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An investigation of the influence of cyber-sexual assault on the experience of emotional dysregulation, depression, post traumatic stress disorder, and trauma guilt.

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AN INVESTIGATION OF THE INFLUENCE
OF CYBER-SEXUAL ASSAULT ON THE EXPERIENCE
OF EMOTIONAL DYSREGULATION, DEPRESSION,
POST TRAUMATIC STRESS DISORDER, AND TRAUMA GUILT.

by

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ABSTRACT

Over the past decade, cyber-sexual assault (also known as "nonconsensual pornography" or "revenge porn") has gained the attention of legal experts, the media, and most recently, the counseling profession. Whereas this nonconsensual sharing of sexually explicit images online, through social medial, or other forms of technology has been demonstrated to have significant impacts on victims, researchers have focused heavily upon the legality of these actions (i.e. should there be consequences for posting nude/semi-nude photos of non-consenting adults to the internet), but there has been a lack of attention to the mental health consequences of cyber-sexual assault on victims. The purpose of this study was to provide empirical support to how the psychological aftermath of cyber-sexual assault mirrors that of sexual assault and thus should be taken as seriously as sexual assault (clinically and legally).

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for

Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Furthermore, the secondary analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors.

To test the hypotheses that cyber-sexual assault survivors would show increased trauma symptomology similar to physical sexual assault survivors a structural equation model was developed. The results of the structural equation model (SEM) analyses identified trauma guilt contributed to 14% of the variance of emotional dysregulation; which then served to mediate the outcome variables most significantly. In fact, Emotional Dysregulation contributed to 67% of the variance in the levels of PTSD symptomology, and 44% of the variance in the levels of Depression.

Keywords: revenge porn, nonconsensual pornography, sexual assault, sexual violence, mental health consequences

To my family. . . I love you.

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THE PROBLEM AND ITS CLARIFYING COMPONENTS

Introduction

The term violence encompasses multifaceted examples of inflicted harm. Violence, as defined via Merriam Webster dictionary (2016), states that violence is the use of physical and destructive force exerted to harm someone or some property. Common forms of violence include, "murder and nonnegligent man slaughter, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson" (U.S. Census Bureau, 2011, p.193). The U.S. Census Bureau presented statistical information on physical violence across the United States from 1980 – 2009. Most recently, in 2009, of the violent crimes reported, 88.1 percent were forcible rape (the total number of forcible rapes equaling 81,280). Furthermore, in 2009, of the total number of murders reported (N = 13,756), 2,051 occurred under the circumstance of forcible rape, larger than any other circumstance where a weapon was used in the cause of death. The victims who had some form of relationship (i.e., relatives, well-known, casual acquaintance) to their perpetrator (68.4%) far outweighed those who were sexually assaulted by a stranger (29.1%). This is particularly disturbing since one would assume that some level of trust existed between the victims and their offenders.

Another realm of violence includes unwanted pursuit behaviors through the avenues of stalking and harassment. Stalking, to the degree of causing reasonable fear for the pursued victim, impacts females at a larger rate than males. In 2006, the U.S. Census Bureau (2012) published the total number of reported stalking cases, which was 3,424,100, where 2,531,770 of the victims were female (compared to 892,340 males).

Harassment, defined similarly to stalking with the exception of causing reasonable fear for the victim, impacted men (46.9%) and women (53.1%) at similar rates. Given the advancements in technology, it is no surprise that some form of technology (e.g., electronics, email, instant messenger, blogs, internet sites about the victims, chat rooms, spyware, cameras, listening devices, GPS) was used in both the harassment (27.4%) and stalking (26.1%) of victims (Baum, Catalano, Rand, & Rose, 2009).

One particularly devastating type of violence, due in part to the perpetrator being known and trusted, is domestic violence (also referred to as intimate partner violence). Distinguished intimate partner violence researcher, Christine Murray, and colleagues (2015) defined domestic violence as it pertains to "physical, sexual, economic, or emotional and psychological abuse within an intimate relationship" (Murray, Chow, Pow, Croxton, & Poteat, 2015, p. 258). In 2008, a total of 652,660 violent crimes between intimate partners were reported, where 85 percent ($N = 551,590$) of the victims were female. Society tends to make a logical, though incorrect, assumption that physical abuse, (which leaves behind physical traces via bruises, scars, and so forth), is more damaging than emotional abuse. Studies overwhelmingly find that emotional abuse is far more damaging than physical abuse (Candela, 2016) because the traumatic outcome is psychological, thus impacting the victim for years afterwards. Emotional abuse in the context of intimate partner violence often includes the use of verbal harassment (Walker, 1979, 1984) like public humiliation, ridicule, coercive control (Candela, 2016) and verbal abuse for the goal of controlling the victim through altering her self-esteem. Follingstad, Rutledge, Berg, Hause, and Polek, (1990) interviewed women who experienced some

form of physical abuse ($N = 234$; 100% of the women) or emotional abuse ($N = 229$; 98% of the women) where ridicule (e.g., mockery) had the greatest psychological devastation for the women (in 85.6% of the cases), likely because such ridicule can be internalized into deep shame. Furthermore, fear, anxiety, decreased self-esteem, depression, PTSD and substance use are the most frequent psychological outcomes for emotional abuse (e.g., coercive control) victims (Candela, 2016).

Sexual Assault: Mental Health Consequences

Another form of violence against women is sexual violence, defined as any unwanted sexual act, or attempt to obtain a sexual act, through coercion, unwanted sexual advances, and sexual traffic or attempt at sexual trafficking (U.S. Department of Justice, 2015). Further, sexual violence includes such tactics as psychological intimidation, blackmail, and other threats, in addition to rape (World Health Organization [WHO], & Krug, 2002). Sexual Violence against women is a particularly troublesome problem due to the high frequency of occurrence, the physical and psychological consequences, and the persisting rape culture that tolerates such acts (Campbell et al., 2009). Sexual violence takes many forms (e.g., childhood sexual assault; adult sexual assault; sexual harassment), with rape being the form of sexual violence that involves sexual intercourse, or penetration, without the person's consent (CDC, 2010).

In 2010, the National Intimate Partner and Sexual Violence Survey measured sexual violence across the nation. Close to half of the female respondents (44.6%) experienced sexual violence other than rape (CDC, 2010), though that number would likely increase if cyber-sexual assault (e.g., the nonconsensual sharing of an individual's

sexual photos/videos) were included. The percentage of female respondents who reported sexual violence that included completed rape (e.g., coerced sex) ranged between 17.6% and 22% (Elliot, Mok, & Briere, 2004; Russell & Davis, 2007; Tjaden & Theonnes, 2000). Coerced sex (e.g., rape) has been said to be an expression of power and dominance over the victim, who is often female (WHO, 2016). The National Sexual Violence Resource Center (NSVRC), reported that 91 percent of rape and sexual assault victims were female (Rennison, 2002). According to researchers (Koss & Harvey, 1991; Kilpatrick, Saunders, Veronen, Best, and Von, 1987; Koss, Gidycz, & Wisniewski, 1987; Petrak & Hedge, 2001) the likelihood a women will experience sexual assault (e.g., completed rape) is 20 percent, though some researchers have identified a prevalence rate of 33 percent of females with a reported sexual assault lifetime experience (Petkus, Wetherell, Stein, Liu, & Barrett-Connor, 2012; Siegel, Sorenson, Golding, Burnam, & Stein, 1987; Sorenson, Stein, Siegel, Golding, & Burnam, 1987).

Sexual assault is the most common type of trauma women face (Petkus et al., 2012), causing emotional, psychological and physical consequences. The mental health consequences of sexual assault are profound, where 81% of women report significant and lasting impacts such as PTSD (Black et al., 2011), anxiety, depression, suicidal ideations, and substance use (Campbell, Dworkin, Cabral, 2009). Moreover, emotional dysregulation (e.g., poor emotional response, Najdowski & Ullman, 2011) and trauma guilt (e.g., guilt introduced trauma, Kubany et al., 1996) may influence the psychological

outcome of rape survivors. "Rape is one of the most severe of all traumas, causing multiple, long-term negative outcomes" (Campbell, 2009, p. 225).

It is clear that rape is a pervasive and significant problem with major psychological and social consequences. A paucity of research exists on the mental health consequences of cyber-sexual assault (technology facilitated sexual assault); and research has been slow to investigate the impact of technology on the experience of sexual assault. In an effort toward establishing that cyber-sexual assault should be formally considered as a form of sexual assault, this study was conducted to determine the relationship of cyber-sexual assault and common trauma symptomology. Thus, four pervasive constructs will be discussed, with a special focus on how they may manifest in cyber-sexual assault: (a) emotional dysregulation, (b) trauma guilt, (c) depression, and (d) PTSD.

The recent phenomena of cyber-sexual assault, lack of laws, nor comprehensive knowledge of cyber-sexual assault can have a devastating impact on victims' psychological well-being. Additionally, cyber-sexual assault victims have no efficacious treatment options since the mental health consequences of this type of violence have yet to be researched. Prior to understanding the scope of such mental health consequences cyber-sexual assault can have on victims, however, the role in which technology facilitates such abuse needs to be addressed. Therefore, the following section will review the capacity in which technology proliferates violence against women.

<u>The Role of Technology in Violence Against Women</u>

Technology has extended the purview of violence, with terms such as cyber-harassment, cyberstalking, and cyber-bullying being recognized as newer forms of

violence against women that broadens the violence to the global community. Cyber-harassment, cyberstalking, and cyber-bullying include such behaviors as abusive or obscene emails, stalking one's online presence, impersonation, threats, humiliation, trickery, and exclusion (Feinberg & Robey, 2009; Geach & Haralambous, 2009; Kuzma, 2013). For example, technology has affected the ability to harass and pursue victims through stalking behaviors, with cyberstalking being defined as "unwanted, repeated online contact and pursuit" (Drebing, 2014, p. 61) with prevalence rates ranging between 3.7% and 82%. Cyberstalking has been reported in one of every four stalking cases (Baum, Catalano, Rand, & Rose, 2009; Dreging, 2014) where three of four victims knew their stalker in some capacity (Baum et al., 2009). The mental health impacts of "cyber-harassment" (the encompassing term for all forms of cyber-related violence) include: depression, anxiety, suicide, decreased well-being, higher levels of academic problems, mental health issues, and increased substance use (Citron, 2009; Lewis, 1971; Sinclair, Bauman, Poteat, Koenig, Russell, 2012; Washington, 2015).

Cyber-harassment and Cyber-stalking

Smith (1998) referred to the new millennium as an "information revolution" (p. 8) where individuals can interact globally via cyberspace of the internet. This has resulted in the morphing of harassment and stalking to online pursuits. Thus, the following section contains an examination of the mental health consequences of cyber-harassment and cyber-stalking, because cyber-sexual assault is an extension of these behaviors.

Cyber harassment involves assault, abusive behaviors, and/or humiliation through technology based avenues. In a recent survey, Washington (2015) found that 54% of all

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college students had been cyber-harassed. Cyber-harassment is carried out through such venues as email, instant messenger, chatrooms, and social media sites (DreBing et al., 2014). Group harassment, which is becoming a team sport for purposes of degradation, according to Citron (2014), occurs when more than one individual joins to taunt an individual, leading to what is also known as a cyber-mob. Cyber-stalking is considered to be more dangerous than cyber-harassment and is defined as repeated, unwanted, online contact and/or pursuit of the victim (Drebing, 2014). The majority of anti-stalking legislation, however, requires the perpetrator's behaviors to cause a reasonable person fear, which can be harder to prove for online pursuits (Drebring, Bailer, Anders, Wagner, & Gallas, 2014). Moreover, stalking by proxy and group stalking occur when the original poster encourages other strangers to proliferate and continue the harassment. For example, the original post initiates the abusive post, and encourages strangers to continue the taunting of a specified, targeted individual.

Cyber-harassment influences mental health concerns among victims. Victims of cyber-harassment have reported higher levels of academic problems, mental health issues, and increased substance use (Sinclair, Bauman, Poteat, Koenig, Russell, 2012). In a study on cyber-harassment, youth ($N = 17,366$) who experienced bias-based cyber harassment (e.g., that aimed at transgender, gay, lesbian, or members of other minority groups) attempted suicide at a rate of 7.85 times compared to the 3.82 times for attempted suicides by victims of cyber harassment alone. The researchers defined cyber-harassment as harassment through the internet or text messaging, and cyber-harassment was

measured in terms of harassment based on one's looks, called names, and being made fun of (Sinclair et al., 2012).

Cyber-stalking has grave mental health implication for victims. Participants ($N =$ 6,379) were surveyed online about their experiences of cyber-stalking (Drebring et al., 2014). The majority of victims were female, their perpetrators male, and the online stalking occurred within the context of a past relationship or ex-partner. Drebring et al. (2014) stated, "the negative impact of cyberstalking on the victims' well-being appears similar to that of offline stalking," (p. 61) and suggested that this form of stalking be considered as serious as offline stalking by legal authorities and helping professionals.

Technology has impacted violence against women through avenues like cyber-harassment and cyber-stalking. Additionally, technology has influenced the realm of intimate partner violence, yet another form of violence against women. The following section contains a review of the role of technology in intimate partner violence. Cyber-sexual assault appears to be a manifestation of intimate partner violence in the 21st century culture. As such, the role of cyber-sexual assault in intimate partner violence is also discussed in the following section.

Technology and Intimate Partner Violence

Intimate partner violence has been defined as any behavior within an intimate relationship that causes physical, psychological, or sexual harm to those in the relationship (Murray, et al., 2015). Such behaviors include acts of physical aggression, psychological abuse, forced intercourse, and other forms of sexual coercion as well as various controlling behaviors such as isolating a person from their family and friends,

monitoring their movements, and restricting their access to information or assistance (Heise & Garcia-Moreno, 2002). Less well known are the manifestations of such behaviors through the use of technology.

Internet use and social media sites have become commonplace with the expansion of technology. Domestic violence victims may be at an increased risk for stalking and harassment with the heightened accessibility of such avenues (Baughman, 2010). Due in part to this availability of technology, it is easier for interpersonal violence perpetrators to further "stalk, harass, and terrorize their victims" through, essentially, the privacy of a computer screen (Baughman, 2010, p. 935). Domestic violence is usually about gaining power and control, where the perpetrator's behaviors are geared towards isolation, humiliation, manipulation, harming, and/or blaming the victim (Franklin, 2011). This type of oppression can extend beyond the physical relationship if one uses cyber means in search of power over a victim.

Cyber-sexual assault violates fundamental human right principles which are typically aimed to protect the "inherent dignity and worth of human beings" (Smith, 1998, p. 11), and is another form of technology-based violence that occurs within relationships. Henry and Powell (2014) noted that such nonconsensual pornography can be an extension of interpersonal violence. Prevalence rates, however, are routinely difficult to measure, according to Citron and Franks (2014), because a victim's speaking out can exacerbate the assault (e.g., online accessibility and multiplication of the sexual photos. For example, sexual photos can be used as a weapon for harassment, control, and threat for manipulation of the victim. One partner may have been coerced into creating

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sexual based material for fear of saying no to her partner, and the material is subsequently used as a lever if that partner wants to leave the relationship or pursue legal action (e.g., custody of a child). In essence, it is another avenue to control and isolate the victim (Citron & Franks, 2014). Therefore, the following section is focused on technology, and the role it plays in sexual violence, and the proliferation of cyber-sexual assault.

<div align="center">Technology and Cyber Sexual Assault</div>

Advancements in technology have enabled perpetrators to harass victims with anonymity (Baughman, 2010). Whereas the impacts of cyber-harassment, cyber-stalking and cyber-bullying have been researched, as have the impacts of interpersonal violence and sexual assault, the specific impact of technology on sexual assault is still unknown. This is troubling given that victims have described the long-term impacts of similar psychological degradation, as well as feelings of fear and humiliation, as more painful than any other lifetime experience (Follingstad, Rutledge, Berg, Hause, & Polek, 1990; Walker, 1984).

Cyber-sexual assault differs from cyber harassment, mimicking a form of sexual violence where the perpetrators remain anonymous through technology and cyber space (Citron & Franks, 2014). The majority of victims are female, and with the use of technology, unwanted sexual advances are incurred, private sexual photos/videos (e.g., nude, sexually explicit) are shared, and women are cyber-stalked in pursuit of sexual relations. When such sexual assaults (e.g., online naked photos/videos) occurs through technology, legally in many cases, not only are the consequences likely similar to in-person emotional abuse, but now socially the victim is impacted because potential

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employers, in addition to current support systems or colleagues, now have instant access to such private material (Citron & Franks, 2014). Understanding that isolation is part of emotional abuse, and keeping in mind the toll emotional abuse can take upon the victim, technology has offered a new avenue for the perpetrator to anonymously establish dominance (socially and financially) without legal repercussion.

Specifically, cyber-sexual assault (e.g., nonconsensual pornography) is the online dissemination of sexually graphic images or videos (Citron & Franks, 2014). Such distribution may involve incidents where the sexual images were taken without permission (e.g., sexual assault, hidden camera) or with permission (e.g., within a consensual relationship intended for private use). This is an era of advanced technology where cellphones contain cameras fostering a selfie-prone culture (e.g., taking a picture of oneself). Sexting refers to the self-creation of a sexual photo (e.g., selfie) and then sharing it digitally with a romantic interest or partner (Henry & Powell, 2014; Humbach, 2014). Images can be disseminated via technology quickly and broadly. If such distribution of sexual photos is nonconsensual, the consequences for victims can be devastating.

<u>Statement of the Problem</u>

The professional literature on sexual violence towards women has shown a wide range of mental health symptoms, including sexual dysfunction, depression, suicidality, substance abuse, and post-traumatic stress disorder (Russel & Davis, 2007). Further, initial anxiety in the acute stage post-assault heightens overall psychological distress (Russel & Davis, 2007). Cyber-sexual assault (CBSA) (also known as nonconsensual

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pornography) is a form of sexual violence involving the distribution of nude or sexually explicit photos and/or videos of an individual without their consent. There photos are usually uploaded online, where the perpetrator is seeking revenge often after the termination of a relationship or friendship (ERP, 2015). Author and legal expert Citron (2014) has argued that this form of gender specific humiliation is especially harmful to victims since the far-reaching aspects of the internet extend the destructive impacts of these posts, in addition to the photos and/or videos being permanent. At this time, little is known about how cyber-sexual assault impacts victims.

The fact that the mental health consequences associated with cyber-sexual assault are still unknown is of significant concern. First, cyber-sexual assault has no universal definition, nor is it classified as a form of sexual assault due to the lack of research; thus victims have limited options for mental health care. Without researched and quantitative results measuring the impact of cyber-sexual assault, funding is less likely to be allocated to the victims (e.g., services for those impacted). More specifically, whereas prior research has identified the experience of PTSD and Depression to be common and problematic for sexual assault survivors (Campbell et al., 2009), as well as emotional dysregulation (Najdowski & Ullman, 2011) and trauma guilt (Janoff-Bulman, 1985; Kubany, 1996; Kubany et al., 1995), no research has been conducted to identify how these mental health consequences are connected to cyber-sexual assault. Therefore, this study was conducted to investigate the relationships among the constructs (i.e.,

depression, emotional dysregulation, PTSD, trauma guilt) for victims of cyber-sexual assault.

Purpose of the Study

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation or trauma guilt as the independent variable, where the remaining latent variables were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Furthermore, the *post hoc* analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors. Lastly, additional *post hoc* analyses examined differences and relationships among selected demographic data and latent variables associated with trauma symptomology (emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault.

No research on mental health consequences of cyber-sexual assault exists, and the argument in the present study suggested that the psychological outcome for victims of cyber-sexual assault would be very similar to that for other sexually violent crimes. There is a gap in the literature on cyber-sexual assault, specifically in regard to the

psychological impacts on victims. This study was the catalyst for identifying pertinent

mental health outcomes of survivors where replication is warranted. As such, the

researcher presents the rationale for studying the mental health outcomes of cyber-sexual

assault in Chapters 1 and 2 of this dissertation. Given the lack of empirical research

related to the mental health consequences of cyber-sexual assault, the researcher focused

heavily on sexual violence and sexual assault literature for providing the context of the

current study.

<div align="center">Significance of the Study</div>

The present study offers a unique and currently under-researched perspective on

the psychological impact of cyber-sexual assault, seeking to determine if the

psychological consequences were comparable to current literature on physical sexual

assault. The potential contributions to the counseling literature include: (a) increased

awareness of cyber-sexual assault mental health consequences through exploring

participants' responses to four instruments typically used to measure sexual assault

responses; (b) a newfound understanding of the relationship between cyber-sexual

assault, emotional dysregulation, trauma guilt, depression, and PTSD symptomology

through examining pathways in the complete SEM model (Chapter 4); and (c) greater

knowledge for practitioners on the psychological effects of cyber-sexual assault

survivors, and how to treat survivors of cyber-sexual assault through focusing on trauma

guilt and emotional dysregulation concerns (Chapter 5). Lastly, the study offers the

potential to legitimize cyber-sexual assault as a form of sexual violence to help establish laws that forbid the practice.

<u>History of Violence Against Women</u>

To begin, the following section will review the history of violence against women, because cyber-sexual assault appears to be the newest iteration of gendered violence. Gendered violence is considered a subset of interpersonal violence, and the World Health Organization [WHO] (2016) has defined violence as intentional use of physical force or power, threatened or actual, resulting in injury, death, psychological harm, or deprivation and maldevelopment (Kilpatrick, 2004; Krug et al., 2002). In particular, intimate partner violence and sexual violence (both previously reviewed) were defined as major violations of women's rights, and violence against women caused suffering to women, public or private (WHO, 2016). This research investigation posited that cyber-sexual assault, rooted in gender based harassment (Citron, 2009), was another form of violence against women in that it causes major suffering to women, causes psychological harm, and violates women's rights of equality.

Furthermore, this section will outline the history of women's laws, which were designed to protect them from domestic violence, sexual harassment, and rape (including spousal rape). Women have had to routinely fight for protection from such abuse, as well as for legal reform outlawing such abuse. The path of legitimizing cyber-sexual assault

appears to be following the same route as historical laws protecting women from violence.

The United Nations General Assembly (1993) described violence against women (VAW):

> Violence against women is a manifestation of historically unequal power relations between men and women, which have led to domination over and discrimination against women by men and to the prevention of the full advancement of women, and that violence against women is one of the crucial social mechanisms by which women are forced into a subordinate position compared with men (para. 6)

Researchers have agreed that a plethora of empirical evidence exists to confirm that the various forms of violence against women do in fact have persistent and long-term negative impacts on women's mental and physical health (Kilpatrick, 2004; Kilpatrick & Acierno, 2003; Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; National Center for Injury Prevention in Control, 2003; Resnick, Acierno, & Kilpatrick, 1997; Schnurr & Green, 2004; Tjaden & Thoennes, 2000). Violence against women is a national and international concern, and puts women at risk for a multitude of mental health and physical health issues. (Kilpatrick, 2004; Kilpatrick & Acierno, 2003; Krug, et al., 2002; National Center for Injury Prevention in Control, 2003; Schnurr & Green, 2004).

It is clear that sexual violence (e.g., sexual assault) is a societal issue. Cyber-sexual assault appears the newest manifestation of sexual violence. The unauthorized distribution of a person's sexual images violates, humiliates, intimidates, and harasses the victim (Powell, 2009). The unauthorized sharing of nonconsensual sexual images in the

digital age allows for speedy transmission to audiences worldwide, causing damages at a higher degree. Without legal backing, victims have little recourse to pursue damages or seek justice for a crime that has not yet been acknowledged as harassment or assault.

<center>History of Women's Laws</center>

Cyber-sexual assault appears to be an extension of intimate partner violence and sexual violence, and also appears to be following similar routes regarding the creation of laws protecting women from sexual violence. Jewkes, Sen, and Garcia-Moreno (2002) offered their definition of sexual violence as

> any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work. (p. 149)

As defined by Kilpatrick (2004), sexual violence encompasses sexual coercion, psychological intimidation, and sexual harassment. Cyber-sexual assault appears to be a form of sexual violence, specifically sexual assault. Hence, the following section will cover cyber-sexual assault as well as laws pertaining to cyber-sexual assault.

In 1975, the National Center for the Prevention and Control of Rape was established. Before this, sexual assault victims were disregarded (Koss, 2005; Russell & Davis, 2007). The lack of laws protecting victims from cyber-sexual assault has thus far been similarly leaving this population virtually ignored. In the 1970s, laws were created that classified sexual harassment as a form of discrimination (Citron, 2009), which was an important step toward protecting victims. Citron indicated that she expected the same

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process to soon occur for cyber-sexual assault. To date, only 26 laws nationwide have been created, leaving many victims unprotected.

Women Against Violence Against Women [WAVAW] (2016) has defined "rape culture" as sexual aggression geared towards women where threatened violence ranges from sexual remarks to the act of rape. Much earlier, Buchwald, Fletcher, and Roth (1994) wrote that a rape culture normalizes physical and emotional terrorism against women, implying sexual abuse of women will be tolerated. The term came into use in the 1970s when activists released the film "Rape Culture" in an effort to raise awareness about sexual violence and the normality with which society had accepted such behaviors. In her article on cyber-gendered harassment, Citron (2009) posited that 1970s legislation had been helpful in identifying sexual harassment as a form of discrimination. She indicated that she expected similar consequences for cyber-gendered harassment which typically occurs online (e.g., cyber-sexual assault). Violence against women is not new, and protective laws have been enacted developed over the years. The following review of the evolution of such laws protecting women from sexual violence and discrimination highlight the path which cyber-sexual assault appears to be following.

Natural law is traced back to the work of Aristotle, and is a set of moral principles for human conduct, and asserts all individuals are equally entitled to freedom, justice, and equality (Leiboff & Thomas, 2002; Vieru, 2010). Morally speaking, these rights cannot be violated by others. Women, however, have historically been disregarded (Civil rights & civil liberties, 2014). History will show that women routinely have had to fight for equality through a series of feminist movements (Citron, 2014; Kaplan, 1992), For

example, in the 1960s, women organized in pursuit of rights equal to those of their male counterparts, resulting in the 1964 Civil Rights Act (Civil rights & civil liberties, 2014). In the early 1970s, the National Institute of Justice's Research Report highlighted women fought to have the state overturn privacy laws in the constitution in instances where domestic violence was occurring, resulting in law reform (Fagan, 1995). In the 1970s, in an anti-rape movement, women fought for rape shield laws and protective laws from spousal rape. Most recently, the Violence Against Women Act was established (UN General Assembly, 1993) "recognizing the urgent need for the universal application to women of the rights and principles with regard to equality, security, liberty, integrity and dignity of all human beings" (para. 1).

Violence against women has been defined as "the subset of violent crimes that are perpetrated against women or female children" (Kilpatrick, 2004, p. 1217). Researchers (Kilpatrick, 2004; Saltzman, Fanslow, McMahon, & Shelley, 2002) have suggested the inclusion of nonviolent acts in this definition to include: stalking, psychological, and emotional abuse. These acts, though not violent physically, affect women negatively. Thus, the likeliness of cyber-sexual assault having similar negative impacts of such nonviolent acts against women has been high.

<center>State Act Against Discrimination</center>

The feminist movement of the 1970s urged policy makers to reexamine laws acting as barriers for displacing women and preventing this group from equal opportunities--politically, socially, and emotionally. Specifically, this decade fueled a

movement raising awareness on violence against women (e.g., rape, sexual assault, domestic violence).

The feminist movement has added much momentum legislatively, in criminalizing and reforming laws for crimes of sexual assault, criminal domestic violence, child abuse and neglect, and other crimes against women (Chapman & Gates, 1978; Estrich, 1987; Kilpatrick, 2004; Walker, 1979). Further, this movement initiated the establishment of services geared towards survivors of rape and intimate partner violence.

<div align="center">Sexual Harassment Laws.</div>

The Equal Employment Opportunity Commission (EEOC) published Guidelines on Sexual Harassment on November 10, 1980, outlining sexual harassment as a form of sex discrimination:

> Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, (2) submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual, or (3) such conduct has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment. (U.S. EEOC, 1980, para. 1)

Sexual harassment is considered abuse, is sexually motivated, and is gender driven causing suffering to the victim specifically due to their sex (York & Brookhouse,

<div align="center">20</div>

1988). In the 1920s, the responsibility was placed on women to protect themselves from sexual harassment rather than invite unwanted sexual advances from males. If unable to do so, women were advised to modestly quit their place of employment (York & Brookhouse, 1988). Unfortunately, 90% of women experiencing sexual harassment reported psychological stress and physical symptomology (Crull, 1982; York & Brookhouse, 1988). In 1964, Title VII was passed, prohibiting sex discrimination in the workplace. Cornell University activists defined the term sexual harassment in 1975, increasing awareness and universality of the issue. York and Brookhouse suggested that despite legislation, a stereotype still existed that women who reported sexual harassment in the workplace were often being overly sensitive.

The path leading up to this law protecting women from such sexual harassment and discrimination appears similar to the path that is emerging for cyber-sexual assault. In this study, the researcher sought to narrow the definition of cyber-sexual assault to provide a universal understanding of this form of sexual assault. Additionally, the researcher sought to investigate the mental health symptoms of victims and to legitimize this form of assault.

<div align="center">The Internet and Cyber-Sexual Assault</div>

A review of an internet law (i.e., Section 230) that contributes to cyber-sexual assault is presented in this section, as this information helps explain the scope of the problem. To begin, the reach of online access is noted to further explain the breadth of which nonconsensual pornography spreads. Following this, the internet law that reinforces cyber-sexual assault (e.g., nonconsensual pornography) is explained to

<div align="center">21</div>

rationalize how the mental health impacts of cyber-sexual assault may be exacerbated due to lack of legal help.

History and Development of Nonconsensual Pornography

The internet can reach global audiences within seconds. In 2004, just 14% of individuals internationally had access to the web. Just 10 years later, this number increased to nearly 41% (Internet Users, 2015). At the time of this study, over three billion individuals worldwide had access to the web. Technology, without guiding principles of morality, however, can facilitate and proliferate abuse (e.g., harassment, stalking, cyber-sexual assault).

Therefore, criminalizing nonconsensual pornography has been suggested on the basis of: (a) sexual exposure or contact and (b) distribution without the pictured person's consent (Citron & Franks, 2014; Humback, 2014). Humback (2014) suggested that such laws would be unconstitutional for reasons of the first amendment (i.e., free speech). In essence, Humback (2014) wrote that such laws contradict allowing for viewpoint and content sharing, such as unflattering information. A general view of oppressing free speech is that it is slippery slope, meaning the government amending the constitution opens up Pandora's Box. Another argument is that once a naked photo has been shared, that photo can then be shared publically without repercussion. Citron and Franks (2014) disagreed and stated, "That is the same kind of dangerous mentality at work in sexual

assault and sexual harassment. For years, women have had to struggle with legal and

social disregard of their sexual boundaries" (p. 348).

Authors Citron and Franks (2014) highlighted that state and federal legislators

have identified the necessity of inclusion of such gendered violence as nonconsensual

pornography in Privacy Acts. Taking an opposite stance, however, Humbach (2014)

argued that criminalizing nonconsensual pornography is unconstitutional and regulates

free speech. He stated, "After all, such a law would still represent, in the final analysis, an

initiative by government to suppress speech that it does not favor, and the basic meaning

of the First Amendment is to prohibit exactly that sort of thing" (p. 260). Those in favor

of protecting the first amendment have suggested laws be crafted criminalizing

nonconsensual pornography in cases where intent to cause harm or emotional distress is

present (Humbach, 2014).

It would appear, however, that women are not simply having their feelings hurt

through nude images or videos being nonconsensually shared with the world. Rather,

such material is a mostly legal route of sexual violence and assault. Grabosky (2001)

reported virtual crime is crime committed differently (Henry & Powell, 2015). As noted

previously, however, women have routinely had to fight for protection against sexual

harassment, sexual assault, and domestic violence (Citron & Franks, 2014). Genius

without humanity is unfortunate, and proliferating sexual violence against women, for the

most part, is detrimental. This research study was conducted to begin the discussion

about cyber-sexual assault potentially influencing symptomology that is similar to other forms of sexual violence.

The harmful effects of sexual assault are well-known; cyber-sexual assault is the logical next step for perpetrators, which unfortunately carries longstanding consequences for the victim (both emotionally and online). The lack of laws that govern technology has perpetuated the problem of online harassment.

<div style="text-align:center">Legal Impacts on Cyber-Sexual Assault</div>

Citron and Franks (2014) suggested that there are several reasons for the lack of laws protecting victims of cyber-sexual assault: lack of knowledge of the scope of the issue, the severity of the issue, history of women's autonomy, the issue of privacy, and lastly misunderstanding of the First Amendment laws. Currently, Section 230 of the Communications Decency Act of 1998 is what allows nonconsensual pornography to exist, offering a blanket immunity for website operators to be absolved for being responsible for content posted from third parties (Ehrlich, 2002). Amending this law, some argue, would be against the protection of free speech. The unintended consequence of Section 230, however, has been the creation of websites in which third parties (e.g., ex-partners) can anonymously post privately taken sexually explicit or nude images alongside victims' names, addresses, contact information, place of work, and/or place of school.

As the media coverage has increased surrounding the topic of cyber-sexual assault (often referred to as revenge porn), numerous social media sites have created policy changes, with both Twitter and Facebook having agreed to remove unwanted photos of

sexual nature from their sites. Google (2015) decided to remove revenge pornography photos upon request without a Digital Millennium Copyright Act (DMCA) request, which is used when an individual owns the copyright to a photo (e.g., self-taken or 'selfie'). A senior vice president of Google Search noted the following: "

> Revenge porn images are intensely personal and emotionally damaging, and serve only to degrade the victims--predominantly women. So going forward, we'll honor requests from people to remove nude or sexually explicit images shared without their consent from Google results. (Google, 2015, para. 2)

Although these remedies have provided a substantial step forward, they are not a full solution. Oftentimes, the aforementioned material is covered by Section 230, leaving victims with little recourse.

Public Policy

The following section contains a review of the legislative issues allowing for the legal perpetuation of cyber-sexual assault. Public policy agenda will be discussed only briefly, as the goal of the study was to investigate the mental health consequences of cyber-sexual assault to classify it as a form of sexual assault.

Whether technology has enabled individuals to exceed the bounds of natural law (e.g., morality) has been questioned. Given the creation of laws to help prevent the proliferation of cyber (and gendered) sexual assault, there may well be some truth in the statement. The previously mentioned reforms (protecting women from violence) have emerged over time as policy makers have acknowledged forms of sexual assault as crimes leading to the creation of new laws as well as services to help victims. In light of

the global accessibility of the internet in the 21st century, similar issues related to cyber-sexual assault appear to be providing the impetus for increased attention and legal action to support victims. Lawmakers have begun to act upon the requests of a new-age women's movement. As of February, 2016, 26 states had laws criminalizing the uploading of nonconsensual nude photos. Similar to the feminist movement that initiated laws protecting women from rape, intimate partner violence, and sexual harassment, this new movement has been geared to protect women from technology when used as a form of cyber-sexual assault.

Part of a cultural movement of this magnitude calls for the prevalence of a problem (Kilpatrick, 2004), given that statistics drive lawmakers to acknowledge a problem, and then offer a public policy response. Huff, Johnson, and Miller (2003) highlighted that little research has been focused on the prevalence or the collective harms of technology as a medium for sexual violence. Working to Halt Online Abuse (WHOA) collected statistics on cyber-stalking and reported that 74% of abuse complaints were from women. The international and domestic issue of cyber-sexual assault has concerned criminological studies (Cornelius & Hermann, 2011; Grabosky, 2001; Jewkes & Yar, 2010; Williams, 2006) and policy makers evidenced by the 26 recently passed laws criminalizing cyber-sexual assault (ERP, 2016). Although the issue of prevalence has gained attention, the emotional impacts victims face has not been studied. A literature search was performed using the Academic Search Elite, PsychINFO, and ERIC databases. Search terms such as cyber-sexual assault, cyber-rape, nonconsensual pornography, revenge porn, and mental health yielded zero results about the mental

health consequences from cyber-sexual assault. On the other hand, literature on prevalence, sexuality in the digital age, cyber-gendered harassment, and cyber-space hate crimes was found. There is a clear need to understand the psychological impact of cyber-sexual assault to help survivors recover.

Regarding the scope of a problem, public policy affects allocation of resources to problems that impact many citizens (Kilpatrick, 2004; Kilpatrick & Ross, 2001). As such, both prevalence of violence against women, and information about what victim's experience is necessary for reform to occur. For instance, according to Kilpatrick (2004), the number of cases reported and, "needs for victim services provided by the criminal justice system as well as by community-based organizations" (p. 1210) help obtain allocation of resources. The history of reform for violence against women outlined in this chapter indicates that once policies are created, funds can be acquired to help establish community programs meeting the needs of sexual assault victims. To ensure proper services are available to victims of cyber-sexual assault, the mental health consequences must be examined.

Kilpatrick (2004) noted that, legislatively, substantial progress has been made since the feminist movement began decades ago. However, this progress has been delayed due to a collectively uninformed society about all aspects of violence against women. It is clearly a widespread problem which has been addressed in Israel, Germany, the United Kingdom, and parts of Europe where laws have been passed criminalizing the acts of sharing sexual photos without consent, for purposes to harm the victim. Within the United States, at the beginning of this research study, 26 states had passed laws, leaving

many victims unprotected. Empirical research substantiating cyber-sexual assault as indeed a form of sexual assault may add momentum to the legal recognition of this problem (i.e., CBSA) and help better prepare clinicians.

Media Examples

It is noteworthy to examine some of the recent national examples of cyber-sexual assault. Stories of both victims and perpetrators are shared. In so doing, the consequences of these events becomes much more evident and provides a further rationale for the current study.

Jada was a 16-year old female victim of what has been come to be known as the Steubenville rape case. Upon waking from a heavy drinking episode, Jada came to learn that she had been raped, and to add further insult, that harassing photos of herself had been taken while she laid unconscious on the ground. These pictures went viral. Online harassers throughout the nation started mocking her on sites like Instagram, Twitter, and Facebook, using the hashtag "#jadapose" in slanderous ways. Some individuals replicated her lifeless body, posting the picture with the hashtag (e.g., #jadapose) alongside quotes like "hit that" (The Guardian, 2015). Through technology, her privacy was revoked, her abuse proliferated, and her rape became a nationally known case.

A less familiar case involved a Cincinnati school teacher who shared self-taken naked photos of herself. These photos were anonymously posted online in efforts to taunt her. The media took wind of the case, and while covering private portions of her body, shared the story publicly. Numerous comments (via an unnamed website) were made about her photos, to include: "showing off a great rack," "this slut is stupid. . . ," and "I'd

smash the hell outta that." Within weeks of the postings, she resigned from her job.

Rather than inquiring about the perpetrator, anonymous individuals perpetuated the

cyber-sexual assault through the continued sharing of photos, and the media extended this

assault to where one Google search brings up pages of results surrounding the story,

where the naked photos are merely cropped to reduce any nudeness (*USA Today*, 2013).

On the perpetrator side of the problem, Hunter Moore, founder of

"IsAnyoneUp.com" made national headlines after receiving jail time for his

nonconsensual pornography website. He and his partner, Charles Evens, hacked private

photos, and proceeded to post these stolen, naked photos of women online, where they

next charged victims a fee to remove the sexual material. In an interview titled "The Most

Hated Man on the Internet" for the Rolling Stones, he was quoted saying, ""I'm sorry that

your daughter was 'cyber-raped,' but, I mean, now she's educated on technology" (Morris,

2012). Hunter is now serving two and a half years in prison.

Similarly, in February, 2015, Kevin Bollaert was sentenced to 18 years in prison

after creating a revenge porn website that hosted thousands of women's' naked photos

without their consent (NBC, 2015). He lived in California, where a law was recently

passed making nonconsensual pornography a crime. He therefore received a rare, but

lengthy sentence, due to extortion charges and not, in fact, the nonconsensual

pornography law. Regardless, in a state without protective laws, however, these policies only mitigate the sexual violence.

Women Fighting Back

It is noteworthy to mention that there have been several distinguished individuals who have stepped into the problem created by cyber-sexual assault. Schumacher once stated, "Any intelligent fool can make things bigger, more complex, and more violent. It takes a touch of genius--and a lot of courage--to move in the opposite direction" (as cited in Kumar & Whitefield, 2007, p. 94). Dr. Danielle Cintron, Dr. Mary Ann Franks, and Dr. Holly Jacobs have been pioneers in helping to legitimize a global problem.

Citron, a professor of law, wrote the groundbreaking book entitled *Hate Crimes in Cyberspace.* She observed that the physical and digital world have merged; thus, the consequences of cyber-harassment leave lasting effects on victims' psyches, careers, school, sexuality, and safety. The first chapter of the book is dedicated to the stories told by 20 individuals who were victims of cyber-sexual assault, including the self-hanging of a 14-year-old after her topless photo went viral. Citron has been part of a national movement calling for immediate reform.

Franks, professor of law at the University of Miami, has also been a pioneer in the online movement to protect women's rights. She has helped draft state legislation criminalizing non-consensual pornography (e.g., cyber-sexual assault). At the time of the

present study, Franks and colleagues were drafting a federal bill criminalizing nonconsensual pornography.

Finally, Jacobs founded campaigns and two associated websites: EndRevengePorn and Cyber Civil Rights Initiative. These were merged into the Cyber Civil Rights Initiative (CCRI) nonprofit campaign in 2012. CCRI is a nonprofit campaign established to help fight cyber-harassment (e.g., cyber-sexual assault, nonconsensual pornography). When founded, these nonprofits were the catalyst for the movement to criminalize nonconsensual pornography.

These women have been collective pioneers in the movement to criminalize nonconsensual pornography. The devastating impact on those targeted along the way has yet to be researched and investigated to learn what mental health consequences victims face. To help survivors heal, more work is necessary to first understand the mental health consequences faced. This study was conducted to help identify the common trauma constructs experienced.

Proponents of the first amendment (e.g., freedom of speech) hold the view that criminalizing this act impedes the constitution; they seek alternate routes as a solution. Thus, the online debate has continued as evidenced by the fact that only 26 states have criminal laws against this act, leaving the other half of the United States open to such sexual violence. Identifying the psychological impact of cyber-sexual assault is the next step in this movement for protecting women's rights. It is urgent that mental health

consequences are quantified to help identify and treat those impacted by cyber-sexual assault.

<div align="center">Definitions of Key Terms</div>

The following section provides definitions for terminology used throughout the literature review. Prior to establishing the research design, a literature search was performed using the Academic Search Elite, PsychINFO, and ERIC databases. The keywords used for the literature review were "rape" or "sexual assault," and "online," "cyber-harassment," and "mental health," or "cyber-sexual assault" to first identify a need for the study, and secondly to identify the constructs of the study.

A thorough literature review on cyber-harassment, sexual assault and female sexual violence was conducted. From this, the following key terms were identified and are defined in this section. The Centers for Disease Control and Prevention [CDC] (2015) noted the importance of consistency in sexual violence terms, because this allows researchers to measure both risk and protective factors uniformly across the varying types of sexual violence. As such, although terms are often used interchangeably, the inherent differences are necessary for a full understanding of the presented problem. Therefore, the following terms and definitions are those that were applied throughout the study.

Cyber-harassment. Cyber-harassment differs from cyberstalking to where harassing emails are sent without proposed physical harm, for sole purposes of emotional torment. "Cyber harassment involves threats of violence, privacy invasions, reputation-

harming lies, calls for strangers to physically harm victims, and technological attacks"
(Citron, 2014, p. 3).

Cyber-sexual assault. Also known as revenge porn or nonconsensual
pornography, cyber-sexual assault is a form of sexual abuse where sexually explicit or
nude photos/videos are shared online, without the pictured individual's consent. The goal
is typically for embarrassment, or to harm an ex-partner or friend after that relationship
has ended (End Revenge Porn, 2015).

Cyberstalking. A malicious pattern of threatening behaviors through the internet.
Threats typically pose credible harm, and thus is the most dangerous form of cyber-based
behavior.

Gendered Harassment. Harassment on the basis of one's gender (e.g., being
female), and is more commonly experienced among females than males (Citron, 2009).

Sexting. The self-creation of one's sexual photo which is then sent to another
individual for purposes of arousal; it has also been described as, "appearing in, creating,
or receiving nude or nearly nude images" (Mitchell, Finklehor, Jones, & Wolak, 2012, p.
18)

Sexual assault. Any type of sexual contact or behavior that occurs without the
explicit consent of the recipient (U.S. department of justice, 2015). Within the realm of
sexual assault are: forced sexual intercourse, unwanted fondling, molestation, child
molestation, and attempted rape (U.S. Department of Justice, 2015),

Sexual harassment. Sexual harassment is a form of sex discrimination that
violates Title VII of the Civil Rights Act of 1964, an act prohibiting discrimination based

on race, color, religion, sex, and nationality (U.S. Equal Employment Opportunity Commission, 1997). The U.S. Equal Employment Opportunity Commission (1997) further defined sexual harassment as unwelcomed sexual advances, verbal or physical sexually driven conduct, and pursuit of sexual favors that impact the individual either explicitly or implicitly regarding their employment, work performance, or work environment (para 2).

Violence against women (VAW).

any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life. (United Nations General Assembly, 1993, article 1)

Research Methodology

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable; where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression

Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors.

<div align="center">Research Questions</div>

1. To what extent does modeling the latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015); or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) are modeled as dependent variables, provide a good fit for data collected from cyber-sexual assault survivors.

H_1 Modeling the latent variables emotional dysregulation as the independent variable and trauma guilt, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors.

H_2 Modeling the latent variables trauma guilt as the independent variable and emotional dysregulation, post-traumatic stress disorder, and depression as

dependent variables is a good fit for data collected from cyber-sexual assault survivors.

Exploratory Research Questions

1. Is there a statistically significant relationship between emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg, 2015); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

2. Is there a statistically significant relationship between levels of PTSD as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

3. Is there a statistically significant relationship between levels of depression as measured by Center for Epidemiologic Studies Depression Scale revised [CESD-R] (Eaton et al., 2004); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

4. Is there a statistically significant relationship between trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996); and the reported demographic variables (i.e., sex, sexual orientation,

ethnicity, previous sexual assault, relationship to perpetrator, material

currently online and past/current checking behaviors)?

Research Design

A descriptive, correlational research design was employed to examine the

relationship between cyber-sexual assault, emotional dysregulation, trauma-guilt, PTSD

levels, and depression. The researcher tested the hypothesized linear relationship for

cyber-sexual assault and trauma symptomology using structural equation modeling

(SEM). SEM is a statistical analysis most commonly used in correlational studies

(Ullman, 2007) and thus best suited to compare symptoms of cyber-sexual assault and

sexual assault.

Significance of the Study

The researcher hypothesized that (a) modeling the latent variables emotional

dysregulation as the independent variable and trauma guilt, post-traumatic stress disorder,

and depression as dependent variables is a good fit for data collected from cyber-sexual

assault survivors; and that (b) modeling the latent variables trauma guilt as the

independent variable and emotional dysregulation, post-traumatic stress disorder, and

depression as dependent variables is a good fit for data collected from cyber-sexual

assault survivors.

The overall goal of this research was to learn whether cyber-sexual assault was

correlated with outcome variables that are similar to other forms of sexual assault (i.e.,

emotional dysregulation, trauma guilt, depression, and PTSD). Because cyber-sexual

assault mental health outcomes have yet to be studied nor identified, the research sought to learn which SEM model provided better-fit pathways among the constructs of interest, that were pulled from sexual assault literature. This will allow the research to guide future research, and also help establish how victims of CBSA react in the aftermath of being victimized in order to better prepare clinicians to treat this population.

<u>Conclusion and Organization of the Study</u>

The literature of sexual assault and physical violence against women, the role of technology facilitated violence against women, cyber-harassment and cyber-stalking, technology and IPV, technology and cyber-sexual assault against women, and the history of violence against women, and the history of laws protecting women from such physical violence and such technology facilitated violence have been reviewed in Chapter 1. Also detailed was the evolution of passing laws protecting women from physical and sexual violence to highlight the path cyber-sexual assault laws appear to be following. The definitions have been presented which are used in the following chapter.

The next chapter (2) will review the mental health consequences of sexual assault to build the rationale for the anticipated mental health consequences of cyber-sexual assault. Chapter 2 begins with a review of CACREP standards for counselor educators. Following this, trauma is defined and discussed. Afterwards, Chapter 2 contains a discussion of revictimization (of sexual trauma), emotional dysregulation, trauma guilt, depression, and PTSD in regards to trauma, sexual assault, and cyber-sexual assault. The chapter concludes with suggested counseling implications.

CHAPTER 2
REVIEW OF THE LITERATURE

<u>Introduction</u>

Cyber-sexual assault (CBSA) is a form of sexual assault (SA) where sexually

explicit or nude photos/videos are shared online without the pictured individual's

consent. Chapter 2 contains an introductory review of the Council for Accreditation of

Counseling and Related Educational Programs (CACREP, 2016) standards to help

identify how researching the mental health consequences of CBSA is necessary to further

impart this information on counselors-in-training. Furthermore, a review of the trauma of

sexual assault will be previewed, inclusive of how multiple experiences of sexual assault

heighten the experience of common sexual assault mental health symptoms. Given the

lack of empirical research related to the mental health consequences of cyber-sexual

assault, the researcher relied heavily upon the empirical literature related to the mental

health consequences of sexual assault, as this provided a context for the need for the

current study.

Moreover, Chapter 2 focuses predominantly on a review of the literature related

to four major areas of theory and research on the most common sexual assault

symptomology of: (a) emotional dysregulation; (b) trauma guilt; (c) depression; and (d)

post-traumatic stress disorder (PTSD). These high frequency sexual assault mental health

outcomes are the constructs measured in the study. As such, their connection to (a)

trauma; (b) sexual assault; and (c) cyber-sexual assault have been reviewed. Lastly,

chapter 2 concludes with a review of cyber-sexual assault and mental health implications.

<u>Council for Accreditation of Counseling and Related Educational Programs</u>

The study of cyber-sexual assault is a broad societal issue, and a central part of

teaching sexual trauma to counselors-in-training. Moreover, understanding the mental

health impact of cyber-sexual assault will help inform counseling education programs,

counselors-in-training, educators of trauma, and counselors already in practice. The

implementation of cyber-sexual assault as a form of trauma for counseling programs,

established through their accreditation body, is suggested.

The Council for Accreditation of Counseling and Related Educational Programs

(CACREP, 2016) standards promote a unified counseling profession, inform research and

practice, and ensure that knowledge and skills are obtained in the eight core counseling

areas. Trauma is designed for implantation throughout a counselor's graduate training.

For example, the standards state knowledge should be obtained, to highlight a few,

regarding the "effects of crisis, disasters, and trauma on diverse individuals across the

lifespan" (CACREP, 2016, p. 10), "procedures for identifying trauma and abuse and for

reporting abuse" (CACREP, 2016, p. 11), "impact of crisis and trauma on individuals

with mental health diagnoses" (CACREP, 2016, p. 22), "impact of crisis and trauma on

marriages, couples, and families" (CACREP, 2016, p. 29). These guidelines help ensure

counselors-in-training across the nation are exposed to the appropriate trauma training.

Researchers have shown, however, that sexual assault trauma survivors are often

void of adequate counseling treatment. The following section contains a review of this

literature, because cyber-sexual assault is hypothesized to be similar to other forms of sexual assault regarding mental health symptoms. It is through learning about the psychological consequences of this sexual violence (i.e., cyber-sexual assault) that clinicians can become informed on the complex recovery process.

A review of sexual assault literature highlighted that a large number of sexual assault survivors do not seek treatment from mental health professionals (Kimmerling & Calhoun, 1994; New & Berliner, 2000; Russell & Davis, 2007). Russell and Davis reported the devastating impact inadequate support can have on survivors of sexual assault. Such reluctance to seek mental health treatment has been hypothesized for reasons of lack of training, education, and sensitivity among clinicians causing further damage (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001; Russell & Davis, 2007). Therefore, counseling programs would benefit from training geared towards trauma education, especially sexual assault (where cyber-sexual assault is educated as a form of sexual assault). Despite the copious numbers of individuals impacted by trauma, Parker and Henfield (2012) noted that counselors revealed feeling unequipped to treat trauma survivors. Sexual assault has been identified as the most prevalent form of trauma experienced by women. Interestingly, over 60% of counselors already in practice reported they would benefit from training and education on trauma counseling (Cook, Dinnen, Rehman, Bufka, & Courtois, 2011; Jones & Cureton, 2014). It is both critical

and timely to include thorough training on trauma, sexual assault, and technology facilitated sexual-assault (e.g., cyber-sexual assault) in this digital age.

<p align="center">Trauma</p>

Sexual assault is a traumatic experience; cyber-sexual assault is anticipated to be traumatic for victims as well. Therefore, trauma and the manifestation of trauma for sexual assault survivors is introduced in this section of the literature review. Following this, a review of sexual assault revictimization will be previewed, because multiple sexual assault experiences are likely, and further increase the mental health tenants (i.e., emotional dysregulation, trauma guilt, depression, & PTSD) that follow (and revictimization is an independent variable of the study). The researcher relied heavily upon the sexual assault literature for applying trauma of sexual assault and revictimization toward cyber-sexual assault victims.

<p align="center">Introduction to Trauma.</p>

The American Counseling Association (ACA; Jordan, 2011) defined trauma at the psychological and emotional level as an event impacting an individual's spirit, where that person's will to live, dignity, feelings of security, worldview, thinking, and reaction to stress have all been negatively influenced. Furthermore, ACA (2011) defined trauma via two different types: (a) Type I trauma, and (b) Type II trauma. Type I trauma is considered a one-time, detailed event; whereas Type II trauma is a recurring experience resulting in feelings of denial, dissociation, numbing, and rage. The most common type of trauma women face, sexual assault, is reviewed in the following section, which

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concludes with the trauma of cyber-sexual assault. What separates cyber-sexual assault from other traumas is the fact that nonconsensual material is permanent (via cyberspace), thus reoccurring, and ultimately making for a Type II traumatic experience.

Trauma of Sexual Assault

The trauma of sexual assault is longstanding. Survivors of sexual assault experience a range of mental health issues: sexual dysfunction, depression, suicidality, substance abuse, and post-traumatic stress disorder (Russel & Davis, 2007). Numerous studies on cyber-harassment have identified severe mental health consequences such as depression, anxiety, suicide, and decreased well-being (Washington, 2015). The researcher in this study posited that cyber harassment and sexual assault were both present in a new kind of violence against women called cyber-sexual assault. Although little is known about the effects of this kind of assault, this study was conducted based on the hypothesis that because the components of sexual assault create mental health risks, so does this kind of attack (i.e., CBSA).

Sexual assault is the most common form of trauma women experience (Petkus et al., 2012). Researchers (Kilpatrick et al., 1987; Koss & Harvey, 1991; Koss et al., 1987; Petrak & Hedge, 2001) have suggested a rape prevalence rate of 20% for women, or one in five. Citron (2014) reported that approximately 86% of rape survivors are women. Campbell et al., (2009) wrote that the trauma of rape extends far beyond the actual assault. The impact of such trauma can have longstanding emotional, psychological, and physical consequences. With cyber-sexual assault, the same may be true. Because

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sexually explicit postings are permanent, women can search online for their material with vigilance, and the perpetrators extend to thousands.

The Department of Justice (2015) defined sexual assault as sexual contact or sexual behaviors of any kind that occur without the recipient's consent. Sexual assault includes such acts as forced sexual intercourse (i.e., rape), child molestation, incest, fondling, attempted rape, and forced sodomy. The psychological impact of rape was not empirically studied until the 1970s (Petrak & Hedge, 2001). Burgess and Holmstrom's (1974) seminal study initiated the term 'rape trauma syndrome' for the acute traumatic reaction of sexual victimization (Petrak & Hedge, 2001). This helped clinicians separate initial and longstanding effects of sexual assault. Researchers ((Breitenbecher, 2001) have since continued to study what mediating variables impact individualized responses to rape, especially in regard to persistent and debilitating symptoms.

Regarding the aftermath of sexual assault trauma, initial psychological responses to sexual assault are profound and numerous. They include: anxiety, depression, decreased self-esteem, posttraumatic stress disorder, social adjustment issues, and sexual dysfunction (Ellis, 1983; Steketee & Foa, 1987; Hanson, 1990; Resick, 1993). Although the initial psychological concerns naturally reduce within one year of an assault, a minority of women continue to experience distress. For survivors of rape especially, fear, anxiety, and sexual dysfunction appear as the most persistent and debilitating concerns (Ellis, 1983; Steketee & Foa, 1987; Hanson, 1990).

Pre-assault variables of recent life stressors, previous sexual assault and psychological well-being impact an individual's response to sexual assault

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(Breitenbecher, 2001; Ellis, 1983; Steketee & Foa, 1987; Resick, 1993). The level of violence within the assault, like presence of a weapon, however, was found to have little effect on psychological adjustment post assault (Campbell et al., 2009). This finding is noteworthy, because individuals have raised concerns (regarding CBSA) that without physical contact no sexual trauma has occurred. "Sex and harm are deeply tied to flesh" (Huff, Johnson, & Miller, 2003, p. 14). If the level of violence during sexual assault has little impact on distress levels compared to other mediating factors (e.g., previous sexual assault, self-blame, coping, life stressors), the present study may invalidate claims that the nonphysical component of cyber-sexual assault reduces the harm.

