for Microsoft PowerPoint, for the generation of visual timelines.
CHAPTER 4

RESULTS

The figures within this section are used to illustrate the most important developmental factors in the life of the participant and are consistent with the first hypothesis, a biopsychosocial timeline approach is better suited to show the progression of life events. The results of the biopsychosocial timeline approach indicate that the participant had very few biological events occur throughout his life. The timelines show that there are more psychological and antisocial behavioral factors that are concentrated throughout the participant’s life, starting very early on and persisting across his lifetime.

Figure 1. Timeline of Biological Factors

Figure 1 is a visual depiction of the biological factors that occurred throughout the participant’s lifetime. There are only two biological factors, however, one includes an injury to brain around the age of four or five. Another factor includes blood in the urine, known as hematuria, however, the cause of this condition was never found.
Figure 2. Timeline of Psychosocial Factors

Figure 2 is a visual depiction of the psychosocial factors that occurred throughout the participant’s lifetime. The results of the developmental timeline approach show that there were several psychosocial factors that persisted over a period of time during the participant’s adolescence. For ten years he was physically abused, he would receive punishment by being whipped with belts and extension cords. Additionally, he was sexually abused for three years during his childhood. The participant was incarcerated in juvenile hall at thirteen years old, following several attempts to evade the police, along with shoplifting, and stealing. In his adulthood, he had an inconsistent job with Fox Floors, prior to committing both of his homicides.
Figure 3. Timeline of Psychological Factors

Figure 3 is a visual depiction of the psychological factors that occurred throughout the participant’s lifetime. Similar to the psychosocial timeline, there were several psychological factors that persisted throughout the participant’s life. There were multiple psychological factors that may have influenced the participant prior to committing both of his homicides. Starting from a very early age, he began drinking alcohol and using drugs. Through most of his early adulthood, he had heavy drug usage and that continued up until about one year prior to the homicides. He also reported having an onset of homicidal thoughts at a very early age.
Figures 5 and 6 are visual depictions of the antisocial behavioral factors that occurred throughout the participant’s lifetime. Of all the timelines, antisocial behavior has the greatest number of factors that may have influenced the participant to commit his homicides. Beginning at age 10, the participant began partaking in minor criminal activity which continued for the remainder of his life leading up to the murders. The
bigger offenses started at age thirteen when he stole tools from Boise school, leading up to multiple robberies, forgery, and burglaries. At age 29, the participant assaulted his wife, cut her face and choked her, nine months later, he committed his first homicide. Again, at age 30, he assaulted his wife and then three months later, committed his second homicide.

The second hypothesis stated that specific events linked to biological, psychological, psychosocial, and antisocial behavior would be found to be clustered throughout various age ranges. When examining the timelines of the participant’s life, two of the four timelines were found to have very minimal factors concentrated within them. However, there was significant overlap within his psychological and antisocial behavior timelines.

Figure 6. Overlaid Timelines

The overlay of the timelines shows that there are risk factors concentrated in specific age ranges, especially between the psychological and antisocial behavioral
timelines. The red boxes show where the events are clustered. In the participant’s mid-twenties there were several instances in which alcohol was a main factor for his run in with the police or correlated with his aggressive behavior. As his alcohol consumption increased it seemed that his criminal behavior did as well. Figures 6 and 7 display the “zoom” versions of the psychological and antisocial behavior timelines where several factors are concentrated.

Figure 7. Psychological Timeline “Zoom”

Figure 8. Antisocial Behavior Timeline “Zoom”
The third hypothesis stated that the examination of the overlaid timelines would reveal specific risk factors that would overlap with the progression of antisocial behavior. The participant’s behavior certainly followed a sequential pattern, with many of the psychosocial and psychological events matching with his criminality and antisocial behavior. Starting as early as ten-years-old, the participant began partaking in minor antisocial behavior and criminal activity, which was also when he was being bullied and teased by his older brothers. Following his incarceration as seen in the psychosocial timeline (see Figure 2), the participant evaded the police, resisted arrest, and committed several burglaries, all within his early teenage years. Most of the factors that overlap with the participant’s antisocial behavior are found in the psychological timeline. The majority of his twenties were riddled with different criminal events paired with heavy alcohol consumption and drug usage that began in his adolescence. Even though he began treatment programs for his alcohol abuse around the age of 28 or 29, the majority of his aggressive behavior was found to be during this time. Prior to committing both of his homicides, he had outbursts of aggressive and violent behavior towards his wife.

The fourth hypothesis stated that specific risk factors would be particularly salient in the period preceding the individual's homicides. As previously stated, the participant’s violent behavior was particularly observable prior to the time he committed both of his homicides. When examining the rest of the timelines, it also seems that this was also the time when his violence and aggression were most prevalent in his lifetime. While he was receiving treatment for his alcohol abuse, he had an inconsistent job with Fox Floors prior to his homicidal behavior.
CHAPTER 5

DISCUSSION

The purpose of this study was to gain a comprehensive understanding of what drives an individual to commit murder and the developmental factors that may have predicated their behavior. The biopsychosocial developmental timeline approach continues to be an invaluable visual tool for the serial homicide etiology research. This particular approach for dissecting life events aids in the temporal sequencing of data, exploring cause and effect relationships. Since the data was collected first hand, the implementation of information was extremely thorough and therefore, the timelines depict an in-depth progression of the participant’s life events.

Most of his childhood was riddled with psychological problems, starting at the age of three, while his antisocial behavior started later in his childhood but continued well into adulthood. With the antisocial behavior, there is also a history of criminal behavior that progresses steadily over time. The timelines show that two developmental factors were most dominant in the participant’s life but occur at different stages. While these two factors are seen occurring at different periods, they occur in large quantities and follow a sequential pattern. Since these findings are specific to the participant, they cannot be generalized to a wider range of serial killers. These timelines are a perfect example of how developmental factors will differ for every serial killer and each individual has facets of their character that are distinctive.
A limitation to this study is found in the fact that the research design was a case study and therefore only examined the life of one serial killer, without a comparison to multiple. In addition, differentiating between biological, psychological, and psychosocial data points often became ambiguous as some of the factors may have had a secondary consequence, (i.e. Biological factors may have resulted in psychological, psychosocial, or antisocial behavioral consequences). With this participant, a significant circumstance to take into consideration is the head injury that he acquired, as a result of being rammed into a wall several times as a child. As research suggests, brain injuries often have a lasting impact on the individual, occasionally leading to developmental disruptions and a greater propensity for violence, which may explain the participant’s history of criminality and later homicidal behavior.

Implications for future research in this field may find it useful to utilize the biopsychosocial developmental timeline method as it is especially useful for complex cases, since it allows researchers to break down the life histories of these offenders. Considering that the biopsychosocial developmental timeline approach was successful in depicting the progression of life events for one individual of interest, future research may use this method for a comparative analysis of multiple offenders. Moreover, using the timeline approach in conjunction with a statistical analysis may result in a more advanced exploratory method of investigating the developmental factors of serial homicide offenders. The methods and subsequent results within this study can contribute to the overall understanding of the developmental factors that motivate the behavior of serial homicide offenders. Utilizing a larger population of offenders should be included in
future research, in order to examine the overlap of developmental events between each participant.
REFERENCES


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