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# The Correlation of Adverse Childhood Experiences and Pornography Consumption in Adulthood

Branden Henry  
*Walden University*

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# Walden University

College of Social and Behavioral Health

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Branden Henry

has been found to be complete and satisfactory in all respects,  
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## Review Committee

Dr. Corinne Bridges, Committee Chairperson, Counselor Education and Supervision  
Faculty

Dr. Sidney Shaw, Committee Member, Counselor Education and Supervision Faculty  
Dr. Marilyn Haight, University Reviewer, Counselor Education and Supervision Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2023

Abstract

The Correlation of Adverse Childhood Experiences and Pornography Consumption in  
Adulthood

by

Branden Henry

MA, Reformed Theological Seminary, 2014

MA, Reformed Theological Seminary, 2012

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Counselor Education and Supervision

Walden University

February 2023

## Abstract

Over the past 25 years, significant research has gone into understanding how adverse childhood experiences (ACEs) correlate with a variety of negative health and behavioral outcomes, while at the same time, pornography consumption has increased dramatically. However, limited research has been done to understand whether a relationship exists between ACEs and pornography consumption. Attachment theory, which was used as the theoretical framework for this study, includes the idea that childhood experiences play a major role in a person's development of various behaviors throughout life, including coping mechanisms like pornography consumption. The purpose of this quantitative, cross-sectional, correlational study was to identify the potential relationship between ACEs, the age of exposure to pornography, and pornography consumption by adult males. Data from 127 participants were analyzed through multiple linear regression. The ACE Questionnaire and a modified Section 3 of the Pornography Consumption Questionnaire were used to establish how many ACEs an adult male incurred in childhood as well as when and how they used pornography throughout life. Statistical significance was found in the relationship between ACEs, age of exposure to pornography, and pornography consumption. The results of this study contribute to filling a gap in research and facilitate a better understanding of what makes people vulnerable to unwanted or problematic pornography consumption. The use of this data could positively impact social change within the counseling field by providing empirical data for those who seek to help with unwanted or problematic pornography consumption. Further research and approaches are recommended to better understand this relationship.

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## Dedication

I'm writing this dedication at the outset of this work – a reminder of why I'm doing this. I'm dedicating this to my family – my wife who walked with me through recovery, my kids who saw me grow up, and my parents who loved me well and taught me to see things through. I am dedicating this to the men I know who have been plagued by problematic pornography consumption, and I journey into this research in hopes that I can help shine a light on what makes us vulnerable to such issues and what we need to recover from them.

## Acknowledgments

I want to thank first and foremost my wife, Renee, who saw in me things I had never seen myself – including the ability and desire to pursue a Ph.D. I want to thank my kids as well, who unknowingly tolerated my stress from this pursuit and always offered encouragement along the way. My parents who instilled in me the virtues of commitment and work ethic. My colleagues who challenge and encourage me to pursue the betterment of myself as well as the field of counseling. My professors, who in graduate school showed me what it means to be a professional counselor, and who guided me along the way in my doctoral work. Lastly, I want to thank my committee chair, Dr. Bridges, who walked alongside me throughout the duration of my doctoral journey toward this research and its completion; Dr. Shaw, who was an exceptionally helpful and thorough committee member; and Dr. Haight, who gave necessary and instructive feedback as my University Research Reviewer.

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## Chapter 1: Introduction to the Study

During the past 2 to 3 decades, there has been an enormous amount of research on adverse childhood experiences (ACEs), and at the same time, there has been exponential growth of pornography consumption, primarily escalated by the advent of high-speed internet, which has led to undesirable and problematic use (de Alarcón et al., 2019). Studies have repeatedly found that this increase in pornography consumption has been problematic for work, relationships, and mental and physical health in the lives of adults who consume pornography (Lim et al., 2017; Perry & Schleifer, 2018). Simultaneously, ACEs researchers have repeatedly found that a moderate relationship exists between those adverse experiences in childhood and a plethora of related latent issues in adulthood (Choi et al., 2017; Felitti et al., 1998; Grajewski & Dragan, 2020).

There are a multitude of counseling treatment options for PPU (Sniewski et al., 2018), but there does not seem to be a unifying theme or understood cause among practitioners, researchers, or in diagnostic literature (Wéry & Billieux, 2017). Previous studies of ACEs have focused on the roots of issues like addiction, behavior, and health (Petruccelli et al., 2019), often leading to advances in treatment and prevention. With the rise of pornography increasing dramatically over the past 25 years, there have been no investigations into the relationship between ACEs and pornography consumption. In this study, I sought to develop a better understanding of the relationship between ACEs and pornography consumption so that more can be done to address the underlying issues of pornography consumption when it becomes problematic, in hopes of providing better treatment options for mental health counselors and those they seek to help.

Therefore, I conducted a quantitative study to analyze whether there is a relationship between ACEs, age of exposure to pornography, and pornography consumption. With the lack of researched treatments for unwanted or PPU (Sniewski et al., 2018) and the gap in literature specific to ACEs and pornography consumption, further research was warranted. Conducting this study may contribute to the development of counseling treatments that can be implemented by counselor educators and supervisors in their teaching and training of counseling students and supervisees.

In this chapter, I describe the background for this study, the problem, the purpose of the study, the research questions and hypotheses, and the theoretical framework that guided this study. Additionally, the nature of this study, definitions, assumptions, the scope and delimitations, limitations, and significance of this study are discussed.

### **Background**

The seminal work on the study of ACEs and their relationship to health and behavioral issues was conducted by Felitti et al. (1998), which Brown et al. (2017), Choi et al. (2017), Frederick and Goddard (2008), Grajewski and Dragan (2020), Le et al. (2017), and Lim et al. (2017) built upon by addressing the impact of ACEs on sexual issues and other behavioral issues in adulthood. Niazof et al. (2019) discussed the relationship between attention deficit disorder (ADHD) and attachment difficulties to pornography consumption, finding that there is a relationship between the three, which supports the type of study that was conducted in the present study. Grajewski and Dragan (2020) explored the relationship between ACEs, attachment styles, dissociation, and symptoms of gaming disorder, finding a significant relationship between ACEs,

dissociation, and anxiety. They found ACEs, dissociation, and anxiety as risk factors for gaming disorders, which provided a framework for the current study in that it I looked at the relationship between ACEs and a behavior in adulthood. Attachment is a primary focus of the current study, and Grady et al. (2017) provided a theoretical understanding for the relationship between ACEs and attachment theory through finding that ACEs have a relationship with sexual offending.

Pornography consumption is one of the variables in this study. De Alarcón et al. (2019) offered a systematic review of the current literature on problematic online pornography consumption, detailing extensive current findings on the subject and the current state of PPU amongst adult males in the United States. In order to find a proper measurement tool for pornography consumption, Marshall & Miller (2019) and Hook et al. (2010) provided critical reviews of the measurement of pornography consumption and pointed out which tools for measurement of pornography consumption are reliable and valid. Miller et al. (2018), Hald and Malamuth (2008), Hald et al. (2013), and Perry and Schleifer (2018) offered reviews of self-perceived negative effects of pornography consumption, finding that there are multiple areas in which pornography consumption is perceived as having negative effects, which supported conducting the current study to determine whether there is a relationship between ACEs and pornography consumption to better understand how to treat unwanted pornography consumption. Sniewski et al. (2018) and Wéry and Billieux (2017) provided information about the treatment of PPU by mental health counselors, reporting many inconsistencies in current treatment models. These findings helped justify the current study to help fill in the gap in the literature

regarding the possible relationship between ACEs and pornography consumption in adulthood.

Although the ACEs Questionnaire has been around since the seminal work by Felitti et al. in 1998, other studies have been conducted to determine the reliability and validity of this assessment. Kidman et al. (2019) and Gunduz et al. (2018) offered a psychometric evaluation of the ACEs Questionnaire, focusing on its reliability and validity, and found that the 10-question ACE Questionnaire used by many since Felitti et al. (1998) is valid and reliable, supporting the use of the ACE Questionnaire in the current study. Petruccelli et al. (2019) offered a systematic review and meta-analysis of ACEs and health outcomes in adulthood, building on the seminal work of Felitti et al. and demonstrating the type of study I sought to perform.

Felitti et al. (1998) reflected on the effect of ACEs on health and behaviors. Subsequently, there have been hundreds of studies based on or replicating the ACE Questionnaire's scales (Petruccelli et al., 2019). In a meta-analysis of these studies, Petruccelli et al. (2019) found that psychosocial and behavioral outcomes had higher odds ratios than medical outcomes with increased ACE Questionnaire scale scores. Although there is research on the correlation between ACE Questionnaire scores and higher risks of sexual disease, teenage pregnancy, and other behaviors related to sex (Brown et al. 2016; Felitti et al., 1998), there has been no published research on the correlation of ACEs to pornography consumption. Additionally, there is some research on sexual issues as they pertain to trauma survivors, such as Zoldbrod's (2015) study, but the link between ACEs and pornography consumption was not existent in my review of



the scholarly literature of quantitative studies. It was my goal with the current study to fill in this literature gap by focusing explicitly on the role of ACEs on pornography consumption.

By filling this gap in the literature, counselor educators will be better equipped to meet the Council for Accreditation of Counseling and Related Educational Program (2015b) standards. Section 5.F.2.e. (CACREP, 2015b) requires counseling education programs, which emphasize marriage and family therapy, teach about human sexuality and its effect on couple and family functioning. Then in Section 5.F.2.g. (2015b), it is required that these programs teach about the impact of trauma on marriages, couples, and families. Moreover, all Council for Accreditation of Counseling and Related Educational Program-accredited institutions require counseling programs to teach about the impact of trauma on diverse individuals across the lifespan, as detailed in Section 2.F.2.3.g (CACREP, 2015b). I hoped to contribute to the treatment of PPU by adding to the understanding of how attachment, neglect, and abuse in childhood make an individual vulnerable to PPU in adulthood. By understanding the ACEs and pornography consumption in adulthood, which has been shown to be a cause of significant disruption in both personal and relational life, I will prepare counselor educators to more adequately teach counseling students how to identify and assist persons with these presenting issues as well as help in the development of research-based treatment modalities for counselors to utilize in their work.

### **Problem Statement**

Over the past 2 decades with the advent of high-speed internet, pornography has been on the rise, which has led to undesirable and problematic use (de Alarcón et al., 2019). Studies have found that this has been problematic for work, relationships, and mental and physical health in the lives of adults (Lim et al., 2017; Perry & Schleifer, 2018). Although there are a multitude of counseling treatment options for PPU (Sniewski et al., 2018), there does not seem to be a unifying theme or understood cause amongst practitioners, researchers, or in diagnostic literature (Wéry & Billieux, 2017). During these same past 2 decades of the 21st century, there has been more attention paid to the impact of ACEs on issues like addiction, behavior, and health (Petrucci et al., 2019). However, there has been no investigation into the potential relationship between ACEs and pornography consumption. By better understanding the potential relationship between ACEs and pornography consumption, more can be done to address the underlying issues of pornography consumption when it becomes problematic, in hopes of providing better treatment options for mental health counselors and those they seek to help.

### **Purpose of the Study**

The purpose of this quantitative study was to examine whether a relationship exists between ACEs and pornography consumption by males in the United States. The independent variables were Felitti et al.'s (1998) 10 factors of childhood trauma and neglect: physical, emotional, and sexual abuse; physical and emotional neglect; household dysfunction related to mental illness; violence towards mother; divorce;

substance abuse; and incarceration of a caregiver. The dependent variable was defined by historical pornography consumption by men, focusing on how frequently and for what duration pornography has been used in adulthood as measured by the Pornography Consumption Questionnaire (PCQ) developed by Hald (2006) as well as the age of first exposure to pornography as measured by the same scale. This project was unique in that it addresses an unresearched aspect of the potential relationship between ACEs and adult behaviors, which limits and impacts the treatment of PPU by counselors.

There is considerable research on how pornography consumption can become problematic in relationships, work, and personal problems for adults (Perry & Schleifer, 2020). Additionally, issues in childhood have a significant impact on problematic sexual behaviors and consequences in adulthood (Brown et al., 2017; Le et al., 2017; Miller et al., 2018; Zoldbrod, 2017) as well as on lifetime mental health and behavioral and substance abuse disorders (Choi et al., 2017; Felitti et al., 1998; Grajewski & Dragan, 2020). Other symptoms of childhood trauma and neglect, such as ADHD and attachment disorders, are also contributing factors to pornography consumption by males (Niazof et al., 2019). However, I found no published research on whether there is a relationship between ACEs and pornography consumption in adulthood amongst males. While there is some research on efficacious counseling treatment modalities and methods for PPU (Sniewski et al., 2018, Wéry & Billieux, 2017), there is still a lack of research on underlying issues that contribute to pornography consumption.