<center>Revictimization</center>

Sexual revictimization is the reoccurrence of sexual assault; thus, sexually re-victimized individuals are those who experience more than one sexual assault whether in childhood and/or adulthood. Grauerholz (2000) established sexual revictimization from an ecological perspective, while also suggesting that "This idea dates back to the early work of Freud (1954), who argued that survivors of trauma experience a need to rework the original traumatic experience as a way of gaining a sense of mastery over the experience" (Breitenbecher, 2001, p. 423). In an empirical review covering over 90 articles of sexual revictimization, researchers Classen, Palesh, and Aggarwal (2005) defined sexual revictimization via three types:

> (a) sexual victimization during childhood (prior to age 15 years) and sexual victimization during adolescence (age 15 to 18 years) or adulthood (older than age 18 years), (b) sexual victimization during adolescence and sexual victimization

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during adulthood, or (c) sexual victimization during adolescence or adulthood by more than one perpetrator" (p. 104).

Sexual revictimization is contextualized in this paper for two reasons: (a) revictimization of sexual assault survivors is so common that to study survivors of cyber-sexual assault/sexual assault/abuse/trauma and disregard revictimization would be a disservice; and (b) cyber-sexual assault victims' online material is permanent, and victims are revictimized (each time their photos/videos are viewed) by anonymous perpetrators worldwide, thus revictimization offers a unique aspect when hypothesizing psychological outcomes of cyber-sexual assault victims.

Sexual assault literature has substantiated that sexual abuse heightens an individual's risk for revictimization, showing that survivors of sexual assault are at an increased risk for revictimization (Grauerholz, 2000), and cumulative trauma appears to increase the likelihood of sexual revictimization (Classen, Palesh, & Aggarwal, 2005). Moreover, it is estimated that nearly two of three individuals sexually victimized are revictimized (Classen et al., 2005). For instance, of those women who have been raped in adulthood, more than one-third report experiencing rape as a child, before the age of 18 (Black et al., 2011). Additional empirical data in a study by Miller, Moeller, Kaufman, DiVasto, and Christy (1978), indicated that 24% of the 314 sexual assault victims surveyed had experienced a prior sexual assault. Sorenson, Seigel, Golding, and Stein (1991) found that 67% of 447 sexual assault victims interviewed had experienced previous sexual assault. Gidyez, Hanson, and Layman (1995) found that 54% of the 168 college women studied with previous sexual assault experienced sexual abuse within the

first three months of college (Breitenbecher, 2001). Despite these numbers, Classen et al. (2005) and Grauerholz (2000) argued that empirical research is limited and that sexual revictimization is often a secondary focus (Classen et al., 2005). For this study, revictimization was assessed to learn both the frequency for which revictimization occurs within the context of cyber-sexual assault as well as the influence of revictimization (alongside cyber-sexual assault) of the dependent variables (i.e., emotional dysregulation, trauma guilt, depression, PTSD).

Furthermore, because an individual's risk for revictimization substantially increases post sexual assault, the topic is significant within the context of cyber-sexual assault. Moreover, Najdowski and Ullman (2011, p. 221) posited that "all of women's traumatic experiences must be taken into consideration to understand fully how sexual assault influences women's coping and recovery" (e.g., Najdowski & Ullman, 2009a, 2009b). Thus, a woman's history of prior childhood sexual assault, adult sexual assault, and revictimization experiences may influence the psychological impact of cyber-sexual assault. With the numerous empirical studies of sexual assault likelihood, percentages of increased revictimization, and mental health outcomes of revictimization, it would be an injustice to overlook these traumas when studying the psychological impact of cyber-sexual assault on survivors.

<center>Mental Health Consequences of Revictimization</center>

This section reviews revictimization and the impact on mental health after two or more sexual assaults. Logically it is clear that sexual revictimization is correlated with increased psychological distress (Classen et al., 2005). Researchers (Classen et al., 2005)

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highlighted that revictimization is correlated with incurring a psychiatric disorder, addiction, interpersonal difficulties, decreased behavioral or cognitive functioning, as well as heightened feelings of shame, blame, powerlessness, and decreased coping skills. Additionally, Wilson, Calhoun, and Bernat (1999) found that revictimized women showed higher rates of posttraumatic stress symptomology than non-revictimized women of sexual assault.

Regarding risk factors, recent victimization increases the likelihood for subsequent victimization (Classen et al, 2005). Vulnerability-enhancing past experiences and situational variables are the most empirically validated studied on revictimization. Situational (e.g., mediating) variables of alcohol use, multiple sexual partners, isolation in which the incident took place are risk factors for sexual victimization (Amick & Calhoun, 1987; Breitenbecher, 2001; Muehlenhard & Linton, 1987; Koss & Dinero, 1989; Abbey, Ross, McDuffie, & McAuslan, 1996). Although mediating variables of revictimization are important, this study is a seminal piece; therefore, the researcher sought to measure the presence of revictimization in order to fully capture the mental health consequences of cyber-sexual assault. It is noteworthy to mention that revictimization was measured as a demographic variable for this investigation. Accordingly, the researcher examined the following latent variables in relation to the experience of cyber-sexual assault.

Mental Health Consequences of Sexual Assault.

Sexual assault literature findings have supported depression (Russel & Davis, 2007), and post-traumatic stress disorder (Norris, 1992) as being among the most profound and persistent psychological outcomes of sexual assault. Therefore, these tenets

are discussed in detail, keeping in mind these are modeled as the dependent variables in this research investigation. Furthermore, Najdowski and Ullman, (2011) noted that emotional dysregulation is a common outcome of sexual assault that can exacerbate the psychological sexual assault outcomes; as such this construct will be thoroughly reviewed. Lastly, the trauma guilt (Kubany et al., 1996) has been identified as the single most important factor regarding the persistence of both PTSD and depression; and this tenet will be examined last. Concluding the chapter is a review of the mental health consequences of cyber-harassment and cyber-sexual assault. Due to the lack of empirical research related to the mental health consequences of cyber-sexual assault, the following presented empirical studies will focus on sexual assault to provide a context for the current study.

The psychological impact of sexual assault (childhood sexual assault & adult sexual assault) has been empirically substantiated in the literature. The following sections contain a review of the literature related to the major emotional consequences of sexual assault, identifying the constructs that were measured in the proposed study which are: (a) emotional dysregulation; (b) trauma guilt; (c) depression; and (d) post-traumatic stress disorder. A thorough review of the mental health consequences of these constructs revealed the context, breadth, and depth of the psychological aftermath of post sexual

assault and provided a rationale for the investigation of cyber-sexual assault mental health symptoms.

<center>Emotional Dysregulation</center>

Thompson (1994) highlighted that emotion regulation "consists of the extrinsic and intrinsic processes responsible for monitoring, evaluation, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (p. 28). Gratz and Roemer (2004) defined emotion regulation as the awareness of emotions, acceptance of emotions, ability to self-regulate and control impulsive behaviors, and flexibility and adaptability for regulating emotions.

Conversely, Walsh et al. (2012) noted that emotional dysregulation is a multifaceted construct. The inability to use adaptive regulatory strategies (Gross & Thompson, 2007), like practicing goal-directed behaviors under distress (Linehan, 1993), is common. Further, the lack of ability to accept one's emotional response (Gratz & Roemer, 2004), as well as identify, name, or express an emotional experience (Feldman Barrett, Gross, Christensen, & Benvenuto, 2001) constitutes emotional dysregulation or lack of adequate emotion regulation strategies. Additionally, emotional dysregulation was measured by the original Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) through six domains of emotion dysregulation: (a) nonacceptance of emotion responses; (b) lack of emotional awareness; (c) limited access to emotion regulation strategies; (d) difficulties engaging in goal-directed behavior when emotionally aroused; (e) impulse-control difficulties; and (f) lack of emotional clarity (Weinberg & Klonsky, 2009). The Brief Version of the Difficulties in Emotion

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Regulation Scale (DERS-16) was validated by Bjureberg and colleagues (2015). The scale measures emotional dysregulation via five constructs: (a) nonacceptance, (b) strategies, (c) impulse, (d) goals, and (e) clarity. For the remainder of this paper, emotional dysregulation has been used when referring to the inability to regulate emotions. The researcher hypothesized, based on substantial amounts of empirical sexual assault literature, emotional dysregulation would be prevalent for victims of cyber-sexual assault, and emotional dysregulation will be correlated with the latent variables of trauma guilt, depression, and PTSD.

The counseling implications of studying emotional dysregulation are of significance. Cloitre et al. (2002) found that targeting emotion dysregulation for adult survivors of childhood sexual assault improved emotional regulation and PTSD. In SAMHSA's (2014) *Trauma-Informed Care in Behavioral Health Services,* a suggested treatment goal designed for emotional regulation was associated with teaching new coping skills, how to tolerate distressing emotions, and how to cope with such emotion without substance use. Interventions targeting emotion regulation deficits for sexually victimized women was also suggested (Cloitre et al., 2002; Walsh et al., 2012). Thus, if emotional dysregulation is found to correlated with trauma guilt, and the outcome variables of depression and PTSD, it can be both identified and targeted in therapy.

Researchers have posited that sexual assault is distinctly linked to increased emotional dysregulation among survivors of such assault. Researchers have also suggested that emotional dysregulation (e.g., maladaptive emotion regulation) is the result of sexual assault, specifically in childhood (Marx, Heidt, & Gold, 2005; Walsh et

al., 2012). It was noted that moderating variables (e.g., degree of intrusiveness, coerciveness, duration, frequency, age of onset for abuse, relationship with abuser, and type of resistance used) accounted for little variance in outcomes for sexual assault victims (Beitchman et al., 1992; Gidycz et al., 1993; Saunders et al., 1992; Spaccarelli, 1994; Wind & Silvern, 1992; Grauerholz, 2000). Ullman (2015) did, however, point to coping skills as an influencing mediating variable for psychological outcomes. As such, in the present study, emotional dysregulation was tested for its correlation with the other latent variables for cyber-sexual assault victims.

<p align="center">Emotional Dysregulation as Related to Sexual Trauma</p>

Subjection to trauma increases women's' maladaptive coping (e.g., denial, substance use, avoidance) which increases distress and subsequently increases women's vulnerability for sexual assault. The process appears cyclical. Moreover, a woman who has experienced sexual assault is at an increased risk for future sexual victimization (Livingston, Testa & VanZile-Tamsen, 2007). Empirical research overwhelmingly supports that sexual victimization, particularly revictimization, negatively impacts emotional dysregulation (Boeschen, Ross, Figueredo, & Coan, 2001; Cloitre, Koenen, Cohen, & Han, 2005; Walsh, DiLillo, & Sealora, 2011; Walsh et al., 2012). Childhood sexual assault is especially linked to emotion dysregulation disturbances (Ullman et al., 2003). Thus, the literature surrounding sexual trauma revictimization is reviewed in the

following section because of its pervasiveness among sexual assault survivors and the impact on emotional dysregulation.

A volunteer sample of female sexual assault survivors ($N = 1,863$) completed a questionnaire about their experiences post sexual assault (childhood sexual assault & adult sexual assault). The researchers (Ullman et al., 2003) found both child and adult sexual survivors, who developed maladaptive coping skills and increased emotional dysregulation, showed exacerbated psychological symptoms. In addition, the mediators of maladaptive coping and emotion regulation were elevated for those individuals who did not engage in therapy after their assault. The researchers suggested survivors would benefit from therapy, possibly targeting the mediating factors (Ullman et al., 2003). Ullman and colleagues (2003) further confirmed that childhood and adult sexual assault both lead to maladaptive coping.

Ullman and Vasquez (2015) surveyed sexual assault survivors ($N = 1,863$) who were sexually active within the year of their participation in the study to measure sexual risk behavior and sexual refusal assertiveness. Ullman & Vasquez (2015) found emotion dysregulation (measured by the DERS-16) was correlated with greater history of childhood sexual assault, increased sexual partners, greater alcohol and drug use during intercourse, exchange of sex for money, and decreased sexual refusal assertiveness. Emotional dysregulation and childhood sexual assault were directly linked with heightened revictimization risk of the women. Sexual refusal assertiveness, however, did not appear to be a protective factor of revictimization. As such, emotional dysregulation was explored in this investigation, because such variations in emotional dysregulation,

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due in part to trauma history, may impact the dependent variables (e.g., variation of psychological distress).

Impact of Revictimization on Emotional Dysregulation.

The literature corroborates that emotional dysregulation is influenced by sexual assault, particularly revictimization. Because two of three (Classen et al., 2005) sexual assault survivors have been approximated to experience multiple sexual assaults, the following section addresses the influence of revictimization on emotional dysregulation. For this investigation, the researcher anticipated finding victims of cyber-sexual assault with previous history of sexual assault. Thus, varying levels of emotional dysregulation were hypothesized to stem from revictimization, and these varying levels were hypothesized to influence the outcome variables.

Early trauma may further increase emotional distress, thereby mediating or altering risk perception (Walsh, DiLillo, & Messman-Moore, 2012). Zerubavel and Messman-Moore (2013) suggested that an individual's inability to cope or regulate emotions may hinder self-protective factors, thus increasing a woman's vulnerability for future revictimization. Messman-Moore, Walsh, & DiLillo (2010) highlighted that emotional regulation is a critical component of understanding the significance such distress contributes to revictimization. Livingston, Testa, and VanZile-Tamsen (2007) also reported that emotional dysregulation was positively correlated to increased risk for

revictimization over time, suggesting that improving such skills may increase self-protective factors, subsequently reducing revictimization risk (Ullman & Vasquez, 2015).

Maladaptive coping skills are defined as "strategies that alleviate distress without actually addressing the source of distress itself" (Najdowski & Ullman, 2011, p. 218). It is clear that once a woman has experienced sexual assault, her risk for future sexual victimization increases dramatically (Livingston, Testa & VanZile-Tamsen, 2007). In a longitudinal research study (Najowski & Ullman, 2011), maladaptive coping amongst sexual assault survivors was found to be an influencing variable which contributed to further revictimization. Use of sex, alcohol and/or drug to cope with sexual assault related PTSD increased risk of future revictimization (Messman-Moore, Ward, & Brown, 2009; Najdowski & Ullman, 2011; Ullman, Najdowski, & Filipas, 2009). Messman-Moore & Brown, (2006) suggested such maladaptive coping may increase susceptibility to potential perpetrators, or decrease risk perception of sexual assault survivors.

Filipas and Ullman (2006) found, in their cross-sectional study, that college women who experienced childhood sexual abuse were more likely to use maladaptive coping strategies. This was applicable if they experienced sexual assault, compared to those survivors who has not experienced childhood sexual abuse.

Najdowski and Ullman (2011) surveyed female sexual assault survivors ($N = 555$) at two points using the Sexual Experiences Survey (Koss & Gidycz, 1985), a validated scale measuring varied sexual assault experiences. The researchers administered the survey to the same group of women twice, approximately one year apart. All women experienced sexual assault to qualify for the study, and 45% ($N = 248$) had experienced

revictimization, or another sexual assault, within one year of completing the first survey.

Thus, though a year is lengthy in comparison to similar studies, nearly one of every two

women surveyed experienced a repeated sexual assault in the same year. Najdowski and

Ullman (2011) found that adaptive and maladaptive coping were mediators of PTSD

symptoms stemming from cumulative traumas. The researchers tested the impact of

revictimization on coping and depression, finding that multiple sexual assaults increased

maladaptive coping skills. Further, women who were revictimized showed greater levels

of depression despite applying seemingly adaptive coping skills.

In the review, the results of research focused on how women cope with multiple

sexual assaults were limited. However, those with poorer coping skills had numerous

negative outcomes, according to Najdowski and Ullman (2011), specifically regarding

PTSD symptoms, college students with maladaptive coping skills had higher rates of

such distress, PTSD, and substance use in adulthood.

In a study by Walsh et al. (2012), 714 undergraduate women were assessed for the

presence of childhood and adult sexual assault. The researchers also administered the

Risk Perception Survey [RPS] (Messman-Moore & Brown, 2006); the Difficulties in

Emotion Regulation Scale [DERS] (Gratz & Roemer, 2004), a valid and reliable form

that measures emotional dysregulation. The RPS is a vignette describing a college party

scene which results in a forcible acquaintance rape, and participants are instructed to

indicate when they would stay and at what point they would leave the scenario.

Significance was found for two of the six DERS subscales: (a) impulse control problems,

and (b) limited access to emotion regulation strategies. Further, victimized women stayed

in the risk vignette longer than non-victimized women. The researchers highlighted that the study added to existing empirical research showing that sexual victimization, particularly revictimization, negatively impacts emotional dysregulation (Boeschen, Ross, Figueredo, & Coan, 2001; Cloitre, Koenen, Cohen, & Han, 2005; Walsh, DiLillo, & Sealora, 2011; Walsh et al., 2012). Walsh et al. (2012) suggested future research to determine if emotional dysregulation deficits precede lifetime victimization or result from such victimization.

Researchers have concluded that emotional dysregulation impacts post sexual assault adjustment and psychopathology (Burgess & Holstrom, 1978; Burt & Katz, 1988; Gidycz & Koss, 1991; Koss & Burkhart, 1989; Meyer & Taylor, 1986). Results are mixed, however. Mayall and Gold (1995) and Proulz, Koverola, Fedorowicz, and Kral (1995) both found little difference for revictimized and non-revictimized individuals in regard to coping skills. Breitenbecher (2001) noted that researchers (Anderson, 1987; Marhoefer-Dvorak, Resick, Hutter, & Girelli, 1988) found that both revictimized and non-revictimized women actually showed similar results of psychological adjustment measures, though revictimization was associated with worse psychological adjustment overall. Lastly, Gutner, Rizvi, Monson, & Resick (2006) found that reduced PTSD symptomology for female sexual assault survivors was related to higher levels of adaptive coping (e.g., social support, emotional expression).

Emotional Dysregulation Related to Cyber-sexual Assault

Ullman, Peter-Hagene, Relyea, Ehlers, and Clark (2003) sought to expand research of adult sexual assault, testing whether multiple mediators (e.g., maladaptive

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coping, emotion regulation, characterological self-blame) impacted an adult survivor's

level of PTSD and depression, based on various trauma histories. The researchers

(Ullman et al., 2003) showed that pathways from previous trauma histories influenced the

mediating factors of emotional dysregulation levels and led to increased distress of adult

sexual assault survivors. Furthermore, Najdowski and Ullman (2009x) found that

maladaptive coping impacted the linear, positive relationship for cumulative trauma and

PTSD, suggesting that cumulative traumas may increase emotional dysregulation (i.e.,

decrease emotion regulation), thus increasing distress such as PTSD.

This research investigation of cyber-sexual assault was similar to the of Ullman

and colleagues (2003), studying (a) the construct, emotional dysregulation, in regard to

testing its mediation on the outcome variables of depression and PTSD, and (b) the

second mediator of trauma guilt. The current study, however, departed from Ullman and

colleagues' (2003) model, testing the mediators of emotional dysregulation and trauma

guilt (Chapter 4 post hoc analyses) and their influence upon each other in addition to their

influence on the dependent variables of depression and PTSD.

<p style="text-align:center">Trauma Guilt</p>

Trauma guilt refers to individuals' feelings and beliefs about specific traumatic

events and their roles in the trauma (e.g., self-blame; Kubany, 1996). In essence, guilt

among trauma survivors in common, especially for those individuals with PTSD, and

trauma guilt refers to the guilt internalized by the survivor of a traumatic event. Kubany

(1996) noted survivors search for why questions to give meaning to the trauma (Kubany

et al., 1996). In this quest for answers, Kubany (1996) highlighted that guilt cognitions

<p style="text-align:center">58</p>

are activated for some and that this can lead to shame beliefs, resulting in depression and strengthening PTSD symptoms (e.g., avoidance, numbing). Trauma guilt was of interest to the researcher, because it has been reported as high among survivors of sexual assault (Kubany, 1996). With that said, the majority of cyber-sexual assault victims participated in the creation of their material (with exceptions for cases of rape, manipulation, etc.); as such, trauma guilt might be even higher for this population.

Researchers suggested trauma guilt as a predictive factor for heightened levels of depression and PTSD in trauma survivors (Janoff-Bulman, 1985; Kubany, 1996; Kubany et al., 1995). The literature did not, however, indicate whether trauma guilt should be expected to mediate emotional dysregulation, depression, and/or PTSD. As such, a review of research supporting the correlation of trauma guilt for trauma survivors will follow. Because of a lack of literature supporting whether trauma guilt is mediated by emotional dysregulation or the reverse, the argument is made to model both path analyses in post hoc analyses (i.e., trauma guilt influencing emotional dysregulation; emotional dysregulation influencing trauma guilt).

Guilt is predominately associated with self-blame (Frijda, 1993; Kubany, Kaplan, Watson, & Nouchi, 1995; Kubany & Manke, 1995) and is defined as a belief about the self as to how one should have reacted differently in regard to thoughts or feelings and is associated with unpleasant feelings (Kubany et al., 1995, 1996; Kubany & Manke, 1995;). Trauma guilt is an extension of this, and a term describing feelings of self-blame and guilt upon the surviving of a traumatic experience. Researchers (Kubany et al., 1996) have agreed that trauma related guilt contributes to increased distress of trauma induced

PTSD and depression (Dutton, Burghardt, Perrin, Chrestman, & Halle, 1994; Foa, Steketee, & Rothbaum, 1989; Frazier & Schauben, 1994; Janoff-Bulman, 1989; Kubany, 1994; Kubany & Manke, 1995; Norris & Kaniasty, 1991; Resick & Schnicke, 1993). As such, the second mediator under investigation, in addition to emotional dysregulation, is trauma guilt. The following section contains a review of literature and research related to the experience of trauma guilt post sexual assault.

<center>Trauma Guilt Related to Sexual Trauma</center>

Kubany et al. (1996) highlighted that trauma guilt is a common reaction found among sexual violence survivors collectively: (a) childhood sexual assault survivors (Spaccarelli, 1994); (b) interpersonal violence survivors (Cascardi & O'Leary, 1992); and (c) rape survivors (Resick & Schnicke, 1993). Survivors of sexual assault may have feelings of guilt for how they were dressed, for not fighting back, or for having too much to drink at a party, even though none of these justifies what happened to them (Kubany et al., 1996). Guilt is also high for victims of domestic abuse; One in four women reported extreme feelings of guilt about their victimization through domestic abuse (Kubany et al., 1996).

Campbell et al. (2009, p. 226) emphasized that "sexual assault does not occur in social and cultural isolation: we live in a rape prone culture that propagates messages that victims are to blame for the assault, that they caused it and indeed deserve it" (p. 226). With such stereotypes, it is clear why self-blame is common among sexual assault survivors. For instance, sexual assault victims commonly experience shame, guilt, and increased stigmatization. Victims of childhood sexual assault also experience such self-

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blame in addition to stigmatization (Grauerholz, 2000; Roth & Newman, 1991). Self-blame is a common reaction after sexual assault (Kubany et al, 1996), and such internalized blame is associated with elevated PTSD symptoms for child sexual assault and adult sexual assault survivors (Frazier, 2003; Koss et al., 2002; Ullman & Filipas, 2005, Ullman et al., 2003). Women who have a more extensive sexual abuse history typically show higher levels of shame and self-blame and show increased levels of psychological distress in adulthood. The researcher expects to find elevated levels of shame and guilt for cyber-sexual assault victims.

In a recent study by Bovin and colleagues (2014), guilt was measured for its mediation of tonic immobility (TI) and posttraumatic stress disorder (PTSD) symptoms in female trauma survivors. Trauma survivors ($N = 63$) that met qualifications for study participation reported a variety of traumas; more than half reported experiencing childhood sexual/physical abuse (68.3%), and/or adult sexual/physical abuse (52.4%). Guilt was significant for its mediation between TI and PTSD symptom severity, $F(2, 60) = 15.96$, $R2 = .34$, $B = 0.35$, standard error = 0.14, bootstrapped 95% CI of indirect effects [0.10, 0.66]. The authors (Bovin et al., 2014) reported their research supported that guilt related to trauma influences PTSD symptomology. Bovin et al., (2014) noted their research corroborated that of other researchers of trauma guilt, highlighting that past research has identified guilt associated with the presence of PTSD (Henning & Frueh, 1997); and that passivity during a trauma is associated with guilt (Lee, Scragg, & Turner, 2001). This research, however, assessed posttraumatic guilt through one single item on the CAPS-IV associated features section; a clinician administered PTSD scale. The

current research investigation used two separates scales, one for measuring PTSD (IES-R) and the other for measuring trauma guilt (TRGI).

Researchers (Starzynski, 2010; Starzynski, Ullman, Filipas, & Townsend, 2005; Starzynski, Ullman, Townsend, Long, & Long, 2007) found that women who engage in higher levels of self-blame after a sexual assault feel powerless (e.g., less in control) of their recovery, and are less likely to seek support from mental health professionals. Moreover, Kubany and colleagues, (1996) highlighted the important role of clinicians in understanding the recovery process from trauma, especially for symptoms like guilt, as these can be the target of interventions by clinical staff. Therefore, if guilt is found to be prevalent for cyber-sexual assault survivors, such findings may provide a rationale for future therapeutic interventions.

Trauma Guilt Related to Cyber-sexual Assault

After a traumatic event, guilt and shame are associated with the development of PTSD symptomology and depression symptomology (Andrews, Brewin, Rose, & Kirk. 2000; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Kessler *&* Bicschke, 1999; Kubany et al., 1996; Street et al., 2005). Trauma guilt has been well documented in the literature as a common symptom for survivors of battered women, rape victims, childhood sexual abuse, veterans, and burn patients (Cascardi & O'Leary, 1992; Henning & Frueh, 1997; Janoff-Bulman, 1979; Jehu, 1989; Kiecolt-Glaser & Williams, 1987; McNiel, Hatcher, & Reubin, Sum 1988). Therefore, in the present study of cyber-sexual assault victims, the researcher anticipated finding trauma guilt would be correlated with

PTSD and depression, directly and indirectly, in conjunction with emotional

dysregulation.

In a similarly modeled study of trauma guilt and domestic violence survivors,

Street, Gibson, and Holohan, (2005) conducted a path analysis to examined the

relationship of traumatic events in childhood, trauma-related guilt, avoidant coping

strategies, and PTSD symptomatology among female survivors of domestic violence ($N =$

63). All domestic violence (physical and psychological) had occurred within a year of

survey participation. The researchers assessed for childhood traumatic events, avoidance

coping, PTSD, and trauma guilt via the trauma-related guilt inventory (TRGI). Childhood

trauma was directly associated with trauma guilt (i.e., TRGI); and trauma guilt (i.e.,

TRGI) was directly and indirectly associated with PTSD. Trauma guilt was indirectly

associated with PTSD, because avoidant coping acted as a mediator. Avoidant coping

was therefore directly associated with higher PTSD symptoms. Street and colleagues

(2005) noted that victims of multiple traumatic events, while finding meaning of a

traumatic event, internalize responsibility for the event.

The Trauma Related Guilt Inventory measures trauma related experience of guilt

and post trauma psychopathology. In some cases of cyber-sexual assault, individuals

created their own sexual material and sent it to the perpetrator. Furthermore, because

trauma guilt is high among victimless crimes like sexual assault and bettered women

(Kubany, 2016), the construct is of interest for the population of cyber-sexual assault

victims and the researcher also expects to find elevated levels of trauma guilt. If the

researcher finds high levels of trauma guilt, interventions (e.g., shame resilience; Brown,

2006; increase positive cognitions; Meichenbaum, 2014 for cyber-sexual assault victims can be explored (Chapter 5) which is the overall goal of this study.

<center>Depression</center>

<center>Depression as Related to Trauma</center>

Major depression is a sense of hopelessness or despair in individuals to the degree of interfering with daily functioning. Major depression impacts approximately 5% of individuals nationwide every year (Hasin, Goodwin, Stinson, Grant 2005). Depression is also a common occurrence that is strongly correlated with PTSD after a traumatic event (Shaley et al., 1998), with a lifetime rate of 95% where depression and PTSD are parallel in 56% of individuals post traumatic event (Bleich, Koslowsky, Dolev, Lerer , 1997). As such, depression was chosen as a construct for this study due to the high frequency of depressive symptoms for survivors of trauma and because the intensity of such depressive symptoms increase when PTSD is also present.

<center>Depression as Related to Sexual Trauma</center>

Nearly half (13% to 51%) of sexual assault victims also develop depression (Acierno et al., 2002; Becker, Skinner, Abel, Axelrod, & Treacy, 1984; Burnam et al., 1988; Campbell et al., 2009; Clum et al., 2000; Dickinson, deGruy, Dickinson, & Candib, 1999; Frank & Anderson, 1987; Golding, 1996; Kilpatrick et al., 1987; Ullman & Vasquez, 2015; Winfield, George, Swartz, & Blazer, 1990). The majority (73% to 82%) of sexual assault victims develop anxiety (Frank & Anderson, 1987; Ullman & Siegel, 1993) where a portion (12% to 40%) of these meet diagnostic criteria for generalized

anxiety (Campbell et al., 2009; Siegel, Golding, Stein, Burnam, & Sorenson, 1990; Ullman & Vasquez, 2015; Winfield et al., 1990).

Suicidal ideation, stemming from depression, is high (23% to 44%) among survivors of sexual assault (Frank & Stewart 1984; Frank, Turner, Stewart, Jacob, & West, 1981; Kilpatrick et al., 1985; Petrak, Doyle, Williams, Buchan, & Forster, 1997; Ullman & Vasquez, 2015). A portion of victims do attempt suicide (Campbell et al., 2009; Davidson, Hughes, George, & Blazer, 1996; Frank et al., 1981; Kilpatrick et al., 1985). Numerous researchers have linked suicidality with cyber-bullying and cyber-harassment (Citron, 2009; Lewis, 1971; Washington, 2015). When private, intimate photos are made available to the world, a sense of despair may occur. These occurrences are still unknown, but likely prominent, for cyber-sexual assault victims.

Sexual assault is a form of violence against women causing greater psychological distress for victims when compared to males who were exposed to combat, accidents, and physical attacks (Shalev, et al., 1998). Regarding depression, depression and PTSD are commonly found to be comorbid, where these constructs are typically concurrent (56%) with high lifetime prevalence rates of 95% (Bleich, Koslowsky, Dolev, Lerer, 1997; Shalev et al., 1998) for trauma survivors. Depressive symptoms, however, are found more severe for those that also meet PTSD diagnostic criteria (Shalev et al., 1998).

In a study by Shalev et al. (1998) 211 individuals (78.1%; 103 men and 108 women) completed an investigation of their experiences regarding depression and post-traumatic stress disorder following a traumatic event: (a) road traffic accidents (N=181, 85.8%), (b) work and domestic accidents (N=15, 7.1%), (c) terrorist acts (N=9, 4.3%), (d)

combat events (N=4, 1.9%), and (e) physical assault (N=2, 0.9%). The results indicated that those who met diagnostic criteria for PTSD at 1 month (29.9%; N = 63) decreased by four months (17.5%; N = 37). Furthermore, those who met diagnostic criteria for major depression at one month (19%; N = 40) decreased by four months (14.2%; N = 30). Comorbidity between PTSD and depression was stable across time, however. At one month, 44.4 % of the 63 individuals with PTSD ($N = 28$) and 43.2% of 37 individuals with PTSD ($N = 16$) at four months were comorbid for depression and PTSD. Lastly, depression and PTSD also occurred in isolation (30 individuals met criteria for PTSD and not major depression; 17 individuals met criteria for major depression without meeting criteria for PTSD). The results are relevant, because depression and PTSD are strongly tied to traumatic events, where symptoms among individuals appear both concurrent and in isolation. The researchers (Shalev et al., 1998), however, called for a broader conceptualization beyond PTSD when measuring response to trauma. Additionally, they noted future studies should assess for continuous dimensions of trauma response, and treatment approaches should target both depression and PTSD.

The present study incorporated latent variables (reported previously) of emotional dysregulation and trauma guilt to provide a broader conceptualization of trauma. This particular section has addressed the construct of depression due to its comorbidity with PTSD for trauma survivors. The researcher anticipated finding elevated levels of depressive symptoms for cyber-sexual assault victims similar to sexual assault survivors. This section on the construct of depression leads to the final construct of this investigation: posttraumatic stress disorder. Although the researcher expected to find

overlap for depression and PTSD among cyber-sexual assault survivors, the two constructs were considered separate entities with separate measures and were thus treated independently of each other within this literature review.

Depression Related to Cyber-sexual Assault

Depression and suicidal ideation are high among sexual assault survivors, victims of cyber-bullying, and victims of cyber-harassment. As such, the researcher expected depression to be prevalent for cyber-sexual assault victims. The Center for Epidemiologic Studies Depression Scale – Revised (CESD-R) is a depression scale measuring for clinical symptoms in line with the American Psychiatric Association Diagnostic and Statistical Manual, fifth edition (APA, 2013). At the time of the present study, it was the most up-to-date clinical diagnostic guide for practitioners. Suicidality is addressed via one of the nine constructs on the CESD-R and, thus, was assessed for victims of cyber-sexual assault in the present study. At the time of the present study, practitioners had no treatment guide for this population. Thus, there is no education on a population that may show suicidal ideation at similar rates to that of sexual assault and cyber-bullied or cyber-harassed victims.

Post-traumatic Stress Disorder (PTSD)

PTSD Related to Trauma

The DSM-V classified post-traumatic stress disorder (PTSD) under "Trauma- and Stressor-Related Disorders," and included sexual violence (e.g., exposure) as a traumatic event (APA, 2013)**.** For a diagnosis of PTSD to be warranted, according to the DSM-V, a traumatic episode and an experiencing intrusive thoughts, avoidance, negative alterations

in cognition and mood, and arousal alterations must occur. A traumatic episode is defined as:

> A direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about an unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. (APA, 2000, p. 463)

PTSD is rooted in an anxiety disorder. The DSM-V specifically includes sexual assault and identifies the disorder through three criteria: (a) re-experiencing (or avoidance), (b) negative cognitions, and (c) arousal (e.g., fight or flight). Hoffman (2013) stated the hallmark of PTSD is re-experiencing the traumatic event through "disturbing recollections," (p. 1024) nightmares, psychological distress or physiological reactions when reminded of the event, and hyperarousal (e.g., not sleeping, easily startled). Further, avoidance is a key component where one detaches (or suppresses) from emotions causing an individual to disconnect from others, and loss of interest in once enjoyed activities.

Nearly 80% of clients seeking treatment are considered trauma survivors, meaning individuals have experienced at least one trauma in their lifetime (Jones & Cureton, 2014). In the aftermath of a traumatic event, 75% of individuals experience

resilience, some even post-traumatic growth, and 25% of individuals develop symptoms of PTSD (Meichenbaum, 2014).

Post-traumatic stress disorder is the most common, long-term symptom of trauma. Although PTSD is more often than not comorbid with depression, PTSD precedes depression for most individuals (78.4%) following the exposure to a traumatic event (Kessler et al., 1995; Shalev et al., 1998). Ullman (2016), highlighted that repeated trauma of sexual assault (e.g., revictimization) is predictive of PTSD symptoms to a greater degree than problem drinking after conducting a three-year longitudinal study, surveying sexual assault survivors (N = 768) about unwanted sexual experiences since age 14 (Ullman, 2016). Furthermore, Wilson et al. (1999) found that revictimized women show higher rates of posttraumatic stress symptomology than non revictimized women of sexual assault. The researchers (Wilson et al., 1999) also noted that PTSD did not act as a mediator for revictimization and risk recognition. Due to the high association of PTSD following a traumatic event, compared to other outcome variables, and research suggesting PTSD is an outcome variable (versus mediator), a thorough review of PTSD stemming from sexual trauma is presented in the following section.

<div align="center">PTSD Related to Sexual Trauma</div>

Sexual assault is the most common form of trauma women experience (Petkus et al., 2012) and is most commonly associated with PTSD (Norris, 1992). Rape survivors may be the most likely victims of violent crime to develop PTSD (Petrak & Hedge, 2001; Steketee & Foa, 1987), especially those survivors of completed rape (Campbell et al., 2009; Norris & Kaniasty, 1994; Petrak & Hedge, 2001; Resnick, Kilpatrick, Danskey,

Saunders, & Best, 1993). Campbell et al. (2009) reported that between 17% and 65% of women who have experienced some form of sexual assault developed PTSD as a result (Clum, Calhoun, & Kimerling, 2000; Kilpatrick et al., 1989; Kilpatrick & Resnick, 1993; Rothbaum et al., 1992). Other researchers have noted approximately 80% of rape survivors will incur lifelong PTSD symptoms (Breslau, Davis, Andreski, and Peterson, 1991; Kilpatrick et al., 1989; Petrak & Hedge, 2001).

A review of empirical research studies demonstrates that sexual assault survivors are diagnosed with post-traumatic stress disorder at a higher rate than those without previous abuse or assault (Campbell, Greeson, Bybee, & Raja, 2008; Classen, Palesh, & Aggarwal, 2005; Filipas and Ullman 2006; Fortier et al., 2009; Krause, Kaliman, Goodman, & Dutton, 2008; Messman-Moore, Brown, & Koelsch, 2005; Stockdale, 2014). Additionally, Ullman, (2016) noted that PTSD, childhood sexual assault and adult sexual assault increased a woman's risk for revictimization, further increasing the effects of distress.

In the first few weeks post assault, Rothbaum et al. (1992) found that 94% of survivors met PTSD diagnosis criteria. After the acute stage, three or four months later, close to half (47%) of the individuals met PTSD diagnosis criteria, a substantial amount. Researchers (Kilpatrick et al., 1987; Russell & Davis, 2007) noted that PTSD can become a chronic, withstanding, and persistent symptom for some women.

Regarding a diagnosis of PTSD as it relates to sexual assault, the DSM-V includes negative emotions like shame and guilt (hence the trauma guilt measure in this investigation). Furthermore, PTSD is defined under the category of "trauma and stress

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related disorders." Fear, helplessness and horror were removed. Negative alterations in cognitions and mood were added. Specifically, this is where self-blame, negative emotional state, diminished interest in once pleasurable activities, and inability to experience positive emotions are found. Sexual assault survivors reported feelings of anger, guilt, and shame (Jones & Cureton, 2014); and 75% reported feelings of shame as the primary emotion (Jones & Cureton, 2014; Vidal & Petrak, 2007). The construct of PTSD was selected as a dependent variable, likely correlated with emotional dysregulation and trauma guilt specifically for these reasons.

PTSD Related to Cyber-sexual Assault

Gender has been established to contribute to the development of PTSD (Breslau, Davis, Andreski, & Peterson, 1991; Breslau & Davis, 1992; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Shalev et al., 1998). This is significant because a majority of sexual assault survivors are women, and the researcher anticipated finding the majority of cyber-sexual assault victims to be female as well. Females are more likely than males to be exposed to rape and molestations; however, females are more likely to develop PTSD (Kessler et al., 1995; Breslau et al., 1992; Shalev et al., 1998). For this research, the researcher anticipated finding higher levels of PTSD for cyber-sexual assault victims.

Due to the high rate of PTSD after a traumatic event like sexual assault, and the debilitating nature of PTSD, the researcher was studying this construct in the investigation. PTSD is the hallmark symptom of sexual assault mental health outcomes. Cyber-sexual assault (CBSA) sexual material is not covered by laws; thus, some victims struggle to remove their material from online sources. Moreover, hypervigilance may

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show up in different ways for cyber-sexual assault victims, like constantly checking for

material online. Further, a fear of who has seen an individual's sexual material may aid in

the development of PTSD. As such, PTSD is hypothesized to be common among cyber-

sexual assault victims due to the accessibility of the sexual material by individuals across

the globe and within a matter of seconds, the lack of laws protecting victims,

hypervigilance of photo checking behaviors, and prominence of PTSD among female

sexual assault survivors.

The Impact of Technology on Sexual Assault

A thorough review of trauma literature, sexual assault literature, and mental

health symptomology has led to the final section where cyber-sexual assault

symptomology will be reviewed. Rape culture is highlighted first to help establish the

cultural environment which aids the flourishing of cyber-sexual assault. Next, the

prevalence and psychological consequences of cyber-sexual assault is discussed. The

chapter concludes with a summary of Chapter 2 and an introduction to the methodology

presented in Chapter 3.

Rape Culture

The 21st century rape-prone culture perpetuates stereotypes implying that women

are to blame for their assault or victimization and that they "deserve it" (Campbell,

Adams, Wasco, Ahrens, & Self, 2009; Rozee & Koss, 2001). This profoundly impacts

the trauma faced post assault, further impacting the recovery process, and increasing

distress (Campbell et al., 2009; Rozee & Koss, 2001). Campbell et al. (2009) wrote that

the sexual assault recovery process will change at each victimization, potentially worsening with each assault. Regarding cyber-sexual assault, laws do not legitimize cyber-sexual assault as a crime, encouraging victim blaming for the self-creation of sexual material. Furthermore, the victimization occurs in masses (e.g., nonconsensual material receiving hundreds of thousands of views). As such, distress may be equal to or greater than physical sexual assault. Lastly, lack of knowledge and training of helping professionals may perpetuate such rape culture stereotypes. Empirical research is necessary to quantify such psychological warfare as a form of sexual assault.

In general, violence research has focused on in-person physical and sexual attacks, genocide and forced disappearances, but human rights initiatives regarding cyberspace are virtually nonexistent (Smith, 1998). Consequently, cyberbullying, a form of online harassment with the intent of causing severe psychological harm for the victim, has dominated the Internet (Weber, Ziegele, & Schnauber, 2013). One of the newest iterations of cyberbullying taking place is called "revenge porn," and is defined as a form of sexual assault where nude or sexually explicit photos are distributed online without an individual's consent (Laird, 2013). The material is usually posted by an ex-lover upon the ending of a relationship in order to seek revenge. Victims of this cyber-sexual assault can be shamed into silence when private photos are made accessible for viewing by family members, friends, employers, schools, and social media networks. The following section contains a discussion of cyber-sexual assault.

Cyber-sexual Assault

Technology-facilitated crime, like cyber-sexual assault, allows for accessibility to millions of victims as well as instantly expanding a negative impact within minutes, all while remaining anonymous (Henry & Powell, 2015; Yar, 2005). Henry and Powell (2015) defined technology-facilitated sexual violence, referred to as cyber-sexual assault in this paper, as the distribution of non-consensual sexual images, creation and distribution of sexual assault images, use of services to complete a sexual assault, online sexual harassment and cyberstalking, gender specific hate speech, and cyber (e.g., virtual) rape. The authors (Henry & Powell, 2015) made logical assumptions about the psychological harm inflicted through technology based harassment. Henry & Powell (2015) argued such virtual harassment "can have real effects, both bodily and psychical [affecting] how individuals experience and live their everyday lives" (p. 765). A lack of empirical evidence exists, however, to substantiate this claim. Researched claims are necessary so this form of sexual assault can be identified and treated, and services can be provided to victims.

Prevalence of Cyber-sexual Assault

Huff, Johnson, and Miller (2003) emphasized that very little research has focused on technology as a medium for sexual violence or sexual harassment. Likewise, little attention has been devoted to identifying the prevalence and collective harms of technology as related to sexual violence or sexual harassment. An upsurge of technology-facilitated sexual violence (TFSV) and harassment has, however, become a growing

phenomenon (Henry & Powell, 2015). The laws (i.e., section 230) outlined in Chapter 1 neither protect cyber-sexual assault victims nor offer them recourse.

Predominately, females have been targeted in what Citron (2014) called cyber-gendered harassment. In other words, technology is considered another route for oppression where males can exert control over their female counterparts, and this can lead to emotional, physical, and psychological consequences. For example, both hate speech in cyberspace and harassment overwhelmingly target women (Barak, 2005; Citron, 2010; Finn & Banach, 2000; Henry & Powell, 2015; Herring, Job-Sluder, Scheckler, & Barab, 2002; Morahan-Martin, 2000). As of 2011, 74% of online abuse complaints reported to *Working to Halt Online Abuse* (WHOA) were from women. In a study by McAfee (2013), 10% of individuals reported being threatened with their private, intimate photos, and 60% of those said that threat became a reality. In Citron's (2009) article about the online victimization of women, she shared multiple examples of online comments geared mainly toward females that involved rape threats, death threats, and humiliation. Henry and Powell (2015) also concurred that this is a form of violence against women, given the disproportionate rate at which women are targeted. Rooted in gender inequality, this constructs a social norm that violence against women through technology is normal and will be tolerated. Through the aid of activists and research, such stereotypes can be challenged.

Cyber-sexual assault by contrast to cyber-harassment or cyber-stalking is "revenge porn," where intimate, sexually explicit photos are posted online without consent, usually to embarrass, shame, and taunt an individual. Henry (2014) noted that

victims of cyber-sexual assault are oftentimes looked upon as naïve, whereas the real

problem is one of gender-based violence. Franks (2013) highlighted that when such

sexual abuse is physical, it is considered rape; physical proximity should not be any

different (Franks, 2013). In fact, cyber-sexual assault victims are assaulted each time

their material is viewed or shared (Franks, 2013). Essentially, the harm is limitless.

Regarding psychological concerns, Citron (2014) further presented several stories about

victims who shared depleting self-confidence, resulting in feelings of deep shame.

Beyond the mental health concerns are social consequences. For instance, job loss occurs

when sexual material is accessible within seconds. According to Citron (2014), victims

also suffer financially, on average more than $1,200. Citron (2014) also observed the lack

of training of law enforcement which can cause further damage for a victim. The present

large-scale study was conducted to identify and substantiate the mental health

consequences.

In summary, whether this is a case of questionable morality is insignificant. In

fact, Australian researchers, Henry and Powell, (2014, 2015) view the taking of sexual

photos as healthy in the new age of technology. However, what prompts individuals to

explore their sexuality is not the goal of the proposed study. Rather, the research goal is

to learn about the mental health consequences of being victimized in order to help

clinicians treat this population. Kolberg (1977) has highlighted the basic principle of

justice as a basic and universal standard for all humans. Though Kolberg (1977) cited

justice as the principal for teaching morality, in this case it appears the most just solution

regarding the research question is to provide victims of cyber-sexual assault fair access to

treatment, given that the increase in use of technology leads to an increase in cyber-sexual assault. Justice, in essence, begins with understanding the consequences of being sexually assaulted online.

Summary

This review of the literature was focused on sexual assault, the trauma of sexual assault, and common mental health outcomes of sexual assault. It served as a guide for the study outlined in Chapter 3. The mental health impacts stemming from cyber-sexual assault are nonexistent in the literature. Online cyber-harassment and cyber-stalking studies, limited prevalence studies of cyber-sexual assault (CBSA), and the rise of criminalizing laws regarding CBSA were found in the literature. Because little is known about the psychological effects on those who have experienced cyber-harassment of a sexual nature, and based on a review of the existing literature, a quantitative design for the present research was indicated. The quantitative approach was expected to give empirical insight into this new arena of cyber-sexual assault (CBSA).

More specifically, there is a paucity of research on cyber-sexual assault. This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the

independent variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Because no research existed to hypothesize whether emotional dysregulation would influence trauma guilt, or the reverse, the research tested both models to determine which was of best fit. The overarching goal was to learn whether cyber-sexual assault victims express elevated distress similar to that of sexual-assault victims. The *post hoc* analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors. The data collection process, instruments used, and statistics for analyzing the results of the research are explained in detail in Chapter 3.

CHAPTER 3
METHODOLOGY

<u>Introduction</u>

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable; where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Additionally, the secondary research analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors.

Specifically, the investigation tested the hypothesized linear relationship that individuals with the experience of cyber-sexual assault would score higher for emotional dysregulation and trauma guilt; and would also show increased symptoms of depression

and PTSD. In addition, those individuals with prior sexual assault histories (as measured by the demographics questionnaire) along with the experience of cyber-sexual assault, would show even greater levels of these mental health symptoms (explored in the four exploratory questions).

A descriptive, correlational research design (Frankel & Wallen, 2006) was applied to the research to test the research hypothesis and exploratory questions. A correlational research design was chosen to determine the relationship of mental health symptoms (depression and PTSD) for survivors of cyber-sexual assault, and the degree of influence provided by emotional dysregulation, trauma guilt. The specific structural equation models selected were: (a) confirmatory factor analysis [CFA] (Hurley et al.,1997); and (b) exploratory factor analysis [EFA] (Hurley, et al., 2007). Additionally, potential threats to internal and external validity as well as generalization of the research were reviewed.

This chapter contains a description of the methods and procedures used to conduct the study as follows: (a) population and sampling procedures; (b) data collection methods; (c) instrumentation; (d) research design; (e) research hypothesis and questions; (f) methods of data analysis; (g) ethical considerations; and (h) limitations to the study.

<center>Population and Sampling Procedures</center>

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. Additionally, this study was conducted to investigate

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the directional, positive relationship for the experience of cyber-sexual assault and

emotional dysregulation and trauma guilt; and the subsequent exacerbation of common

sexual assault psychological outcomes (i.e., depression and PTSD). The researcher

posited that cyber-sexual assault would appear similar to other forms of sexual assault in

terms of psychological outcomes; and thus generalizability was important. As sample size

increases generalizability, the ideal sample size was determined a priori to data

collection, based on the size of the population (Gall et al., 2007). In addition, power

analysis is fundamental in SEM, as statistical power decreases the researcher's likelihood

of making a Type II error (failing to reject a false null hypothesis; e.g., Balkin &

Sheperis, 2011). Statistical power increases as sample size increases (Gall, et al., 2007).

The following section will review how the researcher determined sample size for

adequate power, a priori to data collection (Gall, Gall, & Borg, 2007).

<p style="text-align:center">The Rape, Abuse & Incest National Network (RAINN, 2016)</p>

The U.S. Department of Justice's National Crime Victimization Survey (NCVS)

reported sexual assault (e.g., rape) impacts an average of 293,066 victims each year.

Prevalence numbers for cyber-sexual assault victims have been substantially harder to

determine, however (Citron & Franks, 2014). To generalize the results for the

psychological impact of cyber-sexual assault to the population of sexual assault ($N =$

293,066) a minimum random sample of 89 is required to detect effect (Soper, 2016).

Statistical power analysis is the probability of rejecting the null hypothesis and

guides the researcher to the sample size needed for such significance (Balkin & Sheperis,

2011). The null hypothesis presupposes that there is enough evidence to support that the

data do not fit the model well. Sample size in research design is used to achieve adequate power, and yield significant results for interpreting whether the hypothesis is accepted or rejected (MacCallum, Browne, Sugawara, 1996). Based on the literature, a suggested power of at least .80, helps ensure a desired probability for rejecting the null hypothesis (Balkin & Sheperis, 2011; MacCallum, Browne, Sugawara, 1996).

A call was made for researchers to report survey response, minimum effect size, and some justification of the sample size to strengthen the research community, increase both credibility and applicability of research, with a combined result of influencing academia (Westland, 2010). To calculate the sample, a small to medium effect size (.22); high power (.8); with five latent variables and 20 observed or manifest variables; and a probability of $p < .05$ was employed, resulting in a suggested minimum sample of 89 participants needed to detect effect. The sample size was computed using www.danielsoper.com, a website recommended for estimating sample size for power by Schumacker and Lomax, (2010). Cohen (1988; 1992) suggested a small effect size for social sciences as ranging from 0.1 to.23; as such the researcher chose 0.22. In sum, this study of 2,576 recruited individuals, the researcher received a .083 response rate ($N = 213$); however, after data cleaning this was reduced to 97. With a small effect size of .22, the sample size needed to draw generalizable conclusions was 89.

In a meta-analysis by Cook, Heath, and Thompson (2000), educational psychology studies that utilized electronic surveys generated an average response rate of 35%. A review by Cantor et al. (2015) noted sexual assault survey response rates

ranged from 30% to 86%. The researcher estimated a response rate for survey research of 10%. The researcher received an 8% response rate ($N = 213$) in the present study, before data cleaning, which resulted in a 3.75% response rate ($N = 97$).

To investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault, Structural Equation Modeling (SEM) was applied (Tabachnick & Fidell, 2013). SEM is a large sample technique. As such, researchers suggested a minimum of 200 responses (Floyd & Widaman 1995), whereas other have recommended at least 300 (O'Rourke & Hatcher, 2013). Schumacker and Lomax (2010) reported a range of 250 to 500 participants for publishing SEM results, as this allows for cross-validation (e.g., multiple sample model). Floyd and Widaman, (1995) reported that a general rule for computing sample size was 10 times the number of variables being analyzed. Conversely, Westland (2010) argued the "rule of 10" was arbitrary; however, he cited the original rule of 10 author, Nunnally (1967), and highlighted the claim of having ten times as many subjects as variables was provided without supporting evidence. Westland (2010) further pointed to numerous, empirical articles disconfirming the rule of 10, highlighting it as a poor guide, and arbitrary, for computing sample size a priori (Browne & Cudeck 1989, 1993; Gebring & Anderson 1985; Veicer & Fava 1987, 1989, 1994; Marsh & Bailey 1991; Boomsma 1982; Ding et al., 1995).

In a meta-analysis of 74 published research studies utilizing structural equation modeling, Westland (2010) analyzed the sample sizes used for generalizing the

researchers' results. He reported that of the 74 published studies, only 50% met the minimum requirements to draw conclusions. Further, according to his calculations of sample size, 80% of these studies contained conclusions from smaller samples than what was computed via lower bounds calculations. Regardless, Westland (2010) noted that though too small of a sample size weakens credibility, too large was also too costly for the researchers. For the present study, the researcher pursued a population difficult to reach, whose privacy has already been invaded online, and the researcher incurred collection difficulties discussed in data collection (Chapter 4).

Population

The target population for this study were victims of cyber-sexual assault. Individuals of diverse backgrounds (e.g., gender, age, ethnicity, previous sexual assault, and mental health) were recruited from two email distribution listservs: (a) Cyber Civil Rights Initiative (CCRI); and (b) Rape, Abuse and Incest National Network (RAINN). The CCRI listserv targets cyber assault/cyber-sexual assault and offered the researcher access to 976 participants. RAINN consists of 1,600 individuals who have experienced some form of sexual assault.

Online recruitment (i.e., website and social media) was used for CCRI cyber-sexual assault participant recruitment. The researcher accessed the selected listservs for one single recruitment email. The researcher departed from the Dillman and colleagues (2009) survey administration approach to using social media (King, O'Rourke, & DeLongis, 2014) for participant recruitment. The Dillman and colleagues (2009) approach appeared too exhaustive for such sensitive populations. Specifically, sample size was

harder to pursue because the population of cyber sexual assault victims had experienced online privacy revocation, and thus may have had limited trust of online forums in general. After 138 surveys were obtained (or precisely two weeks after initial recruitment), the researcher used the CCRI website, and Twitter. This allowed participants to not use their email address or other identifying information when taking the survey. Approximately one week later (or three weeks total) 193 individuals had completed the survey. After four weeks, the total was 213, and data collection concluded. The final sample size used in the data analysis was 97.

The aforementioned organizations were selected because they serve survivors of sexual assault or cyber-sexual assault nationwide and are the largest organizations specific to their specialty. Cyber Civil Rights Initiative is a non-profit organization founded by Dr. Jacobs which serves thousands of victims worldwide while also advocating for social and legal reform in efforts to reduce online harassment like cyber-sexual assault. RAINN (Rape, Abuse & Incest National Network) is the nation's largest anti-sexual violence organization, and partners with over 1,000 sexual assault service providers nationally in efforts to prevent sexual violence and provide victims with support and resources.

A convenience sample (Bloomberg & Volpe, 2015; Merriam, 1998) was best suited for the study as the researcher sought participants with the shared phenomenon of experience of cyber-sexual assault. The goal of this sampling method was to recruit a sample of a similar construct, thus allowing for generalization and increasing external validity. Additionally, when the researcher switched to website and social media

recruitment, an online snowball sample was used for social media recruitment, since individuals could share the recruitment posted and retweet the survey link (King, O'Rourke, & DeLongis, 2014). The sample included diverse participants who were: (a) at least 18 years or older; (b) had experienced cyber-sexual assault at some point in their lifetime.

Ethical considerations are essential for sensitive populations such as those who have survived the trauma of sexual assault. The researcher complied with all ethical considerations. In terms of aspirational ethics, the researcher reviewed similar sexual assault studies to learn more about the impact of sexual assault survivors' participation in research. The findings shared in the next section overwhelmingly indicated that survivors' participation in sexual assault research was beneficial. For example, in the research noted, participants reportedly felt part of social reform and appreciated the kind/sensitive/empathetic language used in the research.

Several researchers have highlighted the experiences for participants of sexual assault research studies. First, Campbell, Adams, Wasco, Ahrens, and Sefl (2010) studied the impact of interviewing rape survivors and found, consistent with trauma research meta-studies (e.g., Newman & Kaloupek, 2004), that participants deemed their participation helpful and not harmful. Similarly, women have reported that completing surveys on sexual abuse that were designed to help others had aided their personal recovery process and also helped to fight future adult sexual assault (Ullman, 2010; Ullman, Peter-Hagene, Relyea, 2014). Rosenbaum and Langhinrichsen-Rohling (2006) further noted that researchers have identified how trauma research can impact participants. In fact, participating in research has

been found to be beneficial for survivors (Bergen, 1993, 1996; Campbell, Adams, Wasco, Ahrens, & Sefl., 2010, Draucker, 1999). Although women experiencing posttraumatic stress disorder (PTSD) reported more heightened distress from participation (Dutton & Widom, 2002; Griffin, Resick, Waldrop, & Mechanic, 2003; Rabenhorst, 2006; Widom & Czaja, 2005), an overwhelming number of victims reported no regrets for participating in research (Campbell et al., 2010; Newman & Kaloupek, 2004). Regardless, the researcher provided a detailed referral list at the end of the survey.