I intended to address this literature gap by determining the potential relationship between ACEs, age of first exposure to pornography, and pornography consumption

across a lifetime. By doing so, I hope to significantly add to the knowledge of both researchers in the field and the counselors who are sitting with those whose marriages, jobs, and personal lives are experiencing difficulties because of PPU. I hope to contribute to the treatment of PPU by adding to the understanding of how attachment, neglect, and abuse in childhood make one vulnerable to PPU in adulthood.

### **Research Question and Hypotheses**

RQ: Is there a statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males?

*H<sub>1</sub>*: There is no statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

*H<sub>0</sub>*: There is a statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

### **Theoretical Framework for the Study**

The theoretical framework that grounded this study was attachment theory, originated by Bowlby (1973). This theory served as the lens through which I looked at this possible relationship between ACEs and pornography consumption. In attachment theory, Bowlby put forth that children develop their belief and behavioral patterns through their relationships with caregivers, with the caregiver being their secure base from which the children can explore and grow and with the quality of that attachment being heavily influential on various attributes of development (Grady et al., 2017). This theory holds that secure attachments, or bonding to others, are what give security throughout life.

Attachment theory allowed for the extensive work first generated by Felitti et al. (1998) to be understood as a break in attachment, resulting in various consequences. Felitti et al. looked at the relationship between ACEs and health and behaviors in adults. In the current study, I specifically focused on the potential relationship between ACEs and pornography consumption across the life of adult males. I modeled my methods and measurements off of the original study by Felitti et al. and the thousands of studies that have taken place since (see Petruccelli et al., 2019).

Attachment theory, which was first formulated in the mid-20<sup>th</sup> century and has been developed and expanded upon ever since, can be used to explain a core aspect of the relationship between ACEs and pornography consumption in adulthood. Niazof et al. (2019) examined the relationship between attachment difficulties and pornography consumption, finding that there was a statistically significant relationship between males with anxious attachment and PPU. With all the original 10 questions developed by Felitti et al. (1998) having to do with a child's attachment to their caregivers, it was reasonable to use attachment theory as the theoretical lens through which to view the relationship between ACEs and the use of pornography amongst adult males.

### **Nature of the Study**

Because this study focused on the potential correlational link between ACEs to pornography consumption, a quantitative approach was an appropriate design to address the research question. For this study, I used a nonexperimental, correlational, cross-sectional design to measure the potential association between the variables. I utilized the ACE Questionnaire, developed by Felitti et al. (1998), which consists of 10 questions and

has been used in thousands of studies (Hook et al., 2010). This questionnaire had high levels of validity and reliability in various studies (e.g., Gunduz et al., 2018; Kidman et al., 2019). For the variable of pornography consumption, I used questions from Section 3 of the PCQ (Hald, 2006), which has been shown to have high internal consistency and full-scale reliability for the positive effect dimensions of .91 (Hald & Malamuth, 2008) and was recommended in the overview of pornography consumption scales by Marshall and Miller (2019). Section 3 of the PCQ measures 65 items concerning exposure patterns and ages, frequency of exposure, preferences in pornography, and behaviors related to pornography consumption. In this study, I employed a comparative analysis to determine the extent of pornography consumption among men compared by the number of ACEs identified. I displayed this on a bar graph, noting the extent of pornography consumption from one to 10 ACEs answered, which is typical in studies looking at correlations between ACEs and health or behavioral issues.

### **Definitions**

*ACES:* As first studied by Felitti et al. (1998), ACEs are disturbing events that occur in childhood and are delineated into 10 categories of abuse, neglect, and household dysfunction on the ACE Questionnaire. These 10 categories were developed through years of research by Felitti et al. to better understand the relationship between ACEs and a person's well-being and health later in life.

*Pornography:* Although there are multiple definitions for pornography, as will be discussed in depth in Chapter 2, for the purposes of this study, I used the following definition by Ashton et al. (2019): "Material deemed sexual, given the context, that has

the primary intention of sexually arousing the consumer and is produced and distributed with the consent of all persons involved” (p. 2). This definition was conceived after the review of substantial current research on pornography.

*Pornography consumption:* The PCQ measures pornography consumption primarily through pornography exposure patterns and frequency (Hald, 2006), meaning that pornography consumption is how frequently and within what patterns it is engaged.

*Problematic pornography consumption (PPU):* Although not the focus of this study, PPU can be defined as “any use of pornography that leads to significant negative interpersonal, intrapersonal, or extra personal consequences for the user” (Binnie & Reavey, 2020, p. 3).

### **Assumptions**

I made several assumptions for the purposes of this study. One assumption was that as ACEs have been found to have a relationship with many sexual behaviors in adulthood (Anda et al., 2001; Anda et al., 2002; Bertolino et al., 2020; Dietz et al., 1999; Dillard et al., 2019; Felitti et al., 1998; Hillis et al., 2000; Hillis et al., 2001; Hillis et al., 2004; VanderEnde et al., 2018). I assumed ACEs would similarly have a relationship with pornography consumption (i.e., a sexual behavior) in adulthood. Another assumption was that because age of exposure to pornography has been found to have an impact on multiple sexual behaviors throughout life (Bulot et al., 2015; Burton et al., 2010; Sinković et al., 2013), it would also have an impact on pornography consumption in adulthood. The third assumption was that the participants in this study met the eligibility criteria and would not fill out a survey if they did not meet the criteria. I also

assumed that participants included in the study understood the survey questions, answered honestly, and that social desirability behaviors were kept to a minimum.

### **Scope and Delimitations**

I limited this research study to males aged 18 years old and older to avoid issues that arise when surveying minors. Additionally, this study was limited to the 10 questions on the ACE Questionnaire because it has been shown to have validity and reliability, although there are many other experiences that may be understood as traumatic and that are not on the ACE Questionnaire. Finally, this study was limited to accounting for pornography consumption, rather than problematic or addictive use of pornography, to avoid the quandary of delineating the diverse understandings of what is or is not problematic or addictive use.

The scope of this research study encompassed participants recruited through a variety of means, such as social media, counseling and organization listservs, and counseling networks. This focus resulted in participants from the United States. The findings of this study may contribute to the generalizability of how ACEs and age of exposure to pornography impact pornography consumption. Another delimitation of this study is that the results are not generalizable to females or minors because they were not included in the study.

### **Limitations**

Due to the nature of this study, a potential limitation was the impact of social desirability on how participants respond to the survey's questions about pornography consumption, particularly as participants may feel prompted to self-present in a positive



manner (see Rasmussen et al., 2018). A potential limitation of collecting primary data through the use of online surveys is the recruitment of participants because online surveys often have a low response rate. Due to the sensitive nature of the questionnaire, an online survey seemed to be the least intrusive means of asking these socially awkward questions, which has been shown to reduce issues of social desirability (see Groves et al., 2009).

Methodological limitations to this study included nonprobability sampling methods, which may prevent generalization of the results to other populations that would have been otherwise possible if random sampling methods were utilized (see Creswell & Creswell, 2018). As with any study of ACEs, other variables not included in this study could also have an impact on the relationship between the variables. The utilization of retroactive self-report instruments is also subject to inaccuracies and bias, such as under- or overreporting, which is discussed in depth in Chapter 3. Additional factors that may have impacted the findings in this study include the length of the survey, selection of variables, and self-selection by individuals who are more likely to participate in an online survey than others.

### **Significance of the Study**

There is considerable research on how pornography consumption can become problematic in relationships, work, and personal problems for adults (Perry & Schleifer, 2020). Additionally, ACEs have a significant impact on problematic sexual behaviors and consequences in adulthood (Brown et al., 2017; Le et al., 2017; Miller et al., 2018; Zoldbrod, 2017) as well as on lifetime mental health, process, and substance abuse

disorders (Choi et al., 2017; Felitti et al., 1998; Grajewski & Dragan, 2020). ADHD and attachment disorders, which have been found to sometimes have a relationship to childhood trauma and neglect, are also contributing factors to pornography consumption by males (Niazof et al., 2019). However, in my review of the literature, I found that there was no published research on the relationship between ACEs and pornography consumption in adulthood amongst males. While there is some research on efficacious counseling treatment modalities and methods for treating PPU (Sniewski et al., 2018, Wery & Billieux, 2017), there is still a lack of research on underlying problematic issues that contribute to pornography consumption.

I intended this study to address this gap in the literature by determining the potential relationship between ACEs and pornography consumption in adulthood. By doing so, I believe I significantly added to the knowledge of both researchers and the counselors who are working with those whose marriages, jobs, and personal lives are experiencing difficulties because of PPU. I hoped to contribute to the treatment of PPU by adding to the understanding of how attachment, neglect, and abuse in childhood make one vulnerable to PPU in adulthood.

### **Summary and Transition**

In this chapter, I provided an overview of the existing literature, which indicated a substantial gap in the literature regarding the possible relationship between ACEs, age of exposure to pornography, and pornography consumption in adulthood. The purpose of this quantitative multivariate study was to determine if there is a relationship between ACEs, age of exposure to pornography, and pornography consumption in adulthood. I

measured ACEs with the ACE Questionnaire (Felitti et al., 1998), which is a public domain instrument. I measured age of exposure to pornography and pornography consumption with Section 3 of the PCQ (Hald, 2006), for which I have written permission to use from Dr. Hald. In Chapter 2 I will review the literature on ACEs, pornography consumption, and the theoretical framework of this study.

## Chapter 2: Literature Review

Since the advent of high-speed internet in the early 2000s, pornography production has been on the rise, which has led to undesirable and problematic use for many people, including women, men, adults, and minors (de Alarcón et al., 2019). Studies have found that this has caused problems for work, relationships, and mental and physical health of adults (Lim et al., 2017; Perry & Schleifer, 2018). Although there are a multitude of counseling treatment options for PPU (Sniewski et al., 2018), there is not a unifying theme or understood cause amongst counselors, researchers, or in diagnostic literature (Wéry & Billieux, 2017). There has also been research attention paid to the impact of ACEs on issues like addiction, behavior, and health (Petruccelli et al., 2019). However, no investigations into the potential relationship between ACEs and pornography consumption have been published to date.

Since the original study by Felitti et al. (1998) on the effect of ACEs on health and behaviors, there have been hundreds of studies based on or replicating the ACEs scale (Petruccelli et al., 2019). In a meta-analysis of these studies, Petruccelli et al. (2019) found that psychosocial and behavioral outcomes had higher odds ratios than medical outcomes with increased ACE scale scores. Although there is research on the correlation between ACE scores and higher risks of sexual disease, teenage pregnancy, and other behaviors related to sex (Brown et al. 2016, Felitti et al. 1998), there has been no published research on the correlation of ACEs to pornography consumption, be it problematic or not. Additionally, there is some research on sexual issues as they pertain

to trauma survivors, such as Zoldbrod's study (2015), but the potential relationship between ACEs and pornography consumption has yet to be studied.

I intended to address this gap in the literature by determining the potential relationship between ACEs, age of first exposure to pornography, and pornography consumption across a lifetime. By doing so, I have significantly added to the knowledge of both researchers in the field and the counselors who are sitting with those whose marriages, jobs, and personal lives are experiencing difficulties because of PPU. I hoped to contribute to the treatment of PPU by adding to the understanding of how attachment, neglect, and abuse in childhood make one vulnerable to PPU in adulthood.

### **Literature Search Strategy**

For this study, I identified articles and information relevant to the potential correlation between ACEs and pornography consumption in various databases accessible through the Walden University Library, including Thoreau, APA PsycInfo, SAGE Journals, SocIndex with Full Text, Taylor and Francis Online, and Academic Search Complete. The articles included in this study were obtained from peer-reviewed journals and scholarly books, with an effort to primarily include sources published within the last 5 years. I also included articles and seminal research studies conducted prior to 2017 to provide historical context and important information about ACEs or pornography consumption and measurement or when recent studies were scarce or not available. Additionally, I included studies on ACEs that were conducted prior to 2017 when they were recommended by the Center for Disease Control and Prevention (CDC). Keyword terms used in my search included *porn*, *pornography*, *sexually explicit materials*, *ACEs*,

*adverse childhood experiences, childhood trauma, childhood abuse, child abuse, child neglect, childhood neglect, early life trauma, assessment tools, assessment method, and assessing.*

### **Theoretical Framework**

Since the middle of the 20th century, multiple researchers have developed the idea of attachment theory, including John Bowlby who is credited as the originator (Grady et al., 2017). The basic premise of attachment theory is that children develop beliefs and behavioral patterns based on their attachment to their primary caregiver (Grady et al., 2017). This primary relationship is what gives the child a sense of safety, security, and protection. Throughout life, humans seek to create a sense of this safety and security through relationships and behaviors.

Attachment theory holds four attachment classifications: secure, anxious, avoidant, and disorganized (Bowlby, 1973). In this theory, Bowlby (1973) maintained that the style of attachment one was accustomed to as an infant and in early childhood develops into a strategy for connecting to others throughout the rest of their life, which produces any number of behaviors.

There are two primary aspects to these strategies for attachment. The first is anxiety, which is essentially worrying or fretting over the relationship, and the second is avoidance, wherein conflict or negative feelings are avoided in a variety of ways (Grady et al., 2017). To achieve a sense of safety and security, anxiety and avoidance act as the guidance system to navigate the individual through life. Each of these strategies manifests in a vast array of behaviors, which include coping mechanisms. For instance,

the act of drinking alcohol can help relieve a person's anxiety through the chemical manipulation of their internal environment, which may serve to help them feel more secure in attaching to others, or conversely, it may help them feel secure enough to detach from others (Dyer et al., 2019). There is substantial correlational research on how ACEs impact the development and formation of these attachment styles and the many behaviors that follow (Grady et al., 2017).

Thus, if early attachment impacts the development of a child's behaviors and relationship styles that seek to maintain a sense of security and safety into adulthood, then there are possible implications on how attachment theory informs the study of ACEs and later behaviors in adulthood (Le et al., 2017), which could include pornography consumption. The application of attachment theory ties pornography consumption and ACEs together, in that pornography consumption is often ascribed to managing anxiety as a coping strategy (Hesse & Floyd, 2019), while ACEs research shows coping strategies in adulthood have a relationship to unstable or insecure relationships in childhood (Felitti et al., 1998).

### **Literature Review**

I begin the literature review with an overview of ACEs followed by an exploration of what current research has shown about pornography. Since the original study of ACEs in 1998, there has continued to be further research on the relationship between ACEs and physical and mental health, sex and sexuality, and treatments developed from studying ACEs. In contrast to this, there has been no research on the relationship between ACEs and pornography consumption. In this section, I also discuss

what research is currently revealing about pornography consumption, problems with its use, treatment for problematic use, and issues that arise from early exposure as well as the diversity of thought in the counseling field on each of these topics.

### **ACEs**

ACEs have become a topic of concern and study across many different fields since the original study by Felitti et al. (1998). ACEs have been found to show strong correlations among many behavioral and health issues in adulthood (Felitti et al., 1998). In this literature review, I provide a review of the original study and how it laid the groundwork for all future studies. Studies that relate to physical, behavioral, mental, and sexual health as well as studies of issues with pornography consumption are also included. Finally, I discuss how studies of ACEs have contributed considerably to the evolution of the treatment of many health, behavioral, and sexual issues, which this study aims to do for pornography consumption.



### *Original Study in 1998*

The origins of Felitti's study (Felitti et al., 1998) were found in an obesity clinic in the 1980s where Felitti saw that the clinic was experiencing a 50% drop out rate, which was in stark contrast to the successes experienced in the other areas of the preventative medicine department the researcher had created, especially considering that those who dropped out were experiencing success in losing weight before they left. Over several years of interviewing those who had dropped out, Felitti discovered that sexual abuse in childhood was consistent for those who suffered from morbid obesity. In time, this led to the landmark study in 1998 where adverse experiences in childhood were seen as correlating to health and behavioral risks in adulthood. This led to the development of what is now the ACE Questionnaire that is used to look at 10 areas of ACEs.

In the original ACEs study, Felitti et al. (1998) looked at how exposure to ACEs in childhood predicted health risk and disease in adulthood. These ACEs were originally categorized into seven questions dealing with abuse and household dysfunction. The questions around abuse asked about physical, psychological, and sexual abuse. The five questions dealing with household dysfunction asked about violence against mothers and living with adults who were substance abusers, mentally ill, suicidal, and/or imprisoned. The questionnaire was completed by 9,508 adults who had already completed a standardized medical evaluation and whose answers on the ACEs Questionnaire were compared to different measures of behavior, disease, and health risks. The researchers found that the health and behavioral risks increased in proportion to the number of ACEs experienced. Participants who had experienced four or more of the ACEs showed a

dramatic increase in health risks around substance use and abuse, suicidality, depression, sexually transmitted disease, poor health, obesity, and a whole host of other health issues (Felitti et al., 1998). The authors also discovered a graded relationship ( $p < .001$ ) between the breadth of childhood exposure to domestic abuse or dysfunction and risk factors for multiple leading causes of death in adults. For instance, persons who experienced four or more categories of childhood exposure to adverse experiences, compared to those who experienced none, had a four- to 12-fold increased health risk for addiction, drug abuse, depression, and suicide attempts. Foege (1998) described the weightiness of the findings, while also discussing the shift in thinking at the time towards understanding how these experiences contributed to different risk factors.

### ***Studies on Physical Health***

The impact of ACEs on the physical body is strong, meaning that experiencing abuse and chaos in childhood can tear down the body and reshape one's future health (Bryan, 2019). Since the groundbreaking study by Felitti et al. (1998), there have been multiple studies that analyzed the relationship between ACEs and physical and behavioral issues in adulthood. Petrucci et al. (2019) conducted a systematic review of ACEs studies and found that exposure to multiple ACEs is associated with a wide variety of outcomes. Merrick et al. (2018) conducted a cross-sectional survey of 214,157 respondents, finding that there are certain groups of people who are at higher risk of experiencing ACEs than others, namely people of color and those who are at low-income levels.

Dube et al. (2009) found that in 15,357 adults, hospitalization for autoimmune diseases increased with increasing number of ACEs, to the extent that a person with two or more ACEs was at a 70% to 80% increased risk for certain autoimmune diseases and a 100% increased risk for rheumatic diseases. There is also an association between ACEs and a higher risk of cancer (Brown et al. 2010; Brown et al., 2013; Holman et al., 2016; Ports et al., 2019), with the prevalence estimate of cancer derived from the study by Brown et al. (2013) being 10%, which is higher than the estimate of 4.2% derived from the National Cancer Institute. Ports et al. (2019) reviewed 155 quantitative, peer-reviewed articles between 2005 and 2015 that examined associations between ACEs and modifiable cancer risk factors and reported a connection between ACEs and cancer risk factors. Researchers also found associations between ACEs and health issues, such as chronic obstructive pulmonary disease (Anda et al., 2008; Cunningham et al., 2014), liver disease (Dong et al., 2003), diabetes (Chu & Chu, 2021), frequent headaches (Anda et al., 2010), and ischemic heart disease (Dong et al., 2004).

In addition to specific diseases like cancer, heart failure, and headaches, researchers also found that ACEs had a strong correlation to disability in adulthood (Campbell, 2016; Rose et al., 2014) as well as health-related quality of life (Barile et al. 2014; Corso et al., 2008). Moreover, according to Rose et al. (2014) disability increased in a graded fashion from an odds ratio of 1.3 among those who experienced one adverse experience to an odds ratio of 5.8 among those with seven to eight adverse experiences, noting that this relationship remained strong after they adjusted for physical and mental health conditions. Corso et al. (2008) discovered that persons who experienced

maltreatment as children were at a significantly higher risk of experiencing significant and sustained losses of health-related quality of life in adulthood relative to those who did not experience maltreatment in childhood, with the strata-level effects of maltreatment resulting in the reduction of .0028 quality of adult life years (95% confidence level = 0.022, 0.034;  $p < .001$ ). Not only are the experiences of ACEs correlated to specific diseases in adulthood, but they are also correlated to experiencing a lower quality of health-related life and even disability in adulthood.

Significant research has been conducted around ACEs and their impact on physical health in adulthood (Lanoue et al., 2020). Consistently, these studies have found that there is a strong relationship between ACEs and any number of health problems in adulthood (Lanoue et al., 2020).

### ***Studies on Behavioral Issues***

Not only have ACEs been found to correlate to problems with physical health in adulthood, but they also have a strong relationship to risky or maladaptive behaviors throughout life, possibly due to the development of these habits and behaviors early in life as coping skills in a highly stressful environment (Sheffler et al., 2019). For example, the relationship between ACEs and alcohol abuse has been studied extensively (Anda et al., 2002; Dube et al., 2001; Dube et al., 2002; Dube et al., 2006; Felitti et al., 1998; Strine et al., 2012). Dube et al. (2002) found that heavy drinking, alcoholism, or marrying an alcoholic increased twofold to fourfold for those with multiple ACEs, regardless of whether they had an alcoholic parent. Thus, alcoholism has more to do with an abusive, neglectful, or chaotic home in childhood than it does with having an alcoholic parent.

Similarly, drug abuse and substance abuse disorders, including a younger age of initiation into drug use, have been shown to have a strong correlation with ACEs (Anda et al., 2008; Dube et al., 2003; Stein et al., 2017; Swedo et al., 2020). Studies focusing on the relationship between ACEs and smoking have shown much of the same correlation; as ACEs increase so does the risk of smoking persistence, smoking-related illnesses, and smoking at an earlier age (Anda et al., 1999; Edwards et al., 2007; Ford et al., 2011; Strine et al., 2012). Consistently, these studies have found that the relationship between substance use and abuse and the number of ACEs was strong and graded, demonstrating a correlation between ACEs and risky behaviors.

Not only were substance abuse disorders found to have a strong correlation with ACEs, but so were other behavioral issues. Obesity has long been studied, with research consistently showing a relationship between an increased risk for obesity with an increase in ACEs (Ahn et al., 2020; Javier et al., 2019; Williamson et al., 2002). Furthermore, behavioral issues, such as gambling (Poole et al., 2017; Sharma & Sacco, 2015; Tucker et al., 2020), destructive online behavior (Marx et al., 2021), and video game disorder (Grajewski & Dragan, 2020; Jhone et al., 2021; Shi et al., 2020), have the same kind of relationship with ACEs. Higher ACEs are not only demonstrated to have a moderate to strong relationship with putting harmful substances into the body but also with harmful habits and pathways within the body. ACEs also have a strong relationship with being in a relationship with a violent partner (Willie et al., 2021). Thus, there is a moderate to strong relationship between ACEs and harmful habits and relationships throughout adulthood.

### *Studies on Mental Health*

In addition to the high correlation with destructive habits and behaviors, ACEs also have a strong relationship with mental health issues (Choi et al., 2017). As ACEs increase, the safety of relationships decreases, while stress simultaneously increases, leading to a wide array of mental health issues in adulthood (Choi et al., 2017). Growing up in a chaotic family creates a chaotic internal environment, which leads to significant problems throughout adulthood (Sheffler et al., 2019). When a child grows up with a lack of security, which is found in safe attachment to their caregivers, they continue to feel insecure in adulthood (Grady et al., 2017). Adults who experienced significant ACEs will often find themselves with habits, behaviors, or an internal environment that is acclimated to an unsafe and insecure external environment, which does not lead to a healthy or thriving life (Choi et al., 2017).

Depression has long been studied in this regard. For persons that grew up with a higher level of ACEs, the likelihood that they would be diagnosed with depression in adulthood increased (Anda et al., 2002; Chapman et al., 2004, Edwards et al., 2003; Regigio-Baker et al., 2014), with even higher likelihood for those who were sexually abused or grew up in a family with a history of mental illness (Giano et al., 2021). Prescription rates were also found to increase yearly and in a graded fashion as ACE scores increased, to the point that in comparison to someone with an ACE score of 0, a person who scored 5 or more had a threefold increase in rates of psychotropic prescriptions (Anda et al., 2007). These same patterns apply to anxiety as well, showing

that as ACEs increase in childhood, so does anxiety in adulthood (King, 2021; Lipsky et al. 2022; Whitaker et al., 2021).