Researchers of sexual violence (Black, Kresnow, Simon, Arias, & Shelly, 2006; Carlson, Newman, Daniels, Armstrong, Roth, & Loewenstein, 2003; Dutton & Widom, 2002; Griffin et al., 2003; Johnson & Benight, 2003; Newman, Walker, & Gelfand, 1999; Ruzek & Zatzick, 2000; Walker, Newman, & Koss, 1997) shared similar thoughts regarding the impact of participating in research. Campbell et al. (2010) observed that victims of "childhood sexual abuse, sexual assault, and intimate partner violence, 70% to 80% of victims were not unexpectedly or highly distressed" (p. 61). Lastly, in a review by Campbell et al. (2010), it was noted that 26% to 45% of participants of survey research reported positive benefits from the research experience (Johnson & Benight, 2003; Walker et al., 1997), and this number increased (from 51% to 85%) for interview research (Carlson et al., 2003; Martin, Perrott, Morris, & Romans, 1999; Newman et al., 1999; Widom & Czaja, 2005). The current researcher followed ethical guidelines (outlined in Ethical Considerations) similar to other sexual assault studies to limit negative experiences for participants.

Data Collection Procedures

Data collection began on April 1, 2016, and concluded April 27, 2016, approximately four weeks later. As noted, the survey completion substantially plateaued after the second week. Prior to data collection, the researcher sought the approval of the University of Central Florida's Institutional Review Board (IRB) to ensure that all ethical practices and requirements have been strictly adhered to (Appendix A). The organizations that assisted the researcher in data collection were: (a) CCRI, and (b) RAINN; these two non-profit organizations offered the researcher access to participants, contingent upon the researchers' chair and committee approval, in addition to IRB approval.

Permission from the instrument developers was obtained prior to data collection for: (a) IES-R (personal communication with Dr. Daniel Weiss; January 26, 2016); and (b) DERS-16 (personal communication with Dr. Johan Bjureberg, January 28, 2016). Permission to use CESD-R was granted on the website (http://cesd-r.com/cesdr/), and stated that "The CESD-R is in the public domain so it is free to use in your research." Permission to use the TRGI was granted on March 7, 2016 after the research purchased the copyright (Appendix B).

The four instruments and demographic form used for the study were converted into Qualtrics, a tool allowing researchers to create surveys safely and online. At the closing of the survey, a list of crisis hotlines (Appendix C) were given (e.g., National

Suicide Prevention Hotline: 1-800-273-8255). These referrals were also offered in the consent form.

Incentive in survey research tends to increase response rate (Church, 1993), and the most incremental incentive has been found to be from $0 incentive to $1 incentive (Dillman, Smyth, & Christian, 2009; Mullin, 2014). An incentive was used for this study: upon the completion of each survey, a $1.00 donation was made (up to $500) to the non-profit organizations Cyber Civil Rights Initiative and RAINN. The final combined total of $213.00 was donated to the two organizations, as both help survivors of sexual assault.

Although SEM is a sophisticated statistical procedure that reduces measurement error, the researcher followed guidelines from Dillman et al. (2009), noted researchers of survey design and use, to further reduce measurement error. Dillman et al. (2009) suggested that clear survey directions decrease measurement error. As such, simple language and precise instructions were used and reviewed along with feedback from colleagues. Specifically, the researcher reviewed and piloted the data collection instruments as an added measure to reduce measurement error (Dillman et al., 2009). Prior to survey administration, the instruments (four surveys combined and one demographic form) were reviewed by the dissertation committee ($N = 5$), and a cohort of peers ($N = 4$) to solicit feedback regarding legibility and logical flow of the instrument.

Through the Qualtrics system, the participants were originally intended to receive a series of three emails for which Dillman et al.'s (2009) tailored design method

would have been applied to help increase response rate. The initial recruitment email was used to introduce the participants to the study with a link to participate; the second email was intended as a reminder for those who had not completed the study; and the final email was intended to be the last call for participation. The initial recruitment email was the only one used. After the initial email, both CCRI and RAINN email listservs reported a series of emails would be too aggressive for participants. Specifically, for CCRI, a participant complained about receiving the request, and the researcher was asked to discontinue recruitment. For RAINN, due to past research complaints regarding multiple emails, the researcher was only allowed to send the single request for participation. As such, recruitment stopped after one email for both CCRI and RAINN. Recruitment was transferred to CCRI's website, and advertised via social media (Twitter) twice, where a blog was posted on the website explaining the study (King, O'Rourke, & DeLongis, 2014). The intent was to facilitate an online, snowball sample. For example, as users 'liked' the research, this research study showed on others' pages King et al., 2014). Appendix D contains all communications with participants.

During data collection, a similar survey was recruited via the same online website, Twitter, and Facebook. As such, data collection was terminated. The survey for this investigation was announced twice on Twitter (CCRI twitter, 4-26-16; and ERP twitter, 4-26-16). The survey was not announced on Facebook or any other form of social media. Approximately two weeks into data collection (April 14, 2016), the researcher had recruited 193 participants. At this time (April 14, 2016), a similar survey was posted on the same recruitment website, and also announced on the same Twitter

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feed and an additional Facebook page. One week later, participation increased only slightly, from 193 to 205 (April 21st, 2016). Approximately one week later the participation only slightly increased to 213 (April 25, 2016) and stopped. On April 27, with 213 participants, the researcher concluded data collection.

In addition to using the tailored design method (Dillman et al., 2009) of online survey recruitment (e.g., establishing trust), and following King et al.'s (2014) suggestions for social media recruitment for accessing low-prevalence and hard-to-reach populations, several additional methods for increasing response rate were implemented.

Establishing trust with participants increases motivation (Dillman et al., 2009); thus, within the first recruitment email for the cyber-sexual assault listservs, Dr. Jacobs (founder of CCRI) shared her role with the researcher, to increase the personal nature of the email and to help increase response rate (Dillman et al., 2009). Confidentiality was also ensured, with no personally identifiable information being collected (e.g., name, email address). Furthermore, the researcher emphasized the importance of the study, goals, and implications.

Dillman's (2009) tailored design method further suggested increasing the benefits to participants while also decreasing the cost to participants. Thus, the researcher (a) provided participants with information and goals of the study; (b) showed positive regard through the use of sensitive language; (c) closed the survey with a "thank you"; and (d) utilized instruments aimed to keep the participants' interest. To decrease the cost to participants, the researcher (a) made the survey convenient; (b) used

simple language; (c) offered a brief questionnaire; and (d) minimized requests of personal or sensitive information unrelated to the study (Dillman et al., 2009).

To increase the response rate of survey research, Dillman et al., (2009) suggested a systematic approach method. This tailored design method (Dillman et al., 2009) was intended to be utilized for participant recruitment and originally consisted of three email invitations. Initially, the participants were each sent a personalized research invitation including: (1) an informed consent, (2) an incentive explanation, and (3) the link to the data collection instruments on Qualtrics. All individuals were supposed to receive an email exactly one week after the initial email was sent. The second email included the link to the data collection. In another two weeks, or three weeks combined, the final reminder was to be sent to all participants, inviting participants who had not yet completed the research to do so. The final email included the invitation link. Dillman et al. (2009) suggested including a friendly tone reminding potential participants of the short timeframe left to participate in the research, as well as the importance of responding (e.g., goals of the study).

Due to participant and listserv moderator feedback, the Dillman et al. (2009) approach was too insensitive and burdensome for sensitive population of cyber-sexual assault and sexual assault. For this reason, only the initial email, and thank you email (to RAINN) were sent. The thank you email was sent at the close of the survey to RAINN, and not to CCRI, reminding participants of the donation made on their behalf. Lastly, the

individuals had the option to be removed from the listserv as there was a link to unsubscribe, a beneficial qualtrics feature.

The experience of cyber-sexual assault was assessed, and the researcher specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable; where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors.

<div align="center">Instrumentation</div>

The following five data collection instruments were utilized for this research: (a) the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg, 2015), which measures emotional dysregulation; (b) the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996), which measures trauma guilt; (c) the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996), which measures PTSD; and (d) the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004), which measures depression. The General Demographic Questionnaire was used and included questions about participants' self-reported age, sex, sexual orientation, organization of referral (CCRI; RAINN),

relationship to perpetrator, sexual assault or cyber-sexual assault history, and online checking behaviors of material. Upon completion of the combined instruments, there was a list of sexual assault counseling resources, as well as a reminder about the donation being made on participants' behalf. The following section contains a review of each of the data collection instruments, and the psychometric properties in relation to diverse populations.

General Demographic Questionnaire

The researcher created the General Demographic Questionnaire (Appendix E) to collect self-report demographics from participants on: (a) age, (b) sex, (c) sexual orientation, (d) organization of belonging (CCRI; RAINN), (e) relationship to perpetrator, (f) sexual assault history, and (g) hypervigilance of checking for online material (RAINN). The demographics were chosen to assess for a history of cyber-sexual assault, as this experience will qualify participants for the study. Finally, the General Demographics Questionnaire was reviewed by experts (counselor education faculty committee members) and administered to counselor education peers for clarity and legibility.

Brief Version of the Difficulties in Emotion Regulation Scale (DERS-16)

The DERS-16 (Bjureberg et al., 2015) was chosen to measure emotional dysregulation through the presence of maladaptive coping skills (Appendix F). The DERS-16 is a brief method of assessing emotion regulation difficulties through three overarching categories: (a) emotional regulation and related constructs,

(b)psychopathology, and (c) clinically-relevant behaviors stemming from emotion

regulation deficits. The DERS-16 is a 16-item self-report questionnaire that utilizes a 5-

point Likert-scale format ranging from "Almost never" to "Almost always". The DERS-

16 is designed to assess emotion regulation difficulties and is comprised of five manifest

constructs: (a) clarity (e.g., lack of emotional clarity, 2 items); (b) goals (e.g., difficulties

engaging in goal-directed behavior, 3 items); (c) impulse (e.g., impulse control difficulties,

3 items); (d) strategies (e.g., limited access to effective emotion regulation strategies, 3

items); and (e) non-acceptance (e.g., non-acceptance of emotional responses, 5 items). The

DERS-16 offers internal consistency, good test-retest reliability, and good convergent

and discriminant validity (Bjureberg et al., 2015).

The instructions for the DERS-16 state, "Please indicate how often the following

statements apply to you by writing the appropriate number from the scale above (1–5) on the

line beside each item." (Bjureberg et al., 2015). These instructions allow respondents to

provide general answers pertaining to the overall ability to regulate distress responses,

unrelated to a particular event.

The DERS-16 originated from the Difficulties in Emotional Regulation Scale

(DERS) developed by Gratz and Roemer (2004). The DERS-16 is a shorter version of

the original DERS; the original DERS is also a psychometrically sound measurement of

emotion dysregulation. The original DERS has 36 items. Bjureberg and colleagues

(2015) reported that the DERS has been extensively validated, and scores have been

associated with "posttraumatic stress disorder (Tull et al. 2007), borderline personality

disorder (Gratz et al. 2006), major depression (Ehring et al. 2010), eating disorders

(Whiteside et al. 2007), and generalized anxiety disorder (Salters-Pedneault et al. 2006)"
(p. 2).

The DERS test-retest reliability ($\rho_I = 0.88$, $p < 0.01$) and validity were supported in the literature (Gratz & Roemer, 2004); however, the length can be problematic. Bjureberg and colleagues (2015) highlighted that shorter assessments are preferable in research contexts, are easily incorporated into standard assessments and for longitudinal (e.g., repeated assessments) symptom measurement. A shorter version broadened the applicability. Additionally, a shorter version may reduce attrition and increase research compliance. Therefore, Bjureberg and colleagues (2015) developed the DERS-16, a shorter version of the DERS.

Psychometric Properties of the DERS-16.

The researchers (Bjureberg et al., 2015) established reliability and validity from a clinical sample (N = 96) in addition to two larger community samples (N = 102 and 482) (p. 1). The average time of administration of the DERS was 328.51 seconds (SD = 219.29) and the DERS-16 was 138.99 seconds (SD = 133.89). Bjureberg and colleagues (2015) conducted a t-test of time difference for the DERS and DERS-16 and found a significant difference in administration time t (69) = 6.51, $p < 0.001$.

Bjureberg and colleagues (2015) conducted three studies on independent and diverse samples where they found support of high construct validity and reliability of the DERS-16. The researchers conducted a thorough investigation after completing an item-reduction based on item-total correlations. Participants in the clinical study (N = 96) completed a structured clinical interview and a series of self-report measures post

interview. The DERS and DERS-16 were administered no more than six days apart. The DERS-16 was presented first for 34 participants, and the order reversed, where the original DERS was presented first for the latter 64 participants. In addition, the DERS-16 was administered twice (between 7-14 days after the first administration) to 31 participants. The clinical study findings showed excellent internal consistency ($\alpha = 0.92$), as well as good test-retest reliability ($\rho_I = 0.85$; $p < 0.001$) of the DERS-16. Findings also showed high construct validity when compared to similar measures (minor differences ranging from $r = 0.01$ to $r = 0.04$).

In a second study by Bjureberg and colleagues (2015), two samples ($N = 102$; 482) were used. The researchers found high internal consistency (ranging from $\alpha = 0.92$ to $\alpha = 0.95$). High correlation (ranging from $r = 0.00$ to $r = 0.13$) suggests minimal differences in construct validity or high construct validity.

The researcher received permission from the original author of this instrument to use it in the current study (personal communication, 2016). In response to the researcher's inquiry about the scoring of the DERS-16, Dr. Bjureberg reported that the DERS-16 did not include any reversed items. The author reported that the scale has a 5-point Likert-type scale from 1-5, and the scores are summed for total score ranging from 16-80 (personal communication, February, 2016).

Impact of Events Scale Revised (IES-R)

The IES-R (Weiss & Marmar, 1997) is a self-report instrument of 22-items, intended to assess three domains of post-traumatic stress disorder (PTSD) symptoms stemming from exposure to a traumatic event (Appendix G). The IES-R includes three

domains (Weiss & Marmar, 1997). The domain of *intrusion* includes questions of: "Pictures about it popped into my mind," and "I had waves of strong feelings about it." The domain of *avoidance* includes questions of: "I felt as if it hadn't happened or wasn't real," and "My feelings about it were kind of numb." The domain of *hyperarousal* includes questions of: "I had trouble concentrating;" "Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart;" and "I felt watchful and on-guard."

The IES-R items contain a five-point Likert-style format, ranging from "Not at All" to "Extremely." Through personal communication, Dr. Weiss offered permission for the researcher to use the IES-R for this study (Appendix B). The IES-R is comprised of 22 questions and has a range of scoring from 0 to 88. The score is calculated by the mean of item response per subscales of: *intrusion*, *avoidance*, and *hyperarousal*. The mean score range is from 0 through 4 for each of the subscales (Weiss, 2007). In an article on IES-R related issues, Weiss (2009) noted that the IES-R has no overall "cut-off" points, and the assessment should not be used to diagnose PTSD, as acute PTSD and chronic PTSD would, for instance, have different cutoff points. The tool measures symptomology.

IES-R scale developer (Weiss, 2009) reported that "Any use of the measure requires that this issue be made explicit by the person administering the measure, and that respondents are clear about what specific event they are reporting on" (p. 1). A specific event like sexual assault was listed as an appropriate and specific event. The researcher asked participants to "answer the remainder of the questionnaire related to your cyber-sexual assault experience(s)" at the end of the demographics form. Additionally, Weiss

(2009) highlighted that the IES-R was intended as an assessment of symptomology "over the last seven days" with respect to the three domains of PTSD symptoms resulting from the traumatic stressor (p. 2). Time elapsed after the traumatic event (e.g., cyber-sexual assault) shows varying levels of the subscales, where closer to the trauma exposure will show heightened average scores. The IES-R has been successfully translated into numerous languages worldwide.

Psychometrics of the IES-R

The original IES was developed by Horowitz, Wilner, and Alvarez, (1979) and was designed to measure distress (post-traumatic stress symptomatology) in response to a life event. The original scale consisted of 15 items with two subscales: *intrusion* and *avoidance*. The 5-point Likert scale offered a total sum score ranging from 0-75; avoidance ranged from 0 to 40 and intrusion ranged from 0 to 35. The score offered test-retest reliability (.87) for the total score.

Weiss and Marmar (1997) developed a revised version (IES-R) of 22 items measuring *intrusion* (8 items), *avoidance* (8 items), and *hyperarousal* (6 items), intending to encompass the three domains of PTSD in the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) (DSM-IV; American Psychiatric Association, 2000). The scale was validated using the specific time frame of the past seven days. The IES-R examines the mean score of each subscale versus a sum score, because normative data would not be accurate due to different events and time elapsed. Weiss (2009) further highlighted that nearly all PTSD measures offer convergent, not divergent validity (Cronbach & Meehl,

1995); and that normative data are almost nonexistent for any PTSD measure. Weiss and Marmar (1997) reported excellent six-month test-retest reliability (.89–.94).

Weiss (2009) highlighted that researchers (Leskin, Kaloupek, & Kean, 1998) found the IES-R strong for discriminating between groups of trauma victims and non-trauma victims. Weiss and Marmar (1997) found excellent internal consistency among the three subscales (*intrusion*, *avoidance*, and *hyperarousal*). *Hyperarousal* alphas ranged from .79 to .90 across four samples, and this subscale has excellent predictive validity of trauma. Furthermore, Weiss (2009) noted a meta-analysis by Vassar, Knaup, Hale, and Hale, (2011) in which a mean coefficient alpha was found for the IES-R across samples: *intrusion* subscale (.85), *avoidance* subscale (.83), *arousal* subscale (.81), and composite (.91).

Center for Epidemiologic Studies Depression Scale Revised (CESD-R)

The original Center for Epidemiologic Studies Depression Scale (Appendix H) was developed in 1977 (CESD; Radloff, 1986). The scale was revised by Eaton and colleagues (2004) to align with diagnostic criteria of the DSM-IV, resulting in the Center for Epidemiologic Studies Depression Scale-Revised (CESD-R). The CESD-R is a popular depression measure, often used in large scale well-being studies, offers free distribution, and has exhibited excellent psychometric properties, high internal consistency, strong factor loadings, and convergent and divergent validity (Dam & Earleywine, 2010; Eaton et al., 2004). In a literature review, Dam and Earleywine (2010) noted the CESD-R as one of three most popular depression inventories, among the Beck Depression Inventory [BDI] (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the

Hamilton Rating Scale for Depression [HAM-D] (Hamilton, 1960). Dam and Earleywine further noted that the original BDI and CES-D were designed for use with different populations. The BDI was initially intended to measure depressive severity of individuals diagnosed as clinically depressed (Beck et al., 1961; Beck, Steer, Brown, 1996), and the BDI has a more cognitive component (Beck et al., 1961, 1979). The CES-D was initially intended for measurement of depressive severity for adults in the general population (Radloff, 1977), and emphasized an affective component of depression (Radloff, 1977, 1991). The researcher thus chose the use of the CESD-R because: (a) a sample was pulled from the cyber-sexual assault community, (b) has strong support for the research community measuring depression (Dam & Earleywine, 2010), and (c) has been used in a similar study on sexual assault survivors for measuring depressive symptoms (Najdowski & Ullman, 2011).

Psychometrics of the CEDS-R

Skorikov and VanderVoort (2003) administered the original BDI and CES-D to participants (N = 261) ages 18 to 54 (mean =26.9, SD = 8.9) in an effort to compare latent variables of the two depression scales. The researchers found reliability of the CES-D (a = .90) was greater than the BDI (a = .87). The correlation between the two scales was .75 (p < .0001). The researchers noted the BDI and CES-D did measure different constructs (e.g., latent variables) of depression, because psychometric correlation would be expected to be in the range of .9 to 1.0. Skorikov and VanderVoort, (2003) highlighted the CES-D was suggested for nonclinical populations, as the scale may detect differences of depressive symptomology in the general population (Santor,

Zuroff, Cervantes, Palacios, & Ramsey, 1995) and was correlated with dysthymia (Wilcox, Field, Prodromidis, & Scafidi, 1998) whereas the BDI was correlated with major depression (Wilcox et al., 1998).

The CESD-R (Eaton et al., 2004) revisions aligned with the nine symptoms of major depressive episode according to the DSM-IV: (a) *sadness* (dysphoria), (b) *loss of interest* (anhedonia), (c) *appetite*, (d) *sleep*; (e) *thinking/concentration*, (f) *guilt* (worthlessness), (g) *tired* (fatigue), (h) *movement* (agitation), and (i) *suicidal ideation*.

The updated CES-D (i.e., CESD-R) is a 20-item scale measuring possible depressive symptom of a major depressive episode (DSM-IV). The scale consists of 5-point Likert-type style items ranging from "not at all or less than one day" to "nearly every day for two weeks" to indicate participants' depressive systems over the past two weeks. The following are a few examples of questions pertaining to their specific domain. The domain of *suicidal ideation* includes questions like: "I wished I were dead;" and "I wanted to hurt myself." The domain of *sadness* (dysphoria) includes questions like, "I could not shake off the blues;" and "I felt sad." The domain of *sleep* includes questions like, "My sleep was restless;" and "I had a lot of trouble getting to sleep." The domain of *thinking/concentration* includes questions like: "I had trouble keeping my mind on what I was doing;" and "I could not focus on the important things."

In a sample of 6,971 participants, the CESD-R was found to have excellent internal consistency (Cronbach's α=0.923). In a second sample of 2,243 participants, the CESD-R was again determined to have excellent internal consistency (Cronbach's α=0.928). In addition, the CESD-R was found to have excellent convergent and divergent

validity through a series of exploratory and confirmatory factor analyses. The strong

psychometric properties suggest the CESD-R is an invaluable measurement for assessing

depression among the general population (Dam & Earleywine, 2010).

Trauma-Related Guilt Inventory (TRGI)

The TRGI (Appendix I) was developed by Kubany et al. (1996) and has been used

to measure trauma-related guilt determined by three subscales: *global guilt* (4 items),

guilt-related distress (6 items), and *guilt cognitions* (22 items). The 32-item inventory

utilizes a 5-point Likert-type rating scale ranging from "extremely or always true" to

"not at all or never true". Kubany and colleagues (1996) reported internal-consistency

estimates in a study of battered women: *Global guilt* (a=.90) is measured by 4 items

and includes such statements as "I experience intense guilt that relates to what

happened". *Guilt-related distress* (a=.86) is measured by 6 items and includes such

statements as "I experience severe emotional distress when I think about what

happened." *Guilt cognitions* (a=.86) is measured by 22 items and includes such

statements as, "I blame myself for something I did, thought, or felt." Per each of the

subscales, higher scores indicate greater guilt levels.

Psychometrics of the TRGI.

The TRGI has excellent factor structure and convergent validity. Internal

consistency is strong for each scale (alphas ranging from .86 to .90). Additionally, test-

retest reliability ranges from .73 to .86. Kubany and colleagues (1996) identified the

constructs of guilt and then examined convergent and discriminant validity through a

series of seven studies. The authors identified that TRGI scales and subscales were highly correlated with PTSD, depression, self-esteem, social anxiety and avoidance, and suicidal ideation.

<center>Research Design</center>

A descriptive, correlational research designed was implemented using structural equation modeling (SEM). Correlational research evaluates variable relationships while excluding any researcher manipulation (Gall et al., 2007; Heppner, Wampold, & Kivilighan, 2008); SEM is a correlational statistical procedure that vastly reduces measurement error. Correlational research specifies the strength of variable relationships without indicating causation (Graziano & Raulin, 2004), and descriptive correlational research allows researchers to examine constructs of interest with predictive outcomes, thus identifying potential cause and effect relationships (Tabachnick & Fidell, 2013). SEM is a sophisticated data analysis procedure that increases the researcher's ability to predict causal relationships among the variables (Graziano & Raulin, 2004; Hair et al., 2010; Tabachnick & Fidell, 2013).

Validity in research design is fundamental (Graziano & Raulin, 2004) and consists of: (a) construct validity, (b) internal validity, and (c) external validity. Construct validity is sound when measured (e.g., manifest); variables represent the unobserved (e.g., latent) variables they are intended to represent (Hair et al., 2010). To increase construct validity of the surveyed assault victims, the researcher provided clear operational definitions of each construct and empirical support of the research hypotheses (Tabachnick & Fidell, 2013). The researcher implemented a confirmatory

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factory analysis (CFA) of each data collection instrument. Internal validity is necessary in correlational research to help validate causal relationships or increase the researcher's ability to infer cause and effect. Internal validity is specifically related to instruments used for data collection (Fraenkel et al., 2012) and helps the researcher accurately report conclusions found based on their research design (e.g., instrumentation). Thus, choosing valid and reliable instruments (Graziano & Raulin, 2004) reduces threats to internal validity. Characteristic correlations (Fraenkel et al., 2012) was an anticipated threat to internal validity for this investigation, meaning participant characteristics may explain correlation between variables over the actual construct of investigation. Although characteristic correlations cannot be eliminated, they can be reduced. The researcher has collected demographics, which were used as a control during data analysis (e.g., differences and similarities of participant characteristics; covariates). Although King and colleagues (2014) suggested collecting demographics at several points during social media data collection, this was not possible because the researcher had not anticipated the need to switch from listserv data collection to social media.

Additionally, testing (Graziano & Raulin, 2004), is another common threat to internal validity, occurring when participants' item responses on one instrument influence their responses on subsequent instruments. Instrumentation (Graziano & Raulin, 2004) is a third threat to internal validity, occurring if an instrument does not accurately ensure the construct being investigated. To reduce instrumentation threats to internal validity, the researcher utilized highly validated instruments that were also used in similar sexual assault studies (Najdowski & Ullman, 2011; Ullman et al., 2007),

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which alternatively increased construct validity. The researcher accounted for measurement error, or the measured value and true value instrumentation differences (Graziano & Raulin, 2004), to reduce instrumentation threats to validity. A fourth threat to internal validity is environmental influence of participants' responses (Fraenkel et al., 2012), which is difficult to control for. Fifth, mortality is a threat to internal validity that is specific to correlational design, where individual characteristics influence those who choose to participate in the research and those who choose not to participate in the research. Mortality reduces generalizability of research results (Fraenkel et al., 2012). Due to the nature of this research study, mortality was an anticipated threat to internal validity. Specifically, prosocial individuals, or those who have advocacy traits, were more likely to participate; therefore, the variance among data (of participants' response) may have been limited. The final threat to internal validity is the self-report data collection (Fraenkel et al., 2012). However, to reduce manipulation of the data, a prime aspect of correlational research design, the researcher reduced control, allowing for environmental influence of the participants through self-reported research participation.

On the other hand, external validity is the ability to accurately generalize the results to a population (Fraenkel et al., 2012). External validity is threatened by participants' knowledge of being included in a study, thus influencing participants' assessment answers, especially for assessments of personal attributes (Heppner et al, 2008). The researcher did, however, share the goals of the study with participants (Dillman et al., 2009) in addition to a request for accuracy of participants' answers. Nevertheless, correlational research designs are vulnerable to threats to internal and

external validity. As such, the researcher implemented sound procedures, reliable and valid instruments, and the use of the structural equation model to reduce measurement error and foster valid and generalizable research results.

<center>Preliminary Research Questions</center>

1. To what degree does the latent variable emotional dysregulation, as measured by the instrument Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015), fit data collected from a sample of cyber-sexual assault survivors?

2. To what degree does the latent variable trauma guilt, as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) fit data collected from a sample of cyber-sexual assault survivors?

3. To what degree does the latent variable PTSD as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) fit data collected from a sample of cyber-sexual assault survivors?

4. To what degree does the latent variable depression, as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) fit data collected from a sample of cyber-sexual assault survivors?

<center>Primary Research Question and Hypothesis</center>

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of

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survivors of cyber-sexual assault. The secondary research analysis investigated whether
modeling the latent variables of emotional dysregulation and trauma guilt as mediating
variables on the direction and strength of relationship on the dependent variables of post-
traumatic stress disorder and depression was a good fit for data collected from cyber-sexual
assault survivors. The following section will introduce the primary and exploratory
research questions. Furthermore, this section will present the measurement and structural
models which are aligned with the preliminary research questions.

Primary Research Question 1

To what extent does modeling the latent variables emotional dysregulation (as
measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-
16] (Bjureberg et al., 2015); or trauma guilt as measured by the Trauma-Related Guilt
Inventory [TRGI} (Kubany et al., 1996) as the independent variable, where the remaining
latent variables of post-traumatic stress disorder as measured by the Impact of Events
Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the
Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al.,
2004) are modeled as dependent variables, provide a good fit for data collected from
cyber-sexual assault survivors.

Research Hypothesis 1 & 2

H_1: Modeling the latent variables emotional dysregulation as the independent variable
and trauma guilt, post-traumatic stress disorder, and depression as dependent variables
is a good fit for data collected from cyber-sexual assault survivors.

H_2: Modeling the latent variables trauma guilt as the independent variable and emotional dysregulation, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors.

Secondary (Post Hoc) Research Question 2

To what extent does modeling the latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015); or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as mediating variables; where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) are modeled as dependent variables, provide a good fit for data collected from cyber-sexual assault survivors.

Research Hypothesis 3 & 4

H_3: Modeling the latent variable emotional dysregulation as an independent variable, trauma guilt as a mediating variable, and post-traumatic stress disorder and depression as dependent variables, is a good fit for data collected from cyber-sexual assault survivors.

H_4: Modeling the latent variable trauma guilt as an independent variable, emotional dysregulation as a mediating variable, and post-traumatic stress disorder and depression

as dependent variables, is a good fit for data collected from cyber-sexual assault survivors.

<center>Exploratory Research Questions</center>

1. To what degree does the latent variable emotional dysregulation, as measured by the instrument Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) fit data collected from a sample of cyber-sexual assault survivors?

2. To what degree does the latent variable trauma guilt, as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) fit data collected from a sample of cyber-sexual assault survivors?

3. To what degree does the latent variable PTSD as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) fit data collected from a sample of cyber-sexual assault survivors?

4. To what degree does the latent variable depression, as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) fit data collected from a sample of cyber-sexual assault survivors?

<center>Data Analysis</center>

The data analysis will explore results generated by the General Demographics Questionnaire and the four instruments (a) emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg, 2015); (b) PTSD as measured by the Impact of Events Scale Revised [IES-R] (Weiss &

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Marmar, 1996); (c) depression as measured by Center for Epidemiologic Studies

Depression Scale Revised [CESD-R] (Eaton et al., 2004); and (d) trauma guilt as

measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996).

The data analysis utilized Statistical Program Systems Software (23rd[h] ed.) for

data cleaning and multiple regression analysis (SPSS, 2016); and the Analysis of

Moment Structure (23rd ed.) for structural equation modeling (SEM) analysis (AMOS,

2014). AMOS graphics 23 is SEM statistical software that allows the researcher to create

and translate path diagrams, and analyze the theorized models. AMOS examines and

addresses missing data, outliers, and variable transformations for a data set (Crockett,

2012). SEM statistical assumptions (i.e., normality, homogeneity, and multicollinearity)

were tested to determine that SEM analysis is the best data analysis route. In the

following section, the SEM data analysis procedures for testing the research hypothesis

and the exploratory research questions have been outlined.

The data was initially cleaned (e.g., examine missing data and find

uncompleted instruments). Deletion was used to clean the data (Tabachnick & Fidell,

2007) for instruments with missing data; up to 20% (i.e., no more than18 missing

items or at least 72 total items). Following this, statistical assumptions were tested for

normality, homogeneity, and multicollinearity to substantiate the appropriateness of

the data analysis through SEM and multiple regression.

<center>Statistical Power</center>

Statistical power is the probability of rejecting the null hypothesis when the

alternative hypothesis is true (e.g., increases the chance that a Type II error is not being

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committed). Power is important for most data analysis procedures but specifically for interpreting the data analysis results of SEM. Statistical power is determined through the effect size, sample size, and alpha level for the analysis (Balkin & Sheperis, 2011). Furthermore, statistical power is determined by sample size, degrees of freedom (df), and RMSEA (of H_1 and H_2). For this study, a usable sample of 89 was sought to demonstrate power of .8 (Gall et al., 2007; MacCallum et al., 1996).

<div align="center">The Hypothesized Theoretical Model</div>

Structural equation modeling (e.g. Latent Variable Modeling) is a data analysis process which enables a researcher to test hypothesized theories and constructs deduced via theory; and SEM is used to explain observed correlations, variances, or covariances among the variables. SEM is a sophisticated correlational research method for testing theories pertaining to causal relationships (Gall et al., 2007). SEM is a confirmatory procedure that combines multiple regression analysis, path analysis, confirmatory factor analysis, and exploratory factor analysis (Schumacker & Lomax, 2010; Tabachnick & Fidell, 2007). SEM examines directional relationships of variables (Tabachnick & Fidell, 2007). This data analysis procedure (SEM) was used to test the proposed theoretical model.

The hypothesized, theoretical model contains latent and manifest variables. The latent variables are (a) emotional dysregulation; (b) depression; (c) PTSD; and (d) trauma guilt, which are represented by circles. The directionality of relationships between variables are represented by arrows, and two way arrows represent correlated variables. These latent variables (i.e., emotional dysregulation, depression, PTSD,

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trauma guilt) consist of factors that are observed or manifest variables (e.g., measured variables) which are represented by squares. The latent variables are hypothesized to be influenced by the factors, or the observed and measurable variables. Furthermore, SEM consists of two types of models: (a) the measurement model (e.g., confirmatory model) that identifies which manifest variables contribute to each of the latent variables (Schumacker & Lomax, 2010); and (b) the structural model (e.g., distinguishes the relationships among the constructs). Lastly, a strength of SEM is the capability to estimate and remove measurement error, thus increasing reliability (Schumacker & Lomax, 2010).

Figures 1-12 display the hypothesized measurement model path diagrams. Figures 1, 2, 3, and 4 presents the hypothesized path model. Figures 5, 6, 7, and 8 contain the hypothesized measurement model path diagrams for each latent factor. Figure 9 is a graphic representation of the hypothesized theoretical structural model, and Figure 10 is a graphic representation of the second hypothesized theoretical structural model (when modeling the independent variables both ways). Figure 11 is a graphic representation of the hypothesized theoretical structural model, and Figure 12 is a graphic representation of the second hypothesized theoretical structural model (when modeling the mediation both ways).
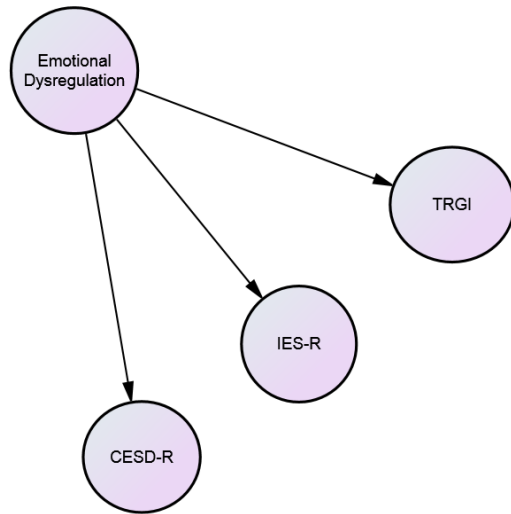
Figure 1. Hypothesized Path Model
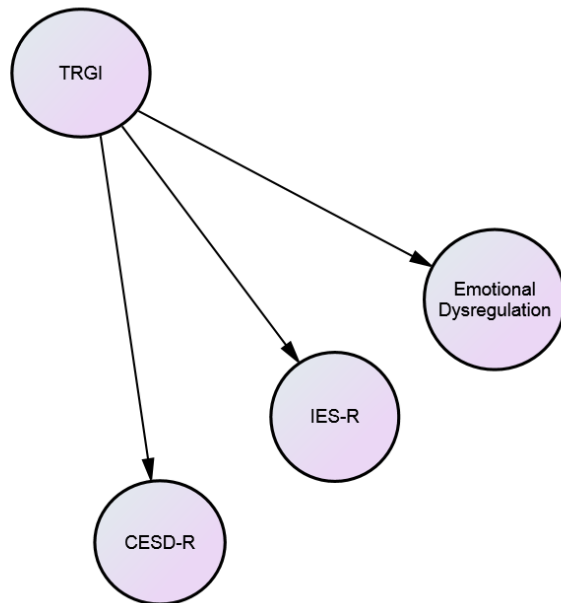
Figure 2. Hypothesized Path Model
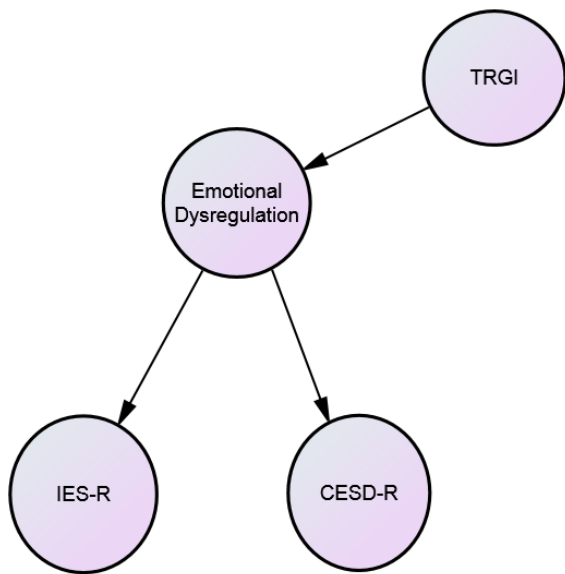
Figure 3. Hypothesized Path Model
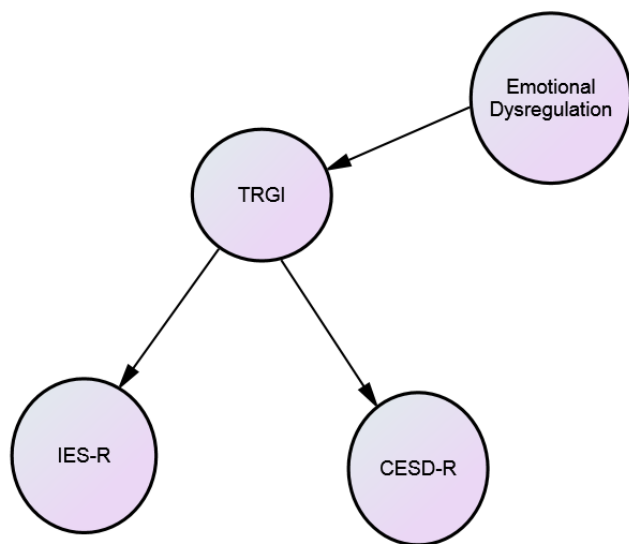
Figure 4. Hypothesized Path Model
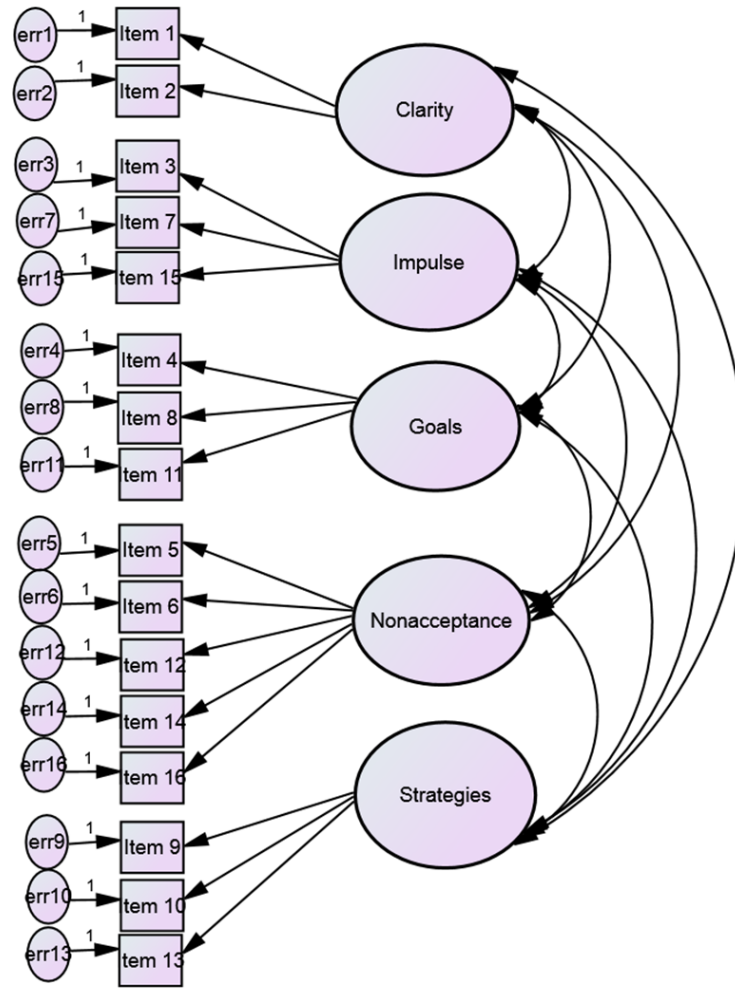
Figure 5. Hypothesized Emotional Dysregulation (DERS-1) Measurement Model Path Diagram
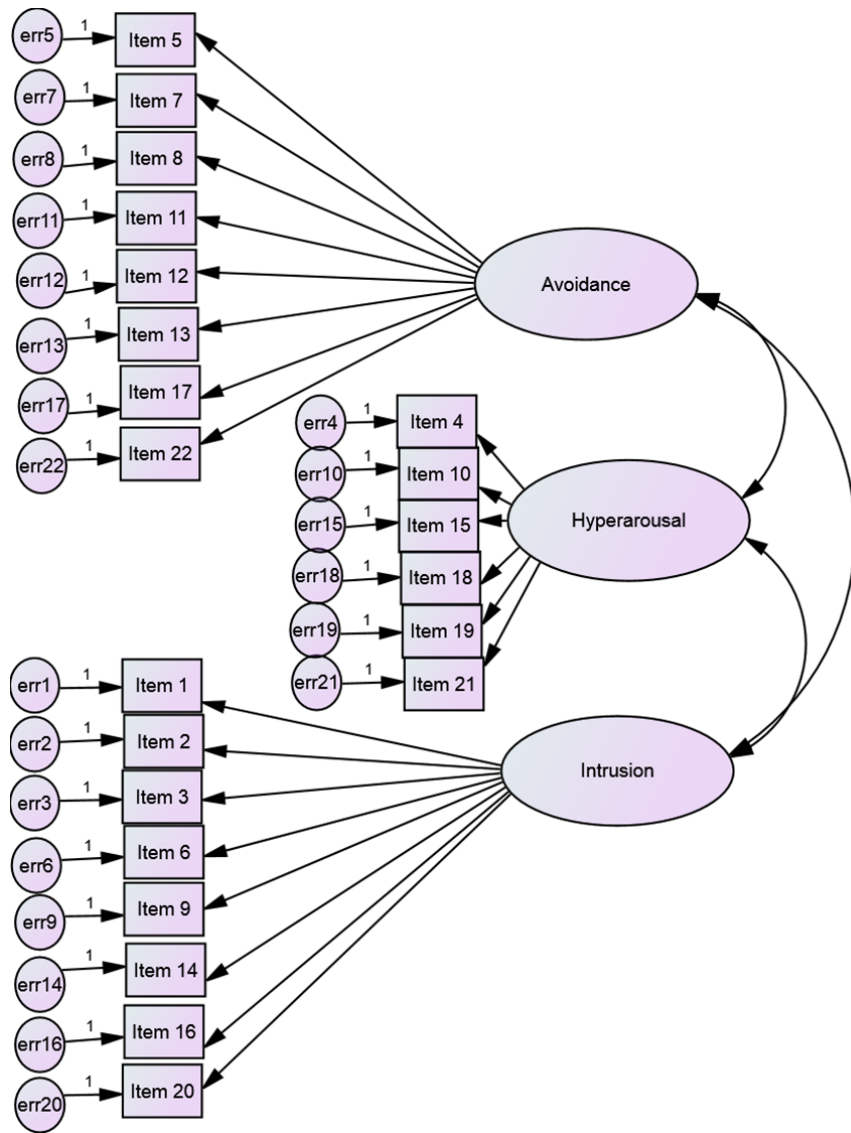
Figure 6. Hypothesized PTSD (IES-R) Measurement Model Path Diagram
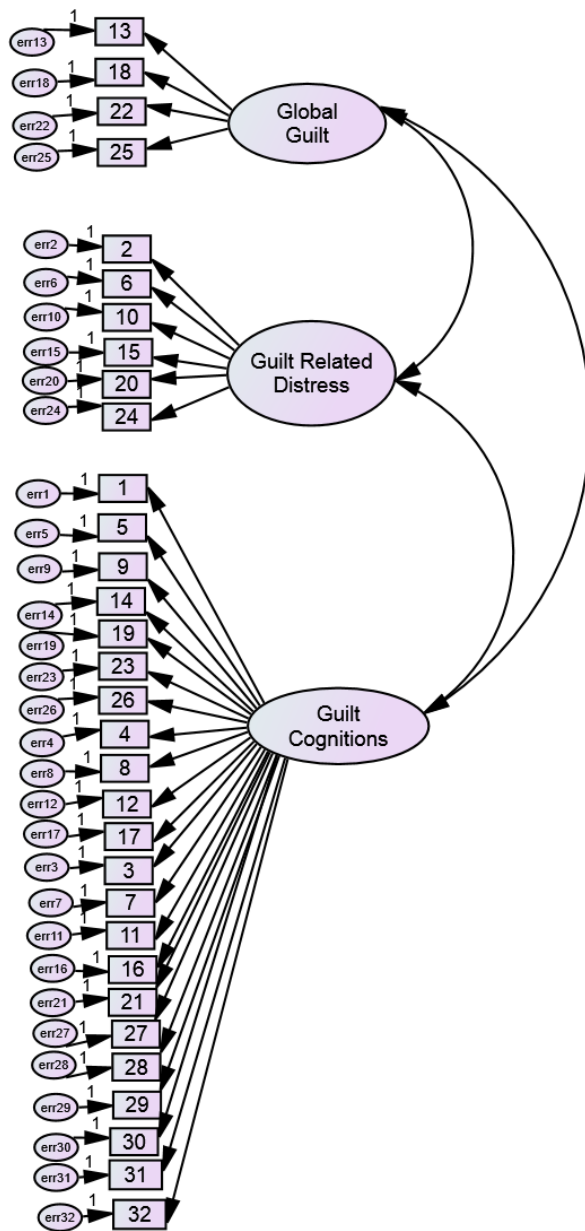
Figure 7. Hypothesized Trauma Guilt (TRGI) Measurement Model Path Diagram
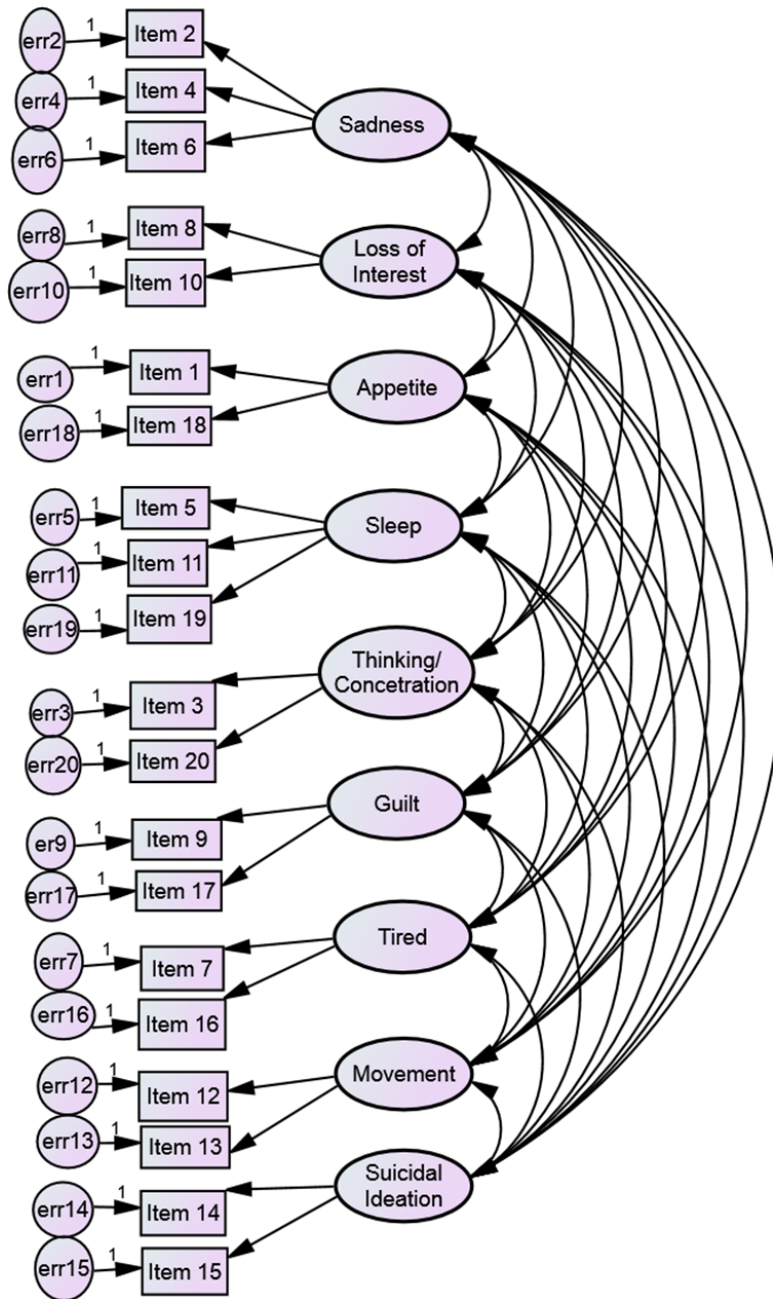
Figure 8. Hypothesized Depression (CESD-R) Measurement Model Path Diagram

Figure 9. Hypothesized Theoretical Model 1 (Structural Model)
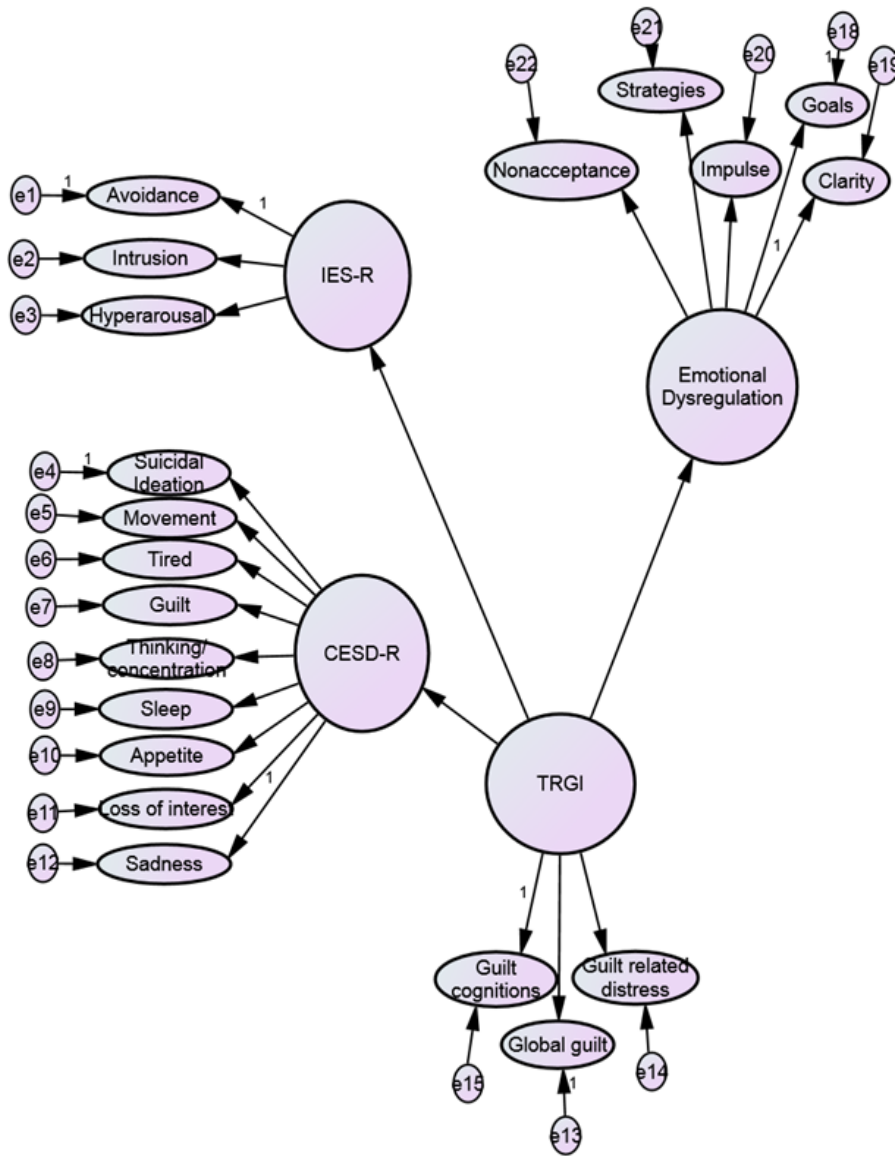
Figure 10. Hypothesized Theoretical Model 2 (Structural Model)
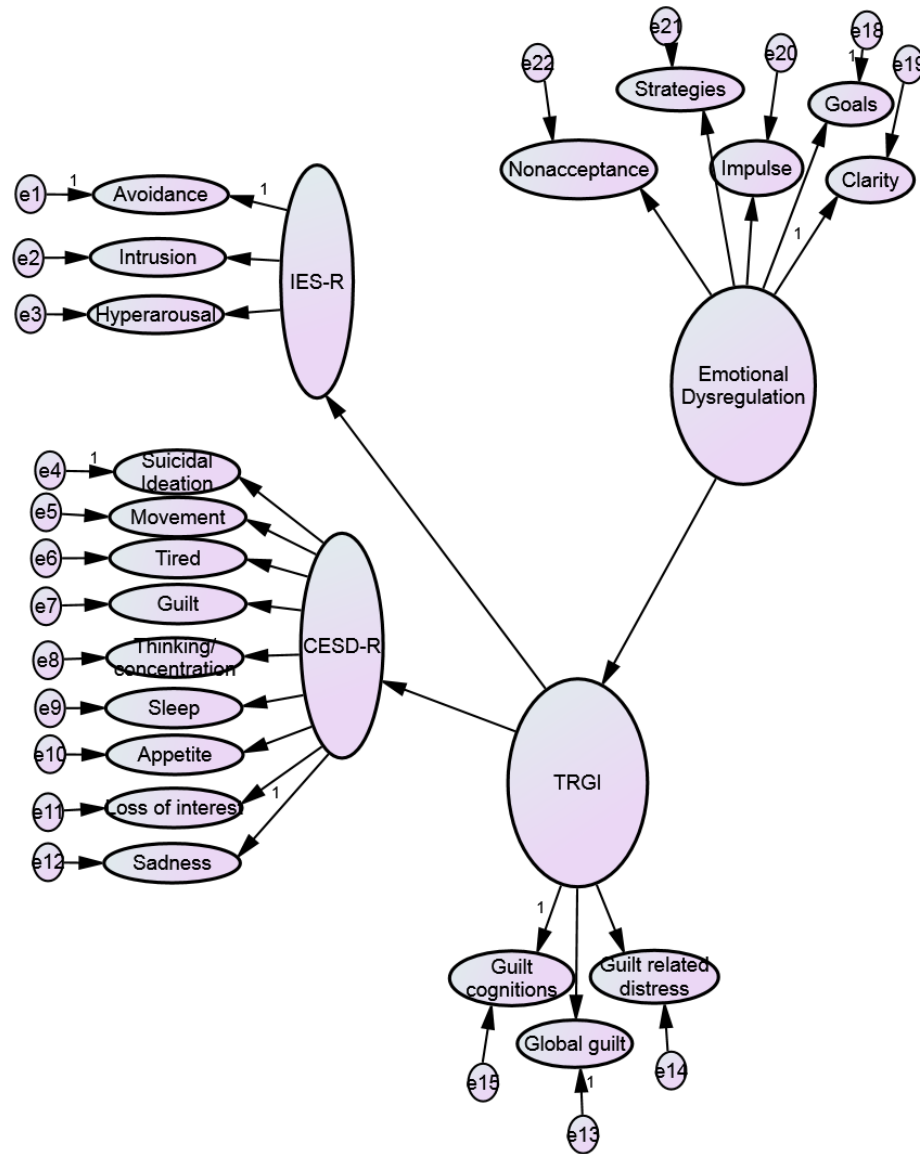
Figure 11. Hypothesized Theoretical Model 3 (Structural Model)
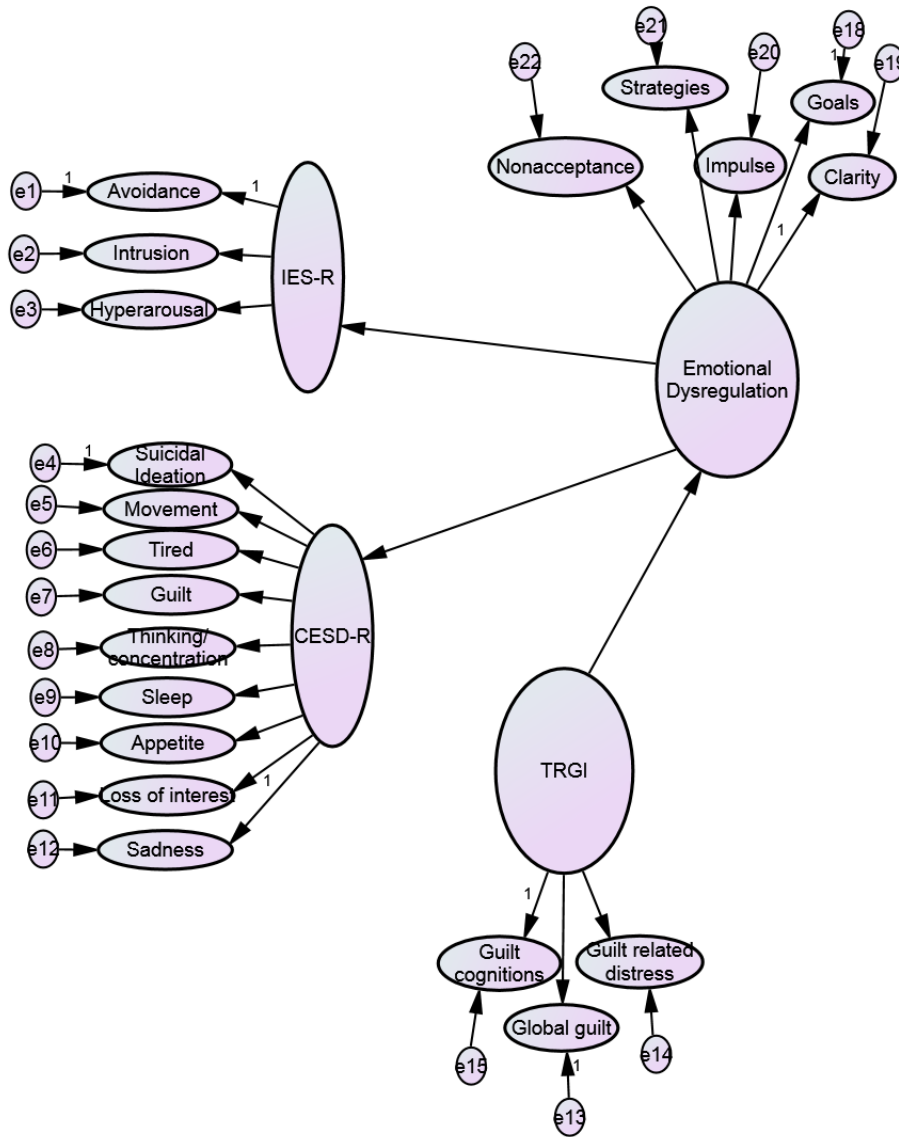
Figure 12. Hypothesized Theoretical Model 4 (Structural Model)

The hypothesized theoretical model (structural model) of the primary research question is presented in Figure 9 and Figure 10. The hypothesized model was used to examine the correlation of cyber-sexual assault with emotional dysregulation and trauma guilt; and depression and PTSD. Figure 9 models emotional dysregulation as the independent variable; Figure 10 models trauma guilt as the independent variable. The hypothesized theoretical model (structural model) of the secondary (post hoc) research question is presented in Figure 11 and Figure 12. The hypothesized model was used to examine the correlation of cyber-sexual assault with emotional dysregulation and trauma guilt; and depression and PTSD. Figure 11 models trauma guilt as the mediator; Figure 12 models emotional dysregulation as the mediator. A four-factor model of emotional dysregulation, depression, PTSD, and trauma guilt is hypothesized (latent variables represented by circles). The latent variables are represented by circles. The manifest variables are represented by squares. A directional arrow represented the hypothesized direct effect.