For those who experienced elevated ACE scores, the likelihood of experiencing other issues with their mental health is also elevated, including experiencing hallucinations (Muenzenmaier et al., 2015; Shevli et al., 2011; Whitfield et al., 2005), neurobiological and somatic issues (Anda et al., 2006; Herzog & Schmahl, 2018), traumatic brain injuries (Guinn et al., 2018), sleep issues (Chapman et al., 2011; Geng et al., 2021), premature death (Anda et al., 2009; Brown et al., 2009), and suicidality (Afifi et al., 2008; Dube et al., 2001; Fuller-Thomson et al., 2016; Thompson et al., 2019). One longitudinal study found that the accumulation of ACEs increased the odds of suicide ideation and attempts threefold for those with three or more ACEs in comparison to those with zero ACEs (Thompson et al., 2019).

### ***Studies on Sexual Health and Behaviors***

For the past 25 years, ACEs researchers have given a good portion of their time to studying how those adverse experiences impact or shape sexual behaviors and experiences into adulthood (Brown et al., 2017). Although there are many findings as to how ACEs impact sexuality and sexual behaviors, there is no one reason as to why ACEs impact in the way that they do (Brown et al., 2017). However, the research that has been done on the relationship between ACEs and sexuality and sexual behaviors has opened the door for a much better understanding of how to move towards preventative methods and models of treatment (Wery & Billieux, 2017).

One of the primary findings of ACEs and their impact on sex has been that those who experience higher levels of ACEs are more vulnerable to sexual risky behaviors, which includes intercourse at a younger age, higher risk of sexually transmitted diseases, problematic sexual behaviors, a higher number of sexual partners, risk-taking behaviors, and a higher likelihood of unintended and teen pregnancy (Anda et al., 2001; Anda et al., 2002; Bertolino et al., 2020; Dietz et al., 1999; Dillard et al., 2019; Felitti et al., 1998; Hillis et al., 2000; Hillis et al., 2001; Hillis et al., 2004; VanderEnde et al., 2018). Further, differences exist in how ACEs impacted different genders in relation to sexually transmitted diseases, primarily with higher ACEs being a statistically significant mediator for intimate partner violence in men and sexually transmitted illnesses and HIV among women (Brown et al., 2017).

Not only do ACEs have a strong relationship with a person participating in risky sexual behaviors that lead to self-harm, but they also correlate strongly with a person participating in harmful sexual behaviors towards others. Experiencing physical or sexual abuse in childhood significantly and substantially increases the risk of sexually offending behaviors later in life (Barra et al., 2018; Miley et al., 2020). ACEs are frequently present in the life history of sex offenders (Blasingame, 2018; Bimpas et al., 2020; Drury et al., 2017; Puskiewicz & Stinson, 2019), which demonstrates how violence done to a child may manifest as violence done by that child in adulthood, if left untreated.

### ***Lack of Studies on Pornography consumption and ACEs***

The studies noted above examined the relationship between ACEs and many kinds of coping styles and strategies, but this is not the case with the coping strategy of



pornography consumption. After an exhaustive search of the literature, I found only one study investigating the relationship between ACEs and pornography consumption. However, this study analyzed the relationship between ACEs and paraphilias and criminal violence among federal sex offenders, which included child pornography consumption, but was not focused specifically on pornography consumption (Drury et al., 2017). According to Binnie and Reavey (2020) there has been a significant increase in PPU in the past decade. There are also diverse understandings of how mental health counselors can and should treat PPU, while there is a dearth of research about how ACEs make one vulnerable to this issue.

### ***Usefulness of ACEs Studies for Developing Treatment in Counseling***

Not only has the vast research on ACEs produced a better understanding of the relationship of adverse experiences in childhood to myriad issues in adulthood, but it has also produced a deeper understanding of how to help those who were made vulnerable to said issues by ACEs. For instance, Anda et al. (1999) found a strong association (odds ratio, 5.4; 95% confidence interval) between smoking and ACEs and stated that “primary prevention of adverse childhood experiences and improved treatment of exposed children could reduce smoking among both adolescents and adults” (p. 1652). Zolbrod (2015) studied the treatment of sexual issues among trauma survivors, discussed how ACEs impact the sexual life of an adult, and how treatment can be most effective when considering the traumatic experiences from childhood.

Many researchers are also making treatment proposals specific to the negative outcome from an ACEs study, such as substance use disorder (Genevieve et al., 2022;

Molina & Whittaker, 2022; Ojeda et al., 2022), bipolar disorder (Wrobel et al., 2022), obesity (Ananthapavan et al., 2020; McDonnell & Garbers, 2018), suicidality (Brajović et al., 2018; Lu et al., 2019), intimate partner violence (Voith et al., 2020), and other psychopathological symptoms (Dolbier et al., 2021). In addition to treating ACEs in specific negative outcomes, there has also been a focus on preventative care to curb the impact of ACEs on mental health (Jorm et al., 2018; Marie-Mitchell & Kostolansky, 2019). Treatment models, produced specifically for the conceptualization and treatment of ACEs, are being generated as well, such as strength-based interventions (Howell et al., 2021), play therapy (Marshall & DeMarie, 2021), neurologically informed approaches (Schauss et al., 2019), the intercept model (Folk et al., 2021), and intensive multimodal group programs (Roque-Lopez et al., 2021), to name just a few. These treatment protocols are not just limited to mental health therapies either, but medical schools (Bryant & VanGraafeiland, 2020; Onigu-Otite & Idicula, 2020) and even police departments (Chandan et al., 2020) who are starting to incorporate understanding and responding to ACEs in their training. Regardless of the model, nearly all treatments of ACEs related issues focus on the attachment between children and their caregivers (Bryant & VanGraafeiland, 2020).

Despite the multiple treatment recommendations for the myriad of issues linked to ACEs, there was still an exception with understanding the relationship between ACEs and pornography. Nor has a treatment protocol been formed that demonstrates how ACEs create a vulnerability to pornography consumption, which was needed for counselors to provide research-based approaches to help their clients with this issue. In the next section

of this chapter, I will be looking at what current literature says about many of these diverse perspectives on pornography.

### **Pornography**

The goal of this study was not to determine whether pornography use is problematic, but how ACEs impact the consumption of it, and whether the age of exposure to pornography plays a part in that. In this section, I will discuss some of the diverse understandings of pornography, including how to define it, how it is understood as problematic or not; and then move on to some of the more consistent understandings of how frequency of use is a consistent metric for measurement. I will then discuss how there is a lack of understanding in current literature as to what makes one vulnerable to problematic use, as well as the treatment of problematic use. Finally, I will discuss what current research shows about the age of first exposure to pornography, and why this is an important metric for measurement in this study.

### ***Diversity of Definitions of Pornography***

The word “pornography” was coined in the French language in the early 1800’s and is derived from the two Greek words πόρνη (pórñē), which means “prostitute”, the word γράφειν (gráphein), which means “to write or to record”, and the suffix -ία meaning “state of,” “property of,” or “place of” (Online Etymology Dictionary, 2022). Thus, the literal definition of pornography based on its etymology is “a written description or illustration of prostitution” (2022). The French imported this word, along with a few other things, to New Orleans in the mid-1840’s, making it a familiar word in the American vernacular by the 1850’s (Online Eytymology Dictionary, 2022).

Explicit illustrations of sex have been around for as long as we have record of human illustration and description, including sexually explicit frescoes from the first century A.D., recently uncovered in the city of Pompeii (Lane, 2000). The practice of banning sexually explicit books was common in the Roman Catholic church as early as the mid-1500's, in no small part thanks to the invention of the printing press (Lane, 2000). With every medium of illustration, from frescoes to paintings to movies, pornography has always been a staple, including the oldest surviving hardcore pornographic film in 1908, entitled "L'Ecu d'Or ou la Bonne Auberge" (Lane, 2000). To be technical, softcore pornography refers to illustrations of nudity and genitalia, while hardcore pornography refers to the depiction of sexual acts. "Tijuana Bibles", which were sexually explicit comic books, were passed around to soldiers in the early 20<sup>th</sup> century, followed by glossy magazines (Lane, 2000). In the 1970's, the commercial fight between VHS and BetaMax was won by the agreement of JVC to produce pornography on their VHS tapes, while Sony refused to do so with their BetaMax (Lane, 2000). As technology changed, so did pornography, with more and different hardcore pornography being distributed at an ever-increasing rate (Lane, 2000). Then came the internet. Over the past twenty years, as internet speeds increased and access became more available, pornography moved from something that is generally consumed to something that is also produced by the general public, access became more readily available on smartphones, and new technologies were invented to support the ever-increasing demand for more and different types of pornography, such as sexbots, teledildonics, virtual reality, fleshlights, and many others (Marshall & Miller, 2019).

Due to the vast diversity of pornographic materials, and the ever changing and rapidly produced technologies, researchers have had a difficult time coming up with a consensus on how to define pornography in research (Kohut et al., 2020). Prior to the internet age, pornography was commonly referring to media that was erotically arousing, primarily in books, magazines, or videos (Short et al., 2012). Researchers also often specified the mode or media of access (2012). Short et al. (2012) found that from 2001 to 2011 “pornography” was defined in only 16% of articles studying the subject, all of which had inconsistent definitions, measurements, and assessments of internet pornography.

With the advent of the internet, all of that changed. If you type the word “porn” into a Google search bar, as of April 2022, around 4.5 billion websites will populate your search results, which means the content is being created faster than it is possible to define it. Ashton et al. (2019) sought to establish a research-based definition for pornography in the digital age, noting that researchers have moved to using terms like “sexually explicit material” or “sexually explicit internet material” in place of the word “pornography” in their research, which still falls short of a consistent and accurate word that encapsulates what is being researched. Researchers no longer consistently list the mode of accessing pornography online, lumping all of it into the one medium of “internet”, which is problematic for a variety of reasons (Ashton et al., 2019). McKee et al. (2020) found in their panel of 38 leading pornography researchers, that no two researchers had the same definition, and rather than coming to an agreed upon definition, they suggest that researchers choose a definition that they can make explicit and justify it for their

research. After reviewing substantial current research on pornography, Ashton et al. aimed to define pornography as “Material deemed sexual, given the context, that has the primary intention of sexually arousing the consumer and is produced and distributed with the consent of all persons involved” (p. 2), which is the definition that guided this study.

### ***Diversity of Understanding of Problematic Pornography Consumption***

Grubbs et al. (2019) focused their research on the “highly contentious” debate within academia, in culture at large, and in the psychotherapy field of whether pornography is addictive. Grubbs et al. (2019) discussed the claim that pornography is an inherently addictive form of media, while others argue there is no evidence for those assertions, while other studies move towards including pornography consumption as a compulsive sexual behavior or an impulse control disorder. However, they state that there is a clear consensus that pornography consumption may be problematic at times for some individuals (Grubbs et al., 2019).

In their narrative review, Binnie and Reavey (2020) discussed the problem facing practitioners due to the lack of applied research into behavioral addictions, which leads to an absence of practical psychological models. In their study of pornography’s problematic use, they surmise that current research suggests that “pornography is not harmful for the individual, but for some individuals their relationship with pornography is problematic...and has significant consequences for the individuals involved” (Binnie & Reavey, 2020, pp. 2-3). They go on to define PPU as “any use of pornography that leads to significant negative interpersonal, intrapersonal, or extra personal consequences for the user (Binnie & Reavey, 2020, p. 3). When delineating the diagnosis of PPU, it’s also

necessary to consider that it has common traits with impulse control disorders, hypersexual disorder, and obsessive-compulsive disorders. While performing a systematic review on online pornography addiction, de Alarcón et al. (2018) found it difficult to profile when online pornography consumption becomes pathological, due to a multitude of reasons.

In addition to the difficulty in defining pornography's problematic use in research literature, there are also moral underpinnings to much of its perceived negative effect from many religious persons. According to Grubbs et al. (2019), moral incongruence ought to be considered as a part of PPU, meaning that pornography consumption by those who hold religious beliefs that any use of pornography ought to be opposed leads to moral incongruence, which itself is harmful to the person rather than the pornography. For the purposes of this study, PPU was not considered or measured, but was considered here as it is often the focus of studies on pornography consumption.

### ***Frequency of Use as a Consistent Standard for Measurement***

Many measurements for pornography consumption have to do with addictive or PPU. In fact, I was unable to find a single assessment with proven validity and reliability that focused only on pornography consumption itself, although there were modified versions of other measurements in research studies. However, frequency of use is a consistent standard measurement amongst most scales. In their systematic review of psychometric instruments for PPU, Fernandez and Griffiths (2021) found frequency of use as a valid and common operational measurement for pornography consumption, as did Marshall & Miller (2019). In fact, the most common method of operationalizing

pornography consumption, across the 313 articles Marshall & Miller (2019) included in their study, was measuring the frequency of pornography consumption, with nearly 98% of studies including it. Grubbs et al. (2019) discuss how the quantity or frequency of use of pornography should not be the primary predictor associated with PPU, which they found to be largely confirmed by existing literature.