Emotional dysregulation is a latent variable with three direct measured indicators: (a) emotion regulation and related constructs; (b) psychopathology including depression, anxiety, and borderline personality disorder symptoms; and (c) clinically-relevant behaviors to deficits in emotion regulation, including deliberate self-harm and hazardous alcohol use, or 17 measured items. Depression is a latent variable with nine direct measured indicators: (a) sadness/dysphoria, (b) loss of interest/anhedonia, (c) appetite, (d) sleep, (e) thinking/concentration, (f) guilt, (g) tired/fatigue, (h) movement/agitation, and (i) suicidal ideation, or 20 measured items. PTSD is a latent variable with three direct

measured indicators: (a) avoidance, (b) intrusion, (c) hyperarousal, or 22 direct measured

items. Trauma guilt is a latent variable with four direct measured indicators: (a) global

guilt, (b) hindsight bias, (c) lack of justification, and (d) wrongdoing, or 32 direct

measured items.

It is hypothesized that the experience of cyber-sexual assault will predict *higher*

levels of emotional dysregulation and trauma guilt; and therefore *higher* levels of

depression, and PTSD. In addition, it is hypothesized that when comparing two models

(emotional dysregulation influencing trauma guilt, depression, and PTSD; trauma guilt

influencing emotional dysregulation, depression, PTSD), the latent variables will be

statistically significant (e.g., higher levels of variance) for the model of best fit.

The following section outlines the required statistical assumptions of SEM: (a)

linearity of relationships of measured variables are examined via the screen plot; (b)

multivariate normality and outliers are examined; (c) multicollinearity and singularity are

absent; and (d) residuals are symmetrical or close to 0; examined via frequency

distribution of the residual covariances (Tabachnick & Fidell, 2007). Furthermore, SEM

analysis is a sequential process of five steps, each essential to conducting a SEM model.

The steps are as follows: (a) model specification, (b) model identification, (c) model

estimation, (d) model evaluation, and (e) model modification (Crockett, 2012; O'Rourke

& Hatcher, 2013; Schumacker & Lomax, 2010; Ullman, 2007). These necessary steps

were applied to the collected data.

First, model specification*,* considered the hardest part of SEM, applies relevant

research to create a theoretical model (Crockett, 2012). Prior to data collection, the

researcher identifies any variance or co-variance data, or any relationships among the variables (O'Rourke & Hatcher, 2013). Additionally, these paths are displayed in a model developed from SEM software (e.g., AMOS).

Second, model identification occurs when model parameters are set, allowing the researcher to add necessary constraints to ensure the model being tested will produce interpretable results. Creating a measurement model helps the researcher determine which latent variables measure the manifest variable (e.g., determines if the scale measures the constructs intended to measure for this specific population). A second method of inserting parameters includes determining if the model is recursive (latent variables do not influence one another) or a nonrecursive model (a bi-directional relationship where the latent variables do influence one another). Last, a parsimonious model is suggested to begin, where parameters can be added accordingly (Schumacker & Lomax, 2010). MacCallum et al. (1996) discouraged a substantial number of parameters, as a high number has resulted in finding significance solely based on chance. For this process, the measurement model is identified first, followed by the structural model.

A measurement model examines the relationship between the observed measures and their latent variables using a confirmatory factor analysis (CFA). Factor structures (relationship among latent and manifest variables) within a CFA are hypothesized a priori, as shown in Figure 6/Figure 7, and then empirically validated. A CFA allows for items (i.e., indicators) to load on multiple latent variables, and a CFA also allows for the covariance of errors. The results of a CFA indicate which items are significant contributions to the model through examining their factor loadings: 0.32 is poor, 0.45 is

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fair, 0.55 is good, 0.63 is very good, and 0.71 is excellent (Tabachnick & Fidell, 2007). Similarly, the latent factors (also determined a priori) are tested for their significant contributions to the model (Schumacker & Lomax, 2010). O'Brian's (1994) rules were suggested to further examine the measurement model's identification.

In summary, confirmatory factor analysis tests whether the predicted latent variables underlie the manifest variables as hypothesized (O'Rourke & Hatcher, 2013). To answer the preliminary research questions, the researcher began with an EFA. As the measures have valid and reliable constructs, sufficient evidence exists to predict the factors which underlie the manifest variables (set of scores). The Exploratory Factor Analysis (EFA) was used, because four instruments are being used in the data collection; as such the EFA was applied to determine which underlying factors are responsible for covariation in the data, in other words to identify to underlying factor structure of the data. An EFA is used if the CFA does not fit the data as predicted (O'Rourke, Norm, & Hatcher). A CFA was used secondary to the EFA.

A structural model (i.e., the relationship between the latent variables; Byrne, 2010) can be identified through the use of Bollen's (1989) recursive rule and t rule. The structural model is theory driven, hypothesized a priori, and the latent variable contributions to the model are verified empirically. Following model specification and model identification, was the third stop of model estimation, which allows for determining the value (and associated error) of the free parameters. Maximum likelihood estimation (ML) is the most common method used for estimating parameters that result in the best fitting for the model to the data. Forth, model testing occurs after the parameters

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are set (e.g., goodness-of-fit). The researcher tests the model to learn how well the data fits the estimated model (Schumacker & Lomax, 2010). Fifth, model modification is adjusting the theoretical model to fit the data by freeing or setting parameters (Schumacker & Lomax, 2010; Weston & Gore, 2006). In essence, this function allows the researcher to modify the model (e.g., pathways, co-variance) to determine what model fits the data best, based on theory as well. Considered an exploratory procedure, completion of model modification allows the researcher to determine the model of best fit.

In sum, an overview of the SEM steps follows. First, the researcher developed the theoretical model based on empirical support gathered from a review of the literature. Second, the researcher examined and modified measurement models by implementing an EFA first, followed by the CFA (e.g., examining and adjusting necessary factor loadings). Third, the researcher identified the model parameters by examining: (a) the signage (+ / - values) and size;(b) overwhelmingly large or small standard errors as these reflect the precision of the estimated parameter, and (c) critical ratio (CR; must be $> \pm$ 1.96 based on a probability level of .05). Fourth, to learn whether the model was a good fit for data collected from cyber-sexual assault survivors, the researcher examined the goodness-of-fit statistics (i.e., CFI, RMSEA, GFI, SRMR). Following this, the researcher modified the model through either freeing or setting parameters, while keeping mind common SEM issues (e.g., sample size and missing data; normality of sampling distributions; outliers; linearity; adequacy of covariances; identification; path diagram-hypothesized model; estimation method) as suggested by Ullman (2007).

Following is Ullman's (2007) SEM Checklist to be used in identifying (a) issues, major analyses, and additional analyses:

1. Issues: sample size and missing data; normality of sampling distributions; outliers; linearity; adequacy of covariances; identification; path diagram-hypothesized model; estimation method.

2. Major analyses: assessment of fit (Residuals; Model chi square; Fit indices (see Table 1); Significance of specific parameters; Variance in a variable accounted for by a factor).

3. Additional analyses: Lagrange Multiplier test; testing of parameter to identify model of best fit; wald test for dropping parameters; correlation between hypothesized and final model or cross-validated model; diagram-final model.

Table 1

Fit Indices to Identify Model of Best Fit (i.e., good fit)

Statistical Test	Significance
Chi-Square ($\chi 2$)	$<.2$
Comparative fit index (CFI)	$>/= .95$
Root mean squared error of approximation (RMSEA)	$</= .07$
Goodness of fit index (GFI)	$>/= .90$
Standardized root mean squared residual (SRMR)	$</= .06$

Note. Adapted from Fan & Sivo, 2005; Hu & Bentler, 1999; MacCallum et al., 1996; McMullin, P., 2014.

Statistical Methods Utilized for Exploratory Questions 1-4

Exploratory Research Questions 1 - 4

The purpose of Exploratory Research Questions 1, 2, 3, and 4 was to examine the differences and relationships among selected demographic data and latent variables associated with trauma symptomology (emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault.

Statistical Methods

The exploratory research questions were examined by using multiple statistical analysis. The researcher began by examining the descriptive statistics or the data collected by the instruments. A Spearman's Rho was used to examine the relationships of ordinal data. A regression was used (via PROCESS) to examine if the independent variables or demographic variables predicted the outcomes variables through a mediation effect. The regression procedure (via PROCESS) enables researchers to explore the predictive ability of one independent variable on a single, continuous dependent measure (Pallant, 2010). Analysis of variance (ANOVA) was employed to determine mean differences for sexual assault and cyber-sexual assault victims score on the data collection instruments (DERS-16, IES-R, CESD-R, TRGI) and their reported demographics (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors); ANOVA examines variability of scores both within a group (e.g., sexual assault; cyber-sexual assault) and between different groups (outcome variables for sexual assault and cyber-

sexual assault victims). T-tests were used relationships among selected demographic data and latent variables associated with trauma symptomology (emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault.

Dependent and Independent Variables

Independent/Exogenous Variables

Emotional dysregulation, depression, PTSD, and trauma guilt are the latent dependent variables for this study. Emotional dysregulation is one of the two hypothesized independent, latent variables and is comprised of three manifest variables: (a) emotion regulation and related constructs; (b) psychopathology; and (c) clinically-relevant behaviors to deficits in emotion regulation. Emotional dysregulation was chosen to be examined as an independent variable, because difficulties regulating emotions theoretically influences the degree of psychopathology for sexual assault victims (Najdowski & Ullman, 2011). Maladaptive coping skills result from sexual assault; thus, theoretically the variable of emotional dysregulation will be affected by the experience of cyber-sexual assault, while also correlating with the variables of trauma guilt, depression, and PTSD.

Trauma guilt is the second, of the two, hypothesized independent latent variables, and is comprised of three manifest variables: (a) global guilt; (b) guilt-related distress; and (c) guilt cognitions. Trauma guilt was chosen to be examined as a potential independent variable because guilt is common among trauma survivors, especially victims of sexual assault (Kubany et al, 1996). Theoretically, this variable may be most

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impacted by the experience of cyber-sexual assault. Lastly, Kubany et al. (1996) noted that guilt alone is the most influential factor regarding the persistence of PTSD and depression, when compared to any other variable, and is thus expected to correlate with these variables.

Lastly, the demographic variables were examined in the exploratory analyses, and entered as independent variables. The reported demographic variables explored included: (a) biological sex, (b) sexual orientation, (c) relationship to perpetrator, (d) sexual assault history, (e) whether or not material was still online, and (f) hypervigilance of checking online material. The chosen demographics were non-identifying and capable of finding similarities and/or differences among survivors.

Dependent/Endogenous Variables

Depression is a latent, outcome variable represented by nine manifest variables: (a) sadness/dysphoria; (b) loss of interest/anhedonia; (c) appetite; (d) sleep; (e) thinking/concentration; (f) guilt; (g) tired/fatigue; (h) movement/agitation; and (i) suicidal ideation). Depression was chosen as a dependent variable because numerous research studies identified this as a criterion of post sexual assault. As such, theoretically, this variable may be most correlated with the experience of cyber-sexual assault.

PTSD is a latent, outcome variable comprised of three manifest variables: (a) avoidance; (b) intrusion; and (c) hyperarousal. PTSD is the most common acute

symptomology for sexual assault victims. Theoretically, this variable may be most correlated with the experience of cyber-sexual assault.

Ethical Considerations

Ethical considerations that were considered by the Institutional Review Board (IRB) and the researcher's dissertation committee follow. First, all data were collected confidentially to protect the identity of participants, thus no identifying personal information were collected. Second, participation in the study was voluntary and individuals could discontinue the survey at any point, without repercussion. Third, all participants were informed of their rights; and were given an explanation of research. Forth, when exiting the survey, at any point, all participants were provided with a list of mental health resources. Fifth, the study was approved by the IRB at the University of Central Florida. Sixth, permission to use the instruments was obtained by the developers of each data collection instrument; (a) DERS-16 (Bjureberg et al., 2015); (b) IES-R (Weiss & Marmar, 1996); and (c) CESD-R (Eaton et al., 2004) (Appendix B); permission to use TRGI (Kubany et al., 1996) was obtained via copyright purchase. Finally, the study was conducted upon approval of the dissertation chair and committee members.

Limitations of the Study

Researchers have substantiated that shorter recall periods for violence against women (VAW) increases data accuracy (Cantor & Lynch, 2000). However, Kilpatrick (2004) urged that ignoring data collection on matters of violence against women has a negative impact on incidence and prevalence. For example, using longer timeframes may

produce higher estimates of prevalence increasing accuracy. The length of recall is not to

increase prevalence for this study, however. For cyber-sexual assault, there is no current

national resource; thus, survivors may be reaching out for help at various points of their

recovery. Furthermore, regarding limitations for studying victims of sexual assault,

Kilpatrick (2004) posited that systematic data collection on violence against women may

be hindered by inadequate definitions, exclusion of violence committed by acquaintances

or strangers, and history of exposure to violence. A more thorough and streamlined

approach to data collection was suggested. In essence, because no universal definition of

cyber-sexual assault exists, systematic data collection is hindered.

In addition to limitations specific to sexual assault research, threats to construct,

internal, and external validity within descriptive correlational research were prevalent,

though the researcher made efforts to reduce these. Self-report instrumentation may

increase bias of participant response. Participant characteristics may have limited variance

(within the group), as individuals who choose to complete the instruments may have

similar characteristics. Additionally, extraneous variables (i.e., independent variables which

haven't been controlled) are variables that are not being tested, but they can affect the

outcome (Fraenkel & Wallen, 2006). SEM was used to decrease measurement error.

However, Tabachnick and Fidell (2013) highlighted that all data collection instruments

with strong psychometric properties inevitably have some degree of measurement error.

Lastly, there is always the possibility for researcher bias based on the sample and

instrumentation chosen.

<u>Summary</u>

In summary, this study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable; where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Furthermore, the *post hoc* analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors. Finally, additional *post hoc* analyses examined differences and relationships among selected demographic data and latent variables associated with trauma symptomology (emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault.

In this chapter, the researcher provided a description of the population and sample; ethical considerations and limitations; data collection; instrumentation; research design; research hypothesis and exploratory questions; and data analysis. In addition, the manifest and latent variables, in addition to the endogenous (i.e., dependent) and exogenous (i.e., independent variables) were presented. Chapter 4 contains a summary of the analysis of the data followed by a concluding discussion of the findings in Chapter 5.

CHAPTER 4
RESULTS

<u>Introduction</u>

Chapter 4 presents the results of the research hypothesis and exploratory

questions investigated in this study. This study was conducted to investigate the direction

and strength of relationships among latent variables associated with trauma

symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder,

and depression) in a sample of survivors of cyber-sexual assault. Four preliminary

research questions, one research question and two research hypotheses, one secondary

(post hoc) research question and two hypotheses, and four post hoc, exploratory research

questions were used to guide the study.

The purpose of this study was to investigate the direction and strength of

relationships among latent variables associated with trauma symptomology (i.e.,

emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a

sample of survivors of cyber-sexual assault. This investigation specifically tested whether

modeling latent variables emotional dysregulation as measured by the Brief Version of

the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or

trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al.,

1996) as the independent variable; where the remaining latent variables of post-traumatic

stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss &

Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies

Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent

variables, was a good fit for data collected from cyber-sexual assault survivors. The

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research goal was to investigate the direction of relationships for cyber-sexual assault and the constructs (i.e., emotional dysregulation, depression, PTSD, trauma guilt) to determine what influence cyber-sexual assault has on these constructs of sexual trauma. No research on mental health consequences of cyber-sexual assault exists, and the argument in the present study was that the psychological outcome for victims of cyber-sexual assault would be very similar to that for other sexual and violent crimes.

The researcher hypothesized that modeling the latent variables emotional dysregulation as the independent variable and trauma guilt, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors. The researcher conversely hypothesized that modeling the latent variables trauma guilt as the independent variable and emotional dysregulation, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors.

The research hypotheses were analyzed using the quantitative analysis of structural equation modeling (SEM). The exploratory research questions were analyzed using: (a) anova, (b) Spearmen rho correlation, and (c) t-tests. The results are presented in this chapter in the following order: (a) sampling and data collection procedures, (b) descriptive statistics used to examine the demographic data, and (c) data analysis per the primary and exploratory research questions.

<div align="center">Sampling and Data Collection Procedures</div>

This investigation was conducted to examine individuals who had experienced cyber-sexual assault (aka "revenge porn" and "nonconsensual pornography"). This study

included individuals who also experienced some form of prior sexual assault (e.g., childhood sexual assault; adult sexual assault) due to the high prevalence rates of revictimization (Classen et al. 2005; Grauerholz, 2000). The study did not include individuals who solely experienced sexual assault. Further, the study did not seek participants who solely experienced cyber-sexual assault due to the unlikeliness of experiencing only one lifetime sexual assault (e.g., revictimization; Classen et al., 2005).

The U.S. Department of Justice's National Crime Victimization Survey (NCVS) reported sexual assault (e.g., rape) impacts an average of 293,066 victims each year. Prevalence numbers for cyber-sexual assault victims have been substantially harder to determine, however (Citron & Franks, 2014). Consequently, to generalize the results for the psychological impact of cyber-sexual assault to the population of sexual assault ($N = 293,066$) with a 95% confidence level, a minimum sample of 89 was required (a small to medium effect size (.22); high power (.8); with five latent variables and 20 observed or manifest variables; and a probability of $p < .05$ was employed; Soper, 2016). A convenience sample of participants was selected in this study. The researcher contacted two nonprofit organizations that help survivors of sexual assault or cyber harassment. The researcher gained access to: (a) approximately 1,600 participants from Rape, Abuse and Incest National Network (RAINN); and (b) approximately 800 participants from Cyber Civil Rights Initiative (CCRI). The researcher also initiated a snowball sample through use of CCRI's online web campaign, and social media account of Twitter (King et al., 2014).

The four instruments and demographic questionnaire were converted onto Qualtrics; an online survey generator. The online survey in this study was distributed

electronically to all participants; it was also briefly posted on CCRI's website (approximately two weeks). Dillman et al.'s (2009) Tailored Design Method to data collection was initially utilized for survey implementation. Due to participant complaints, the Tailored Design Method that suggested multiple email contacts for participant recruitment was terminated. For sensitive populations, like sexual assault and cyber-sexual assault victims, the use of systematic, multiple emails for recruitment appeared insensitive and burdensome. Consequently, data collection through social media (King et al., 2014) was implemented via CCRI's website, and conversely advertised (twice) through their CCRI Twitter account. The initial email included: (a) information about the study, (b) information about IRB approval, (c) information about the $1.00 incentive (donation), and (d) a link to participate. Similarly, for the online recruitment, the initial information included: (a) information about the study, (b) information about IRB approval, and (d) a link to participate where: (a) the informed consent was provided, and (b) information about the $1.00 incentive was provided. The data collection took place over a four-week period.

Descriptive Data Results

Response Rate

Approximately 1,600 RAINN members were invited to participate in the research. Approximate 800 individuals who had contacted CCRI regarding cyber-sexual assault were invited to participate in the research. Previously noted, the survey instrument was transferred online to the CyberCivilRights.org website for a total of approximately four weeks. Given that the number of individuals who accessed the website freely is unknown, the researcher based response rate on solely listserv invitations. In sum, a total estimated

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2,600 individuals were recruited from the listservs "RAINN" and

"CyberCivilRights.org". Before eliminating cases through data cleaning, the original

number of participants ($N = 213$) who responded yielded an 8.3% response rate.

Conversely, after data cleaning which is explained in the following paragraph, this

number was reduced to 145. After the systematic elimination of cases (based on

incomplete surveys) a frequency was run for the question, "Have you ever been cyber-

sexually assaulted?" to learn what portion of respondents had, in fact, experienced cyber-

sexual assault. A portion of the individuals ($N = 97$) who completed the survey responded

with "yes." This means that some individuals ($N = 48$) who reported "no" to the question,

"Have you ever been cyber-sexually assaulted?" were removed for essentially not

meeting the criteria of having experienced cyber-sexual assault. Thus, 97 cases total were

retained. Given the number of observed (20) and latent variables (5) within the SEM

model, a statistical power level of 0.8 (to reduce the likelihood of making a Type II error

or failing to reject a false null hypothesis; Balkin & Sherpis, 2011), a small (to medium)

effect size of .22 aiding generalizability, with a 95% confidence interval (i.e., probability

level of 0.05), the sample size needed to draw generalizable conclusions (e.g., detect

effect) was 89.

     Regarding data cleaning, two criteria were applied to remove cases for

participants who: (a) had over 20% missing information (which allowed for 18 missing

scale items or 72 minimum scale items); or (b) reported they had not been cyber-sexually

assaulted. Thus, the total number of participants who reported "yes" for having

experienced cyber-sexual assault, and had also completed over 80% of the instruments

yielded a 3.75% usable response rate ($N = 97$). Cook, Heath, and Thompson (2000) reported educational psychology studies that utilized electronic surveys generated an average response rate of 35%; and a review by Cantor et al. (2015) noted sexual assault survey response rates ranged from 30% to 86%. Conversely, this research response rate of 3.75% was below expectations, and this limitation will be discussed further in Chapter 5.

Participant Demographics

Descriptive data and measures of central tendency are presented for all participants in the study ($N = 97$). The following descriptive analyses reported include the entire sample ($N = 97$; see Table 2). The majority of participants were female (n= 91, 93.8%), compared to individuals who identified as male (n = 6, 6.2%). The participants ranged in ages of 19-65 years (M = 32.03, SD = 9.93), with a mode of 23 years (n = 13, 13.4%). Race of participants ($N = 97$) was 63 (64.9%), mostly Caucasian/White, 8 (8.2%) Hispanic/Latino, 8 (8.2%) Asian, 5 (5.2%) African/African American/Black, 4 (4.1%) two or more races, 1 (1.0 %) American Indian or Alaska Native, 1 (1.0%) Native Hawaiian or Pacific Islander, and 7 (7.2%) participants reporting Other. Sexual orientation of participants ($N = 97$) was 81 (83.5%) mostly straight or heterosexual; 11 (11.3%) bisexual; 2 (2.1%) lesbian, gay, or homosexual; 1 (1.0%) other; and 2 (2.1%) chose not to report.

Table 2

Demographic Characteristics of Participants

Characteristics	Total (n)	Percentage
Age		
19-65	97	100.0
M=32.03, SD = 9.93		
Biological sex		
Male	6	6.2
Female	91	93.8
Trans	0	
Ethnicity		
African American Black	5	5.2
American Indian or Alaska Native	1	1.0
Asian	8	8.2
White (non-Hispanic	63	64.9
Hispanic or Latino	8	8.2
Native Hawaiian or Pacific Islander	1	1.0
Two or more races	4	4.1
Other	7	7.2
Total	97	100.0
Sexual orientation		
Bisexual	11	11.3
Heterosexual	81	83.5
Gay/Lesbian/Homosexual	2	2.1
Transsexual	0	0.0
Other	1	1.0
Chose not to report	2	2.1
Survey referral		
RAINN	11	11.3
CCRI	75	77.3
Other	9	9.3
Chose not to report	2	2.1

Characteristics	Total (n)	Percentage
Sexual Assault (SA)		
Yes	54	55.7
No	43	44.3
Number of Lifetime SA		
1-100	47	48.5
M=6.53		
Chose not to report	50	51.6
Cyber Sexual Assault (CBSA)		
Yes	97	100.0
No	0	
Number of Lifetime CBSA		
1-100	72	74.2
M=26.2, SD=43.2, Median 1.5		
Chose not to report	25	25.8
Relationship to perpetrator of CBSA		
Partner/Significant other	35	36.1
Marital partner	8	8.2
Friend	12	12.4
Casual relationship	14	14.4
Other (11 were unknown)	27	27.8
Chose not to report	1	1.0
When at its worst, frequency of online searching of material (photos/videos)		
Hourly	28	28.9
Daily	44	45.4
Once a week	6	6.2
Once a month	2	2.1
Never	10	10.3
Other	7	7.2
Is your material still posted online?		
Yes	41	42.3
No	30	30.9
Other (I don't know; 21, 81%)	26	26.8
Currently searching for online material		

Characteristics	Total (n)	Percentage
Hourly	0	0.0
Daily	14	14.4
Once a week	12	12.4
Once a month	24	24.7
Never	26	26.8
Other	20	20.6
Chose not to report	1	1.0

Note. Percentages may not equal 100% due to rounding

The majority of participants (N= 75, 77.3%) reported they were referred to the research by CCRI, compared to 11 (11.3%) who self-reported they were referred by RAINN, 9 (9.3%) participants reported other, whereas 2 (2.1%) chose not to report their method of referral. In regard to participants who had experienced cyber-sexual assault (N = 97, 100%), 54 (55.7%) had also experienced prior sexual assault, whereas 43 (44.3%) participants reported no previous sexual assault history. In regard to participants' (N = 97) experience with cyber-sexual assault (CBSA), participants' self-reported relationship status with their perpetrator was, 35 (36.1%) partner/significant other, 8 (8.2%) marital partner, 12 (12.4%) friend, 14 (14.4%) casual relationship, 27 (27.8%) other, and 1 (1.0%) choosing not to report their relationship status with the perpetrator.

The majority of participants (41, 42.3%) reported their material (photos and/or videos) were still posted online, compared to 30 (30.9%) who reported their material (photos and/or videos) were not currently posted online, and 26 (26.8%) who reported "other" regarding their material (photos and/or videos) still being accessible online. When it was at its worst, at the height of searching for their nonconsensual material (photos and/or videos), the majority of participants 44 (45.4%) reported searching for

their material daily, followed by 28 (28.9%) participants who searched hourly, and 6

(6.2%) who reported searching for their material once a week, 2 (2.1%) reported once a

month, 10 (10.3%) who reported never searching, and 7 (7.2%) of participants reported

other. When asked how often the participants presently searched online for their material,

participants who reported searching hourly decreased to 0 (0%), 14 (14.4%) reported

searching daily, 12 (12.4%) reported searching once a week, 24 (24.7%) reported once a

month, 26 (26.8%) reported never searching, 20 (20.6%) reported other, and 1 (1.0%)

chose not to report.

More than half (N = 54, 55.7%) of the respondents had experienced previous

sexual assault, in addition to their experiencing cyber-sexual assault. Regarding number

of lifetime sexual assaults experienced, 47 (48.45%) of the participants responded, and

reported a wide range for number of past sexual assaults 1-100 (M = 6.53). A few of the

non-numerical responses included: "Too many to count - throughout childhood;" "cannot

quantify;" "multiple assaults;" and "I lost count."

Regarding number of cyber-sexual assaults experienced, 72 (74.23%) of the

participants responded, and reported a wide range for number of cyber-sexual assaults

experienced, 1-100 (M = 26.2, SD = 43.2). A few of the individuals who did not quantify

the number of times they had experienced cyber-sexual assault, reported, "I don't know.

You cannot put a value on this because you cannot track your photos;" "Unsure of total

photos and websites;" "countless;" "ongoing;" "dozens."

Emotional Dysregulation

The Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16]

Bjureberg et al., 2015) was chosen to measure emotional dysregulation through assessing

emotion regulation difficulties of three overarching categories: (a) emotional regulation

and related constructs, (b) psychopathology, and (c) clinically-relevant behaviors

stemming from emotion regulation deficits. The DERS-16 is a self-report measure

designed to assess emotion regulation difficulties, does not include any reversed items,

and the scores are summed for a total score (ranging from 16-80). The DERS-16 is

comprised of five manifest constructs: (a) clarity (e.g., lack of emotional clarity, 2 items);

(b) goals (e.g., difficulties engaging in goal-directed behavior, 3 items); (c) impulse (e.g.,

impulse control difficulties, 3 items); (d) strategies (e.g., limited access to effective

emotion regulation strategies, 3 items); and (e) non-acceptance (e.g., non-acceptance of

emotional responses, 5 items). Cronbach's α assessing the internal consistency of the

overall DERS-16 instrument was .942, Clarity subscale was .884, Goals subscale was

.870, Impulse subscale was .920, Strategies subscale was .899, and Non-acceptance

subscale was .849, indicating an acceptable internal consistency for the scale and

subscales (Pallant, 2010) with this sample of cyber-sexual assault survivors. The

measures of central tendency for the survivors of CBSA per the DERS-16 subscales are

presented in Table 3.

Table 3

DERS-16 Measures of Central Tendency

Subscale	M	SD	Range	Mdn	Mode	Cronbach α
Clarity	2.65	1.21	1-5	2.00	2	.884
Goals	3.58	1.21	1-5	3.67	4.67	.870
Impulse	2.64	1.38	1-5	2.00	2	.920
Strategies	3.29	1.32	1-5	3.60	3.6	.899
Nonacceptance	3.30	1.33	1-5	3.33	3.33	.849
Total	50.28	15.21	18-80	51.00	49	.942

Trauma Guilt

The Trauma-Related Guilt Inventory (TRGI; Kubany et al., 1996) was used to measure trauma-related guilt of cyber-sexual assault survivors. The scale assesses for trauma-related guilt by three subscales: *global guilt* (4 items), *guilt-related distress* (6 items), and *guilt cognitions* (22 items). The 32-item inventory utilizes a 5-point Likert-type rating scale ranging from "extremely or always true" to "not at all or never true". The scale includes reversed items. The raw scores are converted to standard scores; the *T*-score ranges are used to interpret the results (ranging from $\leq 29T$, Very low; to $\geq 70T$, Very high); and this practice was done prior to interpreting the scale results. Cronbach's α assessing the internal consistency of the overall TRGI instrument was .886, Global Guilt subscale was .916, Guilt-Related Distress subscale was .876, Guilt Cognitions – Hindsight bias/Responsibility subscale was .902, Guilt Cognitions – Wrongdoing subscale was .742, Guilt Cognitions – Insufficient Justification subscale was .791, and Guilt Cognitions – General subscale was .586. The majority of the scale indicated acceptable internal consistency for the instrument and subscales for this sample of cyber-

sexual assault survivors; except for the subscale of Guilt Cognitions – General, which fell

below the .7 requirement (Pallant, 2010). The measures of central tendency for the

survivors of CBSA measured by the TRGI subscales are presented in Table 4.

Table 4

TRGI Measures of Central Tendency

Instrument	M	SD	Range	Median	Mode	Cronbach's α
Hindsight bias/responsibility	2.77	1.37	1-5	5.41	2.14	.902
Distress	1.81	1.00	1-5	1.48	1	.876
Wrongdoing	2.98	1.44	1-5	3.0	2.4	.742
Insufficient Justification	3.67	1.26	1-5	3.75	5	.791
Global Guilt	2.48	1.22	1-5	2.24	1.75	.916
Guilt cognitions - GENERAL	3.78	1.45	1-5	3.63	3.67	.586
Total	52.5	24.7	7-103	52.0	32.0	.886

Impact of Events Scale Revised (IES-R)

The Impact of Event Scale-Revised (Weiss & Marmar, 1997) was used to

measure trauma induced post-traumatic stress symptomology among cyber-sexual assault

survivors in this study. The IES-R (Weiss & Marmar, 1997) is a self-report instrument of

22-items, intended to assess three domains of post-traumatic stress disorder (PTSD)

symptoms stemming from exposure to a traumatic event. The IES-R three domains

(Weiss & Marmar, 1997) are: (a) *intrusion,* (b) *avoidance*, and (c) *hyperarousal.* The

IES-R self-report, five-point Likert-style format, is comprised of 22 questions and has a

range of scoring from 0 to 88. The score is calculated by the mean of item response per

subscales of: *intrusion*, *avoidance*, and *hyperarousal*. The mean score range is from 0

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through 4 for each of the subscales (Weiss, 2007) measuring symptomology. Cronbach's

α assessing the internal consistency of the overall IES-R instrument was .931, Intrusion

subscale was .915, Avoidance subscale was .788, and Hyperarousal subscale was .897,

thus indicating acceptable internal consistency for the scale and subscales (Pallant, 2010)

with this sample of CBSA survivors. The measures of central tendency for survivors of

cyber-sexual assault per IES-R subscales are presented in Table 5.

Table 5

IES-R Measures of Central Tendency

Instrument	M	SD	Range	Median	Mode	Cronbach's α
Avoidance	3.26	1.31	1-5	3.25	3.88	.788
Intrusion	3.48	1.25	1-5	3.71	4.0	.915
Hyperarousal	3.29	1.38	1-5	3.29	4.14	.897
Total	51.6	18.8	0-87	49.0	46.0	.931

Center for Epidemiologic Studies Depression Scale Revised (CESD-R)

The Center for Epidemiologic Studies Depression Scale-Revised (CESD-R; Eaton

et al., 2004) was used with this sample of cyber-sexual assault survivors to measure the

construct of depression. The CESD-R (Eaton et al., 2004) subscales are consistent with

the nine symptoms of major depressive episode according to the DSM-IV: (a) *sadness*

(dysphoria), (b) *loss of interest* (anhedonia), (c) *appetite*, (d) *sleep*; (e)

thinking/concentration, (f) *guilt* (worthlessness), (g) *tired* (fatigue), (h) *movement*

(agitation), and (i) *suicidal ideation*. The 20-item scale measured possible depressive

symptom of a major depressive episode (DSM-IV), and consists of 5-point Likert-type

style items. A total sum score is calculated of participants responses to the 20 questions on

the CESD-R. Cronbach's α assessing the internal consistency of the overall CESD-R instrument was .963, Sadness subscale was .947, Loss of Interest subscale was .896, Appetite subscale was .720, Sleep subscale was .619, Thinking/concentration subscale was .913, Guilt subscale was .857, Tired/fatigue subscale was .778, Movement subscale was .738, and Suicidal Ideation subscale was .875. The overall instrument indicated acceptable internal consistency; a majority of the subscales indicate an acceptable internal consistency except for the subscale of sleep (α = .619) which does not meet the minimum criteria (α = .7) of reliability (Pallant, 2010) with this sample of cyber-sexual assault survivors. The measures of central tendency for CBSA survivors per the CESDR subscales are presented in Table 6.

Table 6

CESD-R Measures of Central Tendency

Instrument	M	SD	Range	Median	Mode	Cronbach's α
Appetite	2.49	1.58	1-5	1.5	1	.720
Sadness	3.53	1.46	1-5	3.66	5	.947
Thinking	3.43	1.47	1-5	3.5	5	.913
Sleep	3.15	1.54	1-5	3	3.66	.619
Tired/fatigue	3.41	1.52	1-5	3.5	5	.778
Loss of Interest	3.16	1.59	1-5	3	5	.896
Guilt	3.23	1.59	1-5	3.5	5	.857
Movement	3.08	1.57	1-5	3	5	.738
Suicidal ideation	2.50	1.73	1-5	1.5	1	.875
Total	40.86	22.56	0-76	41.0	72.0	.963

Data Analysis for the Research Questions and Hypotheses

The following section introduces the results of the analyses for the four preliminary research questions, one primary research question and hypotheses, one secondary (post hoc) research question and hypotheses, and the four exploratory research questions. The data were analyzed using: (a) *Statistical Package for Social Sciences* (SPSS, Version 23) and, (b) *Analysis of Moment Structures* (AMOS, version 23) for SEM. The researcher set an alpha level of .05 to ensure that for relationship between the variables, 95% of the variance was due to the actual relationship and not sampling error (Fraenkel, Wallen, & Hyun, 2011).

Statistical Assumptions and Data Screening

Byrne (2010) suggested that the following assumptions are required for SEM: (a) appropriate sample size, (b) address missing data, (c) limited multicollinearity and singularity, (d) account for outliers, (e) multivariate normality, and (f) linearity between variables. Thus, prior to analysis of the results, preliminary data analysis was conducted to ensure the sample size was appropriate for SEM. While a sample size of 200 is commonly cited as the minimum suggested sample size for SEM (Byren, 2010; Kline, 2011), other researchers have conversely reported no single agreed upon best practice regarding minimum sample size (Raykov & Marcoulides, 2006). Furthermore, while published SEM results more often than not include too small of sample sizes, a steadfast theory, like the rule of 10, has been rules as arbitrary (Westland, 2010). Nonetheless, establishing sample size a priori reduces the likelihood of making a Type II error (i.e., failing to reject a false null hypothesis; Balkin & Sherpis, 2011). Additionally, if sample

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size is conducted ex posteriori, and deemed too small to detect effect, the sample size would need to be increased (Westland, 2010). Thus, the researcher utilized a sample size calculator through www.danielsoper.com, as recommended by Schumaker and Lomax, to calculate a priori sample size for SEM for this study. To calculate the sample, a small to medium effect size (.22); high power (.8); with five latent variables and 20 observed or manifest variables; and a probability of $p < .05$ was employed, resulting in a suggested minimum sample of 89 participants needed to detect effect. The final sample size, post data cleaning was 97, an adequate sample size for this investigation (Raykov & Marcoulides, 2006; Schumaker & Lomax, 2010).

The dataset had data missing completely at random (MCAR); as such the following section will outline how this was identified and the methodological techniques used to deal with randomly missing data. Hair, Black, Babin, and Anderson (2010) recommended a four-step process for identifying and addressing missing data. Initially, the goal involves determining the type of data missing (e.g., are missing data part of a research design/under researcher's control; or is the cause of missing data was unknown). Secondly, the goal is to determine the extent of missing data. Following this, step three involves diagnosing the randomness of the missing data processes; and lastly the fourth step concerns selecting the imputation method (Hair et al., 2010).

The four-step process suggested by Hair and colleagues (2010) was applied to the research study as follows. The Little's Missing Completely at Random (MCAR) test was conducted to determine if data were missing at random, or not at random. Little's MCAR test showed significance greater than .05 (p=.738); this indicates the data were missing at

random (Little's MCAR test; χ2 =1090.506, df = 1121, p = .738). It is noteworthy;

however, that data is rarely missing at random in the social sciences (Osborne, 2013);

therefore, approaches to estimate missing data were suggested.

Schumacker and Lomax (2010) identified three primary ways to address missing

data (a) listwise deletion, (b) pairwise deletion, and (c) replacing missing values. Listwise

deletion and the subcategory of pairwise deletion were not chosen, because deletion of

every single case that has missing data can affect the sample being analyzed, thus

changing the results based on the specific cases that were kept. Specifically, deletion of

every case with missing data can decrease power and reduce further reliability of the

study (Osborne, 2013). As such, the researcher chose to replace missing values of cases

with less than 20% of missing data. Therefore, the researcher deleted cases that had

greater than 20% missing values (i.e., maximum of 18 missing scale items or a minimum

of 72 scale items), resulting in 68 cases deleted. Another 48 cases were deleted for not

having experienced cyber-sexual assault, resulting in the final total of 97 cases.

Regarding replacing missing values, mean estimation was used for data

imputation of the cases with less than 20% missing data (Schumaker & Lomax, 2010).

Mean estimation was suggested for creating composite of studies that utilize multi-item

questionnaires, specifically psychological scales (e.g., depression scale; Osborne, 2013).

Mean substitution is a strong route if the instrument has high internal consistency

(Osborne, 2013); the Cronbach's alphas (see Tables 3, 4, 5, 6) in this study were sound.

Furthermore, mean substitution is particularly useful when multiple, highly correlated

questions are assessing a single construct (Osborne, 2013) and thus the researcher utilized mean estimation via SPSS (SPSS, Version 23).

A standard multiple regression was conducted using the TRGI (independent variable), the DERS-16 total scores (independent and dependent variables), CESD-R total score (independent and dependent variables), IES-R (independent and dependent variables) to assess assumptions (Pallant, 2010). Multicollinearity in present when the independent variables are highly correlated ($r = .9$ and above; Tabachnick & Fidell, 2013) and is problematic for MLR and SEM. Mason and Perreault (1991) documented that multicollinearity leads to inaccurate estimates of coefficients and standard errors in addition to inference errors though a large sample size can offset these concerns. Specifically, the correlation matrix and VIF (Variance Inflation Factor) values were examined to determine multicollinearity. Correlations between the independent variables should be below .7 to retain all variables; whereas VIF values above 10 suggest the possibility of multicollinearity (Pallant, 2010). All correlations between the independent variables were below .7 and all of the VIF values were below 2, which suggested no present multicollinearity. The Tolerance values averages .71 ($SD = .06$, $Mdn = .71$, Range = .592 to .805) and the VIF values averages 1.43 ($SD = .13$, $Mdn = 1.4$, Range = 1.24 to 1.69). The data met the assumption that no multicollinearity was present with the data. The researcher reviewed the correlations between the independent/endogenous

factors and found no correlations of r = .9 or higher with the data. As such, no

multicollinearity was present in the independent/endogenous factors.

Additionally, the linearity refers to the pattern of associations between variables

and the ability to have correlation coefficient account for the relationship. To assess the

linearity of variables, the researcher visually inspected the scatterplots of the variables

with the goal of identifying patterns of nonlinear relationships. A review of the

scatterplots for the variables returned no concern for nonlinear relationships. Therefore,

the assumption of linearity was satisfied with these data (Byrne, 2010; Rykov &

Marcoulides, 2000).

The final component of measuring for data normality via multicollinearity

includes examining both skewness of the data and kurtosis. Assessing for normality (i.e.,

multivariate normal; Byrne, 2010) of the data is a critically important assumption of

SEM. Multivariate kurtotic data are simply observed variables that depart from the

normal distribution by displaying peaks or tails within the distribution (Rykov &

Marcoulides, 2000). Furthermore, Kurtosis affects tests of variances and covariances,

which is fundamentally detrimental in SEM analyses because SEM is based on the

analysis of covariance structures (DeCarlo, 1997). To assess for normality, the researcher

assessed kurtosis values and their critical ratios (Byrne, 2011). The standardized kurtosis

index ($\beta2$) in a normal distribution has a value around 3, where positive kurtosis is

represented by larger values and negative kurtosis is represented by smaller values.

AMOS rescales this value by subtracting three from the $\beta2$ value, however; thus

identifying zero as the measure of normal distribution where positive or negative kurtosis

is identified by the (+/-) sign (DeCarlo, 1997; Kline, 2005). Rescaled β2 values equal to or greater than 7 are indicative of non-normality (Byrne, 2011). The researcher referenced this guide, and found no items greater than seven, indicating no item to be substantially kurtotic among kurtosis values in AMOS with these data. As such, the assumption of univariate normality was met with these data.

<u>Research Questions and Research Hypotheses</u>

The purpose of this study was to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. The following section introduces the analysis results for the four preliminary research questions, primary research question and hypotheses, secondary (post hoc) research question and hypotheses, and the four exploratory research questions. The analysis procedures used for the data were: (a) *Statistical Package for Social Sciences* (SPSS, Version 23), and (b) *Analysis of Moment Structures* (AMOS, version 23) for Structural Equation Modeling (SEM). The research hypothesis was analyzed using SEM. There are five steps to SEM (Crockett, 2012; Ullman, 2007; Weston & Gore, 2006): (a) model specification, (b) model identification; (c) model estimation, (d) model testing, and (e) model modification. All five steps were used and repeated to analyze the primary hypothesis. To determine overall fit of the model (e.g., acceptable or not acceptable fit), the general rule is to use the following fit indices in order to determine the model of best fit: (a) Chi Square ($\chi2$), (b) Tucker-Lewis Index (TLI), (c) Comparative Fit Index (CFI), (d) Root Mean Square Error of

Approximation, (e) Goodness of Fit Index (GFI) and (f) Standardized Root Mean Square

Residual (SRMR) (Hair et al., 2010; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler,

1998). However, because this investigation utilized a small sample size (i.e., $N = 97$), it

was recommended that the following fit indices were examined for goodness of fit (Hu

and Bentler, 1999): (a) Comparative Fit Index (CFI), (b) Root Mean Square Error of

Approximation (RMSEA), and (c) Standardized Root Mean Square Residual (SRMR).

Precisely, these fit indices were examined, with emphasis on Chi Square ($\chi2$) to df ratio,

CFI, RMSEA, and SRMR. All fit indices were evaluated based on recommended values

indicating goodness of fit (i.e., values for acceptable fit, Hair et al., 2010): Chi Square

($\chi2$) to df ratio of < 3 with significant p values expected; CFI of $> .90$ for acceptable fit;

GFI of $> .90$ for acceptable fit; RMSEA of $< .08$ for acceptable fit; TLI of $> .90$; and

SRMR of $< .08$ for acceptable fit. Fit indices descriptions and their value

recommendations are summarized in Table 7.

Table 7

Description of Fit Indices

Fit Indices	Description	Cutoff Criteria
Chi-Square (χ^2)	Examines the comparison of the observed covariance matrix and predicted covariance matrix with the goal of verifying that the model predicts the matrix.	If the χ^2 is not significant, the model is acceptable. $</= 2$, good fit $</= 3$, acceptable fit
Comparative Fit Index (CFI)	Examines the comparison of the ratio between the discrepancy of the hypothesized model to the discrepancy of the alternate model. The alternate model being derived from making latent variables and indicators uncorrelated. Least sensitive to sample size.	Greater or equal to .90, acceptable. Greater or equal to .95 good fit
Root Mean Squared Error of Approximation (RMSEA)	Examines the amount of variance within the hypothesized model. Good fit index for models with few parameters and is sensitive to *df*.	Less than or equal to .08, acceptable. Less than or equal to .07, good fit.
Goodness of fit Index (GFI)	Examines the actual variance and co-variance. Used as an alternative to chi-square.	Greater than or equal to .90, acceptable. Greater than or equal to .95, good fit.
Standardized Root Mean Squared Residual (SRMR)	Examines the standardized difference between the observed and predicted correlation and is an absolute measure of fit.	Less than or equal to .06, good fit. Less than or equal to .08 for acceptable fit.

Note. Table adapted from Fan & Sivo, 2005; Hu & Bentler, 1999; MacCallum et al., 1996

Primary Research Question

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the

Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma

guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996)

as the independent variable, where the remaining latent variables of post-traumatic stress

disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar,

1996) and depression as measured by the Center for Epidemiologic Studies Depression

Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a

good fit for data collected from cyber-sexual assault survivors. The hypothesized path

models are displayed in Figures 13 and 14.

Primary Research Hypothesis

H$_1$: Modeling the latent variables emotional dysregulation as the independent

variable and trauma guilt, post-traumatic stress disorder, and depression as

dependent variables is a good fit for data collected from cyber-sexual assault

survivors.

H$_2$: Modeling the latent variables trauma guilt as the independent variable and

emotional dysregulation, post-traumatic stress disorder, and depression as

dependent variables is a good fit for data collected from cyber-sexual assault

survivors.
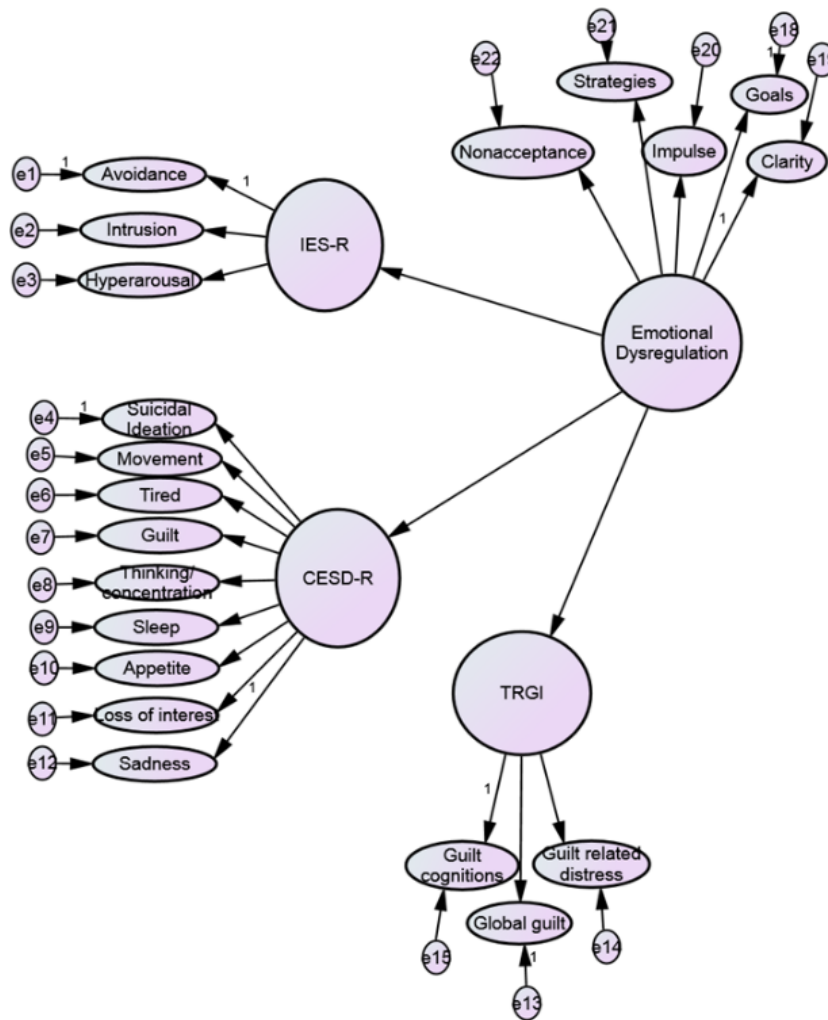
Figure 13. Hypothesized Theoretical Model 1 (Structural Model)

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Figure 14. Hypothesized Theoretical Model 2 (Structural Model)

Secondary Research Question

The secondary research analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors. The secondary portion of this investigation specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the mediating variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. The hypothesized path models are displayed in Figures 15 and 16.

Secondary Research Hypothesis

H_1: Modeling the latent variable emotional dysregulation as an independent variable, trauma guilt as a mediating variable, and post-traumatic stress disorder and depression as dependent variables, is a good fit for data collected from cyber-sexual assault survivors.

H_2: Modeling the latent variable trauma guilt as an independent variable, emotional dysregulation as a mediating variable, and post-traumatic

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stress disorder and depression as dependent variables, is a good fit for data

collected from cyber-sexual assault survivors.
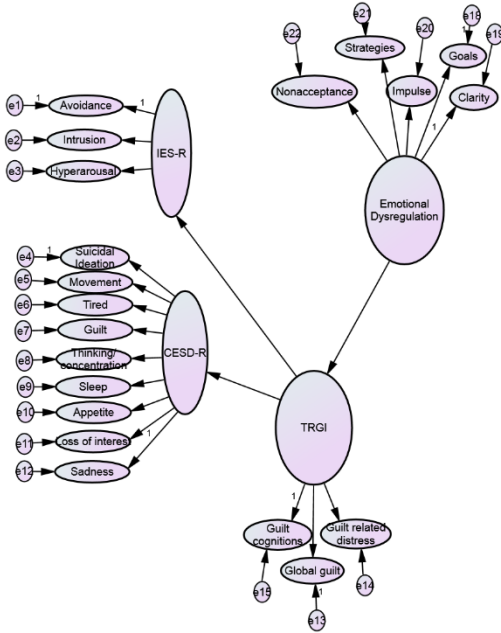
Figure 15. Hypothesized Theoretical Model 3 (Structural Model)
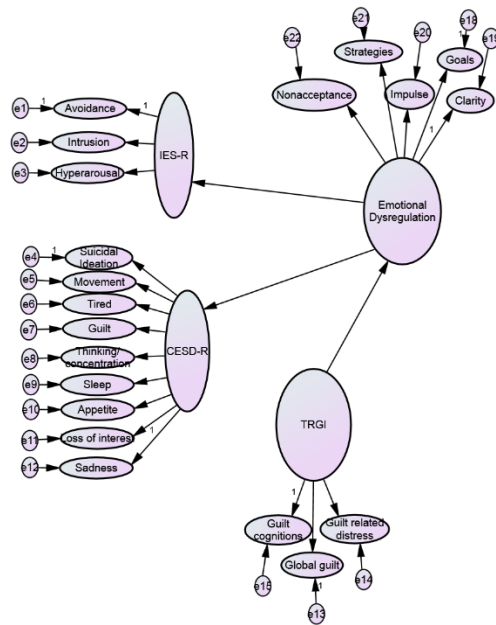
Figure 16. Hypothesized Theoretical Model 4 (Structural Model)

The first step in testing the hypothesized theoretical models was to determine how well the instruments (i.e., DERS-16; TRGI; IES-R; CESD-R) in this study fit the data collected from cyber-sexual assault survivors.

Preliminary Research Questions

1. To what degree does the latent variable emotional dysregulation, as measured by the instrument Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) fit data collected from a sample of cyber-sexual assault survivors?

2. To what degree does the latent variable trauma guilt, as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) fit data collected from a sample of cyber-sexual assault survivors?

3. To what degree does the latent variable PTSD as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) fit data collected from a sample of cyber-sexual assault survivors?

4. To what degree does the latent variable depression, as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) fit data collected from a sample of cyber-sexual assault survivors?

<u>Introduction to Model Specification and Identification</u>

Prior to examining the hypothesized model, the measurement models for each latent variable (e.g., instrument) were specified and identified using both an EFA and CFA. Understanding that model specification is the first step of SEM in order to produce a theoretically valid model ready for testing (Schumacher & Lomax, 2010) this was conducted prior to data collection and previously. Following this procedure, Byrne (2010) highlights the necessity of measurement models being psychometrically strong for the dataset and that the validity of the measurement should be evaluated prior to assessing the structural model. The hypothesized model in this study was presented in Figures 13, 14, 15, and 16 and formed prior to data collection; after a thorough literature review was conducted. For this model to be specified, the hypothesized model must be consistent with the true population (e.g., representative sample). Model identification is essentially whether or not the hypothesized model produces a unique solution. According to O'Brien (1994), a measurement model is identified when: (a) a minimum of two latent variables have at least three indicators loading on the variable, the errors of those indicators do not correlate, and each indicator loads on a single factor. Furthermore, if for the two or more

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latent variables, only two indicators load on the variables (e.g., only two items make up the factor), the errors again do not correlation, *plus* the variances or covariances between the factors is zero (Crockett, 2010). In order to explore the underlining theoretical structure of cyber-sexual assault and the instrumentation, an exploratory factor analysis (EFA) was conducted. A confirmatory factor analysis (CFA) was conducted to assess the validity and fit of the indicators measuring the latent variables. A CFA was conducted on each measure to ensure that the items loaded independently on the factors identified in the previous research both prior to the EFA, and again after the EFA was conducted and items were removed (Tedeschi & Calhoun, 1996; Wei et al., 2007; Weiss & Marmar, 1996).

<div align="center">Introduction to Assessing the Instrument Measurement Model</div>

Before moving forward to presenting the analysis results, it's important to note that review of the measurement model made clear that the theorized models, which were based upon previous research and scale development, did *not* fit these data. While the Emotional Regulation scale (DERS-16) and Depression scale (CESD-R) appeared to fit the data, over half the items for the Trauma Related Guilt Inventory and one subscale of the PTSD inventory (IES-R) did *not* fit the model. Therefore, the researcher consulted with their committee member and expert in research design (i.e., Dr. David Boote at the University of Central Florida) and then adjusted the measurement models based on an exploratory factor analysis (EFA). Initially, the researcher examined the data through EFA. Following this step, the researcher used CFA to confirm the EFA findings and test model fit. The researcher further reviewed the final items retained per each theorized

latent factor to confirm the questions were still representative of the latent factor. The

two-step factor analysis process was used by the researcher to identify the indicators and

latent factors that were represented with these data. See Table 8 for EFA Cronbach's

Alpha, Table 9 for a list of items which were retained, and Table 10 for a Factor

Correlation Matrix.

Table 8

Exploratory Factor Analysis: Chronbach's Alpha

Instrument	Cronbach's Alpha for EFA	Items Retained
DERS-16	.948	14
CESD-R	.969	19
IES-R	.953	15
TRGI	.949	15

Table 9

Items Retained for Each Latent Factor

Items Retained

DERS-16 DIFFICULTIES IN EMOTION REGULATION SCALE

When I am upset, I have difficulty getting work done. [Goals] Q4

When I am upset, I become out of control. [Impulse] Q5

When I am upset, I believe that I will remain that way for a long time. [Strategies] Q6

When I am upset, I believe that I'll end up feeling very depressed. [Strategies] Q7

When I am upset, I have difficulty focusing on other things. [Goals] Q8

When I am upset, I feel out of control. [Impulse] Q9

When I am upset, I feel ashamed with myself for feeling that way. [Nonacceptance] Q10

When I am upset, I feel like I am weak. [Nonacceptance] Q11

When I am upset, I have difficulty controlling my behaviors. [Impulse] Q12

When I am upset, I believe that there is nothing I can do to make myself feel better. [Strategies] Q13

When I am upset, I become irritated with myself for feeling that way. [Nonacceptance] Q14

When I am upset, I start to feel very bad about myself. [Strategies] Q15

When I am upset, I have difficulty thinking about anything else. [Goals] Q16

When I am upset, my emotions feel overwhelming. [Strategies] Q17

CESD-R DEPRESSION INVENTORY

My appetite was poor. [Appetite] Q20

I could not shake off the blues. [Sadness(Dysphoria)] Q21

I had trouble keeping my mind on what I was doing. [Thinking / concentration] Q22

I felt depressed. [Sadness(Dysphoria)] Q23

My sleep was restless. [Sleep] Q24

I felt sad. [Sadness(Dysphoria)] Q25

I could not get going. [Tired(fatigue)] Q26

Nothing made me happy. [Loss of Interest(Anhedonia)] Q27

I felt like a bad person. [Guilt(Worthlessness)] Q28

I lost interest in my usual activities. [Loss of Interest(Anhedonia)] Q29

I slept much more than usual. [Sleep] Q30

I felt like I was moving too slowly. [Movement(Agitation)] Q31

I felt fidgety. [Movement(Agitation)] Q32

I wished I were dead. [Suicidal ideation] Q33

I wanted to hurt myself. [Suicidal ideation] Q34**

I was tired all the time. [Tired(fatigue)] Q35

I did not like myself. [Guilt(Worthlessness)] Q36

I lost a lot of weight without trying to. [Appetite] Q37

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Items Retained

I had a lot of trouble getting to sleep. [Sleep] Q38

I could not focus on the important things. [Thinking / concentration] Q39

**Item was removed via EFA, but ultimately retained for measurement model & structural model

IES-R - IMPACT OF EVENTS SCALE REVISED

Any reminder brought back feelings about it. [Intrusion] Q41

I had trouble staying asleep. [Intrusion] Q42

Other things kept making me think about it. [Intrusion] Q43

I felt irritable and angry. [Hyper arousal] Q44

I thought about it when I didn't mean to. [Intrusion] Q46

Pictures about it popped into my mind. [Intrusion] Q49

I was jumpy and easily startled. [Hyper arousal] Q50

My feelings about it were kind of numb. [Avoidance] Q53

I found myself acting or feeling like I was back at that time. [Hyper arousal] Q54

I had trouble falling asleep. [Hyper arousal] Q55

I had waves of strong feelings about it. [Intrusion] Q56

I had trouble concentrating. [Hyper arousal] Q58

Reminders of it caused me to have physical reactions, such as sweating, trouble breathing. [Hyper arousal] Q59

I had dreams about it. [Intrusion] Q60

I felt watchful and on-guard. [Hyper arousal] Q61

TRGI – TRAUMA RELATED GUILT INVENTORY

I could have prevented what happened. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q66

I was responsible for causing what happened. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q70

I did something that went against my values. [Guilt Cognitions (Wrongdoing)] Q72

I knew better than to do what I did. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q74

What I did was inconsistent with my beliefs. [Guilt Cognitions (Wrongdoing)] Q76

I experience intense guilt that relates to what happened. [Global Guilt] Q78

I should have known better. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q79

I blame myself for what happened. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q84

Indicate the intensity or severity of guilt that you typically experience about the events. [Global Guilt] Q87

I blame myself for something I did, thought, or felt. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q88

Items Retained
Overall, how guilty do you feel about the event(s)? [Global Guilt] Q90
I hold myself responsible for what happened. [Guilt Cognitions (Hindsight Bias/Responsibility)] Q91
I violated personal standards of right and wrong. [Guilt Cognitions (General)] Q93
I did something that I should not have done. [Guilt Cognitions (General)] Q94
What I did was unforgivable. [Guilt Cognitions (General)] Q96

Table 10

Factor Correlation Matrix

Factor	1	2	3	4
1	1.000	.543	-.390	.500
2	.543	1.000	-.303	.538
3	-.390	-.303	1.000	-.461
4	.500	.538	-.461	1.000

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

The following section reviews the data analysis processes followed to develop the measurement models. It includes both the CFA and CFA based on EFA results.

Confirmatory Factor Analysis: Emotional Dysregulation

Emotional Dysregulation was measured using the *Brief Version of the Difficulties in Emotion Regulation Scale* [DERS-16] (Bjureberg, et al., 2015) through the presence of maladaptive emotional regulation skills. First, the CFA of the DERS-16 was conducted based on the structure proposed by Weiss and Marmar, (1996); without being modified (see Figure 17). Afterwards, the CFA of the DERS-16 was conducted based on the

exploratory factor analysis (EFA) and CFA structure proposed by Wei and Marmar, (2007). The DERS-16 is a mean score five-factor instrument.

An EFA was conducted for the purposes of this study. Upon running an EFA, several factor loadings were below .70, indicating that some items did not load onto the factors within the DERS-16 for these data (MacCallum et al., 2001). Furthermore, Kline (2011) recommends that when CFA indicates low factor loadings, the researcher not be constrained by the originally specified factors and consider conducting an EFA as the current sample may not fit the original number of factors suggested.

The 16 items of the DERS-16 were subjected to factor analysis using the Extraction Method of Maximum Likelihood; and Rotation Method: Promax with Kaiser Normalization. The rotated solution revealed the presence of a simple structure, with four out of the five factors showing a number of strong loadings. Two items (Item 2 and Item 3) did not load onto the factor; as such items 2 and 3 were deleted (Pallant, 2010). Therefore, the DERS-16 items were constrained to load on four factors. The loading factors were examined using .55 as a cutoff (Comrey & Lee, 1992; Tabachnick & Fidell, 2007); therefore, the model was respecified (see Figure 14) by deleting two Items (2, and 3) that did *not* meet the suggested cutoff. The total item ($N = 14$) Cronbach's alpha was measured to assess the internal consistency reliability of the modified DERS-16 with these data. Cronbach's α for the entire modified DERS-16 scale (14 items) was .948, which is high (Hair et al., 2006).

Based on the modification indices, the DERS-16 errors were freed, meaning no further covariance of error would have improved the model fit. The respecification

provided a good fit for the DERS-16 with these data (see Table 11). Specifically, results

revealed, that specification provided an acceptable fit with these data according to the χ^2

ratio (1.980), CFI (.932), TLI (.913); however, GFI = .833 and RMSEA (.10) reveal poor

fit of the DERS-16 with these data (see Figure 18 and Table 11). Given that the sample

size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the CFI for goodness of

fit. Therefore, based on the findings regarding the test of validity of the DERS-16, the

presented measurement model represents the final best-fitting and most parsimonious

model to represent the cyber-sexual assault data (Byrne, 2010).

The item loading factors were examined using .55 as a guideline for good loading

(Comrey & Lee, 1992; Tabachnick & Fidell, 2013). A review of the model fit summary

revealed that the model fit was adequate (see Table 11); and theoretically, it was not

justifiable to respecify the model through any covariation of errors.

Table 11

Model Fit Indices of the DERS-16

Model	χ^2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
First Order CFA	175.3690	94	.000	1.866	.819	.931	.912	.095	.104
First Order EFA	140.602	71	.000	1.980	.833	.932	.913	.101	.112
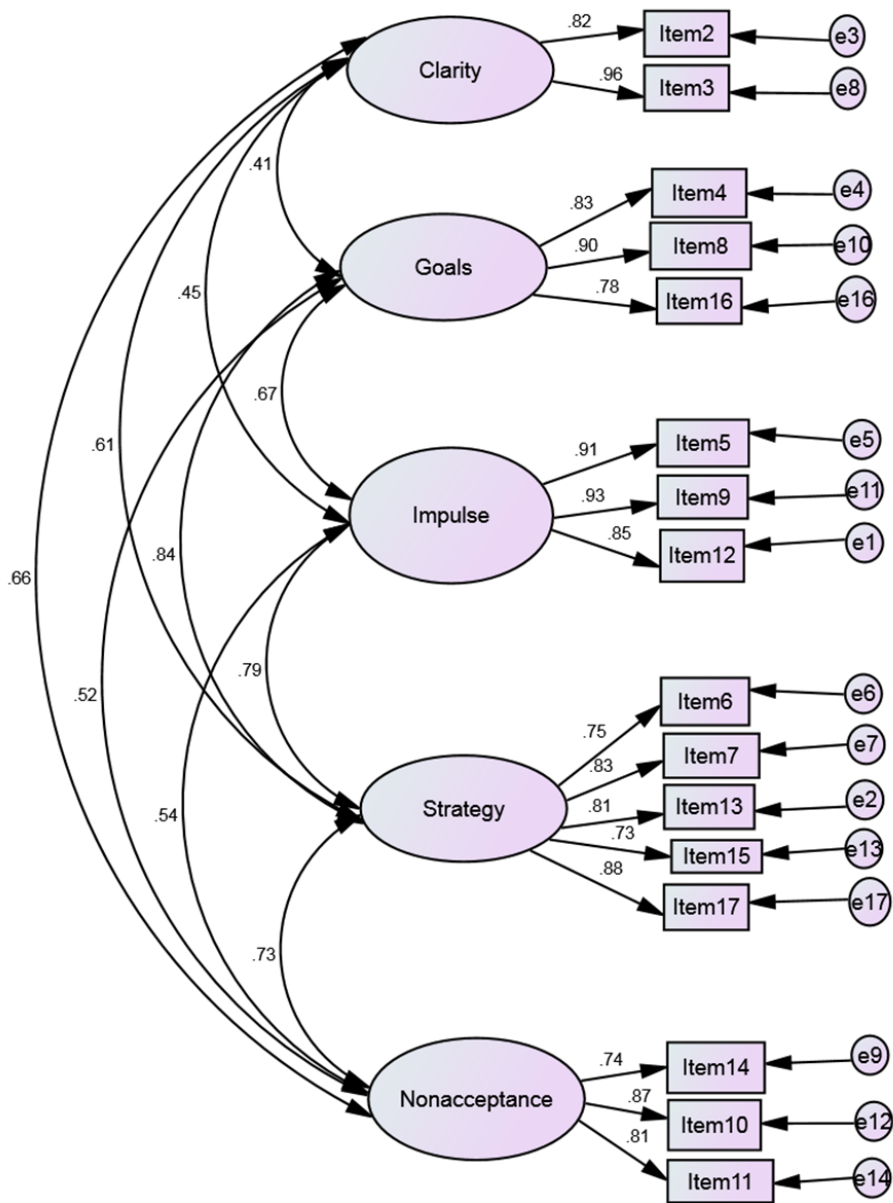
Figure 17. First-order Confirmatory Factor Analysis DERS-16
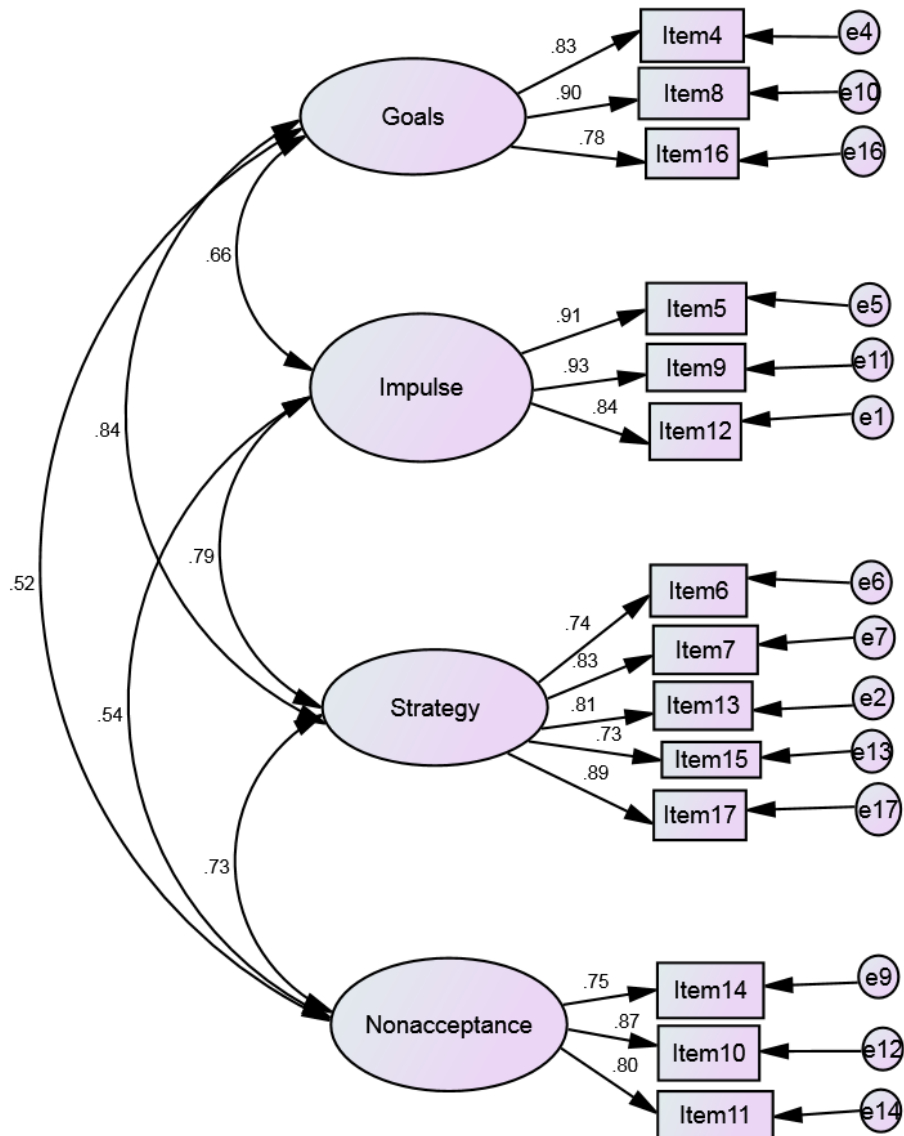
Figure 18. Confirmatory Factor Analysis DERS-16--Based on EFA Results

Factor Analysis for Trauma Related Guilt Inventory

Trauma guilt of cyber-sexual assault victims was measured using the Trauma-Related Guilt Inventory (TRGI; Kubany et al., 1996) via three subscales: *global guilt* (4 items), *guilt-related distress* (6 items), and *guilt cognitions* (22 items). Through an initial review of the data using CFA (see Figure 19 and Table 12), the researcher found that half of the indicators (e.g., items) did *not* fit the theorized structure due to high standardized residual covariance, low factor loadings, or poor goodness of fit (Schumacher & Lomax, 2010). Therefore, to identify the factors of the desired constructs (e.g., global guilt, guilt-related distress, guilt cognitions) an EFA was conducted. The EFA of the 32-item TRGI employed the extraction procedure of maximum likelihood with Promax with Kaiser Normalization rotation (Costello & Osborne, 2005; Fabrigar et al., 1999; Hair et al., 2006). The researcher eliminated items based upon: (a) low factor loadings (< .30), (b) low commonality (< .5), and (c) cross-loading on more than one factor (Hair et al., 2006), resulting in the elimination of 16 items.

After item elimination, a CFA was conducted to examine the remaining factors found in the EFA of the TRGI with the data. The CFA for the TRGI was specified based on the findings from the EFA. Based on the results of the EFA, the TRGI items were constrained to load on four factors. Furthermore, a review of the modification indices revealed that respecifying the model would produce a better-fit model, by allowing errors (5 & 26; 9 &14) to be covaried.

The loading factors were examined using .55 as a cutoff (Comrey & Lee, 1992; Tabachnick & Fidell, 2007); all items on the modified measurement model had

significant factor loadings ranging from .59 to .97 (Comrey & Lee, 1992; Stevens, 1992; Tabachnick & Fidell, 2006). Cronbach's alpha was measured to assess the internal consistency reliability of the modified TRGI with these data. Cronbach's α for the entire modified TRGI scale (15 items) was .949, which is high (Hair et al., 2006).

The respecification provided a good fit for the TRGI with these data (see Table 12). Prior to the measurement model modification, the factor loadings ranged from -.20 to .92. Conversely, all items on the modified measurement model had significant factor loadings ranging from .59 to .97 (Tabachnick & Fidell, 2013). Specifically, results revealed, that specification provided an acceptable fit with these data according to the χ^2 ratio (1.988), CFI (.926), TLI (.905); however, GFI (.810) and RMSEA (.101) reveal poor fit of the TRGI with these data (see Figure 20 and Table 12). Given that the sample size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the CFI for goodness of fit. Therefore, based on the findings regarding the test of validity of the TRGI, the presented measurement model represents the final best-fitting and most parsimonious model to represent the cyber-sexual assault data (Byrne, 2010).

Table 12

Model Fit Indices of the TRGI

Model	χ^2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
First Order CFA	716.272	444	.000	1.613	.706	.866	.851	.080	.148
First Order EFA	163.006	82	.000	1.988	.810	.926	.905	.101	.140
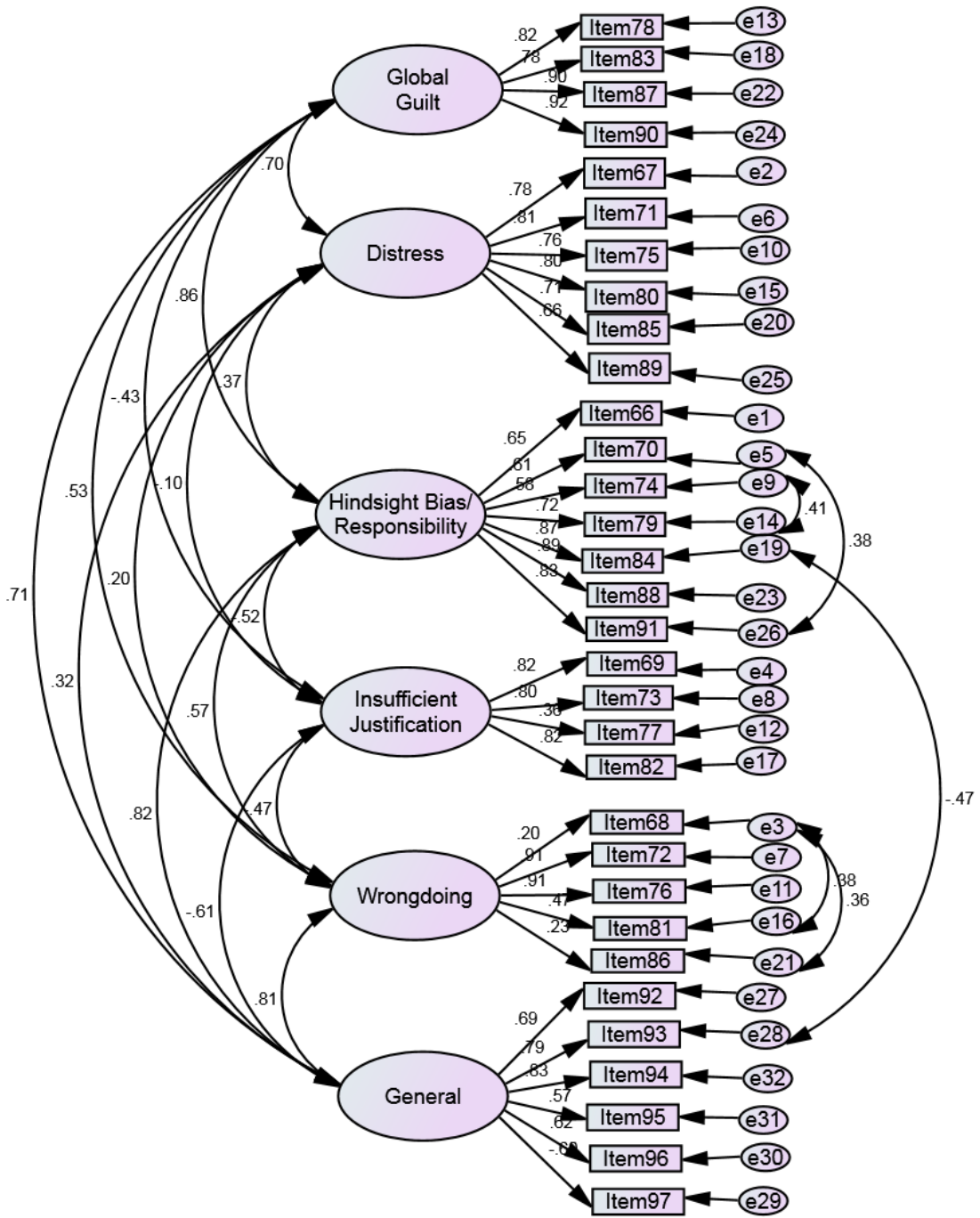
Figure 19. First Order Confirmatory Factor Analysis TRGI
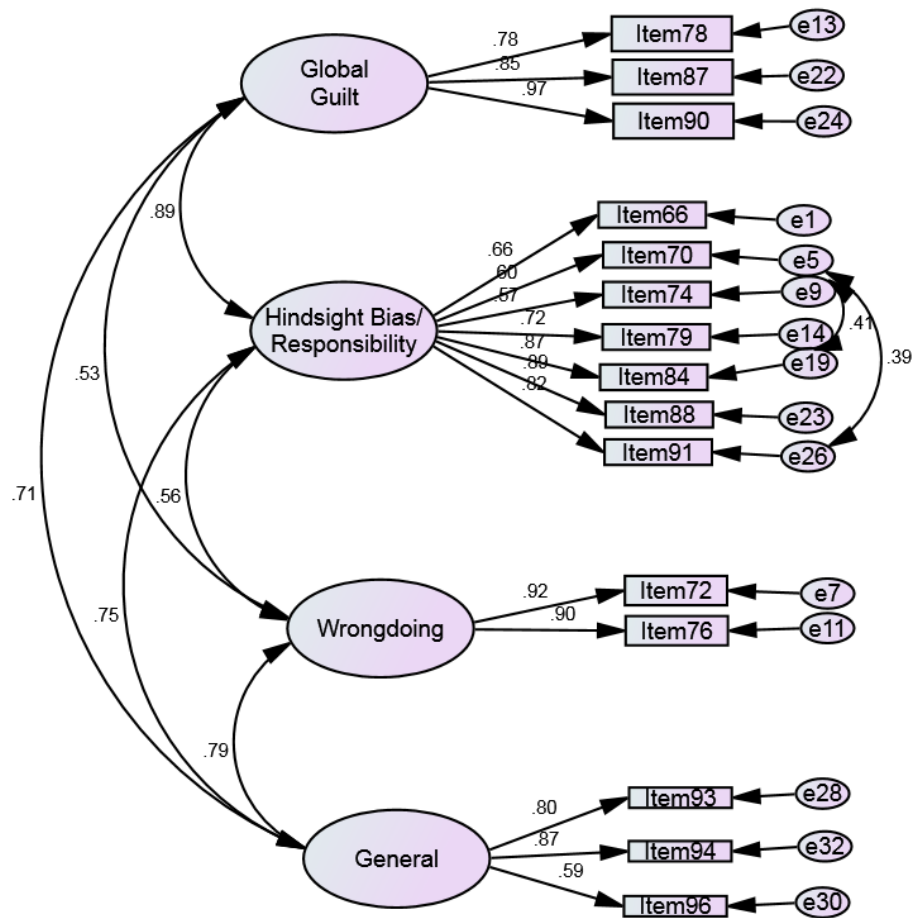
Figure 20. Modified Measurement Model of the TRGI

Factor Analysis for The Center for Epidemiologic Studies
Depression Scale Revised (CESDR)

Depression of cyber-sexual assault victims was measured using the Center for
Epidemiologic Studies Depression Scale-Revised (CESD-R; Eaton et al., 2004). Through an
initial review of the data using CFA (see Figure 21 and Table 13), the researcher found that
the measurement model did *not* fit the theorized structure due to high standardized residual
covariance, low factor loadings, or poor goodness of fit (Schumacher & Lomax, 2010).
Therefore, to identify the factors of the desired constructs (e.g., appetite, sadness,
thinking/concentration, sleep, tired/fatigue, loss of interest, movement, suicidal ideation,
guilt) an EFA was conducted.

Initially, to identify the factors of depression with these data, an EFA was conducted.
The EFA of the 20-item CESDR employed the extraction procedure of maximum likelihood
with Promax with Kaiser Normalization rotation (Costello & Osborne, 2005; Fabrigar et al.,
1999; Hair et al., 2006). The researcher eliminated CESDR items based upon: (a) low factor
loadings ($< .30$), (b) low commonality ($< .5$), and (c) cross-loading on more than one factor
(Hair et al., 2006), resulting in the elimination of 1 item: (a) Item 34 "I wanted to hurt
myself" was identified as having low commonality ($< .5$; .446). Cronbach's α for the entire
modified CESDR scale (*all* 19 items) was .969, which indicated excellent internal
reliability (Hair et al., 2006).

Item 34 is one of two items that comprises the factor: Suicidal Ideation. Although
this item was removed through the factor analysis (EFA), the CESDR model was not
modified based upon the results of the EFA. The CESDR is a depression scale based
upon the nine criteria of major depression; the second factor of Suicidal Ideation (Item

33) "I wished I were dead" cannot theoretically be combined with any of the other constructs on the scale. Additionally, AMOS will not interpret a model where the factor has only a single item loading. Thus, the researcher chose not to modify the model.

Conversely, a second order CFA (see Figure 22) was conducted because of high ($N = 26$) correlations ($> .7$) among factors of the CESDR. The second order CFA involved adding a single second order factor (CESDR) as the first order factors may be better explained by a higher order structure (Byrne, 2010). Results revealed, that specification provided an acceptable fit with these data according to the χ^2 ratio (1.950), TLI (.90), and CFI (.912); however, RMSEA (.10), and GFI (.760) reveal poor fit of the CESDR with these data (see Figure 22 and Table 13). Given that the sample size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the CFI for goodness of fit. Therefore, based on findings related to the test of validity of the CESDR, this measurement model represents an acceptable fit to represent the data (Byrne, 2010).

Table 13

Model Fit Indices of the CESDR

Model	χ^2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
1st order CFA	8244.558	3879	.000	2.125	.483	.564	.549	.108	.218
2nd order CFA	327.684	168	.000	1.950	.760	.912	.900	.100	.232
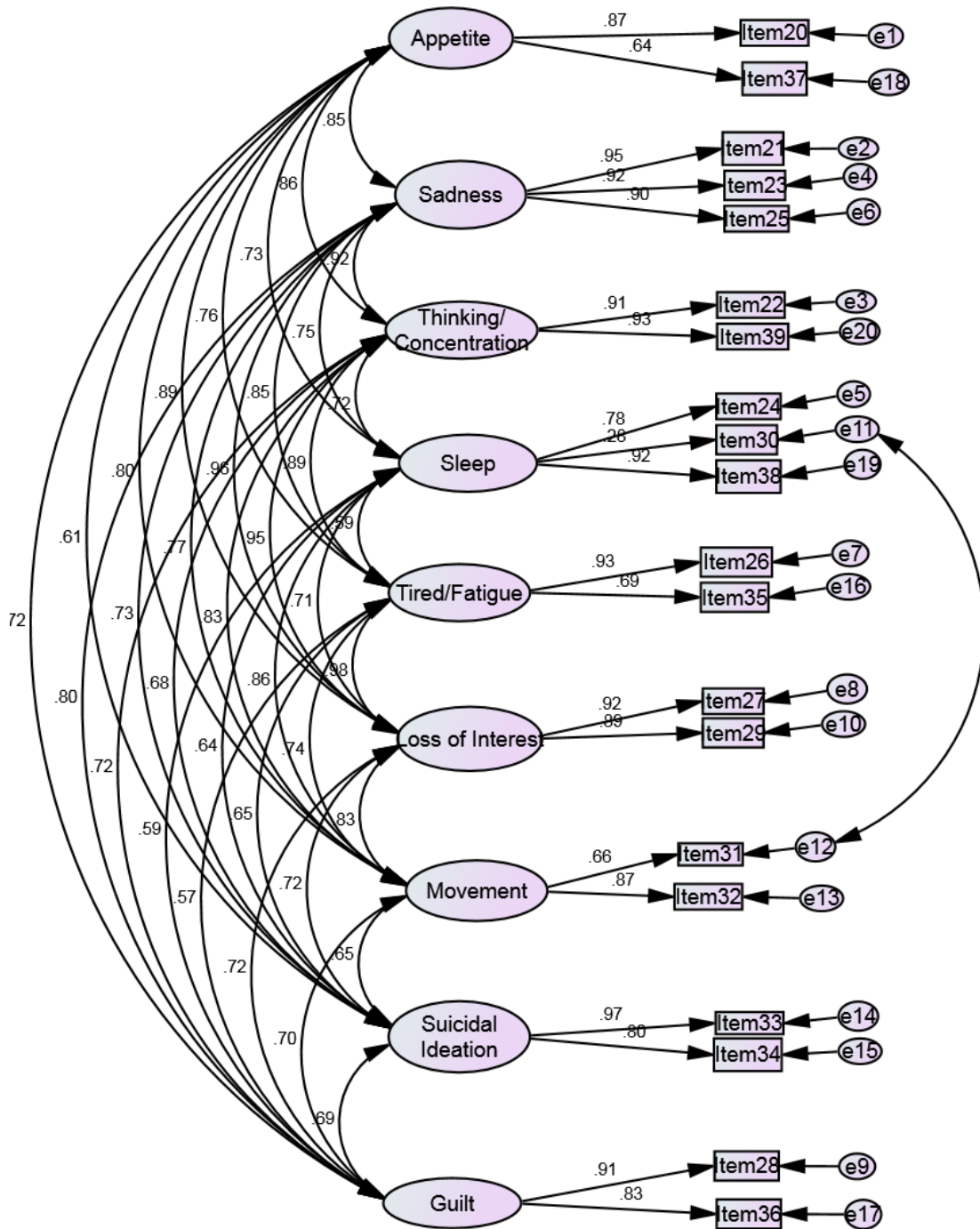
Figure 21. Confirmatory Factor Analysis CESDR
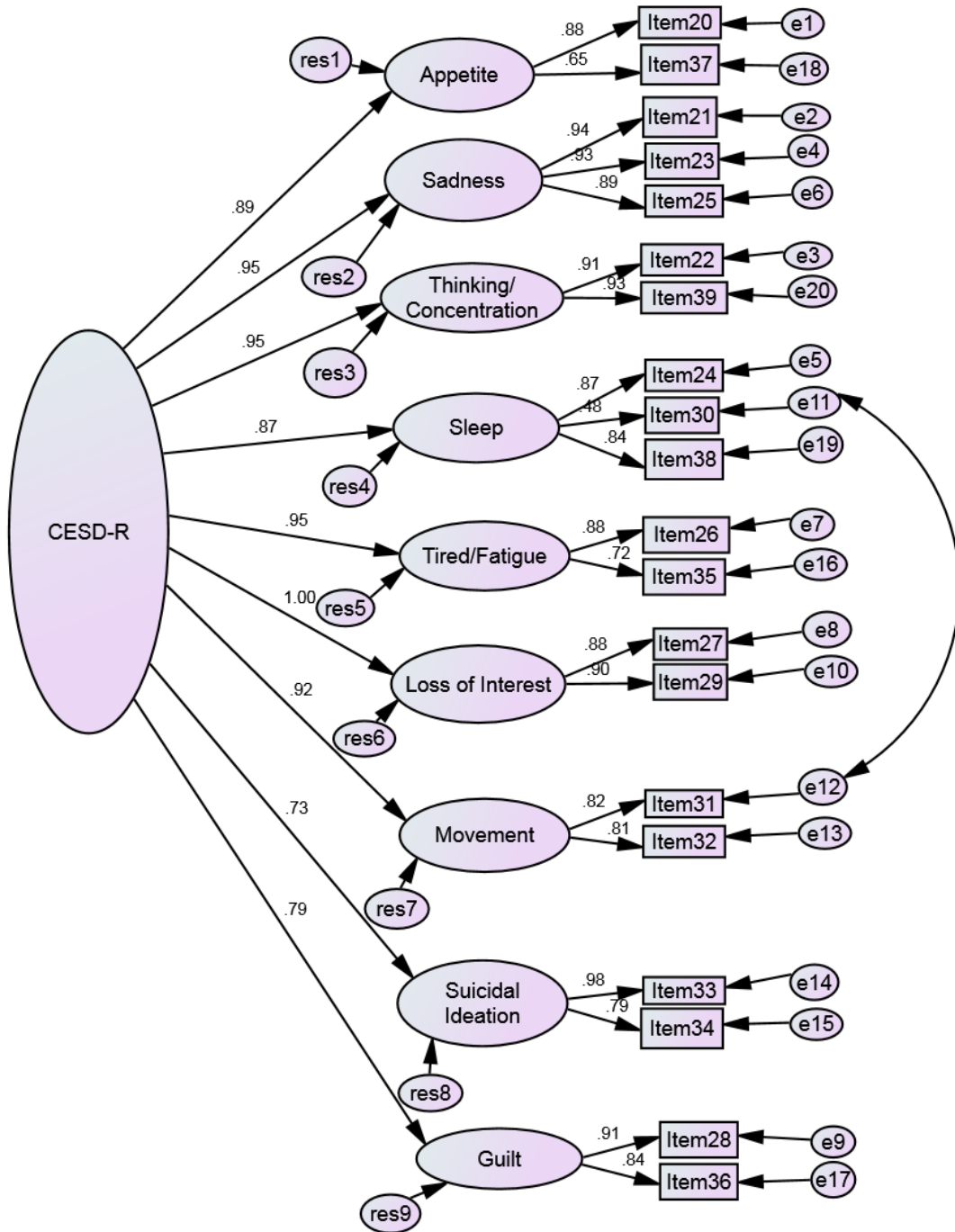
Figure 22. Second Order Confirmatory Factor Analysis CESDR

Factor Analysis for Impact of Events Scale – Revised

PTSD symptomology was measured using the Impact of Event Scale-Revised (Weiss & Marmar, 1996). The theoretical structure of the IES-R was constructed based upon previous research that identified a three-factor model (e.g., Weiss & Marmar, 1996). After initial review of the data using CFA (see Figure 23), many of the items loading on the subscale of "Avoidance" did *not* fit the theorized structure due to high standardized residual covariance, low factor loadings, or poor goodness of fit with these data (Schumacher & Lomax, 2010). Therefore, to identify the factors of PTSD symptomology an EFA was conducted. The EFA of the 22-item IES-R employed the extraction procedure of maximum likelihood with Promax with Kaiser Normalization rotation (Costello & Osborne, 2005; Fabrigar et al., 1999; Hair et al., 2006). First, the researcher eliminated IES-R items based upon: (a) low factor loadings ($< .30$), (b) low commonality ($< .5$), and (c) cross-loading on more than one factor (Hair et al., 2006), resulting resulted in the elimination of 7 items, and subsequently the subscale "Avoidance" since a subscale cannot be measured by a single (remaining) item (Item 53). Cronbach's α for the entire modified IES-R scale (*all* 15 items) was .953, which was excellent (Hair et al., 2006).

Initially, the IES-R was tested with these data; however, the data did *not* specify and did *not* meet the cutoff criteria for the specified fit indices for this data (see Table 14). Therefore, the IES-R model was modified based upon the results of the EFA. Next, the researcher conducted a CFA on the modified IES-R measurement model with these data, based on the structure proposed by Weiss and Marmar, (1996). The IES-R produces a total score as well as mean scores for each of the three factors. All items on the modified IES-R

measurement model had significant factor loadings ranging from .68 to .86 (Comrey &

Lee, 1992; Stevens, 1992; Tabachnick & Fidell, 2006). Although a review of the model fit

summary revealed that the model fit was not acceptable, a review of the modification

indices revealed that respecifying the model according to the modification indices (e2 ↔

e15, 21.097, .386) could result in a better model fit, therefore the model was respecified

(see Figure 24) by allowing for the covariation of errors 2 and 15 (error 2: I had trouble

falling asleep; error 15: I had trouble staying asleep). Covarying of errors should be done

with caution (Kenny, 2011); as such this covariation was theoretically justified. Results of

the modified IES-R revealed that specification provided an acceptable fit with these data

according to the $\chi 2$ ratio (1.479), TLI (.954), and CFI (.962); however, RMSEA (.07), and

GFI (.865) reveal poor fit of the IES-R with these data (see Figure 19 and Table 14).

Given that the sample size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the

CFI for goodness of fit. Therefore, based on findings related to the test of validity of the

IES-R, this measurement model represents an acceptable fit to represent the data (Byrne,

2010). The respecified model provided a good fit for the IES-R (see Table 14).

Table 14

Model Fit Indices of the IES-R

Model	$\chi 2$	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
IES-R 1st Order CFA	304.083	205	.000	1.483	.780	.917	.906	.071	.134
IES-R 2nd Order CFA	110.918	75	.004	1.479	.865	.962	.954	.071	.079
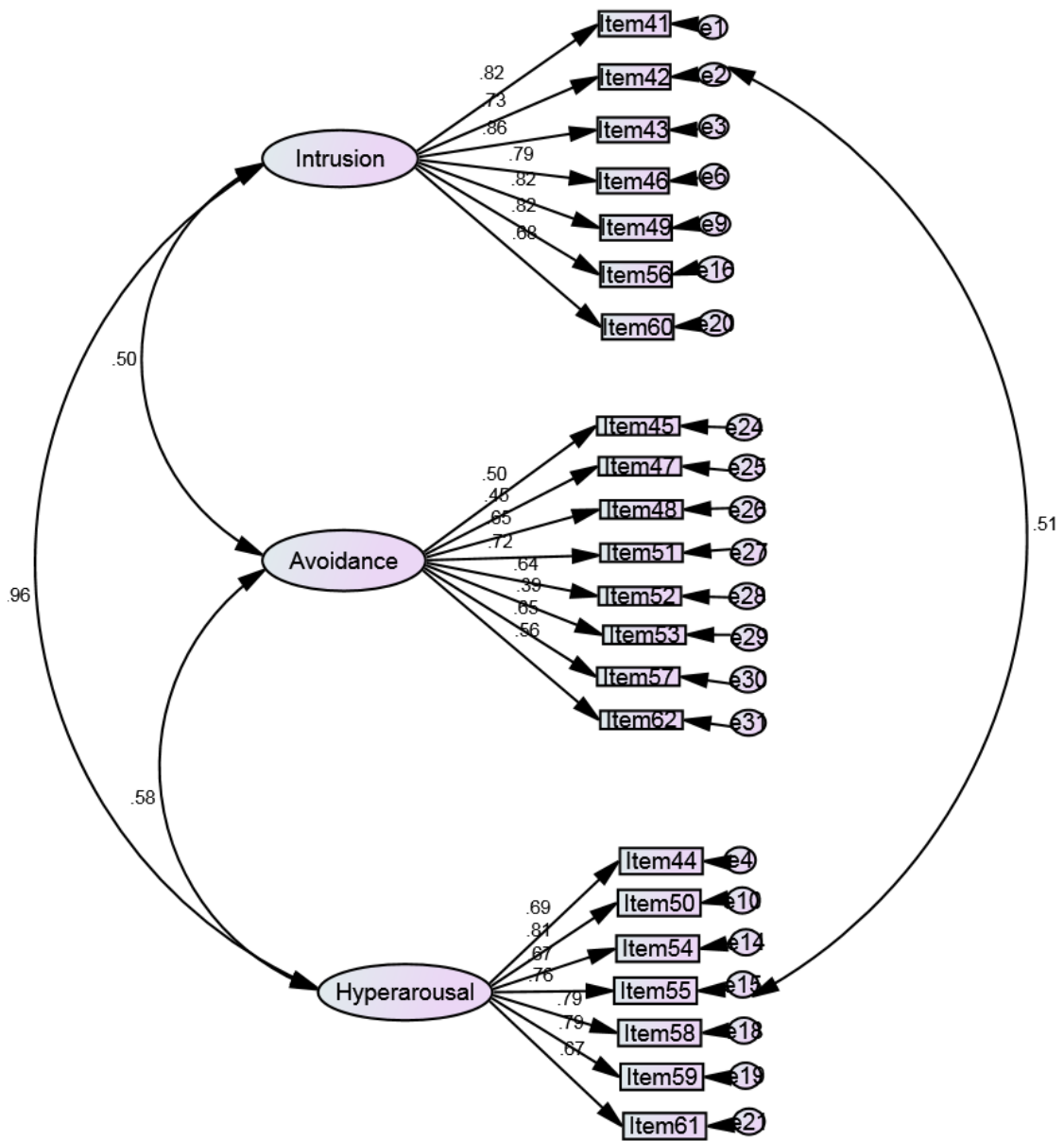
Figure 23. Confirmatory Factor Analysis IES-R
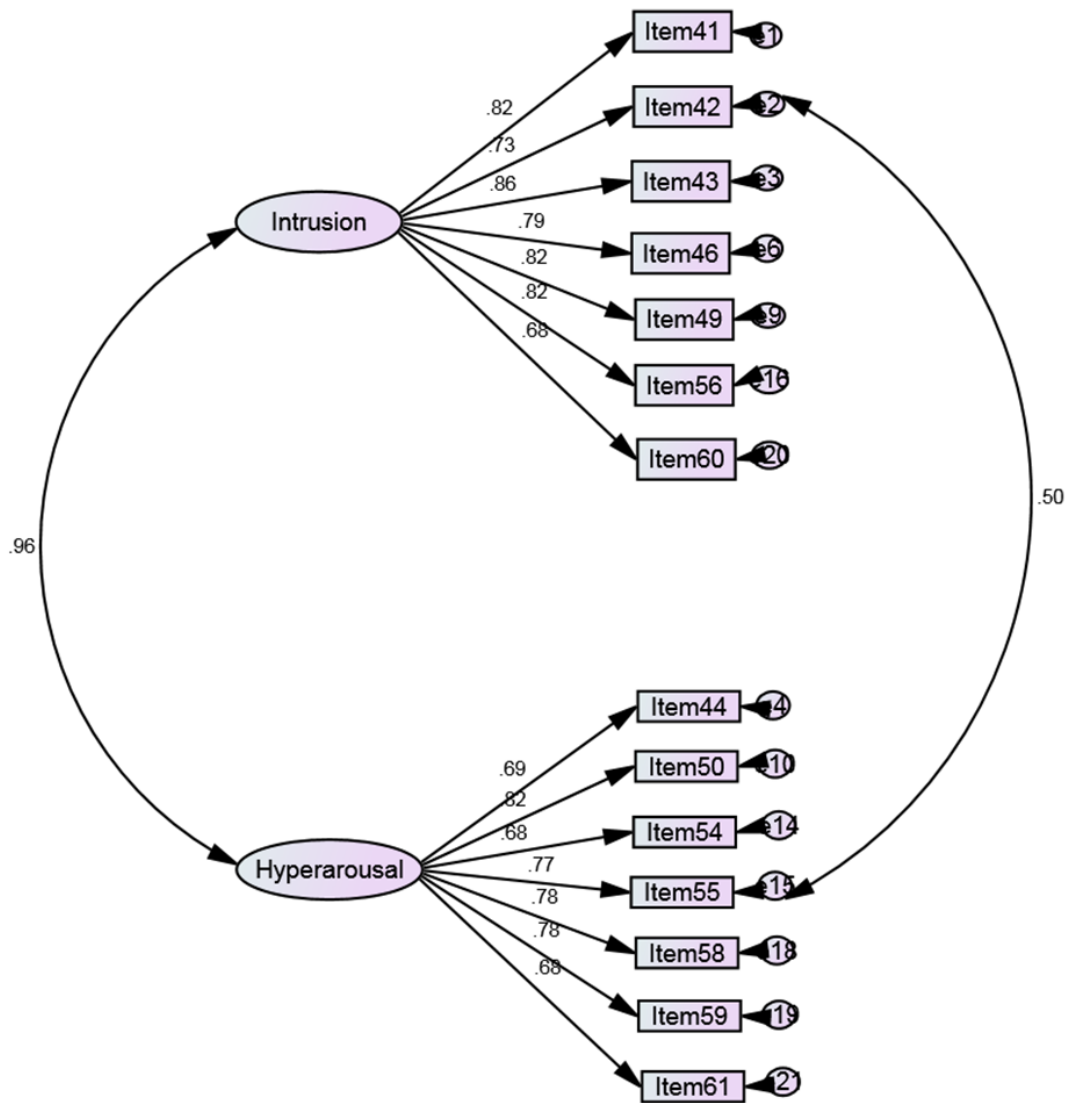
Figure 24. Modified Measurement Model of the IES-R

Mediation Analysis

Prior to moving forward to the full model specification and identification, the researcher explored emotional dysregulation and trauma guilt as mediators, independent of one another, using the regression PROCESS Procedure for SPSS (Hayes, 2016). The secondary (post hoc) research analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors.

This secondary analysis specifically tested whether modeling latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the mediating variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors.

In determining a mediation effect, the researcher employed both the Baron and Kenny (1986) approach to mediation, as well as bootstrapping, through PROCESS (Hayes, 2016) which examines the direct and indirect effects of mediation models. Bootstrapping is a resampling technique generating subsamples in which a model is formed within the subsample, and then the values for the parameter estimates are determined from the set of models by calculating the mean of each estimated coefficient across all the subsample models

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(Hair et al., 2010). Bootstrapping is a technique advised for testing mediation models to measure the indirect effect; as such it was employed for the current study (Cheung & Lau, 2008) with the technique of PROCESS (Hayes, 2016). Moreover, a required three conditions must be met for a mediation effect to be present, according to Baron and Kenny (1986). These three conditions are as follows: (a) the exogenous variable (*x*) must influence the mediating variable; (b) the mediating variable must influence the endogenous (*y*) variable; and (c) when controlling for the mediating variable, the direct effect between the exogenous (x) and endogenous variable (*y*) must be significantly reduced to demonstrate the presence of a mediation.

First Mediation Model: DERS to TRGI to IESR

For the first mediation model tested, PTSD symptomology, as measured by the IES-R (Weiss & Marmar, 1996) was identified as the outcome variable; Emotional Dysregulation, as measured by the DERS-16 (Bjureberg, 2015); was identified as the independent variable; and trauma guilt, as measured by the TRGI (Kubany et al., 1996) was identified as the mediation variable. The results of the regression path analysis revealed emotional dysregulation affects mediator trauma guilt (ß = *4.6481, p < .01*) and the total effect of Emotional Dysregulation on PTSD symptomology was significant ($\beta = .7155, p < .001$). The effect of trauma guilt was not significant for its effect on outcome variable PTSD symptomology (b = -.0029, *p* > .05). However, the direct effects of emotional dysregulation on PTSD symptomology when controlling for the mediator TRGI (ß = .7134, p < .001) was statistically significant ($p < 0.001$), showing partial mediation. Therefore, some mediation was present in the tested structural model with these data

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based on the Baron and Kenny (1986) approach. However, using bootstrapping and

examining the indirect effects (.0020) suggests no presence of a mediation effect for the

indirect effect of Emotional Dysregulation on PTSD through trauma guilt (-.0857, .0908).

Due to the ambiguity of mediation presence, the researcher chose to conduct a Sobel test

to examine if a partial mediation existed. In this case, there was no statistical significance

($z = .0404$, p > .05), indicating there is no partial mediation. Therefore, although

Emotional Dysregulation contributed to trauma guilt (Table 15), and Emotional

Dysregulation contributed to PSTD symptomology (Table 17), no mediation effect was

present with these data (Table 16).

Table 15

Model Summary: The Effect of X (DERS-16) on M (TRGI)

R	R^2	MSE	F	df_1	df_2	p
.4304	.1853	502.9996	21.6047	1.0	95.0	.0000

Table 16

Model Summary: The Effect of X (DERS-16 & M (TRGI) Predicting Y (IES-R)

R	R^2	MSE	F	df_1	df_2	p
.5798	.3361	238.8120	23.7971	2.0	94.0	.0000
			6.2091			.9671

Table 17

Total Effect Model Summary: The Effect of X (DERS-16) on Y (IES-R)

R	R^2	MSE	F	df_1	df_2	p
.5798	.3361	236.3024	48.0979	1.0	95.0	.0000

Second Mediation Model: DERS to TRGI to CESDR

For the second mediation model tested, Depression symptomology, as measured by the CESDR (Eaton et al., 2004) was identified as the outcome variable; Emotional Dysregulation, as measured by the DERS-16 (Bjureberg et al., 2015); was identified as the independent variable; and trauma guilt, as measured by the TRGI (Kubany et al., 1996) was identified as the mediation variable.

The results of the regression path analysis revealed Emotional Dysregulation affects mediator trauma guilt ($\beta = -.6996$, $p < .01$) and the total effect of Emotional Dysregulation on Depression symptomology was significant ($\beta = .7643$, $p < .001$). The effect of trauma guilt was significant for its effect on outcome variable Depression symptomology ($\beta = -.2041$, $p < .05$). The direct effects of Emotional Dysregulation on Depression symptomology when controlling for the mediator TRGI ($\beta = .6215$, $p < .001$) was statistically significant showing partial mediation. Therefore, some mediation was present in the tested structural model with these data based on the Baron and Kenny (1986) approach. Furthermore, using bootstrapping and examining the indirect effects (.1428) suggests the presence of a mediation effect for the indirect effect of Emotional Dysregulation on Depression through trauma guilt (.0192, .3057). The researcher chose

to conduct a Sobel test to examine if a partial mediation existed. In this case, there was

statistical significance (Z = 2.0590, p < .05), indicating the presence of partial mediation.

Therefore, Emotional Dysregulation contributed to trauma guilt (Table 18), and

Emotional Dysregulation contributed to Depression symptomology (Table 20), with a

mediation effect of trauma guilt (Table 19).

Table 18

Model Summary: The Effect of X (DERS-16 on M (TRGI)

R	R2	MSE	F	df1	df2	p
.4304	.1853	502.9996	21.6047	1.0	95.0	.0000

Table 19

Model Summary: The Effect of X (DERS-16) & M (TRGI) Predicting Y

R	R2	MSE	F	df1	df2	p
.5533	.3061	360.7158	20.7375	2.0	94.0	.0000

Table 20

Total Effect Model summary: The Effect of X (DERS-16 on Y (Depression)

R	R2	MSE	F	df1	df2	p
.5152	.2654	377.8743	34.3234	1.0	95.0	.0000

Third Mediation Model: TRGI to DERS to IESR

For the third mediation model tested, PTSD symptomology, as measured by the

IES-R (Weiss & Marmar, 1996), was identified as the outcome variable; trauma guilt, as

measured by the TRGI (Kubany et al., 1996) was identified as the independent variable;

and Emotional Dysregulation, as measured by the DERS-16 (Bjureberg et al., 2015); and was identified as the mediation variable.

The results of the regression path analysis revealed trauma guilt affects mediator Emotional Dysregulation (ß = -.2648, p < .001) and the total effect of trauma guilt on PTSD symptomology was significant (β = -.1919, p < .05). The effect of Emotional Dysregulation was not significant for its effect on outcome variable PTSD symptomology (ß = -.0029, p > .05). However, the direct effects of trauma guilt on PTSD symptomology when controlling for the mediator Emotional Dysregulation (ß = .7134, p < .001) was statistically significant showing partial mediation. Therefore, some mediation was present in the tested structural model with these data based on the Baron and Kenny (1986) approach. Furthermore, using bootstrapping and examining the indirect effects (-.1889) suggests the presence of a mediation effect for the indirect effect of trauma guilt on PTSD symptomology through Emotional Dysregulation (-.2933, -.1118). In addition, the researcher chose to conduct a Sobel test to examine if a partial mediation existed. In this case, there was statistical significance (Z = -3.6904, p < .001), indicating the presence of partial mediation. Therefore, trauma guilt contributed to Emotional Dysregulation (Table 21), and trauma guilt contributed to PTSD symptomology (Table 23), with a mediation effect of Emotional Dysregulation (Table 22). Emotional

Dysregulation, however, when modeled as the mediator, was not a significant predictor

($p > .05$) of PTSD symptomology.

Table 21

Model Summary: The Effect of X (TRGI) on M (DERS-16)

R	R^2	MSE	F	df_1	df_2	p
.4304	.1853	190.4167	21.6047	1.0	95.0	.0000

Table 22

Model Summary: The Effect of X (TRGI) & M (DERS-16) Predicting Y (IES-R)

R	R^2	MSE	F	df_1	df_2	p
.5798	.3361	238.8120	23.7971	2.0	94.0	.0000
						.9671

Table 23

Total Effect Model Summary: The Effect of X (TRGI) on Y (IES-R)

R	R^2	MSE	F	df_1	df_2	p
.2527	.0639	333.2135	6.4796	1.0	95.0	.0125

Fourth Mediation Model: TRGI to DERS to CESDR

For the fourth mediation model tested, Depression symptomology, as measured by the CESDR (Eaton et al., 2004), was identified as the outcome variable; trauma guilt, as measured by the TRGI (Kubany et al., 1996) was identified as the independent variable; and Emotional Dysregulation, as measured by the DERS-16 (Bjureberg et al., 2015); was identified as the mediation variable.

The results of the regression path analysis revealed trauma guilt affects mediator Emotional Dysregulation (ß = -.2648, $p < .001$) and the total effect of trauma guilt on Depression symptomology was significant (β = -.3687, $p < .001$). The effect of Emotional Dysregulation was significant for its effect on outcome variable Depression symptomology (ß = -6215, $p > .001$). Furthermore, the direct effects of trauma guilt on Depression symptomology when controlling for the mediator Emotional Dysregulation (ß = -.2041, $p < .05$) was statistically significant showing partial mediation. Therefore, some mediation was present in the tested structural model with these data based on the Baron and Kenny (1986) approach. Accordingly, using bootstrapping and examining the indirect effects (-.1646) suggests the presence of a mediation effect for the indirect effect of trauma guilt on Depression symptomology through Emotional Dysregulation (-.2938, -.0810).

In addition, the researcher chose to conduct a Sobel test to examine if a partial mediation existed. In this case, there was statistical significance (Z = -3.1575, p < .01), indicating the presence of partial mediation. Therefore, trauma guilt contributed to Emotional Dysregulation (Table 24), and trauma guilt contributed to Depression

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symptomology (Table 26), with a mediation effect of Emotional Dysregulation (Table 25).

Table 24

Model Summary: The Effect of X (TRGI) on M (DERS-16)

R	R^2	MSE	F	df_1	df_2	p
.4304	.1853	190.4167	21.6047	1.0	95.0	.0000

Table 25

Model Summary: The Effect of X (TRGI) & M (DERS-16) Predicting Y

R	R^2	MSE	F	df_1	df_2	p
.5533	.3061	360.7158	20.7375	2.0	94.0	.0000

Table 26

Total Effect Model Summary: The Effect of X (TRGI) on Y (CESDR)

R	R^2	MSE	F	df_1	df_2	p
.4039	.1632	430.4683	18.5228	1.0	95.0	.0000

Complete Structural Model Based on Mediation Regression (PROCESS)

Prior to moving forward to full model specification and identification, the researcher explored emotional dysregulation and trauma guilt as mediators, independent of one another, using the PROCESS Procedure for SPSS (Hayes, 2016). As shown in

Table 27, the results of the bootstrapping technique and examining the indirect effects were: (a) no presence of a mediation effect for the indirect effect of Emotional Dysregulation on PTSD through trauma guilt; (b) presence of a mediation effect for the indirect effect of Emotional Dysregulation on Depression through trauma guilt; (c) presence of a mediation effect for the indirect effect of trauma guilt on PTSD symptomology through Emotional Dysregulation; and (d) the presence of a mediation effect for the indirect effect of trauma guilt on Depression symptomology through Emotional Dysregulation. Overall, the mediation effect was stronger when trauma guilt was modeled as the independent variable, and the mediation occurred through emotional dysregulation (see Table 27). The following SEM analysis of the complete structural model and modified structural model confirm these findings as well.

Table 27

Mediation Effect in SPSS

Relationship	Direct Effect			Indirect Effect	Total Effect
	Without Mediator	With TRGI Mediator	With DERS		
DERS → IES	.7155 (*p* = .000)	.0020 (*p* = .970)		.0020 (*p* = .970)	.0020
DERS → CESDR	.7643 (*p* = .000)	-.2041 (*p* = .0209)		.1428 (*p* = .0395)	.1022
TRGI → IES	-.1919 (*p* = .0125)		.7134 (*p* = .000)	-.1889 (*p* = .0002)	.2483
TRGI → CESDR	-.3687 (*p* = .000)		-.6215 (*p* = .000)	-.1646 (*p* = .0016)	.1793

Complete Structural Model of Primary Research Question

This section will show how the SEM complete structural model was specified; this final SEM model was based upon the individual measurement models noted earlier, to examine the overall model of the combined individual measurement models from the instruments used in the study. The goal of this complete structural model was to identify pathways between and among indicators and latent factors (Bryne, 2010; Schumacher & Lomax, 2010). The complete structural model was developed using ML estimation due to the complexity of the model and the sample size ($N = 97$). Regardless, the complete, hypothesized measurement model for this investigation did not produce a good fitting model (see Tables 28 and 29; and Figures 25, 26, 27, and 28).