One such scale is the Pornography Consumption Questionnaire (PCQ) (Hald, 2006), which has been shown to have high internal consistency and full-scale reliability for the positive effect dimensions of .91 (Hald & Malamuth, 2008). They also conducted a correlational and factor analysis on the PCQ, finding that the intercorrelations between constructs were high (Hald & Malamuth, 2008). The PCQ measures for frequency of use and age of first exposure in addition to other items, which is fitting for this study. I will use a shortened version of the PCQ, parts of section 3, as has been used in other peer-reviewed studies (Hald et al., 2013; Hald & Mulya, 2013; Hald & Malamuth, 2015; Hesse & Pedersen, 2017).

### ***Lack of Research on Vulnerabilities for Problematic Pornography Consumption***

A lack of research exists on what creates a vulnerability in some individuals for PPU. In this section, I present an overview from current literature. Although there is a dearth of research, existing research points to a relationship between childhood trauma and PPU or addiction. Wéry et al. (2019) discussed how research demonstrated that past traumatic experiences play a role in sexual addiction, and in particular the development of insecure attachment styles. Although they do not mention ACEs in their study, many of the elements found in the ACE study are present. ACEs and anxious attachment styles



were also found to have a significant role in the development of gaming disorder (Grajewski & Dragan, 2020). Niazof et al. (2019) found that ADHD, which also has high correlations with ACEs and attachment difficulties, had a strong relationship with pornography consumption among minors.

### ***Lack of Understanding of Treatment for Pornography Consumption***

In this section I will overview what research currently points to in the treatment of unwanted or PPU, as well as some of the consistent findings. Sniewski et al. (2018) found that some treatments prescribe pharmacological approaches along with therapy, such as cognitive behavioral therapy, while many of the other treatments prescribe some form of relationship therapy along with individual therapy that addresses shame and guilt. Gibbons et al. (2021) recommended several individual therapeutic interventions, mindfulness, and working with the family system, but stopped short of mentioning any specific interventions. Web-based self-help tools are also currently being explored regarding their efficacy in helping with PPU (Bothe et al., 2021), as well as acceptance and commitment therapy (Masumeh et al., 2020), mindfulness (Fraumeni-McBride, 2019), and meditation (Sniewski et al., 2020). There is a large gap in the research on effective treatment for PPU, which can be enriched through studies such as this one that seek to understand what creates vulnerabilities to such issues, thereby laying out a path towards developing research-based treatments.

### ***Age of First Exposure to Pornography***

In this study I also analyzed the relationship between the age of first exposure to pornography and pornography consumption by males. Due to the lack of recent studies

which analyze how age of exposure to pornography impacts an individual, articles older than 5 years have been included in this section. Of the studies that did examine the relationship between early exposure to pornography and adverse impacts, most found some sort of correlation. The age of first exposure to pornography is correlated to earlier (1.4 years) sexual relationships (Bulot et al., 2015), a higher (+0.9) number of partners (Bulot et al., 2015), sexual risk taking among both men ( $r = .19, p < .001$ ) and women ( $r = .15, p < .01$ ); (Sinković et al., 2013), a higher propensity ( $F [18,277] = 1.69, p = 0.04$ ) to sexually offensive behaviors (Burton et al., 2010), as well as other self-perceived adverse impacts (Dwulit & Rzymiski, 2019). Consistently, researchers have also found that males are exposed to pornography at an earlier age (14.5) than females (15.8) (Hald, 2006; Harper & Hodgins, 2016; Sinković et al., 2013). Around the beginning of widespread access to high-speed internet, research found that unwanted exposure to pornography was also on the rise (Mitchell et al., 2007). The earlier the age of exposure to pornography also has a relationship with multiple life-long issues, including decrease in sexual satisfaction, quality of romantic relationships, neglect of basic needs and duties, and self-perceived addiction, as was particularly true for those who were exposed under the age of 12 (Dwulit & Rzymiski, 2019). Authors of these studies consistently recommend further studies on the impact of the age of exposure to pornography on sexual health throughout a person's lifetime.

In this study, I aimed to understand if exposure to pornography at an early age has a correlation with other adverse effects of ACEs. If, for instance, a child who is pre-pubescence is shown pornography by an adult, that adult is held liable for indecent

behavior and is most likely held accountable by the law. Yet, if that same child is shown the same pornography through an accidental search online, no one is held liable. Often, the first scenario is seen as a form of sexual abuse and the second is seen as a normal part of growing up. Since an early exposure to pornography, typically under the age of 12, has been shown to have similar impacts on people as other ACEs, it is the goal of this study to investigate if this relationship exists, and if so, to what extent.

### **Summary and Conclusion**

The current literature specific to the relationship between ACEs, age of first exposure to pornography, and pornography consumption by adult males is non-existent. Although there is substantial research on the relationship between ACEs and wide range of physical and mental health issues in adulthood, as well as many other negative life experiences. There is also ever-growing research on pornography and its impact on health and relationships. The current research on how early-exposure to pornography impacts a person is extremely limited, but points to adverse effects similar to those experienced by those who have a high number of ACEs. Since the inception of studies on ACEs by Felitti et al. (1998), the treatment methods for many of these issues studied has been bolstered, as well as the preventative measures. In this literature review, I have shown how researchers have consistently utilized the ACEs study to find correlations between adverse experiences in childhood and negative impacts to health and person in adulthood. Additionally, current, albeit limited, research shows a similar correlation between early exposure to pornography and negative impacts to health and person in adulthood, primarily in sexual and mental health, as well as relationships. By filling this gap in the

literature, counselors will better be able to understand what creates a vulnerability to PPU in adulthood, as well as create treatment modalities that are rooted in research. This will help counselor educators and Supervisors in their instruction as they will have empirically supported theories and treatment protocols to teach their students and supervisees. In Chapter 3, I present the research design of this study, how I will collect data, and how I will analyze that data. I will also discuss possible threats to validity, and how I will seek to ethically present the survey in a way that protect participants.

### Chapter 3: Research Method

In this chapter, I describe the research design of the current study and the approach used to analyze the relationship between ACEs and pornography consumption by males. In the study, the relationship between age of exposure to pornography and pornography consumption by males was also analyzed. Determining the strength of the relationship between ACEs, age of exposure to pornography, and pornography consumption by males could lead to the development of research-based interventions to assist counselors in helping their clients who have problematic or unwanted pornography consumption. In this chapter, the setting and sampling criteria, data analysis plan, and research question and hypotheses are also discussed. Additionally, I present possible threats to validity and the steps taken to address them as well as the steps taken to ensure that the information gathered from participants remained anonymous, secure, and protected.

#### **Research Design and Rationale**

The purpose of this quantitative correlational study was to determine if there is a relationship between ACEs, age of exposure to pornography, and pornography consumption by adult males. I used a correlational, cross-sectional design to collect data from adult males at one point in time to study the relationship between the independent variables of ACEs and age of exposure to pornography and the dependent variable of pornography consumption as measured by Section 3 of the PCQ. In this study, I used online surveys as the means for data collection because online surveys provide an economical, convenient, and efficient way to collect data, which has been discussed

extensively in literature as a valid means of data collection (see Creswell & Creswell, 2018). Through a comparative analysis, I determined the extent of pornography consumption among men compared by the number of ACEs identified and age of exposure to pornography. Data analysis methods used included correlations and multiple linear regressions.

## **Methodology**

### **Population**

I drew a sample of adult males from a variety of sources including social media and counseling groups and listservs. I planned to post announcements on social media groups of counselors and those in counselor education, asking that they share with those in their networks. A clustering procedure was employed by utilizing the groups mentioned above and seeking participants through them.

### **Sampling and Sampling Procedures**

#### ***Sampling Method***

Due to the unavailability of a population from which I could draw a random sample, I used convenience and snowball sampling strategies to recruit participants in this study. By utilizing these nonprobability sampling methods, I was able to obtain participants who were available and met the inclusion criteria of this study. Due to the nature of this study calling for a diverse (in terms of geography, ethnicity, socioeconomic status, etc.) population of adult males, these sampling methods were deemed to be the appropriate choice. The inclusion criteria were adult males who were over the age of 18 years old and willing to complete a short survey. By keeping the age of participants over

18, I sought to avoid issues that arise when working with minors. The survey began with a discussion of the nature of the study so that the participants understood that they would be asked sensitive questions about their childhood trauma, neglect, and dysfunction as well as their pornography consumption. The participants needed to agree to answer these questions honestly to participate in the study.

### ***Sample Size***

I conducted an a priori analysis by using the *A Priori Sample Size Calculator for Multiple Regression* (Soper, 2020) to determine the appropriate sample size for this study. I used an alpha level of 0.05, a power of 0.80, and medium effect size of 0.15, as well as predictors of 11. These predictors included the 10 ACEs Questionnaire subscales, as is common in studies of ACEs, and another predictor as the age of exposure to pornography. These ACEs Questionnaire subscales include physical abuse; verbal abuse; sexual abuse; physical neglect; emotional neglect; and household dysfunction, including the presence of substance abuse, mental illness, domestic abuse, parental separation, and criminal behavior. I chose an alpha level of 0.05 because it is the standard alpha level recommended for statistical significance (see Frankfurt et al., 2018). Calculations indicated that the minimum recommended sample size is 122 (see Soper, 2020). Other quantitative studies related to ACEs included various sample sizes, with the original study having over 17,000 (Felitti et al, 1998) and other studies having around 81,000 (Rose et al., 2012), 56,600 (Lanoue et al., 2020), 6,100 (Corso et al., 2008), 1,228 (Grajewski & Dragan, 2020), 225 (Drury et al., 2017), and 124 (Pasha-Zaidi et al., 2020). By seeking out participants through counseling listservs and social media, I was not

limited by geography and was able to include a greater number of participants than was recommended as a minimum.

### **Procedures for Recruitment, Participation, and Data Collection**

After receiving approval to conduct the study from Walden University's Institutional Review Board (IRB), I began recruiting participants through counseling listservs and social media. I posted announcements on the listservs and social media, providing a link to the online survey so that anyone who fit the eligibility requirement of being an adult male was able to choose whether they wanted to participate, with the assurances of anonymity and security.

I uploaded the consent form, demographic questions, ACEs Questionnaire, and part of Section 3 of the PCQ to SurveyMonkey and created a survey. SurveyMonkey was chosen as the means for hosting the survey because it facilitates data collection into organized spreadsheets for data analysis, which reduced data entry errors and accelerated hypothesis testing (see Creswell & Creswell, 2018) as well as provided an accessible and convenient way for participants to complete the survey. Participants were presented with an electronic informed consent on the first page of the survey, before they were able to begin answering questions. The informed consent notified them of the risks and benefits of participating in the survey as well as what measures were taken to ensure their anonymity and security. To proceed with the survey, the participant was asked to acknowledge and consent to their participation being voluntary, and they were informed that they were able to withdraw from the study at any point without penalty.



SurveyMonkey was an appropriate tool to utilize for this study due to its capability of keeping participants anonymous through their anonymous response collection option, ensuring that participants' information was neither stored nor tracked. I also did not ask for any personally identifying information in the demographic questionnaire; therefore, none of the participants were able to be reached after the study because their identities and information remained completely anonymous throughout the entirety of the survey. After reaching the target sample size, I uploaded the collected data to SPSS in order to analyze it.

### **Instrumentation and Operationalization of Constructs**

#### **Demographic Questionnaire**

In this survey, I administered a demographic questionnaire to all participants to collect information regarding their age, gender, race, sexual orientation, and marital status. This questionnaire was used to understand how these different variables may have an impact on the dependent variable, although not a part of the study.