Table 28

Model Fit Indices of the Complete Structural Model With Independent Variables

Model	$\chi2$	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
Model 1 IV: ED	8330.623	3889	.000	2.142	.479	.556	.543	.109	.336
Model 2 IV: TG	8428.790	3888	.000	2.168	.474	.546	.532	.110	.465

Table 29

Model Fit Indices of the Complete Structural Model With Independent Variables

Model	$\chi2$	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
Model 1 IV: ED	3034.971	1866	.000	1.626	.568	.797	.788	.081	.231
Model 2 IV: TG	3137.924	1866	.000	1.682	.558	.779	.769	.084	.519
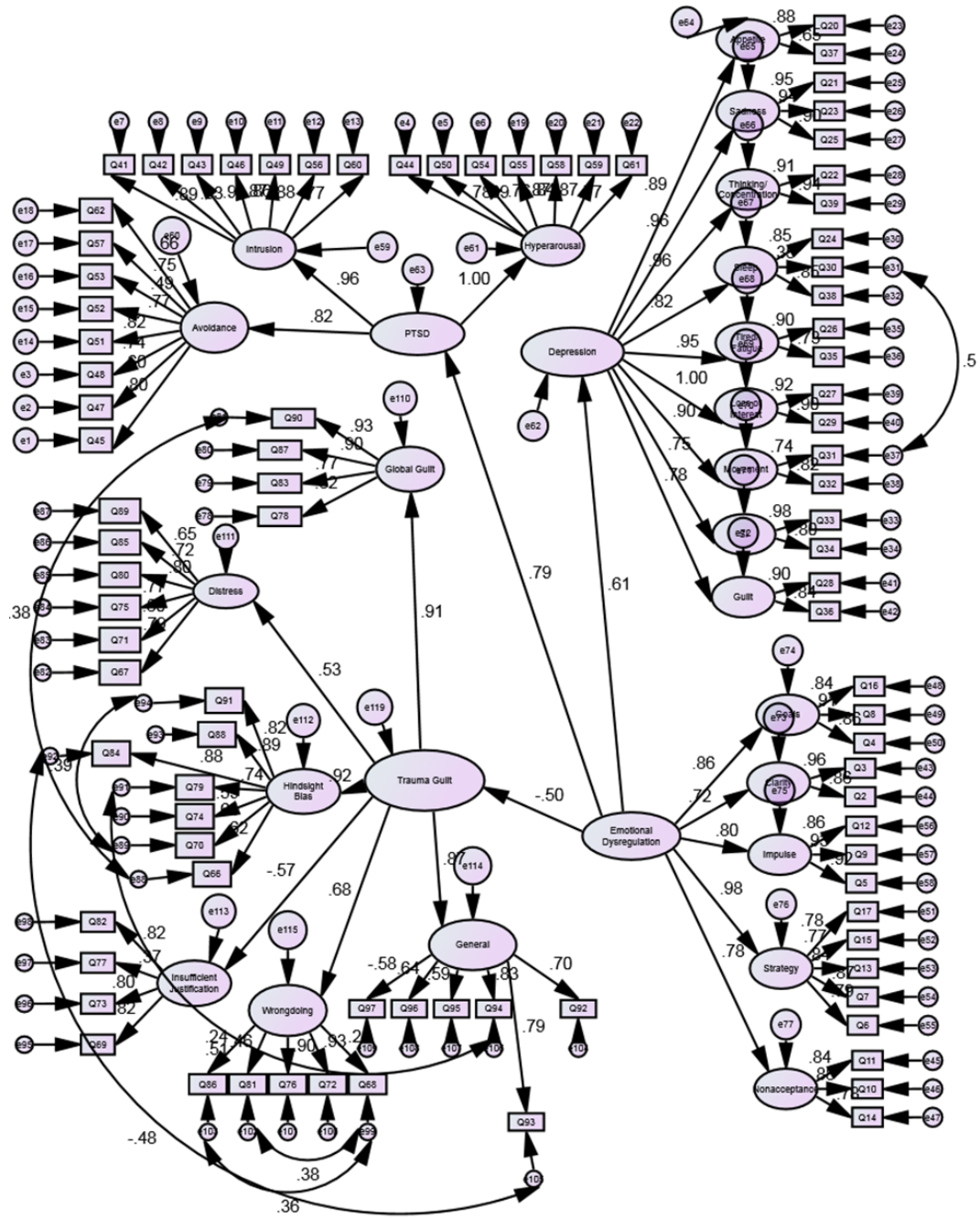
Figure 25. CFA Independent: Emotional Dysregulation
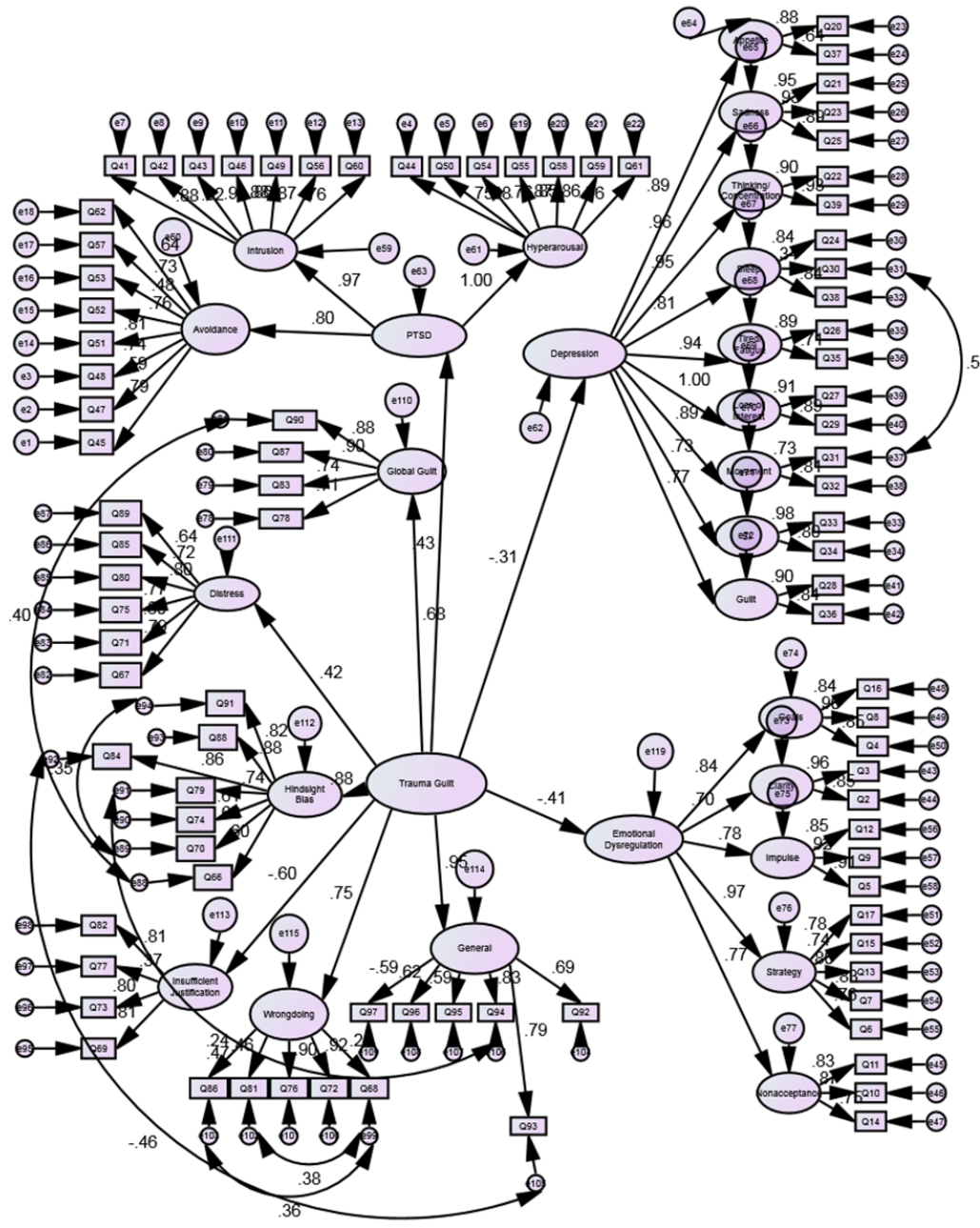
Figure 26. CFA Independent: Trauma Guilt

Figure 27. Measurement Model Based on EFA for IV: Emotional Dysregulation

Figure 28. Measurement Model Based on EFA for IV: Trauma Guilt
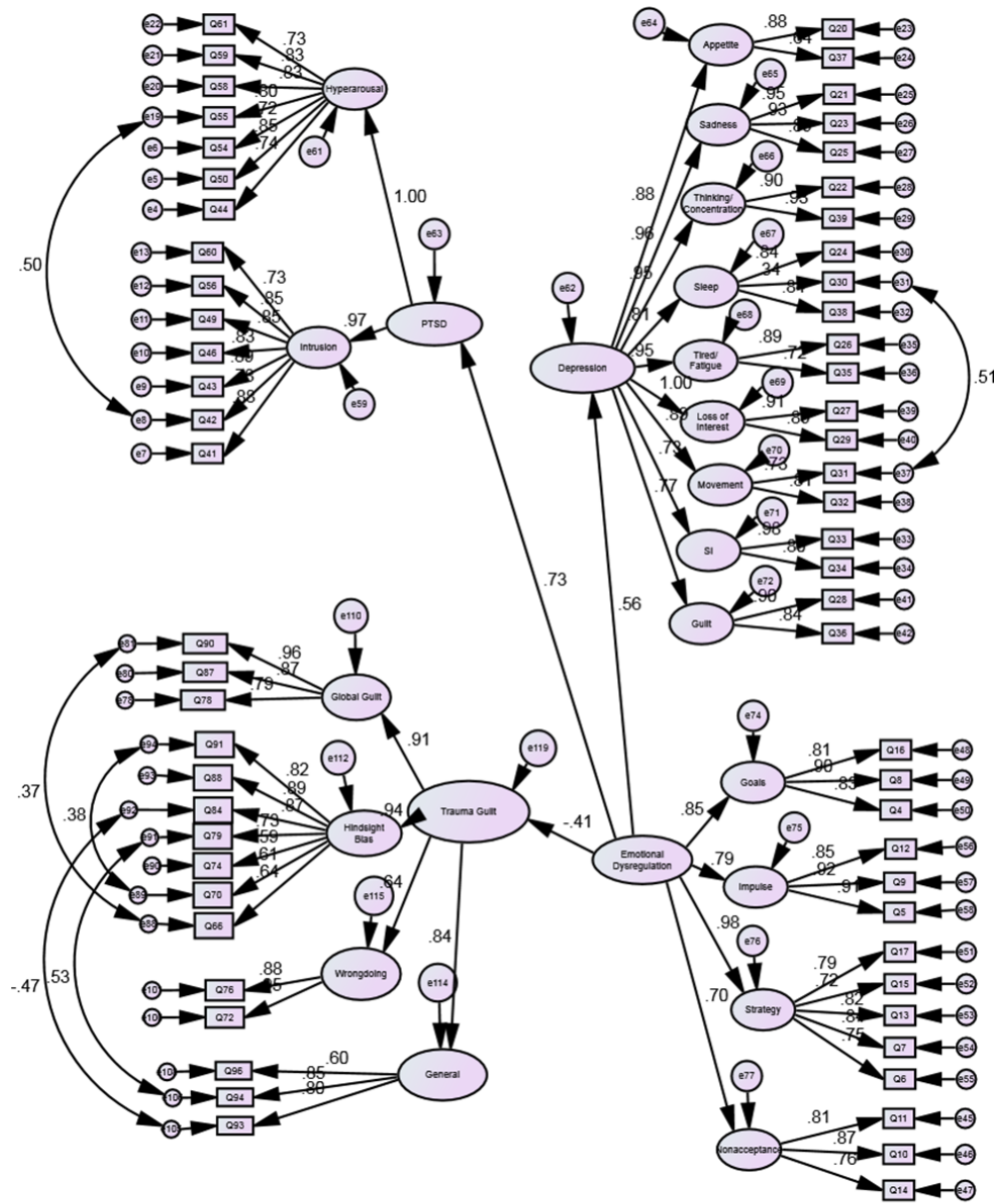
Results of Complete Structural Model for Primary Research Question

Results of the complete structural model where emotional dysregulation was the independent variable revealed that the full model did not fit with these data according to the χ2 ratio (2.142), TLI (.543), CFI (.556), RMSEA (.109), and GFI (.479) reveal poor fit of the complete structural model where emotional dysregulation was the independent variable with these data (see Figure 25 and Table 28).

Results of the complete structural model where trauma guilt was the independent variable revealed that the full model did not fit with these data according to the χ2 ratio (2.168), TLI (.532), CFI (.546), RMSEA (.110), and GFI (.474) reveal poor fit of the complete structural model where trauma guilt was the independent variable with these data (see Figure 26 and Table 28).

Results of the modified, complete structural model based on the EFA results where emotional dysregulation was the independent variable revealed that the full model did not fit with these data according to the χ2 ratio (1.626), TLI (.788), CFI (.797), RMSEA (.081), and GFI (.568) reveal poor fit of the modified, complete structural model based on the EFA results where emotional dysregulation was the independent variable with these data (see Figure 27 and Table 29).

Results of the modified, complete structural model based on the EFA results where trauma guilt was the independent variable revealed that the full model did not fit with these data according to the χ2 ratio (1.682), TLI (.769), CFI (.779), RMSEA (.084), and GFI (.558) reveal poor fit of the modified, complete structural model based on the EFA

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results where trauma guilt was the independent variable with these data (see Figure 28 and Table 29).

Based on findings related to the test of validity of the complete structural model based on the EFA results where emotional dysregulation was modeled as the independent variable with these data; the structural model represents close to an acceptable fit to represent the data (Byrne, 2010). According to the complete SEM measurement model (based on EFA) with emotional dysregulation as the independent variable (see Figure 25), emotional dysregulation (as measured by goals, impulse, strategy, and nonacceptance) contributed to 25% of the variance of trauma guilt (as measured by Global Guilt, Hindsight Bias, Wrongdoing, General) for adult survivors of CBSA (standardized coefficient = -.50). Emotional dysregulation further contributed to 62% of the variance in the levels of PTSD symptomology (as measured by Hyperarousal and Intrusion) of adult survivors of CBSA (standardized coefficient = .79). Emotional dysregulation finally contributed to 37% of the variance in the levels of depression (as measured by Appetite, Sadness, Thinking/Concentration, Sleep, Tired/Fatigue, Loss of Interest, Movement, Suicidal Ideation, Guilt) of adult survivors of CBSA (standardized coefficient = .61).

The relationship identified between emotional dysregulation and PTSD, and emotional dysregulation and depression, indicated a positive correlation suggesting that higher levels of emotional dysregulation contributed to higher levels of PTSD and depression. Conversely, the relationship identified between emotional dysregulation trauma guilt was negative (-.50) which indicated a negative correlation; this suggested that higher levels of emotional dysregulation contributed to lower levels of trauma guilt.

Theoretically, this does not make logical sense, as one would assume increase of difficulties in regulating emotions (i.e., emotional dysregulation) would be parallel to heightened level of guilt that stem from trauma (i.e., trauma guilt). Additionally, these relationships among the latent variables were similar when the CFA was run based of the EFA results.

Moreover, when trauma guilt was identified as the independent variable, though a positive correlation existed between trauma guilt and PTSD (standardized coefficient = .68), a negative correlation existed for trauma guilt and emotional dysregulation (standardized coefficient = -.41); and trauma guilt and depression (standardized coefficient = -.31). This would suggest that heightened levels of trauma guilt contributed to higher levels of PTSD; however, this also suggested that heightened levels of trauma guilt contributed to lower levels of depression and emotional dysregulation. Lastly, these relationships among the latent variables were similar when the CFA was run based on the EFA results.

In reviewing the structural parameter estimates for the complete model (modified structural model with emotional dysregulation IV; Figure 20 & Figure 22), the paths between emotional dysregulation and trauma guilt, emotional dysregulation and PTSD, and emotional dysregulation and depression, were not statistically significant. In reviewing the structural parameter estimates for the second complete model (modified structural model with trauma guilt IV; Figure 21 & Figure 23), the paths between trauma guilt and emotional dysregulation, trauma guilt and PTSD, and trauma guilt and depression, were not statistically significant. Therefore, the null hypothesis was accepted

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for the primary research question: To what extent does modeling the latent variables emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015); or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) are modeled as dependent variables, provide a good fit for data collected from cyber-sexual assault survivors.

The researcher rejected both hypotheses which stated that modeling the latent variables emotional dysregulation as the independent variable and trauma guilt, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors; and modeling the latent variables trauma guilt as the independent variable and emotional dysregulation, post-traumatic stress disorder, and depression as dependent variables is a good fit for data collected from cyber-sexual assault survivors. Therefore, in the interest of model fit, this structural model was restructured where emotional dysregulation and trauma were independently modeled as the mediating variable (based on findings from the PROCESS procedure), to identify the best fitting model for these data.

Complete Structural Model of Secondary (Post Hoc) Research Question

This section will show how the SEM complete structural model was specified; this final SEM model was based upon the individual measurement models noted earlier,

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to examine the overall model of the combined individual measurement models from the instruments used in the study. The goal of this complete structural model was to identify pathways between and among indicators and latent factors (Bryne, 2010; Schumacher & Lomax, 2010). The complete structural model was developed using ML estimation due to the complexity of the model and the sample size ($N = 97$). Regardless, the complete, hypothesized structural model for this investigation did not produce a good fitting model (see Tables 30 and 31). The complete, modified structural model where emotional dysregulation was treated as the mediating variable was the closest model to produce close to acceptable results, based on the CFI (.78). Results of the Complete, Modified Structural Model based on the EFA results where Emotional Dysregulation was modeled as the mediating variable revealed an acceptable fit according to RMSEA (.084) and $\chi2$ ratio (1.673); however, results revealed that the modified model was not an especially good fit for these data according to the TLI (.772), CFI (.781), and GFI (.558), revealing a poor fit with these data (see Figure 29 and Table 31). The recommended CFI for goodness of fit is .90, and given that the sample size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the CFI for goodness of fit. For this investigation, the complete modified structural model based on the EFA results where emotional dysregulation was the mediating variable produced a CFI (.781) just below the recommended cutoff. However, the modification indices and regression weights offer no other suggestions for model respecification, and additional respecification would have been difficult to reconcile with theory. Therefore, the researcher did not modify the model (see Figure 29 and Table 31). As such, the complete, modified structural model based upon EFA results

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where emotional dysregulation is the mediator (shown in Figure 29) offers the best fitting

model with these data.

Table 30

Model Fit Indices of the Complete Structural Model With Mediation

Model	χ^2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
Model 1 Med: ED	8345.348	3894	.000	2.143	.477	.555	.542	.109	.262
Model 2 Med: TG	8451.469	3894	.000	2.170	.471	.544	.531	.110	.472

Table 31

Model Fit Indices of the Complete, Modified Structural Model With Mediation

Model	χ^2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
Model 1 Med: ED	3132.931	1873	.000	1.673	.558	.781	.772	.084	.614
Model 2 Med: TG	3137.150	1866	.000	1.681	.558	.779	.769	.084	.508

Results of the complete structural model where emotional dysregulation was the

mediating variable revealed that the full model did not fit with these data according to the

χ^2 ratio (3894), TLI (.542), CFI (.555), RMSEA (.109), and GFI (.477) reveal poor fit of

the complete structural model where emotional dysregulation was the mediating variable

with these data (see Figure 29 and Table 30).
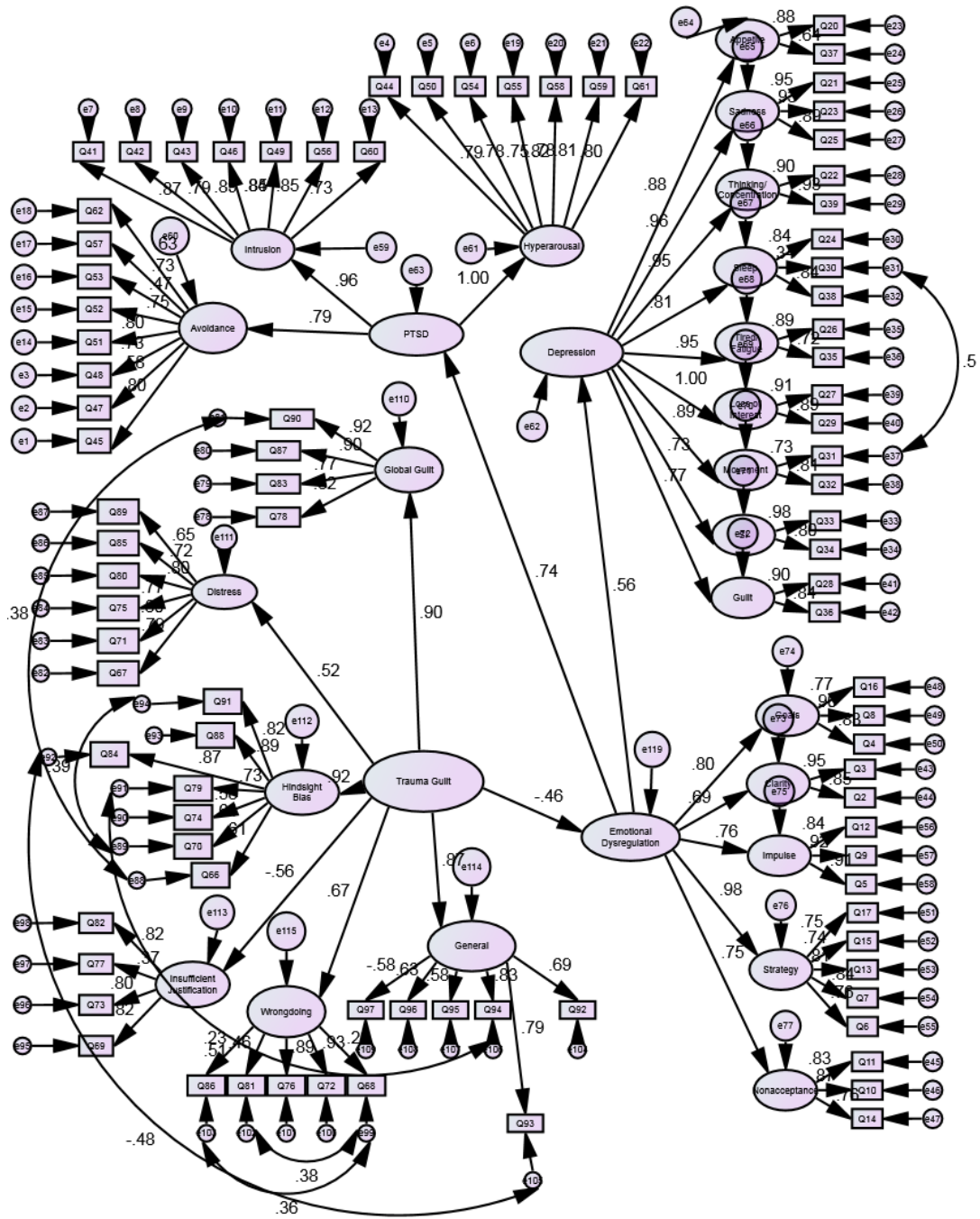
Figure 29. CFA Mediator: Emotional Dysregulation

Results of the modified complete structural model where trauma guilt was the mediating variable revealed that the full model did not fit with these data according to the $\chi 2$ ratio (3894), TLI (.531), CFI (.544), RMSEA (.110), and GFI (.471) reveal poor fit of the complete structural model where trauma guilt was the mediating variable with these data (see Figure 30 and Table 30).
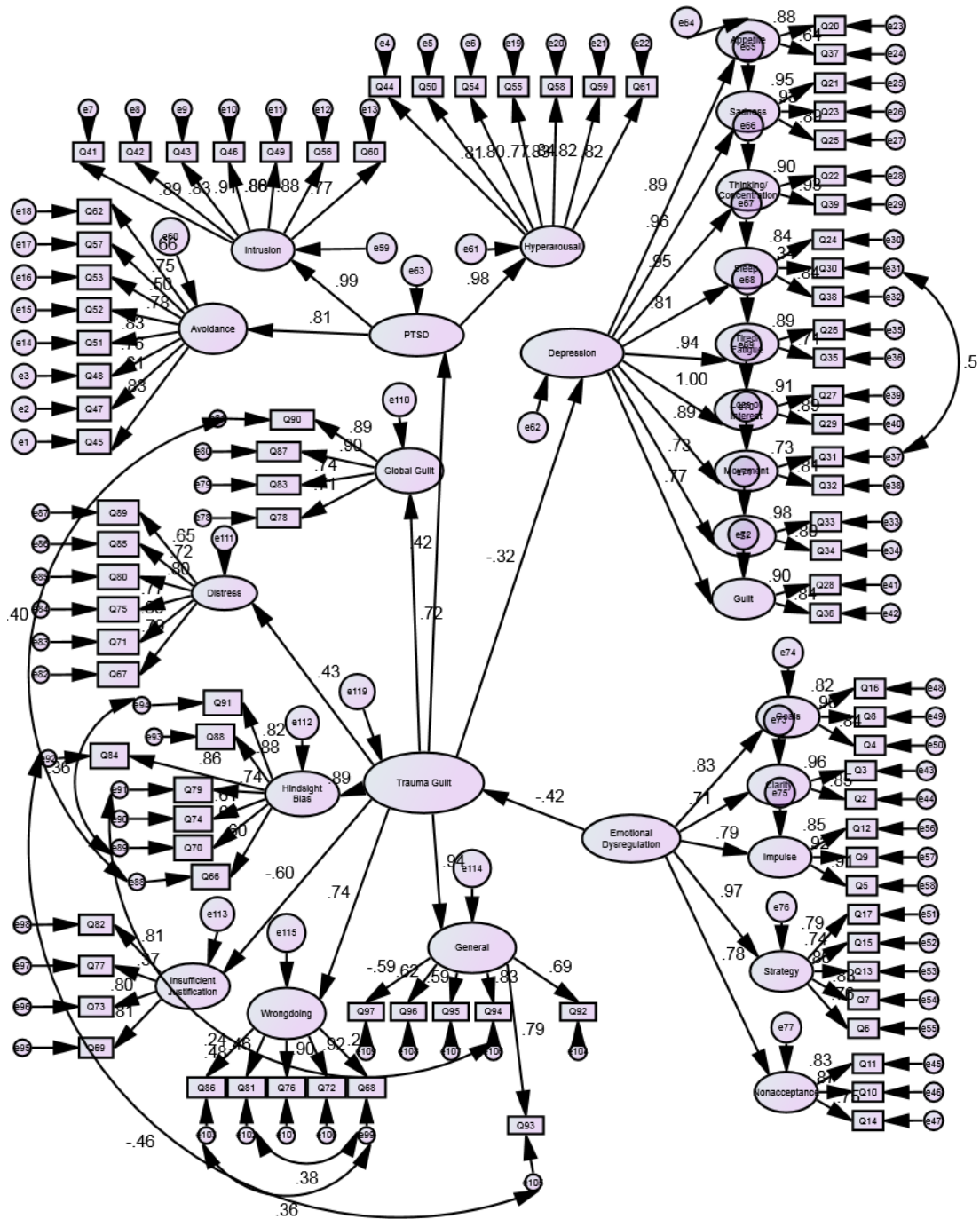
Figure 30. CFA Mediator: Trauma Guilt

Results of the complete modified structural model based on the EFA results where emotional dysregulation was the mediating variable revealed an acceptable fit according to RMSEA (.084) and the $\chi 2$ ratio (1.673); however results revealed that the modified complete structural model was not an entirely satisfactory fit with these data according to the TLI (.772), CFI (.781), and GFI (.558) reveal poor fit of the complete modified structural model based on the EFA results where emotional dysregulation was the mediating variable with these data (see Figure 31 and Table 31). Given that the sample size is small ($N = 97$), Hu and Bentler (1996) suggest consulting the CFI for goodness of fit. Therefore, based on findings related to the test of validity of the complete modified structural model based on the EFA results where emotional dysregulation with these data this structural model represents close to an acceptable fit to represent the data (Byrne, 2010).
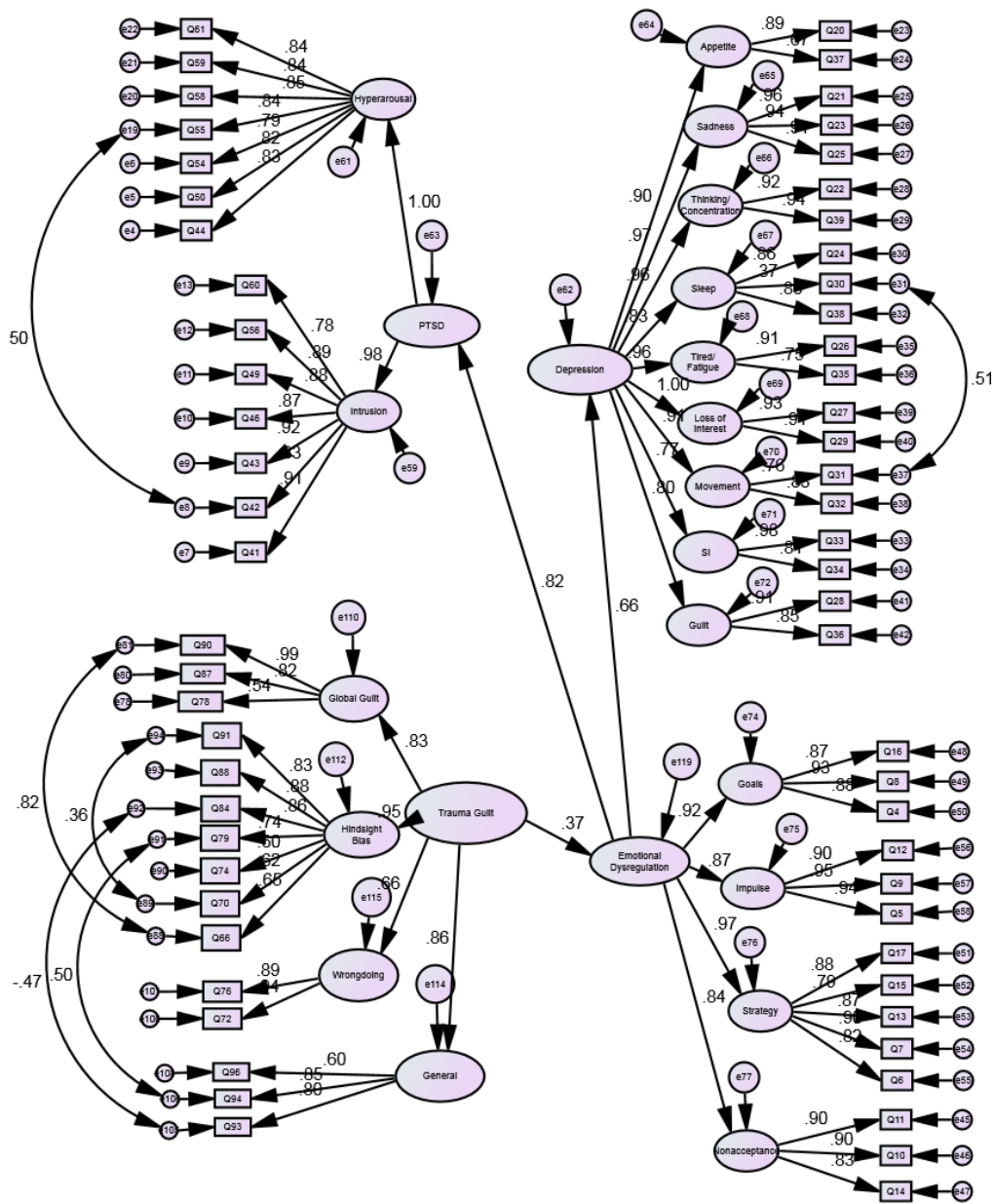
Figure 31. Measurement Model Based on EFA for Mediator: Emotional Dysregulation

Results of the complete modified structural model based on the EFA results where trauma guilt was the mediating variable revealed that the full model did not fit with these data according to the χ2 ratio (1.681), TLI (.769), CFI (.779), RMSEA (.084), and GFI (.558) reveal poor fit of the complete modified structural model based on the EFA results where trauma guilt was the mediating variable with these data (see Figure 32 and Table 31).
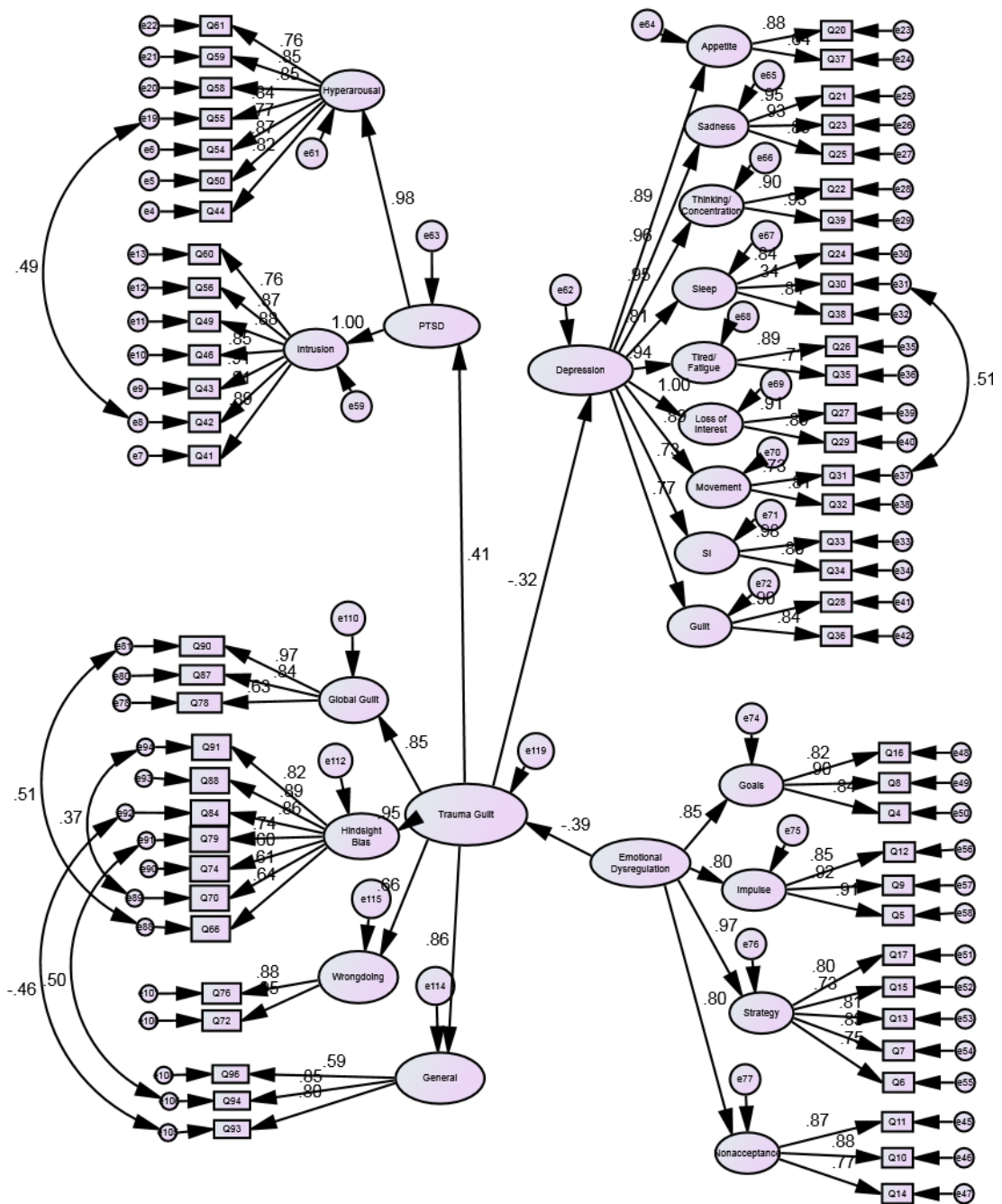
Figure 32. Measurement Model Based on EFA for Mediator: Trauma Guilt

Results of Complete Structural Model of Secondary (Post Hoc) Research Question

Based on findings related to the test of validity of the Modified Complete Structural Model based on the EFA results where emotional dysregulation was modeled as the mediator with these data; the structural model represents close to an acceptable fit to represent the data (Byrne, 2010). According to the complete SEM measurement model (based on EFA) with emotional dysregulation as the mediating variable (see figure XX), level of trauma guilt (as measured by Global Guilt, Hindsight Bias, Wrongdoing, General) contributed to 14% of the variance of emotional dysregulation (as measured by goals, impulse, strategy, and nonacceptance) of adult survivors of CBSA (standardized coefficient = .37).

Emotional dysregulation further contributed to 67% of the variance in the levels of PTSD symptomology (as measured by Hyperarousal and Intrusion) of adult survivors of CBSA (standardized coefficient = .82) when modeled as a mediating variable.

Emotional dysregulation finally contributed to 44% of the variance in the levels of Depression (as measured by Appetite, Sadness, Thinking/Concentration, Sleep, Tired/Fatigue, Loss of Interest, Movement, Suicidal Ideation, Guilt) of adult survivors of CBSA (standardized coefficient = .66) when modeled as a mediating variable.

The relationship identified between trauma guilt and emotional dysregulation; emotional dysregulation and PTSD; and emotional dysregulation and depression, indicated a positive correlation suggesting that higher levels of trauma guilt contributed

to higher levels of emotional dysregulation; and higher levels of emotional dysregulation contributed to higher levels of PTSD and depression.

In reviewing the structural parameter estimates for the final model (complete modified structural model with emotional dysregulation mediation; Figure 26), the paths between trauma guilt and emotional dysregulation, emotional dysregulation and PTSD, and emotional dysregulation and depression, were all statistically significant. Therefore, in the interest of parsimony and model fit, this structural model (based of EFA results where emotional dysregulation was the mediator) was identified the best fitting model for these data, based upon both model fit indices, and the variance in which the mediator (i.e., emotional dysregulation) contributed to the dependent variables (i.e., depression and PTSD).

Follow-up Analyses

Further analyses were conducted to investigate the tested model and model fit, and a new model was specified as a post-hoc analysis. Kline (2011) suggested that it is good practice for researchers using SEM to consider the existence of equivalent models that fit the same data; although, this practice is uncommon. Based on a literature review of trauma guilt and emotional dysregulation, the researcher modeled each of these as independent variables, autonomous of one-another.
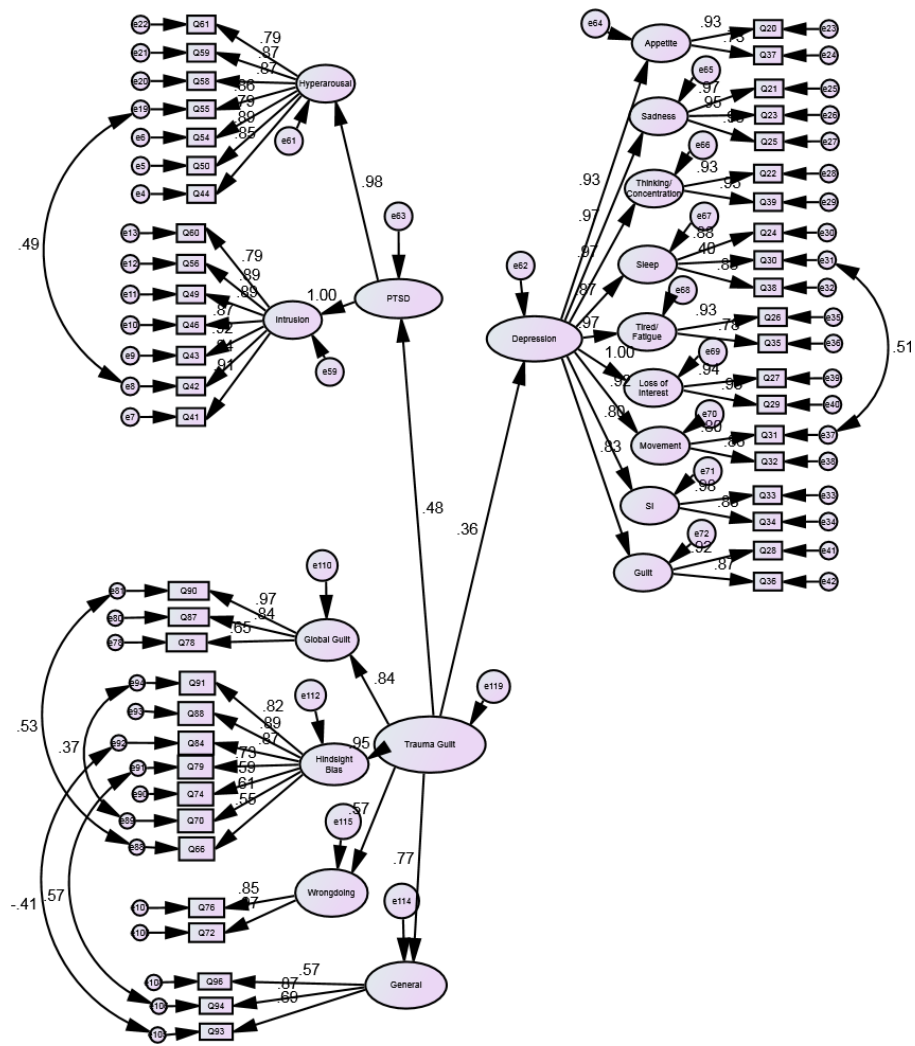
Figure 33. Structural Modified Measurement Model: TRGI Independent Variable
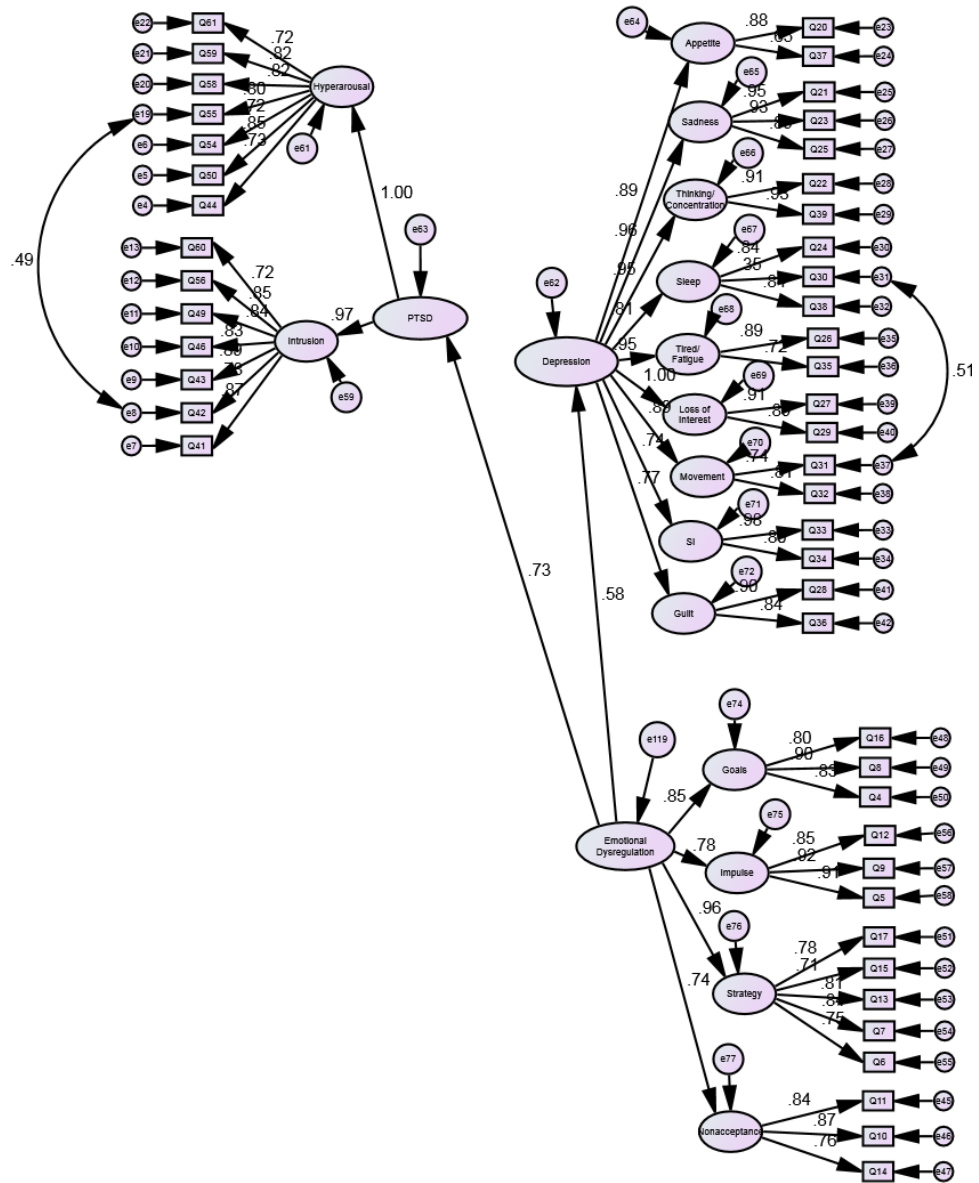
Figure 34. Structural Modified Measurement Model: DERS-16 Independent Variable

Table 32

Model Fit Indices of the Modified Structural Model With Mediation

Model	χ2	Df	P	CMIN/df	GFI	CFI	TLI	RMSEA	SRMR
Model 1 Ind: TRGI	1788.149	1.612	.000	1.612	.604	.836	.827	.080	.712
Model 2 Ind: DERS	1747.799	1.640	.000	1.640	.620	.840	.831	.082	.210

<u>Model 1</u>

Results of the modified structural model based on the EFA results where emotional dysregulation was the independent variable revealed an acceptable fit according to RMSEA (.082) and the χ2 ratio (1.640); however, results revealed that the full model did not fit with these data according to the TLI (.831), CFI (.840), and GFI (.620) reveal poor fit of the Modified Structural Model based on the EFA results where emotional dysregulation was the independent variable with these data (see Figure 34 and Table 32). Given that the sample size was small ($N = 97$), Hu and Bentler (1996) suggested consulting the CFI for goodness of fit. Therefore, based on findings related to the test of validity of the modified structural model based on the EFA results where emotional dysregulation was independent of depression and PTSD with these data, this structural model represents close to an acceptable fit to represent the data (Byrne, 2010).

Emotional dysregulation further contributed to 53% of the variance in the levels of PTSD symptomology (as measured by Hyperarousal and Intrusion) of adult survivors of CBSA (standardized coefficient = .73). Emotional dysregulation contributed to 34% of the variance in the levels of depression (as measured by Appetite, Sadness,

Thinking/Concentration, Sleep, Tired/Fatigue, Loss of Interest, Movement, Suicidal

Ideation, Guilt) of adult survivors of CBSA (standardized coefficient = .58).

<u>Model 2</u>

Results of the modified structural model based on the EFA results where trauma

guilt was the independent variable revealed an acceptable fit according to RMSEA (.080)

and the χ2 ratio (1.612); however, results revealed that the full model did not fit with these

data according to the TLI (.827), CFI (.836), and GFI (.604) reveal poor fit of the modified

structural model based on the EFA results where trauma guilt was the independent

variable with these data (see Figure 33 and Table 32). Given that the sample size was

small ($N = 97$), Hu and Bentler (1996) suggested consulting the CFI for goodness of fit.

Therefore, based on findings related to the test of validity of the modified structural model

based on the EFA results where trauma guilt was independent of depression and PTSD

with these data, this structural model represents close to an acceptable fit to represent the

data (Byrne, 2010).

Trauma guilt further contributed to 23% of the variance in the levels of PTSD

symptomology (as measured by Hyperarousal and Intrusion) of adult survivors of CBSA

(standardized coefficient = .48). Trauma guilt contributed to 13% of the variance in the

levels of depression (as measured by Appetite, Sadness, Thinking/Concentration, Sleep,

Tired/Fatigue, Loss of Interest, Movement, Suicidal Ideation, Guilt) of adult survivors of CBSA (standardized coefficient = .36).

<center>Exploratory Research Questions</center>

Additional post hoc analyses examined differences and relationships among selected demographic data and latent variables associated with trauma symptomology (emotional dysregulation, trauma guilt, post-traumatic stress disorder, and depression) in a sample of survivors of cyber-sexual assault. Specifically, a Spearman's Rho (see Table 36 and Table 37) was utilized to examine the relationship among the scales and the ordinal demographic variables (e.g., frequency of searching for online material). A one-way between groups analysis of variance (ANOVA) was used to explore the significant relationships found between the demographic variables (e.g., nominal; ordinal) and instruments' total scores (DERS-16, TRGI, IES-R, CESD-R). A *t*-test (see Tables 33, 34, and 35) was used to examine mean differences for the binary, nominal data (i.e., biological sex, sexual assault history, and whether material was still online).

Accordingly, preliminary analyses were performed to determine if the data met assumptions (i.e., normality, linearity, and homoscedasticity) for these analyses (Cohen, 1988). The data met the assumptions of normality; thus an ANOVA and t-test were appropriate measures for the data. Lastly, the exploratory analyses were completed with all of the items in the instruments; therefore, the items that were removed for the Final SEM model (based on EFA results) were put back into the total scores to ensure that all of the items were included.

Table 33

Results of t-tests and DERS-16, CESD-R, IES-R, TRGI by Biological Sex

Outcome		Group					95% CI for			
	Male			Female			Mean			
	M	SD	n	M	SD	n	Difference	t	df	*p*
DERS-16	60.5	16.45	6	49.60	14.97	97	-1.70, 23.49	1.71	95	.089
CESD-R	58.67	18.53	6	39.68	22.39	91	.4052, 37.57	2.03*	95	.045
IES-R	70.67	12.71	6	50.3	18.47	91	5.05, 35.52	2.64*	95	.010
TRGI	35.67	23.70	6	53.65	24.50	91	-38.44, 2.48	-1.74	95	.084

* p < .05

Table 34

Results of t-tests and DERS-16, CESD-R, IES-R, TRGI by Sexual Assault

Outcome		Group					95% CI for			
	Yes			No			Mean			
	M	SD	n	M	SD	n	Difference	t	df	*p*
DERS-16	53.02	14.38	54	46.84	15.68	43	.1072, 12.26	2.02*	95	.046
CESD-R	41.30	20.55	54	40.30	25.1	43	-8.21, 10.19	.214	95	.831
IES-R	52.11	17.87	54	51.05	20.04	43	-6.59, 8.72	.276	95	.783
TRGI	49.98	22.84	54	55.74	26.82	43	-15.78, 4.3	-1.142	95	.256

* p < .05.

Table 35

Results of t-tests and DERS-16, CESD-R, IES-R, TRGI by Material Online

Outcome		Group					95% CI for			
	Yes			No			Mean			
	M	SD	n	M	SD	n	Difference	t	df	*p*
DERS-16	53.86	16.64	41	46.40	14.37	30	-.0852, 14.99	1.97*	69	.053
CESD-R	47.22	22.67	41	36.37	23.11	30	-.4039, 21.51	1.92*	69	.059
IES-R	62.22	16.28	41	44.83	16.89	30	9.46, 25.31	4.38*	69	.000
TRGI	48.66	26.18	41	52.50	24.65	30	-16.09, 8.40	-.626	69	.533

* p < .05.

Table 36

Results of Spearman's Rho and DERS-16, CESD-R, IES-R, TRGI by Searching for Material at Worst Point

Variable	r	(Total Score) Variance	p
DERS-16	-.195	3.8%	.055*
IES-R	-.132	1.7%	.198
CESD-R	-.1357	1.8%	.000*
TRGI	.204	4.2%	.045*

* p ≤ .05.

Table 37

Results of Spearman's Rho and DERS-16, CESD-R, IES-R, TRGI by Searching for Material Presently

Variable	r	(Total Score) Variance	p
DERS-16	-.025	.06%	.812
IES-R	-.217	4.7%	.034*
CESD-R	-.173	3%	.091
TRGI	.106	1.1%	.305

* p < .05.

Exploratory Question 1

Is there a statistically significant relationship between emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

The relationship between relationship between cyber sexual assault victims' emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015); and their reported demographic

variables (e.g., gender, sexual orientation, ethnicity, previous sexual assault, and checking behaviors) was investigated using a Spearman's rho, a one-way between groups analysis of variance (ANOVA), and a *t*-test.

A Spearman's rho was conducted to identify the relationship among emotional dysregulation (DERS-16*),* and the ordinal demographic questions: "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material?" (see Table 36) and "In relation to your cyber-sexual assault, presently, how often do you currently search for your material?" (see Table 37). A significant correlation was identified for emotional dysregulation and the demographic "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material" ($r = -.195$, $p = .055$; $r^2 = 3.8\%$ variance). The analysis results identified no relationship between emotional dysregulation and the demographic "In relation to your cyber-sexual assault, presently, how often did you search for your material" ($r = -.025$, $p = .812$; $r^2 = .06\%$ variance).

A one-way between groups analysis of variance was conducted to explore mean differences of ethnicity; sexual orientation; relationship to perpetrator on emotional dysregulation as measured by the DERS-16 (see Tables 38 and 39). For ethnicity, participants were divided based on responses (African American or Black; American Indian or Alaska Native; Asian; White (non-Hispanic); Hispanic or Latino; Native Hawaiian or Pacific Islander; Two or more Races, Other). The analysis was not significant, ($F[7, 89] = .342$, $p = .932$). Furthermore, the difference in mean scores was small across groups: African American or Black ($M = 49.80$, $SD = 10.06$); American

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Indian or Alaska Native ($M = 48$, $SD = 0.0$); Asian ($M = 48.0$, $SD = 24.09$); White (non-Hispanic) ($M = 50.65$, $SD = 14.0$); Hispanic or Latino ($M = 44.75$, $SD = 18.84$); Native Hawaiian or Pacific Islander ($M = 60.0$, $SD = 0.0$); Two or more Races ($M = 49.75$, $SD = 20.12$); and Other ($M = 55.43$, $SD = 14.73$). The data were not significant; and therefore no post hoc analyses were run.

Table 38

Descriptive Statistics: Ethnicity (DERSTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
African American or Black	5	49.800	10.0598	4.4989	37.309	62.291	39.0	65.0
American Indian or Alaska Native	1	48.000	.	.	.	.	48.0	48.0
Asian	8	48.000	24.0891	8.5168	27.861	68.139	18.0	80.0
White (non-Hispanic)	63	50.651	14.0013	1.7640	47.125	54.177	23.0	80.0
Hispanic or Latino	8	44.750	18.8358	6.6594	29.003	60.497	25.0	72.0
Native Hawaiian or Pacific Islander	1	60.000	.	.	.	.	60.0	60.0
Two or more Races	4	49.750	20.1225	10.0613	17.731	81.769	24.0	73.0
Other:	7	55.429	14.7293	5.5672	41.806	69.051	37.0	75.0
Total	97	50.278	15.2081	1.5441	47.213	53.343	18.0	80.0

Table 39

Anova: Ethnicity (DERSTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	582.403	7	83.200	.342	.932
Within Groups	21621.082	89	242.934		
Total	22203.485	96			

A one-way between groups analysis of variance was conducted to explore mean differences of sexual orientation on emotional dysregulation as measured by the DERS-16. Participants were divided based on responses (Bisexual; Heterosexual;

Gay/Lesbian/Homosexual; Other). As shown in Tables 40 and 41, the analysis was not

significant, (F[3, 91] = 1.619, p = .191). Furthermore, the difference in mean scores was

small across groups: Bisexual (M = 54.727, SD = 11.85); Heterosexual (M = 49.49, SD =

14.84); Gay/Lesbian/Homosexual (M = 45.500, SD = 14.85); and Other (M = 77.00, SD

= 0.0). The data were not significant; and therefore no post hoc analyses were run.

Table 40

Descriptive Statistics: Sexual Orientation (DERSTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
Bisexual	11	54.727	11.8498	3.5729	46.766	62.688	32.0	72.0
Heterosexual	81	49.494	14.8435	1.6493	46.212	52.776	23.0	80.0
Gay/Lesbian/Homosexual	2	45.500	14.8492	10.5000	-87.915	178.915	35.0	56.0
Other:	1	77.000	.	.	.	.	77.0	77.0
Total	95	50.305	14.6876	1.5069	47.313	53.297	23.0	80.0

Table 41

Anova: Sexual Orientation (DERSTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1027.219	3	342.406	1.619	.191
Within Groups	19250.929	91	211.549		
Total	20278.147	94			

A one-way between groups analysis of variance was conducted to explore mean

differences of relationship to perpetrator on emotional dysregulation as measured by the

DERS-16. Participants were divided based on responses (Partner/Significant other;

Marital partner; Friend; Casual relationship; Other). The analysis was not significant,

(F[4, 91] = .438, p = .781). Furthermore, the difference in mean scores was small across

groups: Partner/Significant other (M = 51.11, SD = 14.92); Marital partner (M = 46.13,

SD = 13.59); Friend (M = 48.33, SD = 15.32); Casual relationship (M = 47.64, SD =

13.3624); and Other (M = 52.333, SD = 17.47). As shown in Tables 42 and 43, the data

were not significant; therefore, no post hoc analyses were run.

Table 42

Descriptive Statistics: Relationship to Perpetrator (DERSTOT)

| Descriptor | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
					Lower Bound	Upper Bound		
Partner/Significant other	35	51.114	14.9249	2.5228	45.987	56.241	18.0	80.0
Marital partner	8	46.125	13.5903	4.8049	34.763	57.487	23.0	62.0
Friend	12	48.333	15.3228	4.4233	38.598	58.069	26.0	77.0
Casual relationship	14	47.643	13.3624	3.5713	39.928	55.358	24.0	65.0
Other:	27	52.333	17.4731	3.3627	45.421	59.245	24.0	80.0
Total	96	50.188	15.2614	1.5576	47.095	53.280	18.0	80.0

Table 43

Anova: Relationship to Perpetrator (DERSTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	418.326	4	104.582	.438	.781
Within Groups	21708.299	91	238.553		
Total	22126.625	95			

Finally, an independent sample's t-test was conducted to explore mean

differences of biological sex; sexual assault; and is material still online on emotional

dysregulation as measured by the DERS-16. For biological sex, participants were divided based on responses (Male; Female). The analysis was approaching a statistical significance, ($t(1.717)$=.053, p = .089) difference in the mean scores on the DERS-16 for males (M=60.5, SD=16.45) and females (M=49.60, SD=14.97).

An independent sample's t-test was conducted to explore mean differences of sexual assault; and emotional dysregulation as measured by the DERS-16. For sexual assault, participants were divided based on responses (Yes; No). There was a statistically significant ($t(2.020)$= .845, p = .046) difference in the mean scores on the DERS-16 for those with a previous ("Yes") history of sexual assault (M=53.0, SD=14.4) and those without ("No") prior history of sexual assault (M=46.8, SD=15.7).

An independent sample's t-test was conducted to explore mean differences of "Is your material still posted online"; and emotional dysregulation as measured by the DERS-16. For whether individuals' material was posted online, participants were divided based on responses (Yes; No). There was a statistically significant ($t(1.972)$= 1.734, p = .05) difference in the mean scores on the DERS-16 for those who do ("Yes") have material still posted online (M=53.9, SD=16.6) and those without ("No") material still posted online (M=46.4, SD=14.4).

Exploratory Question 2

Is there a statistically significant relationship between PTSD symptomology as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous

sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

The relationship between cyber sexual assault victims' post-traumatic stress symptomology as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996); and their reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors) was investigated using a Spearman's rho, a one-way between groups analysis of variance (ANOVA), and a *t*-test.

A Spearman's rho was conducted to identify the relationship among PTSD symptomology (IES-R), and the ordinal demographic questions: "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material?" (see Table 36) and "In relation to your cyber-sexual assault, presently, how often do you currently search for your material?" (see Table 37). The analysis results identified no relationship between PTSD symptomology and the demographic "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material" (r = -.132, p = .198; 1.7% variance). A significant correlation was identified for PTSD symptomology and the demographic "In relation to your cyber-sexual assault, presently, how often did you search for your material" (*r* = -.217, *p* = .034; 4.7% variance).

A one-way between groups analysis of variance was conducted to explore mean differences of ethnicity; sexual orientation; relationship to perpetrator on PTSD symptomology as measured by the IES-R. For ethnicity, participants were divided based

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on responses (African American or Black; American Indian or Alaska Native; Asian; White (non-Hispanic); Hispanic or Latino; Native Hawaiian or Pacific Islander; Two or more Races, Other). The analysis was not significant, (F[7, 89] = .706, p = .667). Furthermore, the difference in mean scores was small across groups: African American or Black (M = 49.80, SD = 17.12); American Indian or Alaska Native (M = 36.00, SD = 0.0); Asian (M = 43.75, SD = 22.89); White (non-Hispanic) (M = 51.98, SD = 19.02); Hispanic or Latino (M = 49.13, SD = 15.08); Native Hawaiian or Pacific Islander (M = 76.0, SD = 0.0); Two or more Races (M = 55.50, SD = 17.1); and Other (M = 58.29, SD = 19.57). As shown in Tables 44 and 45, the data were not significant; therefore, no post hoc analyses were run.

Table 44

Descriptive Statistics: Ethnicity (IESRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
African American or Black	5	49.8000	17.12308	7.65768	28.5389	71.0611	29.00	75.00
American Indian or Alaska Native	1	36.0000	.	.	.	.	36.00	36.00
Asian	8	43.7500	22.88949	8.09266	24.6139	62.8861	12.00	78.00
White (non-Hispanic)	63	51.9841	19.01908	2.39618	47.1942	56.7740	.00	87.00
Hispanic or Latino	8	49.1250	15.08488	5.33331	36.5137	61.7363	30.00	76.00
Native Hawaiian or Pacific Islander	1	76.0000	.	.	.	.	76.00	76.00
Two or more Races	4	55.5000	17.09776	8.54888	28.2937	82.7063	38.00	79.00
Other:	7	58.2857	19.56795	7.39599	40.1884	76.3831	39.00	86.00
Total	97	51.6392	18.76787	1.90559	47.8566	55.4217	.00	87.00

Table 45

Anova: Ethnicity (IESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1779.783	7	254.255	.706	.667
Within Groups	32034.588	89	359.939		
Total	33814.371	96			

A one-way between groups analysis of variance was conducted to explore mean differences of sexual orientation on PTSD symptomology as measured by the DERS-16. Participants were divided based on responses (Bisexual; Heterosexual;

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Gay/Lesbian/Homosexual; Other). The analysis was not significant, (F[3, 91] = 1.198, p

= .315). Furthermore, the difference in mean scores was small across groups: Bisexual

(M = 52.73, SD = 17.75); Heterosexual (M = 50.91, SD = 18.85);

Gay/Lesbian/Homosexual (M = 48.00, SD = 16.97); and Other (M = 86.00, SD = 0.0). As

shown in Tables 46 and 47, the data were not significant; and therefore no post hoc

analyses were run.

Table 46

Descriptive Statistics: Sexual Orientation (IESRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Minimum	Maximum
Bisexual	11	52.7273	17.74875	5.35145	40.8035	64.6510	29.00	76.00
Heterosexual	81	50.9136	18.85418	2.09491	46.7446	55.0826	.00	87.00
Gay/Lesbian/ Homosexual	2	48.0000	16.97056	12.00000	-104.4745	200.4745	36.00	60.00
Other:	1	86.0000	.	.	.	.	86.00	86.00
Total	95	51.4316	18.77507	1.92628	47.6069	55.2563	.00	87.00

Table 47

Anova: Sexual Orientation (IESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1258.728	3	419.576	1.198	.315
Within Groups	31876.577	91	350.292		
Total	33135.305	94			

A one-way between groups analysis of variance was conducted to explore mean

differences of relationship to perpetrator on PTSD symptomology as measured by the

DERS-16. Participants were divided based on responses (Partner/Significant other;

Marital partner; Friend; Casual relationship; Other). The analysis was not significant,

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(F[4, 91] = 1.509, p = .206). Furthermore, the difference in mean scores was small across

groups: Partner/Significant other (M = 51.46, SD = 16.05); Marital partner (M = 46.00,

SD = 13.04); Friend (M = 45.25, SD = 24.55); Casual relationship (M = 47.00, SD =

21.52); and Other (M = 57.78, SD = 17.98). As shown in Tables 48 and 49, the data were

not significant; therefore, no post hoc analyses were run.

Table 48

Descriptive Statistics: Relationship to Perpetrator (IESRCTOT)

					95% Confidence Interval for Mean			
Descriptor	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Min	Max
Partner/S. other	35	51.46	16.05	2.71	45.94	56.97	15.00	82
Marital partner	8	46.00	13.04	4.61	35.1	56.90	24.00	63
Friend	12	45.25	24.55	7.09	29.65	60.85	.00	86
Casual relationship	14	47.00	21.52	5.75	34.58	59.42	12.00	83
Other:	27	57.78	17.98	3.46	50.67	64.89	21.00	87
Total	96	51.35	18.65	1.90	47.57	55.13	.00	87

Table 49

Anova: Relationship to Perpetrator (IESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2056.356	4	514.089	1.509	.206
Within Groups	31001.602	91	340.677		
Total	33057.958	95			

Finally, an independent sample's t-test was conducted to explore mean

differences of biological sex; sexual assault; and is material still online on PTSD

symptomology as measured by the IES-R. For biological sex, participants were divided

based on responses (Male; Female). The analysis was statistically significant,

(t(2.643)=1.310, p = .010) for the difference in the mean scores on the IES-R for males (M=70.6, SD=12.7) and females (M=50.4, SD=18.5).

An independent sample's t-test was conducted to explore mean differences of sexual assault; and PTSD symptomology as measured by the IES-R. For sexual assault, participants were divided based on responses (Yes; No). There was not a statistically significant (t(.276)= 1.182, p = .783) difference in the mean scores on the IES-R for those with a previous ("Yes") history of sexual assault (M=52.1, SD=17.9) and those without ("No") prior history of sexual assault (M=51.0, SD=20.0).

An Independent Sample's t-test was conducted to explore mean differences of "Is your material still posted online"; and PTSD symptomology as measured by the IES-R. For whether individuals' material was posted online, participants were divided based on responses (Yes; No). There was a statistically significant (t(4.376)= .185, p = .000) difference in the mean scores on the IES-R for those who do ("Yes") have material still posted online (M=62.2, SD=16.3) and those without ("No") material still posted online (M=44.8, SD=16.9).

Exploratory Question 3

Is there a statistically significant relationship between levels of depression as measured by Center for Epidemiologic Studies Depression Scale revised [CESD-R] (Eaton et al., 2004); and the reported demographic variables (i.e., sex, sexual orientation,

ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

The relationship between relationship between cyber sexual assault victims' levels of depression as measured by Center for Epidemiologic Studies Depression Scale revised [CESD-R] (Eaton et al., 2004); and their reported demographic variables (e.g., gender, sexual orientation, ethnicity, previous sexual assault, and checking behaviors) was investigated using a Spearman's rho, a one-way between groups analysis of variance (ANOVA), and a *t*-test.

A Spearman's rho was conducted to identify the relationship among depressive symptomology (CESD-R), and the ordinal demographic questions: "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material?" and "In relation to your cyber-sexual assault, presently, how often do you currently search for your material?". A significant correlation was identified for depressive symptomology (CESDR), and the demographic "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material" ($r = -.1357$, $p = .000$; $r^2 = 1.8\%$). The results of the analysis identified no relationship between depressive symptomology (CESDR), and the demographic "In relation to your cyber-sexual assault, presently, how often did you search for your material" ($r = -.173$, $p = .091$; $r^2 = 3\%$).

A one-way between groups analysis of variance was conducted to explore mean differences of ethnicity; sexual orientation; relationship to perpetrator on depressive symptomology, as measured by the CESDR. For ethnicity, participants were divided

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based on responses (African American or Black; American Indian or Alaska Native; Asian; White (non-Hispanic); Hispanic or Latino; Native Hawaiian or Pacific Islander; Two or more Races, Other). The analysis was not significant (F[7, 89] = .653, p = .711). Furthermore, the difference in mean scores was small across groups: African American or Black (M = 34.40, SD = 10.83); American Indian or Alaska Native (M = 20.00, SD = 0.0); Asian (M = 46.25, SD = 26.12); White (non-Hispanic) (M = 39.76, SD = 22.14); Hispanic or Latino (M = 38.38, SD = 19.88); Native Hawaiian or Pacific Islander (M = 72.0, SD = 0.0); Two or more Races (M = 47.00, SD = 30.23); and Other (M = 47.00, SD = 29.81). As shown in Tables 50 and 51, the data were not significant; and therefore no post hoc analyses were run.

Table 50

Descriptive Statistics: Ethnicity (CESRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
African American or Black	5	34.4000	10.83051	4.84355	20.9521	47.8479	22.00	49.00
American Indian or Alaska Native	1	20.0000	.	.	.	.	20.00	20.00
Asian	8	46.2500	26.11923	9.23454	24.4138	68.0862	5.00	76.00
White (non-Hispanic)	63	39.7619	22.14229	2.78967	34.1854	45.3384	.00	76.00
Hispanic or Latino	8	38.3750	19.87775	7.02785	21.7568	54.9932	10.00	71.00
Native Hawaiian or Pacific Islander	1	72.0000	.	.	.	.	72.00	72.00
Two or more Races	4	47.0000	30.23243	15.11622	-1.1065	95.1065	3.00	72.00
Other:	7	47.0000	29.81051	11.26731	19.4299	74.5701	6.00	76.00
Total	97	40.8557	22.56195	2.29082	36.3084	45.4029	.00	76.00

Table 51

Anova: Ethnicity (CESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2385.976	7	340.854	.653	.711
Within Groups	46482.004	89	522.270		
Total	48867.979	96			

A one-way between groups analysis of variance was conducted to explore mean differences of sexual orientation on depressive symptomology as measured by the CESD-R. Participants were divided based on responses (Bisexual; Heterosexual;

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Gay/Lesbian/Homosexual; Other). The analysis was not significant, (F[3, 91] = .497, p =

.685). Furthermore, the difference in mean scores was small across groups: Bisexual (*M* =

43.00, SD = 20.15); Heterosexual (*M* = 40.17, SD = 22.64); Gay/Lesbian/Homosexual

(*M* = 44.50, SD = 23.33); and Other (*M* = 66.00, *SD* = 0.0). As shown in Tables 52 and

53, the data were not significant; and therefore no post hoc analyses were run.

Table 52

Descriptive Statistics: Sexual Orientation (CESRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Minimum	Maximum
Bisexual	11	43.0000	20.15440	6.07678	29.4601	56.5399	16.00	72.00
Heterosexual	81	40.1728	22.63669	2.51519	35.1675	45.1782	.00	76.00
Gay/Lesbian/ Homosexual	2	44.5000	23.33452	16.50000	-165.1524	254.1524	28.00	61.00
Other:	1	66.0000					66.00	66.00
Total	95	40.8632	22.20485	2.27817	36.3398	45.3865	.00	76.00

Table 53

Anova: Sexual Orientation (CESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	747.141	3	249.047	.497	.685
Within Groups	45600.080	91	501.100		
Total	46347.221	94			

A one-way between groups analysis of variance was conducted to explore mean

differences of relationship to perpetrator on depressive symptomology as measured by

the CESD-R. Participants were divided based on responses (Partner/Significant other; Marital partner; Friend; Casual relationship; Other). The analysis was not significant, (F[4, 91] = .382, p = .821). Furthermore, the difference in mean scores was small across groups: Partner/Significant other (*M* = 41.69, *SD* = 22.87); Marital partner (*M* = 31.75, *SD* = 20.17); Friend (*M* = 39.67, *SD* = 20.93); Casual relationship (*M* = 41.29, *SD* = 25.05); and Other (*M* = 42.78, *SD* = 23.59). As shown in Tables 54 and 55, the data were not significant; and therefore no post hoc analyses were run.

Table 54

Descriptive Statistics: Relationship to Perpetrator (CESRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
Partner/Significant other	35	41.6857	22.86504	3.86490	33.8313	49.5401	.00	76.00
Marital partner	8	31.7500	20.16893	7.13079	14.8884	48.6116	.00	64.00
Friend	12	39.6667	20.93424	6.04319	26.3657	52.9676	16.00	76.00
Casual relationship	14	41.2857	25.04589	6.69380	26.8246	55.7468	3.00	72.00
Other:	27	42.7778	23.58509	4.53895	33.4478	52.1077	5.00	72.00
Total	96	40.8542	22.68038	2.31481	36.2587	45.4496	.00	76.00

Table 55

Anova: Relationship to Perpetrator (CESRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	806.725	4	201.681	.382	.821
Within Groups	48061.233	91	528.145		
Total	48867.958	95			

Finally, an independent sample's t-test was conducted to explore mean differences of biological sex; sexual assault; and is material still online on depression symptomology as measured by the CESD-R. For biological sex, participants were divided based on responses (Male; Female). The analysis was statistically significant, ($t(2.029)=1.107$, p = .045) for the difference in the mean scores on the CESD-R for males (M=58.6, SD=18.5) and females (M=39.7, SD=22.4).

An independent sample's t-test was conducted to explore mean differences of sexual assault; and depression symptomology as measured by the CESD-R. For sexual assault, participants were divided based on responses (Yes; No). There was not a statistically significant ($t(.214)= 3.649$, p = .831) difference in the mean scores on the CESD-R for those with a previous ("Yes") history of sexual assault (M=41.3, SD=20.6) and those without ("No") prior history of sexual assault (M=40.3, SD=25.1).

An independent sample's t-test was conducted to explore mean differences of "Is your material still posted online"; and depression symptomology as measured by the CESD-R. For whether individuals' material was posted online, participants were divided based on responses (Yes; No). There was a statistically significant ($t(1.921)= .012$, p = .05) difference in the mean scores on the CESD-R for those who do ("Yes") have

material still posted online (M=47.2, SD=22.7) and those without ("No") material still posted online (M=36.7, SD=23.1).

Exploratory Question 4

Is there a statistically significant relationship between trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors)?

The relationship between cyber sexual assault victims' levels of trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996); and their reported demographic variables (e.g., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors) was investigated using a Spearman's rho, a one-way between groups analysis of variance (ANOVA), and a *t*-test.

A Spearman's rho was conducted to identify the relationship among trauma guilt (TRGI), and the ordinal demographic questions: "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material?" and "In relation to your cyber-sexual assault, presently, how often do you currently search for your material?" A significant correlation was identified for trauma guilt, and the demographic "In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your material" ($r = .204$, $p = .045$; $r^2 = 4.2\%$). The analysis results identified no relationship between trauma guilt, and the demographic "In relation to your cyber-

sexual assault, presently, how often did you search for your material" ($r = .106$, $p = .305$; $r^2 = 1.1\%$).

A one-way between groups analysis of variance was conducted to explore mean differences of ethnicity; sexual orientation; relationship to perpetrator on trauma guilt as measured by the TRGI. For ethnicity, participants were divided based on responses (African American or Black; American Indian or Alaska Native; Asian; White (non-Hispanic); Hispanic or Latino; Native Hawaiian or Pacific Islander; Two or more Races, Other). The analysis was not significant, ($F[7, 89] = 1.063$, $p = .394$). Furthermore, the difference in mean scores was small across groups: African American or Black ($M = 58.6000$, SD = 23.37306); American Indian or Alaska Native ($M = 55.00$, $SD = 0.0$); Asian ($M = 60.00$, SD = 26.03); White (non-Hispanic) ($M = 54.13$, SD = 23.62); Hispanic or Latino ($M = 54.13$, SD = 27.04); Native Hawaiian or Pacific Islander ($M = 28.0$, $SD = 0.0$); Two or more Races ($M = 31.50$, SD = 28.29); and Other ($M = 38.71$, SD = 29.1). As shown in Tables 56 and 57, the data were not significant; therefore, no post hoc analyses were run.

Table 56

Descriptive Statistics: Ethnicity (TRGRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
African American or Black	5	58.6000	23.37306	10.45275	29.5785	87.6215	34.00	93.00
American Indian or Alaska Native	1	55.0000	.	.	.	.	55.00	55.00
Asian	8	60.0000	26.02746	9.20210	38.2405	81.7595	29.00	99.00
White (non-Hispanic)	63	54.1270	23.62441	2.97640	48.1773	60.0767	14.00	103.00
Hispanic or Latino	8	54.1250	27.03668	9.55891	31.5218	76.7282	15.00	103.00
Native Hawaiian or Pacific Islander	1	28.0000	.	.	.	.	28.00	28.00
Two or more Races	4	31.5000	28.29016	14.14508	-13.5160	76.5160	7.00	71.00
Other:	7	38.7143	29.09590	10.99722	11.8051	65.6235	9.00	82.00
Total	97	52.5361	24.71760	2.50969	47.5544	57.5178	7.00	103.00

Table 57

Anova: Ethnicity (TRGRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4524.636	7	646.377	1.063	.394
Within Groups	54127.488	89	608.174		
Total	58652.124	96			

A one-way between groups analysis of variance was conducted to explore mean differences of sexual orientation on trauma guilt as measured by the TRGI. Participants were divided based on responses (Bisexual; Heterosexual; Gay/Lesbian/Homosexual;

Other). The analysis was not significant, (F[3, 91] = .186, p = .906). Furthermore, the difference in mean scores was small across groups: Bisexual (M = 57.27, SD = 18.84); Heterosexual (M = 51.47, SD = 25.63); Gay/Lesbian/Homosexual (M = 49.00, SD = 19.8); and Other (M = 52.00, SD = 0.0). As shown in Tables 58 and 59, the data were not significant; therefore, no post hoc analyses were run.

Table 58

Descriptive Statistics: Sexual Orientation (TRGRCTOT)

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bisexual	11	57.2727	18.84193	5.68105	44.6145	69.9309	28.00	90.00
Heterosexual	81	51.4691	25.62766	2.84752	45.8024	57.1359	7.00	103.00
Gay/Lesbian/Homosexual	2	49.0000	19.79899	14.00000	-128.8869	226.8869	35.00	63.00
Other:	1	52.0000	.	.	.	.	52.00	52.00
Total	95	52.0947	24.58813	2.52269	47.0859	57.1036	7.00	103.00

Table 59

Anova: Sexual Orientation (TRGRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	345.793	3	115.264	.186	.906
Within Groups	56484.355	91	620.707		
Total	56830.147	94			

A one-way between groups analysis of variance was conducted to explore mean differences of relationship to perpetrator on trauma guilt as measured by the TRGI.

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Participants were divided based on responses (Partner/Significant other; Marital partner; Friend; Casual relationship; Other). The analysis was not significant, (F[4, 91] = 2.040, p = .095). Furthermore, the difference in mean scores was small across groups: Partner/Significant other (*M* = 52.69, SD = 22.48); Marital partner (*M* = 63.00, SD = 26.66); Friend (*M* = 56.33, SD = 25.24); Casual relationship (*M* = 36.57, SD = 17.4); and Other (*M* = 54.3, SD = 27.12). Regarding the demographic of "relationship to perpetrator;" TRGI was the closest to significant of all the scales. As shown in Tables 60 and 61, the data were not significant; however, and therefore no post hoc analyses were run.

Table 60

Descriptive Statistics: Relationship to Perpetrator (TRGRCTOT

Descriptor	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Partner/Significant other	35	52.6857	22.48368	3.80044	44.9623	60.4091	9.00	95.00
Marital partner	8	63.0000	26.66190	9.42641	40.7101	85.2899	24.00	103.00
Friend	12	56.3333	25.23826	7.28566	40.2977	72.3690	13.00	103.00
Casual relationship	14	36.5714	17.39458	4.64890	26.5281	46.6148	9.00	69.00
Other:	27	54.2963	27.12339	5.21990	43.5666	65.0260	7.00	99.00
Total	96	52.1042	24.47662	2.49813	47.1447	57.0636	7.00	103.00

Table 61

Anova: Relationship to Perpetrator (TRGRCTOT)

Descriptor	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4683.691	4	1170.923	2.040	.095
Within Groups	52231.268	91	573.970		
Total	56914.958	95			

Finally, an independent sample's t-test was conducted to explore mean differences of biological sex; sexual assault; and is material still online on trauma guilt as measured by the TRGI. For biological sex (see Table 33), participants were divided based on responses (Male; Female). The analysis was approaching statistical significance, (t(-1.744)=.077, p = .084) of the difference in the mean scores on the TRGI for males (M=35.7, SD=23.7) and females (M=53.6, SD=24.5).

An independent sample's t-test was conducted to explore mean differences of Sexual Assault; and trauma guilt (see Table 34) as measured by the TRGI. For sexual assault, participants were divided based on responses (Yes; No). There was not a statistically significant (t(-1.142)= 1.252, p = .256) difference in the mean scores on the TRGI for those with a previous ("Yes") history of sexual assault (M=50.0, SD=22.8) and those without ("No") prior history of sexual assault (M=55.7, SD=26.8).

An independent sample's t-test was conducted to explore mean differences of "Is your material still posted online"; and trauma guilt as measured by the TRGI. Regarding whether individuals' material was posted online, participants were divided based on responses (Yes; No). There was not a statistically significant (t(-.626)= .489, p = .533) difference in the mean scores on the TRGI for those who do ("Yes") have material still

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posted online (M=48.7, SD=26.2) and those without ("No") material still posted online (M=52.5, SD=24.6).

Summary

Chapter 4 presented the results of the data analyses procedures that included: (a) descriptive analysis, (b) structural equation modeling, (c) regression PROCESS procedure, (d) Pearson's Correlations, (e) Spearman's Rho, and (f) one-way analysis of variance. Chapter 5 proceeds with a discussion of the results, where implications drawn from the analysis presented in Chapter 4 will be shared for: (a) practitioners working with CBSA survivors, (b) counselor educators, and (c) directions for future research.

CHAPTER 5
SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Introduction

In this chapter, the results presented in Chapter 4 were compared to the literature presented in Chapter 2 to provide a full overview of how this investigation added to existing research on the trauma of sexual assault (SA), specifically cyber-sexual assault (CBSA). A comparison has been made to the literature of sexual assault regarding how CBSA presents similarly or differently to the SA symptomology studied in this investigation (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder). Accordingly, the participants' demographics and answers to CBSA questions are reviewed followed by an extensive review of the results of the preliminary research questions, the primary and secondary research hypotheses, and the exploratory questions. Additionally, this chapter provides a review of the limitations of the study, recommendations for future research, and implications for (a) counselors working with survivors of CBSA, (b) the delivery of counselor education, and (c) the development of future instruments related to CBSA.

Summary of the Study

This study was conducted to investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder) in a sample of survivors of cyber-sexual assault. This investigation specifically tested whether modeling latent variables emotional dysregulation (as measured by the Brief Version of the

Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg et al., 2015) or trauma guilt as measured by the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) as the independent variable, where the remaining latent variables of post-traumatic stress disorder as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996) and depression as measured by the Center for Epidemiologic Studies Depression Scale Revised [CESD-R] (Eaton et al., 2004) were modeled as dependent variables, was a good fit for data collected from cyber-sexual assault survivors. Furthermore, secondary analysis investigated whether modeling the latent variables of emotional dysregulation and trauma guilt as mediating variables on the direction and strength of relationship on the dependent variables of post-traumatic stress disorder and depression was a good fit for data collected from cyber-sexual assault survivors. The research goals included: (a) identifying whether cyber-sexual assault appeared similar to other forms of sexual trauma, as no research on mental health consequences of cyber-sexual assault exists; (b) understanding the mediation effect of emotional dysregulation and trauma guilt upon the outcome variables (i.e., depression and PTSD); and (c) enhancing existing counseling literature on technology facility sexual assault/sexual violence through such avenues as cyber-sexual assault.

Four theoretical constructs derived from sexual assault outcome literature established this research study on the mental health outcomes of cyber-sexual assault victims: (a) emotional dysregulation, (b) depression, (c) trauma guilt, and (d) PTSD. It is well documented that the trauma of sexual assault is longstanding, generating numerous mental health issues (e.g., sexual dysfunction, depression, suicidality, substance abuse,

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and post-traumatic stress disorder, emotional dysregulation, trauma guilt among survivors (Eaton et al., 2004; Kubany et al., 1996; Russel & Davis, 2007). Similarly, numerous researchers have identified severe mental health consequences (e.g., depression, anxiety, suicide, and decreased well-being) among victims of cyber-harassment (Washington, 2015). The constructs utilized in this investigation were derived from these high frequency constructs, to determine if cyber-sexual assault presents similarly to sexual assault for survivors of this online form of sexual violence.

Demographics

The participants for this study have never been examined. Therefore, to better understand the demographics of cyber-sexual assault, the demographics are reviewed in this chapter, and the results are explored. Specifically, the demographic results will be compared back to literature on sexual assault. Following this, the results of the questions specific to cyber-sexual assault will be summarized. These results will then be explored, and they will be compared to the literature on sexual assault victims to provide further evidence as to why cyber-sexual assault should be taken just as seriously as sexual assault.

Regarding gender for this investigation, the majority of participants were female; meaning although a representative sample of the population was sought, it appears that women responded at a much larger rate than males suggesting that women experience cyber-sexual assault at higher rates. The majority of participants in this study were female (n = 91, 93.8%), compared to those who identified as male (n = 6, 6.2%) and no one self-identified as transgender. Regarding sexual assault literature and gender, females

experience sexual assault at an overwhelmingly higher rate compared to males. In fact, the National Sexual Violence Resource Center (NSVRC), reported that 91% of rape and sexual assault victims were female (Rennison, 2002). According to researchers (Koss & Harvey, 1991; Kilpatrick et al., 1987; Koss et al., 1987; Petrak & Hedge, 2001) the likelihood a women will experience sexual assault (e.g., completed rape) is 20%, though some researchers have identified a prevalence rate of 33% of females with a reported sexual assault lifetime experience (Petkus et al., 2012; Siegel et al., 1987; Sorenson et al., 1987). According to this investigation, the same is true for cyber-sexual assault, and this information in noteworthy because gender has been substantiated in empirical research to further contribute to the mental health outcome for survivors of sexual assault. As such, gender should be taken into account when treating victims of cyber-sexual assault, just as gender is accounted for during treatment of sexual assault.

Regarding age for this investigation, the majority of participants were between the ages of 19-65 years ($M = 32.03$, SD = 9.93); although the mean age was 32. This mean age of 32 years old may be the result of the recent surge in technology. To participate, individuals had to be age 18 and/or older. For survivors of sexual assault, ages 12-34 are the highest risk years for rape and sexual assault; whereas 54% of survivors are between ages of 18-34, and 28% are between ages 35-64 (RAINN, 2016; BJS, 2013). Only 3% of survivors are above age 65 (RAINN, 2016). Age ranges for cyber-sexual assault victims appeared very similar to those of cyber-sexual assault victims. Young adults experienced higher rates of cyber-sexual assault, which substantially declined after 65. It is noteworthy to mention that in a study by Bureau of Justice Statistics (2013) females who

were age 34 or younger, living is low SES households, and rural areas, experienced the highest rates of sexual violence. Data on socio economic status were not collected; however, this might show a correlation with age for victims of cyber-sexual assault. Furthermore, data on average use of technology were not collected; however, there may be a correlation with technology use and cyber-sexual assault victimization, especially because the age range of CBSA victimization is higher than that of sexual assault. Finally, future researchers would benefit from including under 18 for this demographics question.

Regarding ethnicity for this population, a representative sample of the population was sought. For ethnicity and cyber-sexual assault, the majority of participants were Caucasian/White (64.9%) compared to those who identified as Asian (8.2%), Hispanic or Latino (8.2%), African/African American/Black (5.2%), two of more races (Biracial/Multiracial; 4.1%), American Indian or Alaska Native (1%), and Native Hawaiian or Pacific Islander (1%). Regarding ethnicity and sexual assault, demographics were not similar among survivors. According to the RAINN (2016) website regarding sexual assaults by race per year, American Indian/Alaskan's were impacted the most (34.1%), followed by African/American American/Black (18.8%), Caucasian/White (17.7%), Mixed Race (24.4%), and Asian Pacific Islanders (6.8%). Future research would benefit from exploring these differences in ethnicities impacted. However, access to technology and/or socio economic status might influence whether one participates in the sharing of sexual material to later become a victim of cyber-sexual assault; whereas

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previously noted lower SES individuals were more likely to experience physical sexual assault.

Regarding sexual identity for this investigation, the majority of participants identified as heterosexual. The majority of participants self-reported as heterosexual (83.5%), compared to bisexual (11.3%), gay/lesbian/homosexual (2.1%), and other (1%). Regarding sexual assault, as noted in the RAINN (2016) website, in terms of college students, 21% of LGBTQ (transgender, genderqueer, nonconforming) have been sexually assaulted compared to 18% of non-LGBTQ females and finally 4% of non-LGBTQ males. Meanwhile, in a report by the National Sexual Violence Resource Center, 46.4% lesbians, 74.9% bisexual women and 43.3% heterosexual women reported sexual violence other than rape during their lifetimes, and 40.2% gay men, 47.4% bisexual men and 20.8% heterosexual men reported sexual violence other than rape during their lifetimes (Walters et al., 2013). Sexual assault appears more prevalent in the LGBTQ community when compared to cyber-sexual assault. Future research is suggested specifically geared towards this community to learn whether prevalence rates are, in fact, smaller or if individuals of LGBTQ did not respond.

Cyber-Sexual Assault Questions

Participants were asked several questions surrounding their sexual assault and their cyber-sexual assault history. First, for the demographics question exploring history of prior sexual assault, more than half (55.7%) of participants ($N = 97$) reported the experience of prior sexual assault. This finding supports that of prior researchers who estimated that nearly two of three individuals sexually victimized are revictimized

(Classen et al., 2005). This is important information, because cyber-sexual assault can be seen as a form of revictimization for those individuals who have previously experienced sexual assault. Sexual assault literature overwhelmingly highlights that the majority of those who experience sexual assault will experience multiple sexual assaults, also known as revictimization (Grauerholz, 2000). For instance, Black et al. (2011) noted that over one-third of women who reported experiencing sexual assault/rape prior to age 18 also reported experiencing rape as an adult. In the present study, more than half (N = 54, 55.7%) of the respondents had experienced previous sexual assault in addition to their experiencing cyber-sexual assault. Regarding number of lifetime sexual assaults experienced, 47 (48.45%) of the participants responded and reported a wide range for number of past sexual assaults 1-100 (M = 6.53). A few of the non-numerical responses included: "Too many to count - throughout childhood;" "cannot quantify;" "multiple assaults;" and "I lost count." CBSA can be viewed as a form of sexual revictimization, and the exacerbated mental health consequences for those participants with a history of prior sexual assault are discussed in more detail in the exploratory research questions section of this chapter.

Regarding number of cyber-sexual assaults experienced, 72 (74.23%) of the participants responded and reported a wide range for number of cyber-sexual assaults experienced, 1-100 (M = 26.2, SD = 43.2). A few of the individuals who did not quantify the number of times they had experienced cyber-sexual assault, reported, "I don't know. You cannot put a value on this because you cannot track your photos;" "Unsure of total photos and websites;" "countless;" "ongoing;" "dozens." Most likely, because photos are

permanent (Citron, 2014) once posted online, they never truly go away. The material

spreads from site to site; disappears and reappears until the victims' lose count of how

many times they have been assaulted. Essentially, the original poster only needs to post

the nonconsensual material once, and then anonymous individuals can share this material

for years.

Next, regarding the experience of cyber-sexual assault and the victims'

relationship to their perpetrators, the majority reported their relationship to the perpetrator

(of CBSA) was a partner/significant other (35%), followed by a casual relationship

(14%), a friend (12%), and then marital partner (8%). In essence, all of these experiences

suggest some form of a relationship to the person who posted the private material,

regardless of the degree of relationship. Researchers of sexual assault have similarly

identified that the majority of sexual assault survivors had some relationship to their

perpetrators. In a Bureau of Justice Statistics (2013) report, six in 10 rape or sexual

assault victims had acknowledged having some form of a relationship with their

perpetrators, whether it was by an intimate partner, relative, friend or acquaintance. More

specifically, of the survivors aged 18-29, two-thirds had a prior relationship with their

perpetrators. In a college sample of women who were sexually victimized, nine of the 10

women knew their perpetrators (Fisher et al., 2000). Lastly, in a study by Basile and

Saltzman (2002), sexual coercion was identified for 34% of women via a husband or

intimate partner in their lifetime. Thus, cyber-sexual assault and sexual assault correlate

regarding relationship to perpetrator. Although the majority of this sample knew their

perpetrators to some degree, there are situations where private photos were hacked and shared by an unknown partner.

Several questions were asked related to participants' online material. Because research has not yet been conducted on cyber-sexual assault victims, participants' online material cannot be compared to prior findings. However, these questions are specific to cyber-sexual assault, as they are not found in sexual assault literature. Several questions were asked about the participants' online material. First, when asked whether the participants' material (e.g., photos/videos) was still online, nearly half of the participants' reported yes (42.3%), compared to those who reported no (30.9%). Another portion reported other (26.8%), where the majority of these (n = 22, 85%) qualitatively answered that they did not know or did not care to look.

Next, regarding searching for their online material when it was at its worst, at the height of searching for their nonconsensual material (photos and/or videos), the majority of participants 44 (45.4%) reported searching for their material daily, followed by 28 (28.9%) participants who searched hourly, and six (6.2%) who reported searching for their material once a week, 2 (2.1%) reported once a month, 10 (10.3%) who reported never searching, and seven (7.2%) participants who reported other.

Finally, when asked how often they presently searched online for their material, the participants who reported searching hourly decreased to 0 (0%); 14 (14.4%) reported searching daily; 12 (12.4%) reported searching once a week; 24 (24.7%) reported once a month; 26 (26.8%) reported never searching; 20 (20.6%) reported other; and 1 (1.0%) chose not to report. What is unique about cyber-sexual assault is that participants were

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asked about whether their material was still online. So, essentially this question was geared to explore how often the individuals returned to visit their trauma. Unlike sexual assault where victims tend to avoid the site of their sexual assaults, these individuals of cyber-sexual assault go back to it.

Checking behaviors of photos substantially declined. No individuals checked hourly. Based on the fill in responses, individuals asserted a range of tactics, from checking every few months to once a year, to having a friend check. Conversely, however, individuals qualitatively reported that they did not care to look for their material. In essence, the two results are opposing, and it does not actually seem that this reduction in checking behaviors is positive. For example, this reduction may not actually portray a healthy coping skill but rather feelings of defeat. If, legally, participants had no ability to remove/find/destroy the material, they may have elected to disengage, although more qualitative research is needed for this inference.

These questions were specific to cyber-sexual assault in efforts to explore the unique aspects of cyber-sexual assault. CBSA victims described their relationship to the perpetrators, which was similar to SA relationships with perpetrators. Additionally, whether or not participants' material was online and checking behaviors were explored, because this online perpetuation of the assault is unique to CBSA victims when compared to SA victims. The researcher expected heightened levels of these specific questions

would correlate with higher mental health symptoms, which will be discussed in the exploratory research discussion later in this chapter.

Discussion of Findings

This section provides a review and discussion of the results presented in Chapter 4. Results of the preliminary research questions are reviewed first, followed by the primary hypothesis, secondary hypothesis, and exploratory hypotheses. Furthermore, outcomes of the study are explored, and these are compared to the current literature of sexual assault.

Preliminary Research Questions

The preliminary research questions were designed to examine how well the instruments measured the construct of interest with the population of cyber-sexual assault. Although the constructs of interest (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder) were derived from substantial literature on sexual assault outcomes, they have never been examined with a population of cyber-sexual assault victims. Additionally, the instruments used in this study were all high for reliability and validity; but, they have yet to be used to examine victims of cyber-sexual assault. Therefore, prior to moving forward with testing the theoretical model, the researcher first needed to examine how reliable the instrumentation was with the population of cyber-sexual assault. This was done through an exploratory analysis of each of the four scales. To begin, the results are summarized. Following this, the significant and/or non-significant statistical results of the exploratory factor analysis

(EFA) are explained. Last, these results are explored, particularly regarding how these relate to sexual assault, because the researcher sought to examine whether cyber-sexual assault was similar to sexual assault regarding emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder. The results are summarized next.

<u>Preliminary Research Question 1</u>

The purpose of Preliminary Research Question 1 was to examine how well the *Brief Version of the Difficulties in Emotion Regulation Scale* (DERS-16; Bjureberg, et al., 2015) measured the construct of emotional dysregulation with this sample of cyber-sexual assault survivors. The researcher applied an extraction method to determine the number of DERS-16 factors that were significant with this population of cyber-sexual assault; four of the five factors showed a number of strong loadings. In essence, this means that in order to produce a reliable and valid measurement with this specific population of cyber-sexual assault, four factors were contained: (a) goals, (b) impulse, (c) strategy, and (d) nonacceptance; and one factor was eliminated: (e) clarity. This means that for victims of cyber-sexual assault, the item of clarity was less likely to produce reliable results. The removed items were: (a) I have difficulty making sense out of my feelings; and (b) I am confused about how I feel. It is possible that cyber-sexual assault victims could identify how they were feeling about their victimization, but not have emotional regulation strategies to deal with this. Further research is needed to substantiate these results; however, the researcher moved forward with using the EFA results for the final SEM model because CBSA has never been studied, and revised scales might capture the experience of CBSA better than the original scale. Emotional

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dysregulation might be happening for victims of CBSA, just differently than SA. Currently there is no revised scale geared towards investigating emotional dysregulation of CBSA victims. Thus, in order to capture the experience of emotional dysregulation in victims of cyber-sexual assault, a revised version of the DERS-16 may have helped identify the pertinent constructs in this population. Therefore, the researcher removed the construct of clarity to better capture the experience of emotional dysregulation in victims of cyber-sexual assault and moved forward.

Preliminary Research Question 2

The purpose of Preliminary Research Question 2 was to examine how well the Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996) measured the construct of trauma guilt in this sample of cyber-sexual assault survivors. Trauma guilt was examined through the TRGI's three subscales: *global guilt* (4 items), *guilt-related distress* (6 items), and *guilt cognitions* (22 items). The researcher applied an extraction method to determine the number of TRGI factors that were significant with this population of cyber-sexual assault. This resulted in the elimination of 16 items from both the contained and removed factors. This means that in order to produce a reliable and valid TRGI measurement with this specific population of cyber-sexual assault, four factors were contained: (a) global guilt, (b) hindsight bias/responsibility, (c) wrongdoing, (d) general; and two factors were eliminated: (e) distress, (f) insufficient justification. Thus, for victims of cyber-sexual assault, 16 items or half of the TRGI did not appear to significantly measure trauma guilt in this population. Trauma guilt for sexual assault survivors is high (Kubany et al., 1996). Meanwhile, it is possible that for cyber-sexual assault victims, because they participated

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in the creation of their material (i.e., photos/videos), the TRGI was read as an alternate form of victim blaming. As such, another form of trauma assessment is warranted to determine how victims of cyber-sexual assault experience trauma.

Further research is needed to substantiate these results; however, the researcher moved forward, using the EFA results for the final SEM model, because CBSA has never been studied, and revised scales might capture the experience of CBSA better than the original scale. Trauma guilt might be happening for victims of CBSA, just differently than SA. Currently there is no revised scale geared towards investigating trauma guilt with CBSA victims. Thus, in order to capture the experience of trauma guilt with victims of cyber-sexual assault, a revised version of the TRGI may have helped identify the pertinent constructs in this population. Therefore, the researcher removed 16 items (which included constructs of distress and insufficient justification) to better capture the experience of trauma guilt with victims of cyber-sexual assault, and moved forward. As noted, the researcher suggests the use of another inventory to capture the experience of trauma, (e.g., the Trauma Symptom Inventory-2).

Preliminary Research Question 3

The purpose of Preliminary Research Question 3 was to examine how well the Center for Epidemiologic Studies Depression Scale-Revised [CESD-R] (Eaton et al., 2004) measured the construct of depression in this sample of cyber-sexual assault survivors. The researcher applied an extraction method to determine the number of CESD-R factors that were significant with this population of cyber-sexual assault victims; eight of the nine factors showed a number of strong loadings. In essence, this

means that in order to produce a reliable and valid measurement with this specific

population of cyber-sexual assault, only a single item was suggested to be eliminated: (a)

Item 34 "I wanted to hurt myself;" which loaded on the factor of suicidal ideation.

Because this item is so critical when measuring victims of sexual violence and sexual

assault this item was not removed. Retaining this item still produced a strong

measurement (Cronbach's $\alpha = .963$) for investigating depression (via CESD-R) in this

population of cyber-sexual assault victims. Thus, a second order CFA was conducted,

and all nine factors were retained: (a) appetite, (b) sadness, (c) thinking/concentration, (d)

sleep, (e) tired/fatigue, (f) loss of interest, (g) movement, (h) suicidal ideation, and (i)

guilt. In sum, this means that for victims of cyber-sexual assault, the instrument CESD-R

measured the construct of depression very well. Depression is commonly associated with

sexual assault outcomes (Campbell et al., 2009) so this finding was of little surprise.

Further research is needed to substantiate these results; however, the researcher moved

forward, using the original CESD-R scale, as it appears depression is measured very

similarly for both SA and CBSA.

Preliminary Research Question 4

The purpose of Preliminary Research Question 4 was to examine how well the

Impact of Event Scale-Revised [IES-R] (Weiss & Marmar, 1996) measured the construct

of post-traumatic stress symptomology in this sample of cyber-sexual assault survivors.

The theoretical structure of the IES-R was constructed based upon previous research that

identified a three-factor model of measuring PTSD (e.g., Weiss & Marmar, 1996). After

initial review of the data, many of the items loading on the subscale of "Avoidance" were

not significant in data of cyber-sexual assault victims. The researcher applied an extraction method to determine the number of IES-R factors that were significant in this population of cyber-sexual assault victims; two of the three factors showed a number of strong loadings. In essence, this means that in order to produce a reliable and valid measurement for this specific population of cyber-sexual assault, two factors were contained: (a) intrusion, (b) hyperarousal; and one factor was eliminated: (c) avoidance. This means that for victims of cyber-sexual assault, the entire factor of avoidance was less likely to produce reliable results. Although PTSD symptomology has been identified as significant for sexual assault survivors (Campbell et al., 2009), avoidance was not significant for cyber-sexual assault victims. It is likely PTSD appears differently for cyber-sexual assault victims than sexual assault survivors. For example, because material (i.e., photos/videos) of cyber-sexual victims is online, this population cannot avoid their trauma which is persistent and permanently online. Therefore, PTSD should be measured for the population of cyber-sexual assault victims keeping this in mind.

Further research is needed to substantiate these results; however, the researcher moved forward, using the EFA results for the final SEM model because CBSA has never been studied, and revised scales might capture the experience of CBSA better than the original scale. Post-traumatic stress symptomology might be happening for victims of CBSA, just differently than for victims of SA. Currently there is no revised scale geared towards investigating PTSD symptomology with CBSA victims. In order to capture the experience of PTSD with victims of cyber-sexual assault, a revised version of the IES-R may have helped identify the pertinent constructs with this population. Therefore, the

researcher removed avoidance to better capture the experience of PTSD symptomology

with victims of cyber-sexual assault, and moved forward.

<div align="center">Primary Research Question and Hypothesis Discussion</div>

The purpose of the Primary Research Question and Research Hypotheses were to

statistically and quantitatively investigate the direction and strength of relationships

among latent variables associated with trauma symptomology (i.e., emotional

dysregulation, depression, trauma guilt, and post-traumatic stress-disorder) in a sample of

survivors of cyber-sexual assault. More specifically, the researcher examined the

theoretically driven SEM model to examine any possible correlation among the variables,

and the degree of influence among the variables stemming from cyber-sexual assault. In

sum, the researcher sought to examine the degree to which cyber-sexual assault

contributed to the experience of emotional dysregulation, depression, trauma guilt, and

post-traumatic stress-disorder. The Primary Research Question will be reviewed first,

followed by the Primary Research Hypothesis 1 and Primary Research Hypothesis 2.

Primary Research Question

This section contains an explanation of how the primary SEM model was

specified; this final SEM model was based upon the individual measurement models

noted in the previously stated preliminary research questions. The primary research

question utilized a SEM model, comparing how either emotional dysregulation or trauma

guilt (independent variable) was correlated with the outcome variables (depression,

PTSD). Neither of the two models were significant, as detailed in the discussion of the related hypotheses.

Primary Research Hypothesis 1

Primary Research Hypothesis 1 sought to examine whether emotional dysregulation, when treated as the independent variable, was correlated with the outcome variables of trauma guilt, depression, and PTSD. The SEM analyses were conducted twice. First, a SEM analysis was conducted prior to removing any factors, thereby using the original scales in their entirety. The model was again tested based on the EFA results, after the removal of items based on the previously mentioned preliminary questions. Neither model was significant, although significance did increase once the items were removed (based on the EFA results). This suggested to the researcher that with fewer factors, the smaller sample size ($N = 97$) used for this study was more likely to produce interpretable results. It should be noted that the sample size was insufficient to produce significant results. This means that though the constructs of trauma guilt, depression, and PTSD might be correlated with the independent variable of emotional dysregulation, the sample size does not permit confirmation of denial of this. In order to further the study of the relationship between sexual assault and cyber-sexual assault, a larger sample is warranted to test the relationships among these constructs

Primary Research Hypothesis 2

Primary Research Hypothesis 2 sought to examine whether trauma guilt, when treated as the independent variable, was correlated with the outcome variables of

emotional dysregulation, depression, and PTSD. The SEM analyses were conducted twice. First, a SEM analysis was conducted prior to removing any factors, thereby using the original scales in their entirety. The model was again tested based on the EFA results, upon the removal of items based on the previously discussed preliminary questions. Neither model was significant, although significance did increase once the items were removed (based on the EFA results). This suggests to the researcher that with fewer factors, the smaller sample size ($N = 97$) used for this study was more likely to produce interpretable results. The researcher again acknowledges that the sample size was insufficient to produce significant results. This means that the constructs of emotional dysregulation, depression, and PTSD might be correlated with the independent variable of trauma guilt, but the sample size did not permit an exploration of this hypothesis. In order to further the study of the relationship between sexual assault and cyber-sexual assault, a larger sample is warranted to test the relationships among these constructs.

Summary of Findings for Primary Research Hypotheses

The practical meaning behind these results are discussed in this section. No significance was found for either of the primary research hypotheses. Previous researchers identified a relationship among sexual assault and emotional dysregulation (Najdowski & Ullman, 2011), depression (Campbell et al., 2009), trauma guilt (Janoff-Bulman, 1985; Kubany, 1996; Kubany et al., 1995), and post-traumatic stress-disorder (Black et al., 2011). However, the results of the Primary Research Questions did not identify a relationship for cyber-sexual assault with any of these constructs. The researcher hypothesizes that a larger sample size might help identify whether there was,

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in fact, no relationship; or whether due to insufficient sample size, significance was not possible because of the number of factors (e.g., complexity) in this SEM model.

Secondary Research Question and Hypotheses Discussion

The purpose of the Secondary Research Question and Research Hypotheses were to statistically and quantitatively investigate the direction and strength of relationships among latent variables associated with trauma symptomology (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder) in a sample of survivors of cyber-sexual assault. More specifically, the researcher examined the theoretically driven SEM model to examine any possible correlation among the variables and the degree of influence among the variables stemming from cyber-sexual assault. Specifically, for the Secondary Research Question and Hypotheses, the researcher sought to examine the degree to which cyber-sexual assault, when mediated by emotional dysregulation and/or trauma guilt, contributed to the experience of depression, and PTSD symptomology. The Secondary Research Question is reviewed first, followed by the Secondary Research Hypothesis 1 and Secondary Research Hypothesis 2.

Secondary Research Question

This section contains an explanation of how the secondary SEM model was specified; this final SEM model was based upon the individual measurement models noted in the previously discussed preliminary research questions. The secondary research question utilized a SEM model, comparing how either emotional dysregulation or trauma guilt, when modeled as the mediation variable, was correlated with the outcome variables

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(depression, PTSD). Significance was found. It is discussed in the following sections devoted to the secondary research hypotheses.

Secondary Research Hypothesis 1

Secondary Research Hypothesis 1 sought to examine whether emotional dysregulation, when treated as the mediation variable, was correlated with the independent variable of trauma guilt and the outcome variables of depression and PTSD. In essence, the researcher sought to learn whether emotional dysregulation mediated the effect of trauma guilt for depression and/or PTSD, for those individuals who had experienced cyber-sexual assault. The SEM analyses were conducted twice. First, a SEM analysis was conducted prior to removing any factors, meaning the original scales were used in their entirety. The model was again tested based on the EFA results, after item removal. When emotional dysregulation was modeled as the mediator between trauma guilt, and depression and/or PTSD for cyber-sexual assault victims, significance was found.

The model of best fit was the modified SEM model based on the EFA results, involving the presence of a mediation effect for the indirect effect of trauma guilt on depression symptomology and PTSD symptomology through emotional dysregulation. Essentially, trauma guilt (independent variable) influenced emotional dysregulation, which then served to mediate the outcome variables of depression and PTSD symptomology, simultaneously resulting in the strongest (e.g., best fit) model. This structural model represented close to an acceptable fit to represent the data (Byrne, 2010),

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though a larger sample size may be necessary to confidently draw conclusions from this model.

According to this significant SEM measurement model (based on EFA results), trauma guilt influenced emotional dysregulation very little (14%), though enough to warrant inclusion. Moreover, emotional dysregulation significantly contributed (67% of the variance) to the varying levels of PTSD symptomology experienced among participants. Finally, emotional dysregulation significantly contributed (44% of the variance) to the varying levels of depression experienced among this sample of cyber-sexual assault victims. This particular model provided support for most of the fluctuation in outcomes for cyber-sexual assault victims being accounted for by varying levels of emotional dysregulation. This finding is similar to that of other researchers on revictimization and sexual assault and provides support for targeting emotional dysregulation deficits in the aftermath of sexual assault (Najdowski & Ullman, 2011).

As shown, trauma guilt contributed the least (14%) to emotional dysregulation. However, emotional dysregulation contributed greatly to the outcome variables of depression and PTSD. Thus, this shows that, in this study, emotional dysregulation was the most influential factor regarding the mental health outcomes of cyber-sexual assault. This result is very similar to that of other sexual assault researchers who showed emotional dysregulation as influencing (mediating) outcomes (depression and PTSD) for

sexual assault survivors (Najdowski & Ullman, 2011). This means that counselors should target emotional dysregulation when working with cyber-sexual assault victims.

<u>Secondary Research Hypothesis 2</u>

Secondary Research Hypothesis 2 sought to examine whether trauma guilt, when treated as the mediation variable, was correlated with the independent variable of emotional dysregulation, and the outcome variables of depression and PTSD. In essence, the researcher sought to learn whether trauma guilt mediated the effect of emotional dysregulation for depression and/or PTSD, for those individuals who had experienced cyber-sexual assault. The SEM analyses were conducted twice. First, a SEM analysis was conducted prior to removing any factors, thereby using the original scales in their entirety. The model was again tested based on the EFA results after item removal. When trauma guilt was modeled as the mediator between emotional dysregulation, and depression and PTSD for cyber-sexual assault victims, no significance was found, providing further support for emotional dysregulation serving as a better mediator. However, as noted, the TRGI was not a strong inventory; thus, using a different trauma inventory and increasing sample size might change these results.

Once again, the researcher acknowledges that the sample size was insufficient to produce significant results. This means that the constructs of emotional dysregulation, depression, and PTSD might be correlated with the independent variable of trauma guilt, but the sample size was insufficient to explore this hypothesis. Therefore, in order to further the study of the relationship between sexual assault and cyber-sexual assault, a larger sample is warranted to test the relationships among these constructs.

In this section, the practical implications of the secondary research hypotheses are discussed. A positive correlation was identified between trauma guilt and emotional dysregulation; emotional dysregulation and PTSD; and emotional dysregulation and depression. This positive correlation suggested that higher levels of trauma guilt contributed to higher levels of emotional dysregulation; thus, higher levels of emotional dysregulation contributed to both higher levels of PTSD and depression.

Results of this investigation are the first to quantify cyber-sexual assault victims' mental health experiences. As such, the data provides new insight among the positive, linear relationships between cyber-sexual assault, trauma guilt, emotional dysregulation, depression, and PTSD symptomology. Although cyber-sexual assault victims' experiences had yet to be explored, prior research on the constructs of interest had been investigated for victims and survivors of sexual assault and sexual violence.

One goal of this investigation was to show that cyber-sexual assault presents in a manner similar to sexual assault and sexual violence through comparable constructs. The results of this study were similar to those found in sexual assault literature in that for sexual assault survivors, trauma guilt was correlated with heightened levels of depression and PTSD in trauma survivors (Janoff-Bulman, 1985; Kubany, 1996; Kubany et al., 1995). Prior research substantiated that increased emotional dysregulation has been linked to sexual victimization (e.g., sexual assault), particularly revictimization (Boeschen et al., 2001; Cloitre et al., 2005; Livingston, Testa, & VanZile-Tamsen, 2007; Najdowski & Ullman, 2011; Walsh et al., 2011; Walsh et al., 2012); and serves as a

mediator between sexual assault and outcome variables. Emotional dysregulation in this investigation was correlated with heightened levels of both depression and PTSD symptomology and served to mediate these outcome variables for survivors of cyber-sexual assault. A plethora of research highlighting heightened depressive symptoms were associated with sexual assault (Acierno et al., 2002; Becker et al., 1984; Burnam et al., 1988; Campbell et al., 2009; Clum et al., 2000; Dickinson et al., 1999; Frank & Anderson, 1987; Golding, 1996; Kilpatrick et al., 1987; Ullman & Vasquez, 2015; Winfield et al., 1990); and similar results were found for cyber-sexual assault survivors in this investigation. Last, a vast amount of research heightened PTSD symptomology for trauma survivors, particularly sexual assault survivors (Campbell et al., 2009; Norris & Kaniasty, 1994; Petrak & Hedge, 2001; Resnick et al., 1993). PTSD symptomology was prevalent for this population of cyber-sexual assault survivors as well.

Lastly, Ullman et al. (2003) sought to expand research of adult sexual assault, testing whether multiple mediators (e.g., maladaptive coping, emotion regulation, characterological self-blame) impacted an adult survivor's level of PTSD and depression based on various trauma histories. The researchers (Ullman et al., 2003) showed that pathways from previous trauma histories influenced the mediating factors of emotional dysregulation levels and led to increased distress of adult sexual assault survivors. Furthermore, Najdowski and Ullman (2009a) found that maladaptive coping impacted the linear, positive relationship for cumulative trauma and PTSD, suggesting that cumulative traumas may increase emotional dysregulation (i.e., decrease emotion regulation), thus increasing distress such as PTSD. This research investigation of cyber-sexual assault was

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similar to that of Ullman and colleagues (2003), studying (a) the construct, emotional

dysregulation, in regard to testing its mediation on the outcome variables of depression

and PTSD, and (b) the second mediator of trauma guilt. The current study, however,

departed from Ullman and colleagues' (2003) model, testing the mediators of emotional

dysregulation and trauma guilt and their influence upon each other in addition to their

influence on the dependent variables of depression and PTSD. Similar to Ullman and

colleagues (2003) investigation of sexual assault survivors, this research study showed

significant pathways (PROCESS, 2016) from the mediator of emotional dysregulation to

depression (p < .001) and PTSD symptomology (p < .001). The findings offer new

evidence to the field of counseling, showing that cyber-sexual assault survivors do, in

fact, experience similar psychological distress compared to that of sexual assault

survivors, thus informing both the counseling field and counselor educators.