#### **ACEs Questionnaire**

I used the ACE questionnaire, developed by Felitti et al. (1998), which consists of 10 questions and has been replicated in thousands of studies (see Hook et al., 2010). This scale has been shown to have good test-retest reliability, with a kappa coefficient (95% CI) within a range of .52 to .72 (Dube et al., 2004). However, there are issues that arise with retrospective reports, and Dube et al. (2004) noted that these factors may lead to variability in responses. This questionnaire has been shown to have moderate agreement between retrospective and prospective measurements ( $r = .47, p < .001$ , weighted kappa =

.31, 95% CI: .27-.35; Rueben et al., 2016). Edwards et al. (2001) found that if there was any bias in response, it would most likely be towards downwardly biased response, meaning that responses would minimize their responses to the ACEs Questionnaire. In their retrospective study of ACEs in six health problems among four successive birth cohorts dating back to 1900, Dube et al. (2003) found that the ACE score increased the risk for health problems in a consistent, strong, and graded manner ( $p < 0.05$ ) and confirmed that bias in responses were more likely to underestimate actual occurrences. This questionnaire is not copyrighted, and requires no fees for use (CDC, 2022), but the CDC requests the article be sent to them after the completion of the study, which I will do. The ACEs Questionnaire comprises 10 questions that can be categorized as abuse, neglect, or household dysfunction. The 10 questions on the ACE Questionnaire are as follows:

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you? Or act in a way that made you afraid that you might be physically hurt?
2. Did a parent or other adult in the household often push, grab, slap, or throw something at you? Or ever hit you so hard that you had marks or were injured?
3. Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way? Or try to or actually have oral, anal, or vaginal sex with you?

4. Did you often feel that no one in your family loved you or thought you were important or special? Or your family didn't look out for each other, feel close to each other, or support each other?
5. Did you often feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Or your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
6. Were your parents ever separated or divorced?
7. Was your mother or stepmother often pushed, grabbed, slapped, or had something thrown at her? Or sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
10. Did a household member go to prison?

## **PCQ**

To collect data on pornography consumption, I used part of Section 3 of the PCQ (Hald, 2006), which has been shown to have high internal consistency and full-scale reliability with positive effect dimensions of .91 (see Hald & Malamuth, 2008) and was recommended by Marshall and Miller (2019) in their systematic review of pornography consumption measurement tools. The issue of reliability and validity is especially

important when measuring pornography consumption and age of exposure because so few questionnaires have been found to have either reliability or validity, with the PCQ being one of the few that has (Marshall & Miller, 2019). The PCQ was developed based on other international studies of sexuality and pornography (Hald, 2006) and consists of 139 items that are divided into four parts. I used part of Section 3 of the PCQ as well as the short instructional statement explaining how to complete the questionnaire from Part 1, which included items that related to exposure patterns to pornography and pornography consumption behaviors (see Hald, 2006). I did not use Part 4 of the PCQ because its 64 items relate to the participants' understanding of the positive/negative effects of pornography consumption (see Hald, 2006), which was not the focus of this study. Section 3 of the PCQ includes questions that measure for frequency of use and age of first exposure. I reached out to Dr. Hald via email to request permission to use Section 3 of the PCQ, as opposed to the measurement tool in its entirety, and received written, explicit permission to do so.

### **Data Analysis Plan**

After collecting data from participants, I analyzed the data using multiple linear regressions. I performed the entire statistical analysis using SPSS 28.0.0.0, which is the most current version. Descriptive statistics were used to analyze the demographic information, including the mean, standard deviation, and frequencies among the collected characteristics. Additionally, I reported any missing data and developed a strategy to replace missing data as needed. Additionally, the data were directly exported from SurveyMonkey into SPSS, which allowed me to transfer the data into Microsoft Excel,

where I checked the data for kurtosis, skewness, and outliers that may have impacted a normal distribution. The research hypotheses were tested using multiple linear regression analysis, which allowed me to clarify the relationship between the independent variables of ACEs () and age of exposure to pornography and the dependent variable of pornography consumption by adult men.

After cleaning and exporting the data, I began the process of interpreting them. First, I ran descriptive statistics on the demographic data collected on the participants and presented the number, frequency, and percentages for that data. Then, means, standard deviations, and ranges for the continuous demographic variables were calculated to describe the characteristics of the study sample. I then performed multiple regression analysis in SPSS to find confidence intervals, statistical significance, and effect size. Once all data had been analyzed, they were presented in a bar graph, as is popular among other ACEs surveys.

### **Research Question and Hypotheses**

RQ: What is the relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males?

*H<sub>0</sub>*: There is no statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

*H<sub>1</sub>*: There is a statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

### **Threats to Validity**

In this study, potential threats to internal validity included measurement errors and potential contributions of variables not included in the study. I have mentioned using programs, such as SPSS and SurveyMonkey, to minimize any issues that may arise from measurement errors. Additionally, researcher bias and selection bias may have also threatened validity because understanding of a topic can influence the design of the study. Therefore, I took measures to find past studies to pattern this one after as well as used instruments that have been shown to have high levels of validity and reliability in hopes of minimizing researcher bias. Social desirability may also impact the internal validity of this study because the survey asks questions that are typically socially taboo, which is why participants were given information about the sensitive nature of the topic along with assurances of confidentiality and anonymity before beginning the survey as well as making the survey self-administrated (see Groves et al., 2009, p. 246).

Potential threats to external validity included nonrandom sampling methods, but this effect ought to have been minimized by the broad range and geography of participants through the avenues of recruiting participants. Additionally, using section 3 only of the PCQ challenges some of the validity with which this questionnaire has been shown to have in other studies (Marshall & Miller, 2019). These threats may reduce the generalizability of any results or conclusions.

### **Ethical Procedures**

In this study, I followed Walden Universities protocols for IRB approval prior to recruiting participants. On the online survey page, I provided information about the

purpose of the study, assurance of anonymity, and statement of potential risks or benefits of participation to ensure that participants are making an informed and voluntary decision prior to agreeing to participation. I also informed participants of the sensitive nature of some of the survey and provided an option to not proceed with the survey before agreeing to proceed. Participants were also informed of how the data will be used.

I also included the phone number for the Substance Abuse and Mental Health Services Administration helpline (1-800-662-4357), as well as their website address, which allowed participants a free and accessible service where they can find information for referrals to health care professionals, support groups, and other resources. I sought to follow all of Walden Universities policies upon IRB approval.

Regarding the ethical treatment of the data and the analyzing of collected data, I avoided disclosing only positive results and provided all findings, even if they were contrary to my hypothesis. I will store all data and materials for 5 years in a protected and encrypted file. By following the dissertation checklist, IRB, and Walden Capstone policies, I avoided any unethical treatment of the data.

### **Summary**

In this chapter, I outlined the methodology that I used in examining the relationship between ACEs, age of exposure to pornography, and pornography consumption by males. The hypotheses and variables were chosen based on the gap in knowledge that I identified in my literature review. The theorized relationships between these variables and the subsequent research questions led to the selection of multiple linear regression and comparative analysis for this study. The questionnaires were chosen

based on their proven validity and reliability in other similar studies. The plan to recruit through listservs and social media allowed me to reach a wide range of adult males, rather than a group constrained to one geographic area. It was my hope that through the gathering and analyzing of this data, that I contributed to research on ACEs and pornography consumption in a way that enhances, and possibly creates, interventions for counselors to use for their clients who have unwanted or PPU. In the following chapter I will discuss the results of this study, the data collection, and analysis.



## Chapter 4: Results

The purpose of this quantitative correlational study was to examine whether a relationship existed between ACEs and pornography consumption by males in the United States as measured by the 10-item ACEs Questionnaire and a modified version of the PCQ. The primary goal of this study was to contribute to a greater understanding of the relationship between ACEs and pornography consumption in adulthood to help develop counseling treatments that can be implemented by counselor educators and supervisors in their teaching and training of counseling students and supervisees. The research question and hypotheses investigated in this study were:

RQ: Is there a statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males?

*H<sub>0</sub>*: There is no statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

*H<sub>1</sub>*: There is a statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males.

In this chapter, I discuss the data collection process and the results of the study.

### **Data Collection**

The Walden University IRB granted me approval to conduct this study on October 15, 2022 (IRB Approval # 10-05-22-1005015). On October 17, 2022, I opened the survey that I had created in SurveyMonkey to allow anyone with the survey link to access and complete the survey. The survey included the consent form on page 1, demographics questionnaire on page 2, ACEs Questionnaire on page 3, and modified

PCQ on page 4. I emailed the approved announcement for the survey to the CESNET-L listserv, which included 6,569 recipients. I also posted the announcement in various counseling and counselor education Facebook groups and on my personal social media platforms, including Facebook, Twitter, and LinkedIn.

I sent out the first round of announcements on October 17, 2022. During the first week of data collection, I received 59 responses. During the second week of data collection, I received 76 responses. Throughout these 2 weeks I would share or reshare the original post daily to weekly on the various social media sites. I emailed the study link to the CESNET-L listserv for a second time on October 26, 2022. By October 28, 2022, I had a total of 135 responses, with a 97% completion rate, for a total of 131 completed surveys, which met my required sample size of 122 participants, at which time I closed the survey. I found that there were four cases that showed inconsistent answers about having ever consumed pornography, answering in the affirmative in several variables and in the negative in one variable. Upon consultation with my committee, it was decided that because of the number of respondents, these cases would be deleted, leaving the total number of participants at 127. The analysis was run with this new data set.

The typical time spent by participants responding to the survey was 5 minutes and 15 seconds. There were no notable discrepancies in data collection from the initial plan discussed in Chapter 3. There were no adverse events reported related to this survey. I exported the data from SurveyMonkey directly to SPSS Version 28. SurveyMonkey allows for data to be filtered by completed results, which is what I exported to SPSS,

leaving no missing data in SPSS. However, the variable of age of exposure to pornography was coded as a string variable upon transfer, which I recoded to a numerical value. To test the total ACEs score, I created a new variable in which I totaled the sum of ACEs scores answered in the affirmative, ranging from 0 to 10.

Additionally, I changed the measure from nominal to scale for several variables, including age of first exposure, ACEs cumulative score, and pornography consumed in past 6 months. I also transformed data from several categories into singular categories, including race and sexual orientation. In one case a respondent marked several categories for sexual orientation but left a comment in the comment box stating that they were questioning, to which I categorized them as having answered questioning.

Due to recruitment through listservs and social media platforms, there is no way to know the exact number of individuals that received the announcement for the study. The listserv used has 6,569 recipients, and the social media posts were shared publicly by dozens of people as well as the possibility of being shared privately, which eliminates the ability to know the exact number of individuals that received the announcement for the study.

## **Results**

### **Demographics and Other Variables**

The sample included all males as was required in the consent form to participate in the study. The participants' ages ranged from 21 to 80, with the median age being 40. The participants relationship status included 90 married (70.86%), one widowed (0.78%), 10 divorced (7.87%), two separated (1.57%), and 24 never married (18.89%). All but two

respondents identified as being not Spanish, Hispanic, or Latino, with one respondent identifying as Mexican American and one respondent identifying as Cuban-American. The majority of respondents, 112, identified as White (88.18%), with seven respondents identifying as Black or African American (5.51%), one as American Indian or Alaskan native (0.78%), one as Asian (0.78%), five identifying as from multiple races (3.93%), and one identifying as from some other race (0.78%). According to the U.S. Census Bureau (2022), this leans towards weighting the results towards White persons, who only make up 59.3% of the U.S. census, while Black or African American are 13.6%, American Indian and Alaska Native are 1.3%, Asian are 6.1%, Native Hawaiian or Other Pacific Islander are 0.3%, multiple races are 2.9%, Hispanic or Latino are 18.9%. A majority of respondents, 110, identified as straight/heterosexual (86.6%), while five identified as bisexual (3.9%), six as gay (4.7%), one as queer (0.8%), and five as questioning or unsure (3.9%). Table 1 displays the demographic data.

**Table 1**

*Participant Demographic Characteristics as a Percentage of the Sample*

	Characteristic	<i>n</i>	Percentage
Age	21–30	20	15.74%
	31–40	50	39.37%
	41–50	35	27.55%
	51–60	13	10.23%
	61–70	6	4.72%
	71–81	3	2.36%
Marital status	Married	90	70.86%
	Widowed	1	0.78%
	Divorced	10	7.87%
	Separated	2	1.57%
	Never married	24	18.89%

Race	Black or African American	7	5.51%
	American Indian or Alaskan Native	1	0.78%
	Asian		
	Native Hawaiian or other Pacific	1	0.78%
	Islander	0	0.00%
	White	112	88.18%
	From multiple races	5	3.93%
Some other race	1	0.78%	
Sexual identity orientation	Bisexual	5	3.9%
	Gay	6	4.7%
	Queer	1	0.8%
	Questioning or unsure	5	3.9%
	Straight (heterosexual)	110	86.6%

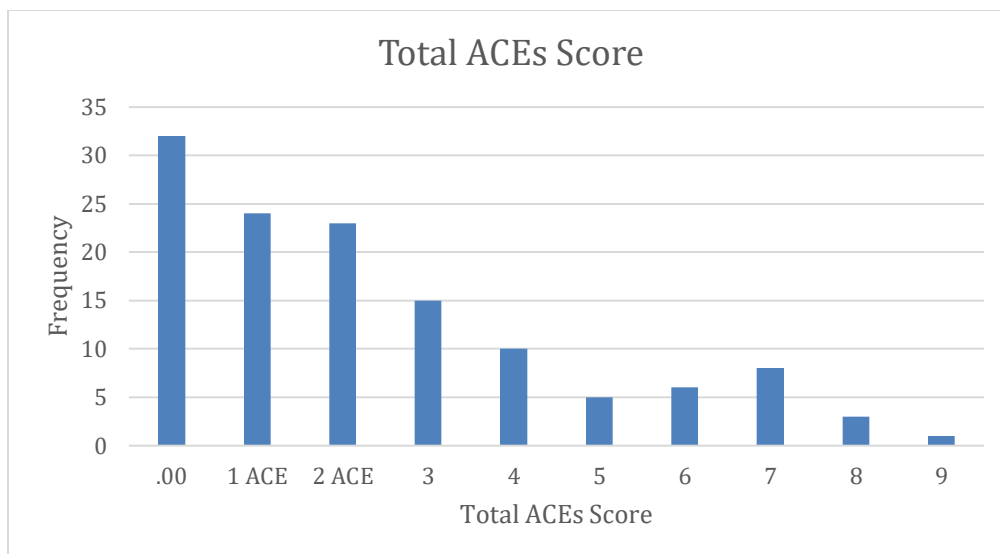
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I created a new variable to total each participant's ACEs score, ranging from 0 to 10. The mean score was 2.40, with the median being 2. The mode was 0, being the total for nearly a quarter of participants. This is close to the average because the CDC (2022) reported that at least 61% of people have one or more ACEs, whereas in this study, nearly 75% of the participants had one or more ACEs, as shown in Table 2 and Figure 1. Additionally, the CDC reported that 16% of people have four or more ACEs, whereas in this study, 25% of the participants reported four or more ACEs. Table 3 shows the frequency for each ACEs score, with the highest score for the question regarding growing up in a family where the parents were divorced or separated, and the lowest score concerning growing up in a family where a member was in prison. Tables 4 and 5 show results concerning respondents' exposure to pornography in intervals over the past 12 months, while Table 6 shows the respondents' answers to the age at which they were first exposed to pornography.

**Table 2**

*ACEs Score Totals*

ACEs score	<i>n</i>	Percentage
0	32	25.2%
1	24	18.89%
2	23	18.11%
3	15	11.8%
4	10	7.87%
5	5	3.93%
6	6	4.72%
7	8	6.29%
8	3	2.36%
9	1	0.78%
10	0	0.0%

**Figure 1***ACEs Score Totals Bar Graph***Table 3***ACEs Scores by Categories*

Category	<i>n</i>	Percentage
Q1: Emotional abuse	42	33.1%
Q2: Physical abuse	33	26%
Q3: Sexual abuse	30	23.6%
Q4: Emotional neglect	42	33.1%
Q5: Physical neglect	21	16.5%
Q6: Divorce or separated	45	35.4%
Q7: Household abuse	12	9.4%
Q8: Addiction	32	25.2%
Q9: Mental illness	43	33.9%
Q10: Prison	5	3.9%

**Table 4***Have You Been Exposed to Pornography During...?*

Time period	<i>n</i>	Percentage
Ever	131	100%
Past year	106	83.5%
Past month	86	67.7%
Past week	66	52%
Past 24 hours	29	22.8%

**Table 5***Average Time Spent Watching Pornography in the Past 6 Months*

Time period	<i>n</i>	Percentage
Never	27	21.3%
Less than once a month	19	15%
1–2 times a month	24	18.9%
1–2 times a week	32	25.2%
3–5 times a week	16	12.6%
More than 5 times a week	9	7.1%



**Table 6***Approximate Age of Exposure to Pornography*

Age	<i>n</i>	Percentage
3	1	0.8%
5	2	1.6%
6	3	2.4%
7	7	5.5%
8	11	8.7%
9	9	7.1%
10	19	15%
11	8	6.3%
12	30	23.6%
13	11	8.7%
14	11	8.7%
15	5	3.9%
16	4	3.1%
17	1	0.8%
18	3	2.4%
20	1	0.8%
30	1	0.8%

**Null Hypothesis**

The null hypothesis stated that there is no statistically significant relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males. Hald (2006) utilized a factor analysis to analyze data collected from the PCQ. After discussions with my methods expert committee member and the Walden University Research department, it became apparent that due to the nature of the data collected, I would not be able to use a factor analysis to create a dependent variable that could represent pornography consumption. Considering that the study was not causal, a multiple linear regression could be run in the opposite direction as typically expected by switching the independent and dependent variables.

Prior to conducting the analysis, I tested the assumptions of multiple linear regression, which included testing for homoscedasticity, normality, and the absence of multicollinearity. I also tested the assumption of normality by examining the P-P plot to ensure that data points did not deviate strongly from the normal line (see Figure 2). I assessed for homoscedasticity by visually inspecting a scatter plot of standardized residuals versus unstandardized predicted values (see Figure 3). Multicollinearity was assessed using tolerance values and variance inflation factors, and all tolerance values were greater than 0.1, but some variance inflation factors were not less than 7.

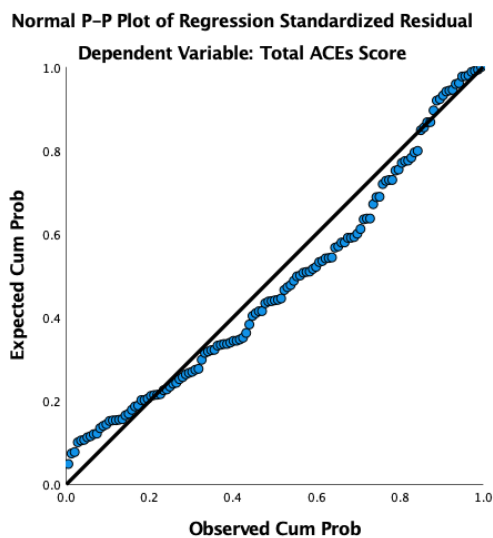
Pallant (2010) recommended excluding independent variables from a regression analysis when there is a .7 or greater correlation between those independent variables. In this analysis, there were two variables that had high multicollinearity: the dichotomous variables that asked about watching pornography once a month or more during the past 6 months and during the past 48 hours. The variable that asked about watching pornography one or more times in the past 6 months had high multicollinearity with the variables of 12 months (.854) and past month (.749). The variable that asked about watching pornography once or more in the past 48 hours had high multicollinearity with the variable of 24 hours (.804). In concordance with Pallant, I excluded these two variables from the analysis.

Additionally, there were two variables that indicated outliers. Wilcox (2001) proposed that one of the ways to handle outliers is to compute the Winsorized correlation coefficient, which is computed after the  $k$  smallest observations are replaced by the  $(k + 1)$ st smallest observation, and the  $k$  largest observations are replaced by the  $(k + 1)$ st

largest observation. Therefore, I followed this suggestion and Winsorized the outliers found in the variables of age of exposure and total ACE scores. There were three cases that were outliers in the age of exposure variable, and these were Winsorized by changing the ages of 30 and 20 to 19 (18 +1) and age 3 was Winsorized to age 4. The outlier for ACE scores was 9, which was already (k+1), and so it was left the same. The dependent variable was analyzed on a continuous scale and the independent variables were all either continuous or categorical. Thus, all assumptions were met to run a multiple linear regression.

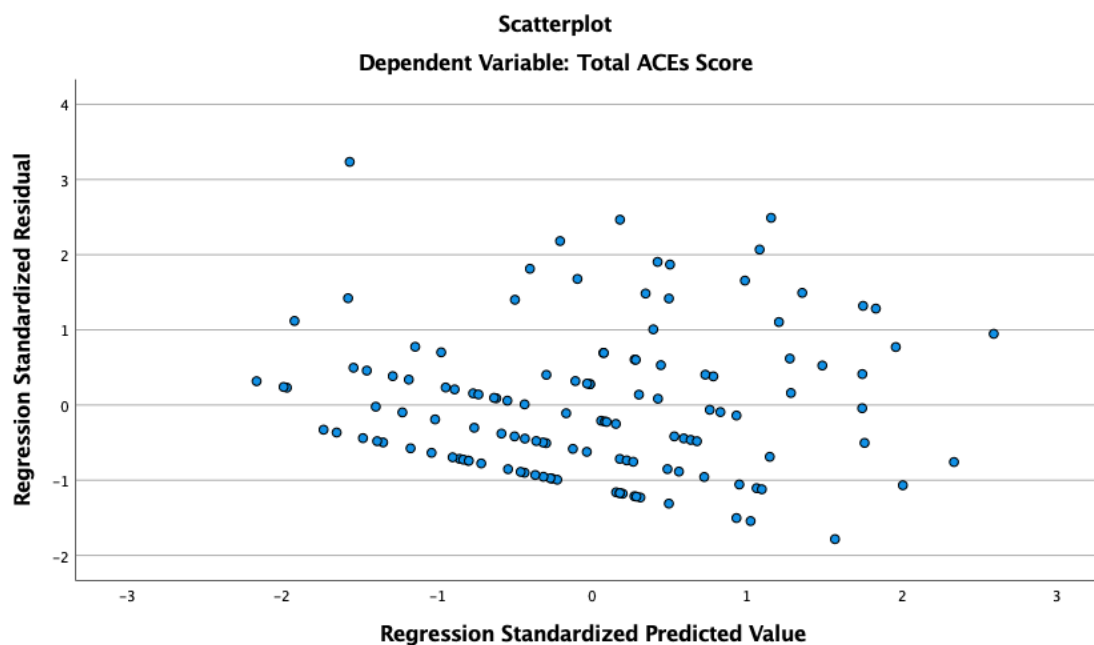
## Figure 2

*Normal P-P Plot for Null Hypothesis*



**Figure 3**

*Scatterplot of Residuals Versus Predicted Values for Null Hypothesis*



To test the null hypothesis, I conducted a multiple linear regression to evaluate if there was a relationship between ACEs, age of exposure to pornography, and pornography consumption in adult males. As shown in Table 7, the overall regression model was statistically significant,  $F(9,117) = 2.724$ ,  $p < .006$ ,  $R^2 = .110$ . The regression explained 11% variance in the scores. Based on the results of this analysis, I rejected the null hypothesis. Results of the coefficient table indicated that two individual predictors were statistically significant. Age of exposure to pornography ( $beta = -.32$ ,  $p < .001$ ) and the average amount of time spent watching pornographic materials during the last 6 months ( $beta = -.34$ ,  $p = .035$ ) were both shown to have a statistically significant relationship with ACEs. The participant's age of exposure to pornography and average amount of time watching pornographic materials was predicted by ACEs.

**Table 7***ANOVA: Independent Variables and Pornography Consumption*

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
1	Regression	118.601	9	13.178	2.724	.006 <sup>b</sup>
	Residual	565.919	117	4.837		
	Total	684.520	126			

<sup>a</sup>. Dependent variable: Total ACEs score.

<sup>b</sup>. Predictors: (Constant), weekly use, day, age of exposure, 2 years, month, consumption, year, week, and average.

### Summary

In this chapter, I analyzed the data collected from 127 participants who completed the survey in this research study. My aim was to understand whether there was a statistically significant relationship between ACEs scores, age of exposure to pornography, and pornography consumption in adult males. After Winsorizing the data and removing two variables due to violation of multicollinearity, all assumptions were met for a multiple linear regression, and the data analysis results indicated that the null hypothesis should be rejected. Results indicated that there was a statistically significant relationship between ACEs scores, age of exposure to pornography, and frequency of pornography consumption in the last 6 months in adult males.

In the next chapter, I will interpret these findings as well as explore explanations and rationales for the results. Additionally, I will discuss limitations, implications for social change, and recommendations for future research.

## Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative correlational study was to examine whether a statistically significant relationship exists between ACEs, age of exposure to pornography, and pornography consumption by males in the United States as measured by the 10-item ACES Questionnaire and the modified PCQ. The primary goal of this study was to contribute to a greater understanding of the relationship between ACEs and pornography consumption in adulthood as well as to help develop counseling treatments that can be implemented by counselor educators and supervisors in their teaching and training of counseling students and supervisees. Previous researchers have found a relationship between ACEs and problematic sexual behaviors and consequences in adulthood (Brown et al., 2017; Le et al., 2017; Miller et al., 2018; Zoldbrod, 2017), but I did not identify any studies wherein researchers examined the relationship between ACEs and pornography consumption in adulthood, which is why this study was conducted.

For this study, I used the 10-question ACEs questionnaire (Felitti et al., 1997) and a modified PCQ (Hald, 2006) to examine pornography consumption in adulthood as well as age of exposure to pornography. A cross-sectional data collection method was used to collect data through online surveys. Multiple linear regression was the main type of analysis used after checking the data to ensure it met the necessary assumptions. Following initial data screening and the deletion of incomplete surveys, Winsorizing of outliers and exclusion of variables that showed collinearity over .7, I used multiple linear regression analysis and found that there was a statistically significant relationship between ACEs, age of exposure to pornography, and frequency of pornography

consumption in the last 6 months by adult males. Thus, the null hypothesis was rejected. Based on the results of the multiple linear regression in this study, as ACEs increase, there is a higher likelihood of being exposed to pornography at a younger age. This may be due to the instability and dysfunction of a household that has more of the ACEs present. Further research into this relationship is warranted.

Additionally, I found a statistically significant relationship between ACEs and a higher consumption rate of pornography in adulthood. Thus, as ACEs increase, there is a higher likelihood of pornography consumption in adulthood. This may be due to the exposure to pornographic material at a younger age for those who experience higher ACEs and who also require greater coping mechanisms for the greater instability and dysfunction of their household. Although I determined statistical significance in this study, all the participants had been exposed to and consumed pornography. Further research needs to be done with participants who have not been exposed to or consumed pornography in adulthood to better understand this relationship.

In this chapter, I discuss my interpretations of the findings and provide a comparison of the current study findings with the findings of previous similar studies. I also discuss limitations of this study, recommendations for future studies, and implications from these findings.

### **Interpretation of the Findings**

I made several assumptions for the purposes of this study. One assumption was that as ACEs have been found to have a relationship with many sexual behaviors in adulthood (Anda et al., 2001; Anda et al., 2002; Bertolino et al., 2020; Dietz et al., 1999;

Dillard et al., 2019; Felitti et al., 1998; Hillis et al., 2000; Hillis et al., 2001; Hillis et al., 2004; VanderEnde et al., 2018), so would pornography consumption. I hypothesized that ACEs would similarly have a relationship with pornography consumption (as a sexual behavior) in adulthood. The results of this study showed a statistically significant relationship between ACEs and pornography consumption in adulthood, which corroborates the results of the aforementioned studies that showed a relationship between ACEs and sexual behaviors.

ACEs have been found to have an impact on multiple sexual behaviors throughout life (Bulot et al., 2015; Burton et al., 2010; Sinković et al., 2013), and in this study, results indicated a significant relationship between ACEs and age of exposure to pornography. An assumption in this study was that the participants met the eligibility criteria and would not fill out a survey if they did not meet the criteria. I also assumed that participants included in the study understood the survey questions, answered honestly, and that social desirability behaviors were kept to a minimum.

Multiple linear regression analysis of the data indicated that there was a statistically significant relationship between ACEs, age of exposure to pornography, and frequency of pornography consumption in the last 6 months. These findings confirm the literature discussed in Chapter 2 that found a statistically significant relationship between ACEs and sexual behaviors in adulthood (Anda et al., 2001; Anda et al., 2002; Bertolino et al., 2020; Dietz et al., 1999; Dillard et al., 2019; Felitti et al., 1998; Hillis et al., 2000; Hillis et al., 2001; Hillis et al., 2004; VanderEnde et al., 2018). Drury et al. (2017) found that ACEs were common in the life history of federal sex offenders but had differential



associations with the forms of offending. Similarly in the current study, I found ACEs to be spread similarly among the participants as with many other studies that were discussed in Chapter 2 that had a statistically significant relationship between ACEs and pornography consumption.

According to attachment theory, children develop their belief and behavioral patterns through their relationships with caregivers, with the caregiver being their secure base from which they can explore and grow and the quality of that attachment being heavily influential on various attributes of development (Grady et al., 2017). This theory holds that secure attachments, or bonding to others, are what give security throughout life. ACEs are a break in that attachment, be it through abuse, neglect, or household dysfunction. Since caregivers are the secure base from which a child learns to grow and explore, with that attachment being heavily influential on various attributes of development (Grady et al., 2017), then it is not surprising that as ACEs increase, development can be disrupted. This study found, similarly to Niazof et al. (2019), that there is a relationship between ACEs or attachment difficulties and pornography consumption. If there is an unstable attachment source for a child, such as the abuse, neglect, or dysfunctions presented in the ACEs Questionnaire, then coping skills outside of that relationship will be sought after, which in this study was found to be pornography consumption.

### **Limitations of the Study**

There were multiple limitations of this current study, as with all studies of this type. One of the limitations was that the PCQ was administered to participants in a

modified form that looked solely at rates of pornography consumption rather than the full four-part form that looks at several different factors. Additionally, to analyze the PCQ, Hald et al. (2006) utilized a factor analysis, which was found to not be possible for this study. There is no way to know whether participants would have scored differently with the full version of the PCQ, or if the data would have presented different results were a factor analysis. Additionally, due to the sensitive nature of this study, social desirability bias may have been a factor in the participants' responses.

Because this study was promoted primarily through social media, there is also the possibility that selection bias may have been a factor because individuals who self-selected to participate in this study may have differed from nonparticipants in some way. For example, males who use pornography may have self-selected for this study rather than a mix of males who do and do not consume pornography. Additionally, only males who have been exposed to pornography participated in this study, which leaves the possibility that those who have not been exposed to pornography may have had different results. The prevalence of pornography exposure and consumption may make it difficult to distinguish a relationship between ACEs and pornography consumption; therefore, the sample size, while appropriate for this study's parameters, may have been too small to capture any distinction. Similar studies need to be conducted to analyze the possible relationship between ACEs, age of exposure, and pornography consumption in adulthood by females.

Another limitation of this study was that it was conducted shortly after the global COVID-19 pandemic, which was shown to have a relationship with an increase in

pornography use in one longitudinal study (see Grubbs et al., 2022). This may have had an impact on pornography consumption in the past 2 years on which the PCQ focused, independent of ACEs that occurred in childhood. This factor, along with other factors not evaluated, may have had an impact on participants' pornography consumption independent of the participants' ACEs.

Since my research design was correlational and quantitative, there was not a control group or random assignment, which limits the internal validity. I used convenience and snowball sampling to recruit participants who met the inclusion criteria of the study and who were available and willing; therefore, it is impossible to know if the individuals who participated in this study can accurately represent the population of interest, which limits generalizability.

### **Recommendations**

My recommendations for future research include sampling a more diverse participant population, which includes those who have not been exposed to pornography, as well as those from different races, sexual orientations, and ages. Although other research has found that ACEs have an impact on sexual behaviors (Anda et al., 2001; Anda et al., 2002; Bertolino et al., 2020; Dietz et al., 1999; Dillard et al., 2019; Felitti et al., 1998; Hillis et al., 2000; Hillis et al., 2001; Hillis et al., 2004; VanderEnde et al., 2018) and the results of this study hold to this pattern, further study into pornography consumption as a sexual behavior would be beneficial. Therefore, research into the nature of pornography consumption as a sexual behavior or whether it should be distinguished differently could be useful.

Additionally, it would be useful to do a study like this one after the rates of pornography consumption decrease to levels similar to those from prior to the COVID-19 pandemic, assuming they do decrease to pre-COVID-19 pandemic levels. Since I did find some relationship between ACEs and age of exposure to pornography, further studies on this relationship may also be useful. Finally, it would be helpful to utilize a different scale for measuring pornography consumption that includes guidance on how to analyze the data collected. This study appears to be the first in the current literature to study the relationship between ACEs, age of exposure to pornography, and pornography consumption by adult males; therefore, further research on this topic would be useful to corroborate or disprove these findings.

Additionally, I would recommend a qualitative study be conducted to explore the relationship of the age of exposure to pornography and ACEs because the results of this study seem to highlight a relationship between the two variables. In-person participant interviews with open-ended questions would allow for themes to become apparent concerning this relationship, which were not made apparent in this study. Conducting a qualitative study would also help to highlight other variables that may not have been noticed in this limited quantitative study.

### **Implications**

The results of this study indicated that there was a statistically significant relationship between ACEs, age of exposure to pornography, and pornography use among adult males, indicating that it is useful in filling the gap in the literature related to this area of research. The results of this study that found a relationship between ACEs

and age of exposure to pornography may indicate that those who grow up with higher ACEs may also be vulnerable to exposure to pornography in childhood. Thus, there may be a need for counselors to become better equipped in dealing with pornography exposure at a young age with their clientele, which also merits further study.

With some research findings showing that pornography consumption can be problematic (Binnie & Reavey, 2020; de Alarcón et al., 2019), I suggest that further research into what creates a vulnerability to PPU be conducted to better understand treatment methods and modalities. There is a great need amongst counseling professionals for more research-based approaches to treat issues like PPU (Kraus & Sweeney, 2019), of which this study contributes to.

This study also helps clinical counselors who treat unwanted or PPU with highly valuable information. The current study findings that there is a relationship between adverse experiences in childhood and pornography consumption in adulthood should be used to inform treatment of unwanted or PPU. Clinicians need to pay attention to how these ACEs impacted their client to better understand how and why pornography consumption is being used in a detrimental way. If trauma and attachment disruptions have a relationship to pornography consumption, then trauma and attachment disruptions will need to be addressed in treatment planning and implementation.

### **Conclusion**

This study was the first in which the relationship between ACEs, age of exposure to pornography, and pornography consumption in adulthood was examined. In the literature review, I sought to summarize the broad range of studies on ACEs and their

relationship with a wide range of behaviors and issues in adulthood, particularly those sexual in nature. In addition to this, I tried to synthesize the current literature on pornography consumption and how it is tested. The relationship between these variables, along with the findings that emerged during the analysis of the collected data, helped to develop a deeper understanding of how ACEs impact pornography exposure and consumption, namely that as ACEs increase, the age of exposure to pornography was younger and the consumption of pornography in adulthood increased.

The aim of this quantitative, cross-sectional study was to understand the relationship between ACEs, age of exposure to pornography, and pornography consumption by adult males using multiple linear regression. With the findings of a statistically significant relationship, this study began to fill the gap in the literature on this topic, which up to this point had been neglected. Further studies ought to focus on determining the relationship between ACEs and age of exposure to pornography as well as how the age of exposure can impact a person throughout their lifetime. Further understanding of these issues could lead to better treatment modalities for unwanted pornography consumption and better preventative measures for unwanted pornography exposure. Although there is still much that is unknown about how ACEs impact pornography consumption and exposure to pornography, this study has helped fill a significant gap in the literature by showing that there is a statistically significant relationship between the variables, which I hope will lead to further empirically grounded treatments and understanding.

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## Appendix A: Demographic Questionnaire

By clicking ‘continue’, you acknowledge that you are a male, 18 or older, residing in the United States. If this is not true, you may exit the survey now. (Exit Button)

1. What is your current age?  
(Options: Short answer response)
2. Are you now married, widowed, divorced, separated, or never married?  
(Options: Married, Widowed, Divorced, Separated, Never Married)  
  
(Each of the questions below will have corresponding multiple-choice markers and an ‘other’ short answer section)
3. Are you Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, Cuban-American, or some other Spanish, Hispanic, or Latino group?  
(Options: Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, Cuban-American, Some other Spanish, Hispanic or Latino group, From multiple Spanish, Hispanic, or Latino groups, or I am not Spanish, Hispanic, or Latino)
4. Are you Black or African American, American Indian or Alaskan native, Asian, Native Hawaiian or other Pacific Islander, White, or some other race?  
(Options: Black or African American, American Indian or American Native, Asian, Native Hawaiian or other Pacific Islander, White, From Multiple Races, or Some other race)
5. Sexual Identity/Orientation (select all that apply):  
aromantic, asexual, bisexual, fluid, gay, lesbian, pansexual, queer, questioning or unsure, same-gender-loving, straight (heterosexual), prefer not to disclose, additional category/identity not listed (Please specify).