The next section contains a discussion of the exploratory research questions.

These questions were designed to assess the relationship among the demographic

variables and the constructs of interest. Each scale is explored via each of the

demographic variables.

<center>Exploratory Research Questions Discussion</center>

In addition to the preliminary, primary, and secondary research questions, post

hoc exploratory analyses were performed to examine differences and relationships among

selected demographic data (i.e., sex, sexual orientation, ethnicity, previous sexual assault,

relationship to perpetrator, material currently online and past/current checking

behaviors); and latent variables associated with trauma symptomology (emotional

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dysregulation, depression, trauma guilt, and post-traumatic stress-disorder). The following section contains a summary of the statistical significance leading to practical implications.

Exploratory Research Question 1

The first exploratory research question was used to examine the relationship between emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg, 2015); and the reported demographic variables (i.e., sex, sexual orientation, ethnicity, previous sexual assault, relationship to perpetrator, material currently online and past/current checking behaviors). These relationships were explored using a variety of statistical analyses (Spearman's Rho, ANOVA, t-test). The data are reported in the order of each analysis used .

Summary of Findings of Significance

The following section will explore the meaning of the significant relationships between emotional dysregulation as measured by the Brief Version of the Difficulties in Emotion Regulation Scale [DERS-16] (Bjureberg, 2015); and the reported demographic variables. The relationship between emotional dysregulation [DERS-16] (Bjureberg, 2015); and the reported demographic variables was investigated using Spearman's Rho, one way between-groups analysis of variance (ANOVA), and an independent samples *t*-test. A *t*-test was conducted to test for the relationship between emotional dysregulation and biological sex, prior sexual assault, and whether the participant's material was still posted online. A Spearman's Rho was conducted to examine the relationship between

frequency of searching (when at its worst and presently) for online material. Last, the

relationship between emotional dysregulation as measured by the DERS-16 (Bjureberg et

al., 2015) and ethnicity, sexual orientation, and relationship to perpetrator was

investigated using one-way between-groups analysis of variance (ANOVA).

First, a Spearman's Rho (correlation) was conducted for the relationship between

emotional dysregulation as measured by the DERS-16 (Bjureberg et al., 2015) and

searching for CBSA material when at its worst was significant ($p = .05$); however, the

relationship between emotional dysregulation and searching for CBSA material presently

was not significant ($p = .81$). This means that emotional dysregulation was higher when

indivudals were first impacted by cyber-sexual assault, but as searching for material

decreased, so did individuals' emotional dysregulation.

Secondly, results of the analysis of variance identified no relationship between

emotional dysregulation and ethnicity ($p > .05$), sexual orientation ($p > .05$), or

relationship to perpetrator ($p > .05$). Thus, emotional dysregulation was not correlated

with one's racial identity, nor their sexual identity. Relationship to perpetrator also did

not impact emotional dysregulation, which was surprising considering the violation of

trust. Future research would benefit from exploring this lack of correlation.

Third, results of the *t*-test identified an approaching relationship between

emotional dysregulation and biological sex ($p = .089$). A statistically significant

relationship was identified for emotional dysregulation and "have you ever been sexually assaulted" ($p = .046$) and "is your material still posted online" ($p = .053$).

Participants reported a drop in their frequency of online searching when asked about their frequency at its worst, and presently. As such, it makes sense that emotional dysregulation was higher (more distressing) when the frequency of searching for online material was higher. Additionally, significance was found for higher levels of emotional dysregulation and prior sexual assault. This was expected because a plethora of empirical research overwhelmingly supports that sexual victimization, particularly revictimization, negatively impacts emotional dysregulation (Boeschen et al., 2005; Figueredo, & Coan, 2001; Najdowski & Ullman, 2011; Ullman et al., 2003; Walsh et al., 2011, 2012). The results allow the researcher to infer emotional dysregulation mediates the outcome of cyber-sexual assault similar to other forms of sexual assault, specifically revictimization.

As anticipated, emotional dysregulation was significant for victims of cyber-sexual assault consistent with prior research of sexual assault. Najdowski and Ullman, (2011) noted that emotional dysregulation is a common outcome of sexual assault that can exacerbate the psychological sexual assault outcomes. Empirical researchers have overwhelmingly supported that sexual victimization, particularly revictimization, negatively impacts emotional dysregulation (Boeschen et al., 2001; Cloitre et al., 2005; Walsh et al., 2011; Walsh et al., 2012). Ullman et al. (2003) found both child and adult sexual survivors, who developed maladaptive coping skills and increased emotional dysregulation, showed exacerbated psychological symptoms. Researchers have concluded that emotional dysregulation impacts post sexual assault adjustment and

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psychopathology (Burgess & Holstrom, 1978; Burt & Katz, 1988; Gidycz & Koss, 1991; Koss & Burkhart, 1989; Meyer & Taylor, 1986).

Exploratory Research Question 2 Discussion

The following section will explore the meaning of the significant relationships between PTSD symptomology as measured by the Impact of Events Scale Revised [IES-R] (Weiss & Marmar, 1996); and the reported demographic variables. The relationship between PTSD symptomology [IES-R] (Weiss & Marmar, 1996); and the reported demographic variables was investigated using Spearman's Rho, one way between-groups analysis of variance (ANOVA), and an independent samples t-test. A t-test was conducted to test for the relationship between PTSD symptomology and biological sex, prior sexual assault, and whether the participant's material was still posted online. A Spearman's Rho was conducted to examine the relationship between frequency of searching (when at its worst and presently) for online material. Last, the relationship between PTSD symptomology and ethnicity, sexual orientation, and relationship to perpetrator was investigated using one-way between-groups analysis of variance (ANOVA).

First, a Spearman's Rho (correlation) was conducted for the relationship between PTSD symptomology as measured by the IES-R (Weiss & Marmar, 1996) and searching for CBSA material when at its worst was not significant ($p = .198$); however, the relationship between PTSD symptomology and searching for CBSA material presently was significant ($p = .034$). While PTSD is commonly associated with the experience of traumatic event, for a diagnosis to be warranted symptoms must be present for a month.

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Therefore, heightened levels of PTSD symptomology appeared to correlate with those who continued to search for their material long after the acute stage, when individuals first learned they had become victims of cyber-sexual assault.

Secondly, results of the analysis of variance identified no relationship between PTSD symptomology and ethnicity (p > .05), sexual orientation (p > .05), or relationship to perpetrator (p > .05). Thus, PTSD symptomology was not correlated with one's racial identity, sexual identity, or relationship to perpetrator. Future research would benefit from exploring this lack of correlation.

Third, results of the *t*-test identified no relationship between PTSD symptomology and "have you ever been sexually assaulted" ($p = .783$). A significant relationship was identified for PTSD symptomology and biological sex ($p = .010$); and "is your material still posted online" ($p = .000$). PTSD symptomology was expected for those who had previously experienced sexual assault; thus future research would benefit from exploring this lack of relationship.

PTSD, as measured by the Impact of Event's Scale –Revised (Weiss & Marmar, 1996) asks about PTSD related symptomology in the past seven days. As such, it is no surprise that current behaviors were significant of PTSD symptomology (i.e., present searching behaviors of material and the material currently being accessible online). Furthermore, PTSD was significant with biological sex; Gender has been established to contribute to the development of PTSD (Breslau et al., 1991; Breslau & Davis, 1992; Kessler et al., 1995; Shalev et al., 1998). This is significant because a majority of sexual assault survivors are women, and the researcher anticipated finding the majority of cyber-

sexual assault victims to be female as well. Females are more likely than males to be exposed to rape and molestations; however, females are more likely to develop PTSD (Kessler et al., 1995; Breslau et al., 1992; Shalev et al., 1998). This research investigation supported these findings as well. The majority of respondents were female (n = 91, 93.8%) compared to male respondents (n = 6, 6.2%). A t-test was run to examine the relationship between PTSD symptomology and Biological Sex; the relationship was significant (p < .05), allowing the researcher to infer biological sex of female is associated with higher levels of PTSD symptomology among cyber-sexual assault survivors.

Gender has been established to contribute to the mental health outcome for sexual assault survivors. This finding appears similar for females who have experienced cyber-sexual assault. First, gender has been established to contribute to the development of PTSD (Breslau et al., 1991; Breslau & Davis, 1992; Kessler et al., 1995; Shalev et al., 1998). Researchers have highlighted that following trauma of SA, females are more likely to develop PTSD compared to males following a traumatic event like combat trauma. This is significant because a majority of sexual assault survivors are women, and this research investigation had similar findings in that the majority of cyber-sexual assault victims were female as well. More specifically, females are more likely than males to be exposed to rape and molestations; and, females are more likely to develop PTSD (Kessler et al., 1995; Breslau et al., 1992; Shalev et al., 1998). Accordingly, an independent samples t-test was run to examine the relationship between PTSD symptomology and biological sex; the relationship was significant (p < .05), which suggested that gender

also contributed to the development of PTSD symptomology for cyber-sexual assault victims. This finding supports SA literature in the gender and SA contribute to PTSD symptomology post victimization.

As anticipated, post-traumatic stress symptomology was approaching significance for victims of cyber-sexual assault consistent with prior research of sexual assault. Post-traumatic stress disorder (Norris, 1992) has been identified to be among the most profound and persistent psychological outcomes of sexual assault. Sexual assault is the most common form of trauma women experience (Petkus et al., 2012) and is most commonly associated with PTSD (Norris, 1992). Rape survivors may be the most likely victims of violent crime to develop PTSD (Petrak & Hedge, 2001; Steketee & Foa, 1987), especially those survivors of completed rape (Campbell et al., 2009; Norris & Kaniasty, 1994; Petrak & Hedge, 2001; Resnick et al., 1993). Campbell et al. (2009) reported that between 17% and 65% of women who have experienced some form of sexual assault developed PTSD as a result (Clum et al., 2000; Kilpatrick et al., 1989; Kilpatrick & Resnick, 1993; Rothbaum et al., 1992). Other researchers have noted approximately 80% of rape survivors will incur lifelong PTSD symptoms (Breslau et al., 1991; Kilpatrick et al., 1989; Petrak & Hedge, 2001).

Exploratory Research Question 3 Discussion

The following section will explore the meaning of the significant relationships between depression as measured by Center for Epidemiologic Studies Depression Scale revised [CESD-R] (Eaton et al., 2004); and the reported demographic variables. The relationship between depression [CESD-R] (Eaton et al., 2004); and the reported

demographic variables was investigated using Spearman's Rho, one way between-groups

analysis of variance (ANOVA), and an independent samples *t*-test. A *t*-test was

conducted to test for the relationship between depression and biological sex, prior sexual

assault, and whether the participant's material was still posted online. A Spearman's Rho

was conducted to examine the relationship between frequency of searching (when at its

worst and presently) for online material. Last, the relationship between depression and

ethnicity, sexual orientation, and relationship to perpetrator was investigated using one-

way between-groups analysis of variance (ANOVA).

First, a Spearman's Rho (correlation) was conducted for the relationship between

depression symptomology as measured by the CESD-R (Eaton et al., 2004) and searching

for CBSA material when at its worst was significant ($p = .000$); however, the relationship

between depression and searching for CBSA material presently was not significant ($p =$

.091). These results are similar to those of PTSD symptomology, and thus these results

were expected. Depression is a common occurrence that is strongly correlated with PTSD

after a traumatic event (Shaley et al., 1998), with a lifetime rate of 95% where depression

and PTSD are parallel in 56% of individuals post traumatic event (Bleich et al., 1997).

Secondly, results of the analysis of variance identified no relationship between

depression symptomology and ethnicity ($p > .05$), sexual orientation ($p > .05$), or

relationship to perpetrator ($p > .05$). These results are similar for each of the other

tenants, and warrant further investigation.

Third, results of the *t*-test identified no relationship between depression

symptomology and "have you ever been sexually assaulted" ($p = .831$). A significant

relationship was identified for depression symptomology and biological sex ($p = .045$); and "is your material still posted online" ($p = .05$). The results allowed the researcher to infer biological sex of female was associated with higher levels of depressive symptomology among cyber-sexual assault survivors, and material being present online.

Depression symptomology as measured by the CESD-R (Eaton et al., 2004) measured higher levels of depressive symptoms linear with length of time the symptomology was present (e.g., "Nearly every day for 2 weeks"). Depressive symptomology was high when participants' searching online was at its worst. Furthermore, the material being online was significant for depressive symptomology, logically. Biological sex also played a part for heightened experiences of depression symptomology. This makes sense, because nearly half (13% to 51%) of sexual assault victims also develop depression (Acierno et al., 2002; Becker et al., 1984; Burnam et al., 1988; Campbell et al., 2009; Clum et al., 2000; Dickinson et al., 1999; Frank & Anderson, 1987; Golding, 1996; Kilpatrick et al., 1987; Ullman & Vasquez, 2015; Winfield et al., 1990); and it is known that the majority of sexual assault victims are female.

Furthermore, as anticipated, depression was significant for victims of cyber-sexual assault consistent with prior research of sexual assault. Sexual assault literature findings have supported depression (Russel & Davis, 2007) as being among the most profound and persistent psychological outcomes of sexual assault. Depression is also a common occurrence that is strongly correlated with PTSD after a traumatic event (Shaley

et al., 1998) with a lifetime rate of 95% where depression and PTSD are parallel in 56% of individuals' post traumatic events (Bleichet al., 1997).

<center>Exploratory Research Question 4 Discussion</center>

The following section will explore the meaning of the significant relationships between trauma guilt as measured by Trauma-Related Guilt Inventory [TRGI] (Kubany et al., 1996); and the reported demographic variables. The relationship between trauma guilt [TRGI] (Kubany et al., 1996); and the reported demographic variables was investigated using Spearman's Rho, one way between-groups analysis of variance (ANOVA), and an independent samples *t*-test. A *t*-test was conducted to test for the relationship between trauma guilt and biological sex, prior sexual assault, and whether the participant's material was still posted online. A Spearman's Rho was conducted to examine the relationship between frequency of searching (when at its worst and presently) for online material. Last, the relationship between trauma guilt and ethnicity, sexual orientation, and relationship to perpetrator was investigated using one-way between-groups analysis of variance (ANOVA).

First, a Spearman's Rho (correlation) was conducted for the relationship between trauma guilt as measured by the TRGI (Kubany et al., 1996) and searching for CBSA

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material when at its worst was significant ($p = .045$); however, the relationship between

trauma guilt and searching for CBSA material presently was not significant ($p = .305$).

Secondly, results of the analysis of variance identified no relationship between

trauma guilt and ethnicity (p > .05), sexual orientation (p > .05), or relationship to

perpetrator (p > .05).

Third, results of the *t*-test identified no relationship between trauma guilt and

"have you ever been sexually assaulted" ($p = .256$); biological sex ($p = .084$); and "is

your material still posted online" ($p = .533$).

The only significant relationship demographic was between trauma guilt as

measured by the TRGI (Kubany et al., 1996) and searching for CBSA material when at

its worst. This allows the researcher to infer guilt may play a role in heightened searching

of material. However, women showed higher levels of trauma guilt when compared to

males; and lower levels of depression, emotional dysregulation, and PTSD

symptomology. Because the group sizes are largely unequal, an inference cannot be

made; however, future research investigation this is warranted.

The ANOVA analysis results identified a significant relationship between *trauma*

guilt and ethnicity ($r = -.237$, $p = .020$). However, no other significance was found for the

constructs of interest (emotional dysregulation, depression, PTSD symptomology) and

ethnicity. The researcher anticipated that ethnicity and culture may influence how one

copes after trauma, and whether feelings of personal blame, guilt, and shame develop.

More research is necessary specifically focusing on diversity, cyber-sexual assault, and the development of guilt (and shame).

As anticipated, trauma guilt was significant for victims of cyber-sexual assault consistent with prior research of sexual assault. Trauma guilt refers to individuals' feelings and beliefs about specific traumatic events and their roles in the trauma (e.g., self-blame; Kubany, 1996). In essence, guilt among trauma survivors is common, especially for those individuals with PTSD, and trauma guilt refers to the guilt internalized by the survivor of a traumatic event. Kubany (1996) highlighted that guilt cognitions are activated for some and that this can lead to shame beliefs, resulting in depression and strengthening PTSD symptoms (e.g., avoidance, numbing). Trauma guilt (Kubany et al., 1996) has been identified as the single most important factor regarding the persistence of both PTSD and depression. Researchers suggested trauma guilt as a predictive factor for heightened levels of depression and PTSD in trauma survivors (Janoff-Bulman, 1985; Kubany, 1996; Kubany et al., 1995). Thus, while trauma guilt played in influential role regarding mental health outcomes of participants, little relationship was found for the demographic variables and trauma guilt.

Limitations of the Study

Although SEM was utilized to reduce limitation, as with any research design limitations still exist. As such, limitations that existed in the research design are discussed first, followed by limitations related to the sample, and concluded by limitations related to the instruments. Efforts made to lessen the impact of limitations will be reviewed. Finally, the influence of the limitations on the results will be examined. Future research

will be suggested to address and mitigate these limitations. As a reminder, the results of this study should be interpreted while considering the explained limitations, also keeping in mind that identification of these limitations will help guide future research methodology. Conversely, although limitations existed, this study is still a valuable addition to the literature.

<div align="center">Limitations Related to the Research Design</div>

Limitations related to the research design existed; however, efforts were made to lessen the impact of the limitations. Although efforts were made to limit threats to construct, internal, and external validity within this descriptive, correlational research study, limitations remained. To increase external validity, the sample was taken directly from the population of interest; however, given that the variables were not manipulated by experimentation (e.g., studied in natural setting), internal validity was low. For this study of CBSA, the importance of understanding participants in their natural setting outweighed the importance of internal validity; and a descriptive, correlational study was considered appropriate. Another threat to internal validity for this study was characteristic correlations (Fraenkel et al., 2011). This suggests that a correlation between variables is explained by individual participants' characteristics and not by the specific constructs under investigation. The research design did not establish a way to mitigate this. Lastly, correlational research does not imply causality, and results should be interpreted with caution. These limitations may have impacted the results and conclusions that were drawn. Future research should seek to mitigate characteristic correlations. Despite these

limitations, the current study sought to mitigate them as much as possible, and this research investigation is still a valuable addition to the literature.

Lastly, the present research study was retrospective, and based on recall; however, most sexual assault studies are retrospective due to the nature of the construct (Breitenbecher, 2001). Although retrospective research appears common among sexual assault survivors (Breitenbecher, 2001), it is important to keep this in mind when drawing inferences. For example, research on the aftermath of sexual assault has been conducted in the acute stage (i.e., hospital settings); qualitatively, and longitudinally looking into revictimization; naturally the commonality is these studies conducted research post assault. These limitations may have impacted the results, and conclusions that were drawn. Future research should seek to investigate the length of the recall period looking for any correlations, since recall will likely be a part of future research designs. Despite these limitations, the current study sought to mitigate them as much as possible, and this research investigation is still a valuable addition to the literature.

<center>Limitations Related to the Sample</center>

Limitations related to the sample existed; however, efforts were made to lessen the impact of the limitations. Sample size was a limitation of the current study. The researcher posited that cyber-sexual assault would appear similar to other forms of sexual assault in terms of psychological outcomes, and utilized a convenience sample. Because prevalence numbers for cyber-sexual assault victims have been hard to determine (Citron & Franks, 2014), the researcher sought to obtain a large enough sample size for generalizability purposes which was based on the U.S. Department of Justice's National

Crime Victimization reported yearly sexual assault (i.e., 293,066). Although the researcher

sought a large enough sample for SEM, the research was concluded early. Of the

participants who reported "yes" for having experienced cyber-sexual assault, and had also

completed over 80% of the instruments, a 3.75% usable response rate was obtained ($N =$

97). Cook et al. (2000) reported educational psychology studies that utilized electronic

surveys generated an average response rate of 35%; and a review by Cantor et al. (2015)

noted sexual assault survey response rates ranged from 30% to 86%. Conversely, this

research response rate of 3.75% was below expectations. These sample limitations may

have impacted the results and conclusions that were drawn. Future research should seek

to obtain a larger sample size. Despite these limitations, the current study sought

participants directly from the main national source of cyber-sexual assault; thus the

research investigation, being the first of its kind, is still a valuable addition to the

literature.

Another limitation related to the sample was the method of participant

recruitment. The researcher departed from the Dillman and colleagues (2009) survey

administration approach to using social media (King et al., 2014) for participant

recruitment. The Dillman and colleagues (2009) approach appeared too insensitive for

such sensitive populations. Specifically, after a participant complaint, the researcher

stopped email recruitment for both CCRI and RAINN and switched to social media (for

CCRI only). Sample size was likely harder to pursue because the population of cyber

sexual assault victims had experienced online privacy revocation and, thus, may have had

limited trust of online forums in general. Future research should seek to obtain a larger

sample size through establishing trust with such a sensitive population. For example, a qualitative route, a snowball sample, and all efforts to provide privacy (e.g., paper and pencil) are recommended. Because the researcher was already using the largest resource dedicated to cyber-sexual assault victims (i.e., CCRI), and another project redirected potential participants from participating in the study, sample size was influenced and smaller than initially anticipated. Future researchers would benefit from studying online survey recruitment with sensitive populations.

<div align="center">Limitations Related to the Instruments</div>

Limitations related to the instruments existed; however, efforts were made to lessen the impact of the limitations. First, the primary instrumentation limitation of this investigation included concerns with the TRGI and IES-R as well as future recommendations for the collected demographics. At the end of the demographics form was a statement that read, "As you proceed, please keep these answers in mind, and answer the remainder of the questionnaire related to your cyber-sexual assault experience(s)." However, for both the TRGI and IES-R, a fill-in was an option for the participants to report about their trauma leading to a range of vague and detailed responses. These limitations may have impacted the results and conclusions that were drawn. In the future, it is suggested that the researcher input the traumatic experience for the participant, (e.g., cyber-sexual assault). Despite these limitations, the research investigation had defined cyber-sexual assault (in addition to sexual assault), and also

asked participants to report about their CBSA experience; thus, this study is still a valuable addition to the literature.

Regarding the demographics form, the researcher did not ask participants if they had prior mental health concerns or if they had engaged in therapy since their cyber-sexual assault experience. Prior researchers have concluded that therapy reduced PTSD symptomology (Meichenbaum, 2014); thus, this information would have been beneficial when measuring participants' total scores on the IES-R. Additionally, in asking participants about their prior Sexual Assault and/or Cyber-Sexual Assault histories, the researcher did not specify the difference between childhood sexual assault and adult sexual assault. The researcher also did not ask about the individual's trauma history. Although scales (e.g. life events checklist) measured for this and may be useful in the future, the researcher chose parsimony to reduce attrition rates. Furthermore, the researcher followed similar SA studies (Najdowski & Ullman, 2011) that have asked participants about sexual assault experience without asking about their entire trauma history. Thus, the current study adds to the literature.

Regarding the IES-R instrumentation, there were low item factor loadings on the avoidance factor with the data that were collected. Although item extraction resulted in the research removing this factor entirely, adding an additional PTSD measure or qualitative information may have been beneficial to learn more about what exactly was influencing the low factor loading of avoidance. The researcher inferred that because victims can access their material at all times of day, and internet usage is typical, it is less likely these individuals can (or choose to) avoid their trauma. This might explain why the

factors "intrusion" and "hyperarousal" fit strongly with these data, and not "avoidance." Furthermore, subsequent traumas that may have influenced current trauma symptomology were not accounted for.

Additionally, the researcher encountered limitations for the scale TRGI with the data that were collected; half of the items had low factor loadings, and these items were subsequently extracted from the final SEM model. The TRGI was the lengthiest of the scales (i.e., 32 items) and was placed last in the on-line survey package, both of which may have resulted in participation dropout. For those cases which were removed due to missing items, the majority of missing items were on the TRGI. Additionally, the researcher received two participant complaints about the language of the scale (e.g., related to victim blaming). The researcher suggests a revised TRGI scale or use of a different scale in future studies with this population. Lastly, although the TRGI was developed to assist both clinicians and researchers, the TRGI scale was intended as a tool for use in Cognitive Therapy for Trauma-Related Guilt [CT-TRG] (Kubany & Manke, 1995). As such, the TRGI consists of general trauma-guilt related questions, and it may not have captured the accurate level of trauma guilt experienced among this specific sample.

Structural equation modeling helped the researcher account for measurement error of the instruments (e.g., difference between measured value and true value; Graziano & Raulin, 2004). The data collection instruments were self-report. As a result, however, the researcher could not control for within group limitations such as the Hawthorne effect (e.g., reporting more symptomology due to the knowledge of being studied). The

researcher used all highly reliable and valid instrumentation to help reduce this, but it is a limitation nonetheless. Therefore, generalizability and interpretation of the results of this study should take place cautiously. Despite the identified limitations of the current study, the data contributed to the current trauma of sexual assault counseling, counselor education, and instrument development literature. Some instruments (e.g., TRGI) may benefit from item reduction.

Implications

This investigation provides implications for the counseling literature regarding: (a) insight into the experience of trauma among adult survivors of CBSA, and (b) insight into the experience of CBSA and the presence of emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder. The implications from this investigation are important to consider in relation to how they help inform (a) the helping efforts of professional counselors, (b) the preparation of future counselors by including information about cyber-sexual assault in counselor education programs, and (c) the creation of more accurate instruments to assess for CBSA. Suggestions for future research will be offered before discussing these practical implications.

Implications for Future Research

Based on the findings of this study, future research may provide clearer insight into the relationship between CBSA, emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder. Most importantly, the initial steps for upcoming research should be to strengthen external validity through efforts to increase response rate

and generalizability of results. First, implications related to demographics and future research will be presented. Next, implications related to preliminary research questions (regarding instruments) will be explored followed by implications related to primary and secondary research questions

In regard to implications for demographics, the median age of participants was 32. Because this is higher than the age of the population of sexual assault, future research should explore correlations of age and the experience of CBSA. Secondly, the relationship to perpetrator was high among this sample; thus, future research would benefit from exploring this to learn why in addition to the influence of relationship to perpetrator and CBSA mental health outcomes. Lastly, the ethnicity of the majority of participants was Caucasian/White, unlike the majority of sexual assault survivors who reported as American Indian/Alaskan. Future research would benefit from exploring ethnicity and the experience of CBSA.

In addition to the aforementioned suggestions for future research regarding demographics, future researchers should investigate how to recruit subjects of sensitive and vulnerable populations. One area for future study is to determine the best method to recruit subjects from vulnerable and sensitive populations. As noted, Dillman's (2000) tailored design method appeared too insensitive for this population, and the researcher switched to recruitment via social media (King et al., 2014). Because another study was being conducted simultaneously, using the same social media platforms, the researcher was unable to conclude if the social media method of recruitment was beneficial for this population. Therefore, another attempt at social media data collection is warranted (King

et al., 2014). Similarly, future research might compare this recruitment and data-collection method to other methods like paper-pencil and/or in person data collection (Dillman, 2000). Additionally, a majority of the participants were recruited from a CBSA support network. As such, the results of the current study were limited to those who belonged to support networks, and are not generalizable to the greater population of adult survivors of CBSA. Consideration should be made for increasing sample size in order to increase generalizability of results.

In regard to suggestions for future research related to the data that resulted from the preliminary research questions, future research should consider generating a cyber-sexual assault (CBSA) questionnaire. Whereas there are sexual assault questionnaires in the literature, there are no cyber-sexual assault specific scales that assess for the impacts of CBSA. For this reason, comparison studies (between SA and CBSA) are inadequate. Furthermore, the TRGI instrument did not fit well with the data, as evidenced by the poor factor loading results in removal of 17 (of 32) items. Future research may benefit from revising this scale to reduce item redundancy. Researchers may also consider utilizing an alternative instrument to assess for trauma guilt, as the TRGI may not fully capture the true experience of trauma guilt among survivors of CBSA.

In regard to suggestions for future research related to the data that resulted from the primary and secondary research questions, this investigation served as the initial, seminal quantitative investigation exploring common sexual assault concerns for a sample of CBSA victims. Future research with a qualitative emphasis may be necessary to help identify information not captured in this study. A qualitative investigation will

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help corroborate findings, or discern mental health outcomes in addition to the current constructs that were of interest: emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder. Lastly, whereas the researcher chose to focus on CBSA impacts on adults, given the media reports of the devastating impacts on much younger populations, future research would benefit from investigating how CBSA impacts children and adolescents to provide insight and implications for a younger audience also in need of counseling support.

Implications for Practice

Living in a technology driven era, counselors may be encountering more victims; and like other forms of trauma, may be unequipped to treat this population of cyber-sexual assault. Thus, counselor implications are important to help inform clinicians about the unique needs of this population. For instance, cyber-sexual assault victims' online material is permanent, and victims are revictimized (each time their photos/videos are viewed) by anonymous perpetrators worldwide; thus, revictimization offers a unique aspect when hypothesizing psychological outcomes of cyber-sexual assault victims. Based on the findings of this study, future research may provide clearer insight into the relationship between CBSA, emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder. Implications related to demographics and practice are presented followed by implications related to practice and those related to primary and secondary research questions.

In regard to demographics and practice, the data revealed that a significant relationship was identified for frequency of searching for online material (e.g., presently

and/or at its worst) for all four scales (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder). Furthermore, because a significant relationship was identified for PTSD symptomology and whether participants' material was online, counselors should incorporate this conversation into their therapeutic work with clients. Clients can experience several unique possibilities regarding their online material: (a) photos/videos remain online, (b) photos/material is removed from online, (c) photos/videos go up and down online sporadically, and (d) clients do not know whether their photos/videos are online for reasons of avoiding or cannot find the material.

Additionally, because establishing trust with a client is a universal standard, this can easily be accomplished by acknowledging that the counselor will not search for material. Counselors will benefit from knowing the laws in their specific state, as this can affect whether or not a client's material is covered by law for subsequent removal. Referral to a specialist (e.g., DMCA removal services; nonconsensual pornography lawyer) may be beneficial for clients who seek removal of their material. Because victims' material is potentially online, counselors will benefit from using a cognitive informed approach in addressing PTSD symptomology of checking behaviors (for material still online). Lastly, CBSA is potentially a form of stalking, harassment, and domestic violence; thus, assessing for safety and having clients document their case (e.g., screenshots) may be needed for those who are seeking a legal route of defense.

Finally, sexual assault literature has substantiated that sexual abuse heightens an individual's risk for revictimization, showing that survivors of sexual assault are at an increased risk for revictimization (Grauerholz, 2000), and cumulative trauma appears to

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increase the likelihood of sexual revictimization (Classen et al., 2005). Moreover, it is estimated that nearly two of three individuals sexually victimized are revictimized (Classen et al., 2005). For instance, of those women who have been raped in adulthood, more than one-third report experiencing rape as a child, before the age of 18 (Black et al., 2011). Additional empirical data in a study by Miller et al. (1978) indicated that 24% of the 314 sexual assault victims surveyed had experienced a prior sexual assault. Sorenson et al. (1991) found that 67% of 447 sexual assault victims interviewed had experienced previous sexual assault. Gidyez et al. (1995) found that 54% of the 168 college women studied with previous sexual assault experienced sexual abuse within the first three months of college (Breitenbecher, 2001). Despite these numbers, Classen et al. (2005) and Grauerholz (2000) argued that empirical research is limited and that sexual revictimization is often a secondary focus (Classen et al., 2005). For this study, revictimization was assessed as a demographic variable to learn both the frequency of occurrence of revictimization within the context of cyber-sexual assault as well as the influence of revictimization (alongside cyber-sexual assault) of the dependent variables (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder). In this investigation, the researcher found similar results to those of previous researchers. A previous history of sexual assault was significant for emotional dysregulation ($p < .05$). This suggests that emotional dysregulation can be targeted in

therapy for those who have experienced cyber-sexual assault and especially those with prior sexual assault history.

Implications regarding primary and secondary research questions and practice will be explored next. Regarding symptomology and treatment, because emotional dysregulation was identified as a significant contributor to depression and PTSD symptomology, counselors should assess clients' ability to regulate emotions and cope, as this influences adjustment in the aftermath of CBSA. Trauma guilt (Kubany, et al., 1996) and emotional dysregulation (Bjureberg, et al., 2015) have been found to influence how survivors of SA will adjust in the aftermath and the continuing effects of depressive and post-traumatic stress symptomology (Kubbany, et al., 1996; Najdowski & Ullman, 2011). Exploring primary concerns of difficulties with emotional regulation would assist clients in the self-awareness process as it relates to their coping abilities (or lack thereof) after CBSA. Using a trauma informed approach and exploring areas of guilt stemming from CBSA may further help clients increase their self-awareness as it relates to CBSA.

As noted, emotional dysregulation contributed to a large variance for both PTSD and depressive symptomology. Therefore, this was identified as the first point of intervention by counselors. Additionally, trauma guilt was also shown to add to the heightened levels of emotional dysregulation for victims. Therefore, this is a second point of intervention among victims of CBSA. In conclusion, the results of the study confirmed the secondary hypothesis, revealing that emotional dysregulation served as a mediator between trauma guilt and depression and PTSD among this sample of cyber-sexual assault victims. In sum, this suggests that counseling interventions in the initial aftermath

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of cyber-sexual assault should target either trauma guilt or emotional dysregulation to reduce outcomes of depression and PTSD symptomology (and this will be discussed further in the counselor education implications section).

Counselor Education Implications

Although prevalence rates of CBSA are routinely difficult to measure, this investigation identified a need for counselors to be prepared to help individuals cope with cyber-sexual assault, and persevere through their trauma. Based on the results of the current study, indicating that trauma guilt may influence emotional dysregulation, thereby mediating the effects of depression and PTSD symptomology, counselor educators should teach developing counselors about the tenets of trauma (specifically sexual assault). Sexual assault is the most common form of trauma women experience (Petkus et al., 2012); and the researcher of this study similarly found women (n = 91) to be the majority of victims who responded compared to men (n = 6). With the prevalence rates of SA and the rise of technology, the combination of these two factors (SA and technology) seems inevitable, and necessary to be addressed in the realm of trauma counseling (specifically SA trauma counseling).

The Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2016) standards promote a unified counseling profession, inform research and practice, and ensure that knowledge and skills are obtained in the eight core counseling areas. Trauma is designed for implantation throughout a counselor's graduate training. For example, the standards state knowledge should be obtained regarding the "effects of crisis, disasters, and trauma on diverse individuals across the lifespan" (CACREP, 2016,

p. 10), "procedures for identifying trauma and abuse and for reporting abuse" (CACREP, 2016, p. 11), "impact of crisis and trauma on individuals with mental health diagnoses" (CACREP, 2016, p. 22), and "impact of crisis and trauma on marriages, couples, and families" (CACREP, 2016, p. 29). These guidelines help ensure that counselors-in-training across the nation are exposed to appropriate trauma training.

Researchers have shown, however, that sexual assault trauma survivors are often void of adequate counseling treatment. A review of sexual assault literature highlighted that a large number of sexual assault survivors do not seek treatment from mental health professionals (Kimmerling & Calhoun, 1994; New & Berliner, 2000; Russell & Davis, 2007). Russell and Davis reported the devastating impact inadequate support can have on survivors of sexual assault. Such reluctance to seek mental health treatment has been hypothesized for reasons of lack of training, education, and sensitivity among clinicians causing further damage (Campbell et al., 2001; Russell & Davis, 2007). Therefore, counseling programs would benefit from training geared towards trauma education, especially sexual assault (where cyber-sexual assault is educated as a form of sexual assault). Despite the copious numbers of individuals impacted by trauma, Parker and Henfield (2012) noted that counselors revealed feeling unequipped to treat trauma survivors. Despite the fact sexual assault has been identified as the most prevalent form of trauma experienced by women, over 60% of counselors already in practice reported that they would benefit from training and education on trauma counseling (Cook et al., 2011; Jones & Cureton, 2014). It is both critical and timely to include thorough training

on trauma, sexual assault, and technology facilitated sexual-assault (e.g., cyber-sexual assault) in this digital age.

Instrument Development Implications

In regard to instrumentation, future researchers should consider generating a cyber-sexual assault (CBSA) questionnaire. Sexual assault questionnaires exist in the literature, but there are no cyber-sexual assault scales that ask about, nor quantify, cyber-sexual assault that has taken place. For this reason, comparison studies (between SA and CBSA) are inadequate. Furthermore, the TRGI instrument did not fit well with the data, as evidenced by the poor factor loading results in removal of 17 (of 32) items. Future researchers may benefit from revising this scale to reduce item redundancy. Furthermore, researchers may also consider utilizing an alternative instrument to assess trauma guilt, as the TRGI may not fully capture the true experience of trauma guilt among adult survivors of CBSA.

If the collected data do not fit the theorized model, researchers should make adjustments to assure the latent factors are meaningful and representative of the constructs being investigated (Brown & Moore, 2012; Raykov & Marcoulides, 2006). At the time of the present study, cyber-sexual assault had never been investigated. The data did not fit the theorized model, and adjustments were deemed necessary in order for the latent variables to be representative of the constructs being investigated (i.e., emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder). Moreover, CFA models often warrant respecification for several reasons, including: (a) improve model fit, (b) large standardized residual in the covariance matrix, and (c) poor parameter

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estimates (Brown & Moore, 2012). Furthermore, respecification is utilized for enhancing parsimony, simplifying complex models, and assuring the model is theoretically meaningful (Brown & Moore, 2012; Bryne 2010; Raykov & Marcoulides, 2006; Schumacher & Lomax, 2012).

The present study identified and supported measurement models for the DERS-16 (a = .948), TRGI (a = .949), CESD-R (a = .969), and the IES-R (a = .953). Specifically, the DERS-16 (Bjureberg, 2015) identified four factors (i.e., goals, impulse, strategy, nonacceptance) where one factor (i.e., clarity) was removed. The TRGI identified 15 items (and the removal of 17 items); inconsistent with prior research on trauma guilt (Kubany, et al., 1996). The CESD-R identified nine factors, consistent with prior research (Eaton et al., 2004). The IES-R (Weiss & Marmar, 1996) identified two factors (i.e., intrusion and hyperarousal) where one factor (avoidance) was removed. In sum, future researchers should consider EFA and CFA for each instrument to examine appropriateness with their sample.

Summary

In this final chapter, the researcher has compared study results from the current investigation with existing research in the counseling field. The results of the study supported the hypothesized theoretical model, as results revealed that emotional dysregulation served as a mediator between trauma guilt; and depression and PTSD

among this sample. These results provide new insight into the relationship between CBSA and emotional dysregulation, trauma guilt, depression, and PTSD.

This investigation also offers new evidence to the field of counseling, showing that emotional dysregulation mediates depression and PTSD symptomology where trauma guilt influences these outcomes. These results imply that healthier coping strategies and reducing guilt cognitions would assist clients in the healing process after experiencing cyber-sexual assault. Because the symptomology of CBSA victims is similar to that of sexual assault outcomes, a trauma informed approach might prove beneficial for clients.

Although the results of this study provide new insight into the relationship between trauma guilt, CBSA, emotional dysregulation and depression and PTSD symptomology, these results should be interpreted with caution due to the limitations of the study (i.e., research design, sampling, instrumentation). For instance, due to sample size limitations, and data collection disruptions, these results cannot be generalized to the population. Despite limitations, the present study is a contribution to the literature on counseling and counselor education by providing: (a) insight into the experience of trauma among adult survivors of CBSA, and (b) insight into the experience CBSA and the presence of emotional dysregulation, depression, trauma guilt, and post-traumatic stress-disorder.

APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Kelley Holladay**

Date: **March 28, 2016**

Dear Researcher:

On 03/28/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	AN INVESTIGATION OF THE IMPACT OF CYBER-SEXUAL ASSAULT ON THE EXPERIENCE OF TRAUMA GUILT, DEPRESSION, AND POST TRAUMATIC STRESS DISORDER.
Investigator:	Kelley Holladay
IRB Number:	SBE-16-12163
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 03/28/2016 11:24:04 AM EDT

IRB Manager

APPENDIX B
PERMISSIONS FOR USE OF INSTRUMENTATION

CESD-R EMAIL APPROVAL
http://cesd-r.com/cesdr/

CESD-R Explanation
Using the CESD-R:
"The CESD-R is in the public domain so it is free to use in your research."

IES-R EMAIL APPROVAL

Weiss, Daniel <Daniel.Weiss@ucsf.edu>
Kelley;Tue 1/26/2016 5:28 PM

Please see attached files.

_____

Daniel S. Weiss, Ph.D.
Editor in Chief, Journal of Traumatic Stress
Professor of Medical Psychology
Department of Psychiatry
University of California San Francisco
San Francisco, CA 94143-0984

P: 415 476 7557

F: 415 476 7552
Mail Code: UCSF Box 0984-F

DERS-16 EMAIL APPROVAL

Dear Kelley,
The DERS-16 is available for use. A copy is attached here, along with the article on its psychometrics.
Good luck with your research.

Best regards,
Johan

—**Johan Bjureberg** | lic psychologist | PhD-student
National Self Harm Project | Centre for Psychiatry Research | Norra Stationsgatan 69 | Stockholm | Sweden
Dept. of Clinical Neuroscience | Karolinska Institutet
_____
Karolinska Institutet – a medical university

Hi Kelley,

Feel free to use the DERS-16 in your study. A copy is attached, along with the article on its psychmetrics.

Best,
Kim

****
Kim L. Gratz, PhD
Professor and Director, Division of Gender, Sexuality, and Health
Director, Personality Disorders Research
Director, Dialectical Behavior Therapy Clinic
Department of Psychiatry and Human Behavior
University of Mississippi Medical Center
2500 North State Street
Jackson, MS 39216

Office: (601) 815-6450

Cell: (617) 688-0435
Fax: (601) 984-4489

        In a message dated 1/26/2016 4:04:00 P.M. Central Standard Time,
messmat@miamioh.edu writes:
        Hello Kelley,

        We are glad that you find the measure interesting and that you'd like to use it in your
dissertation research. Given that I am not the main contributor/author of this paper, I am sending
this to Dr. Kim Gratz, who is the author of the original DERS, and I hope that she may have an
answer for you.

        Best of luck with your research.
        Dr. Messman-Moore
        Terri L. Messman-Moore, Ph.D.
O'Toole Family Professor Director of Clinical Training,Department of Psychology
Miami University, 90 North Patterson Avenue, Oxford, Ohio 4505

Telephone: 513.529.2403FAX: 513.529.2420
E-Mail: messmat@miamioh.edu

TRGI EMAIL APPROVAL

Wrapping up licensing for the adapted/online use of the TRGI

Arianna De Lara <adelara@wpspublish.com>

Kelley;rights <rights@wpspublish.com>;Mon 3/7/2016 6:44 PM

Flag for follow up. Start by Monday, March 07, 2016. Due by Monday, March 07, 2016.

Hi Kelley,

It is now my pleasure on behalf of WPS to wrap-up your licensing arrangements for the use of the TRGI within your registered project. This email confirms WPS's receipt of your licensed prepayment for 400 adapted uses of the TRGI within your scholarly project.

Attached you'll now find our reprint authorization for the indicated use, including the copyright notice that must appear on each reprint/viewing of the TRGI. Your payment was processed, and your paid-in-full receipts are attached. To source the administration instructions, item content, and scoring guidelines needed for your customized application, please refer to the TRGI Manual.

If the project requires you to make additional uses of the TRGI beyond those licensed, please contact me directly, with your license number (WPS-000384), to make the supplemental licensing arrangements and receive a quote for the additional per-use fees.

All best wishes in launching the project, and thank you again for your interest in the TRGI. On behalf of WPS, I appreciate your interest in using this instrument as part of your research investigation, and look forward to learning in due course about the results of the study.

Have a wonderful day!

Arianna de Lara

Rights & Permissions Assistant

d   424.201.8838

t   800.648.8857 FREE or   424.201.8800

f   424.201.8938

625 Alaska Avenue, Torrance, CA 90503
www.wpspublish.com
www.creativetherapystore.com

APPENDIX C
REFERRAL RESOURCES

REFERRAL RESOURCES

The Mental Health Services Locator supported by the Substance Abuse and Mental Health Services Administration: http://store.samhsa.gov/mhlocator

SAMHSA's National Helpline offers free and confidential information in English and Spanish for individuals and family members facing substance abuse and mental health issues. 24 hours a day, 7 days a week.
1-800-662-HELP [FREE] (4357)
1-800-487-4889 [FREE] (TDD)

Or click on "State Agencies" at the top middle of the page.
Under "Behavioral Health Treatment Services Locator" is the "State Agencies" drop down menu. From here, choose your state to find a list of agencies near you. https://findtreatment.samhsa.gov/locator/stateagencies

The American Psychological Association: http://www.apa.org/
Click on the tab "Psychology Help Center" at the top, middle of the page.
On the left side of the page, under Resources, click on "Find a Psychologist" and put in your location to find the neared psychologist.
http://locator.apa.org/?_ga=1.42704103.391926771.1454031451

The American Psychiatric Association: http://www.psych.org/
Click on "patients and families" at the top right corner of the page.

"Mental Health Disorders/Substance Abuse" drop down tab will show common mental disorders, including symptoms, risk factors and treatment options. http://www.psychiatry.org/patients-families

"Find a Psychiatrist" will allow you to put in your location to find a psychiatrist nearest to you. http://finder.psychiatry.org/?_ga=1.149893301.223452314.1458935996

The National Alliance on Mental Illness: http://www.nami.org/
1-800-950-NAMI FREE (6264) or info@nami.org
The NAMI HelpLine can be reached Monday through Friday, 10 am–6 pm, ET.
Or click on "Find Support" and then "NAMI PROGRAMS" to find support near you. You can also use the link: https://www.nami.org/Find-Support/NAMI-Programs

The National Suicide Prevention Lifeline:
http://www.suicidepreventionlifeline.org/ and toll-free 1-800-273-8255 FREE
By calling 1-800-273-TALK (8255) you'll be connected to a skilled, trained counselor at a crisis center in your area, anytime 24/7.
The National Board of Certified Counselors (NBCC) find a counselor in your area www.nbcc.org/counselorfind

Click on your state to bring up all NBCC certified therapists in that area. http://www.nbcc.org/counselorfind

Click on "City, State" to alphabetize the therapists by location for that state.

Click on "Practice Areas" to learn the specializations of any therapist.

Pick several options, and call to schedule an appointment. Don't wait to call. Please call as soon as you see a therapist that you are interested in speaking with.

Thank you so much for your participation. For every completed survey, a donation of $1.00 will be made to RAINN or Cyber Civil rights initiative!

APPENDIX D
COMMUNICATIONS WITH PARTICIPANTS

EXPLANATION OF RESEARCH

Title of Project: A Comparison of the impact of experience of trauma guilt, depression, and post-traumatic stress disorder for survivors of cyber-sexual assault and physical sexual assault.

Principal Investigator: Kelley R. Holladay
Faculty Supervisor: W. Bryce Hagedorn

Dear Survivor,

You are being invited to take part in a research study. Whether you participate or not is up to you. The purpose of this research investigation is to explore the experience of cyber-sexual assault and sexual assault on common traumatic responses like guilt, depression, PTSD, and coping. The objective is to identify how survivors cope, and to what degree cyber-sexual assault presents similarly to physical sexual assault regarding common trauma symptoms.

If you wish to participate, you will complete a set of questions related to your coping skills, trauma guilt, depressive symptoms, and post-traumatic stress disorder (PTSD) symptoms. Additionally, you will be providing some general demographic information. Any information you provide and your participation in this study is *confidential*.

To complete this questionnaire should take no longer than 15-20 minutes.

❖ You must be 18 years of age or older to take part in this research study,
❖ and a survivor of sexual assault or cyber-sexual assault.

Your participation in this research project is voluntary. You do not have to participate. You do not have to answer any questions that you do not wish to answer. Please be advised that you may choose not to participate in the study, and may withdraw from the study at any time without consequence.

For each completed survey contributed to this study, a one dollar donation to RAINN or Cyber Civil Rights Initiative will be made. RAINN is a national resource for survivors of sexual assault, and End Revenge Porn or Cyber Civil Rights

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Initiative are national resources for survivors of cyber-sexual assault. These charity organizations align with the study's focus on sexual assault (physical and cyber).

Study contact for questions about the study or to report a problem:
If you have any questions or comments about this research, please contact Kelley Holladay at 321-438-7598; holladay@knights.ucf.edu, or W. Bryce Hagedorn at 407-823-2999; Bryce.hagedorn@ucf.edu, University of Central Florida, College of Education, Counselor Education Program, Orlando, FL.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823- 2901.

WEBSITE BLOG RECRUITMENT

Opportunity to Advance Research about Nonconsensual Pornography

#changelives #speakup #yourstorymatters @CCRInitiative

We cannot change history, but we can speak up, and be the voice that impacts the future. CCRI has been working closely with the principal investigator of the following research study and kindly encourages victims of nonconsensual pornography (NCP) to participate. The survey is an anonymous (i.e., No names, locations, email addresses, are collected) questionnaire that assesses how victims have been impacted by the experience of NCP (referred to as "cyber-sexual assault" in this study). The overall research goal is to better understand the experience of NCP on common traumatic responses like coping, depression, PTSD, and guilt since these are common responses of sexual abuse and sexual assault. Sharing your voice will help inform the counseling field and the sexual assault literature.

The following link will take you to the anonymous survey which has been approved by the University of Central Florida Institutional Review Board.

Survey Link: http://ucf.qualtrics.com//SE/?SID=SV_0x0VvFSGmpbXhVr

Kelley Holladay
Research Associate
Cyber Civil Rights Initiative
www.cybercivilrights.org
Twitter: @CCRInitiative
Office Phone: (305) 284-2547
24-Hour Crisis Helpline: 1-844-878-CCRI (2274)

INITIAL EMAIL

From: Kelley R. Holladay [holladay@knights.ucf.edu]
(through Qualtics)
To: recipient
Subject: Initial Request for Participation in a Research

[DATE}

Dear Survivor:

I am writing to request your assistance with a significant study being conducted at the University of Central Florida to understand the experience of cyber-sexual assault and sexual assault on common traumatic responses like depression, guilt, ptsd, and coping. The objective is to identify how survivors cope, and to what degree cyber-sexual assault presents similarly to sexual assault regarding common trauma symptoms.

This study aims to develop an accurate understanding of the psychological consequences victims and survivors face, in order to better prepare counselors for treating those who are impacted. Therefore, I need to survey survivors of sexual assault and cyber-sexual assault to get their input. The requirements to participate in this study include: (a) being 18 years old, and (b) having experienced sexual assault or cyber-sexual assault.

Your participation in responses to this survey is very important and will help contribute to the research on what sexual assault survivors experience, and a growing body of literature about what survivors of online sexual assault experience. As a part of this study, I am looking for your individual responses to the four instruments and demographics form. Your input is an integral part of this research.

Additionally, as a sign of appreciation, for every completed survey, I will donate one dollar to RAINN, ERP, or CCRI.

This is a short questionnaire and should take you 15-20 minutes to complete. Please click the link below to go to the survey website (or copy and paste the survey

link into your internet browser) and then enter the personal access code to begin the survey.

Survey Link: [XXXX]

Your participation in this survey is voluntary and all of your responses will be confidential. The access code is used to remove you from the list one you have completed the survey. No personally identifiable information will be associated with your responses in any reposts of this data. Should you have any questions or comments, please feel free to contact me at holladay@knights.ucf.edu or 321-438-7598. This study has been reviewed and approved by the University of Central Florida Institutional Review Board, and if you have any questions about your rights as a participant in this study, you may contact them by telephone at 407-823-2901.

I appreciate your time and consideration in completing the survey. It is only through the help of participants like you that I can provide information to help guide the development of research regarding the impact of sexual assault and cyber-sexual assault.

I sincerely thank you for your participation!

Kelley Holladay
Principal Investigator
University of Central Florida
College of Education

FIRST REMINDER EMAIL

From: Kelley R. Holladay [holladay@knights.ucf.edu]
(through Qualtics)

To: recipient

Subject: Research Survey on the Impact of Cyber-Sexual Assault and Sexual Assault

[DATE]

Dear Survivor:

We recently asked for your participation in a survey that we are conducting with survivors of sexual assault and cyber-sexual assault. We are asking participants to complete a set of online questionnaires concerning coping skills, depression, ptsd, and trauma guilt.

This is a short set of questionnaires and should take you 15-20 minutes to complete. If you have already completed this survey, we appreciate your participation! If you have not responded to this survey, we encourage you to take a few minutes and complete the survey.

Don't forget, for every completed survey I will donate a dollar to the campaign End Revenge Porn, Cyber Civil Rights Initiative, or RAINN!

Please click the link below to go to the survey website (or copy and paste the survey link into your internet browser) and then enter the personal access code to begin the survey.

Survey Link: [XXXX]

Personal Access Code: [XXXX]

Your response is important and your answers are confidential. Getting direct input from survivors regarding this topic will help guide the development of research on

this topic, legislative issues, and social stigmas of such assault. Thank you for your assistance in this study!

Much Appreciation

Kelley R. Holladay
PrincipalInvestigator
University of Central Florida College of Education
4000 Central Florida Blvd. Orlando, FL, 32816

FINAL REMINDER EMAIL

From: Kelley R. Holladay [holladay@knights.ucf.edu] (through Qualtics)
To: recipient
Subject: Final Request for your Response to a Research Investigation

[DATE]

Dear Survivor:

This time of the year can be a busy time and I understand how valuable your time is. I am hoping you may be able to give about 15-20 minutes or your time to help us collect information pertaining to sexual assault and/or cyber-sexual assault survivors' experiences of coping, depression, ptsd, and trauma related guilt.

If you have already completed this survey, I really appreciate your participation. If you have not yet responded, I would like to urge you to complete the questionnaires.

I plan to end this study soon, so I wanted to email all potential participants who have not responded to make sure they had a chance to contribute.

Also, I am making a dollar donation to sexual assaults foundations (ERP, CCRI, or RAINN) for every survey completed.

Please click the link below to go to the survey website (or copy and paste the survey link into your internet browser) and then enter the personal access code to begin the survey.

Survey Link: [XXXX]
Personal Access Code: [XXXX]

Thank you in advance for completing this survey. Your response is important and confidential.

Sincerely,

Kelley R. Holladay Principal Investigator
University of Central Florida College of Education
4000 Central Florida Blvd. Orlando, FL, 32816

THANK YOU EMAIL
From: Kelley R. Holladay [holladay@knights.ucf.edu] Sent: date
To: recipient

Subject: Thank You for Your Time

Date

Thank you so much for your time and contribution to my study. Your feedback is very much appreciated. A donation of $1.00 will be made to RAINN, EndRevengePorn.org, or Cyber Civil rights initiative, because you took the time to complete my survey.

If you have any questions or comments about this research, please contact me (Kelley Holladay, holladay@knights.ucf.edu) or my faculty advisor Dr. W. Bryce Hagedorn (bryce.hagedorn@ucf.edu).

Thank you,

Kelley R.Holladay
DoctoralCandidate
University of Central Florida

APPENDIX E
DEMOGRAPHIC QUESTIONNAIRE

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

START HERE

Thank you for agreeing to participate in this survey. You input is highly valued, and will help in considerable ways. Please complete the following demographics page, which will help to show trends for the occurrence of cyber-sexual assault. Please keep in mind your identifying information will not be asked for (e.g., name, city, etc.).

Instructions: Please check all answers that apply for the questions below. Please provide the answer that reflects your identity most accurately.

1. **How were you referred to this survey?**
□ Cyber Civil Rights Initiative (CCRI)
□ RAINN
□ _____ (other - please specify)

2. **Please select your biological sex:**
□ Male
□ Female
□ Intergender
□ Transgender

3. **Please select your sexual orientation:**
□ Bisexual
□ Heterosexual
□ Gay/Lesbian/Homosexual
□ Transsexual
□ Other

4. **Please indicate your current age:**
□ _____.

5. **Please select your ethnicity:**
□ African American or Black
□ American Indian or Alaska Native
□ Asian
□ White (non-Hispanic)
□ Hispanic or Latino
□ Native Hawaiian or Pacific Islander
□ Two or more Races
□ Other:_____

Sexual Assault definition: Any type of sexual contact or behavior that occurs without the explicit consent of the recipient (such as rape, attempted rape, unwanted fondling, molestation, and/or child molestation.

Cyber-Sexual Assault definition: Also known as "revenge porn" or "nonconsensual pornography"; this form of sexual assault occurs when sexually explicit or nude photos/videos are shared online, without the pictured individual's consent.

6. **Have you ever been sexually assaulted:**
□ Yes
□ No

7. **How many times have you been sexually assaulted:**
□ _____

8. **Have you ever been cyber-sexually assaulted:**
□ Yes
□ No

9. **How many times have you been cyber-sexually assaulted:**
□ _____

10. **In relation to your cyber-sexual assault, what was your relationship to the perpetrator (please check all that apply):**
□ Partner/Significant other
□ Marital Partner
□ Friend
□ Family member
□ Casual relationship
□ Other: _____

11. **In relation to your cyber-sexual assault, when it was at its worst, how often did you search for your online material [photo(s)/video(s)]?**

□ Hourly
□ Daily
□ Once a week

□ Once a month
□ Never
□ Other: _____

12. **Is your material (photos and/or videos) still posted online?**
□ Yes
□ No
□ Other: _____

13. **In relation to your cyber-sexual assault, presently, how often do you currently search for your material [photo(s)/video(s)]?**

□ Hourly
□ Daily
□ Once a week
□ Once a month
□ Never
□ Other: _____

Thank you for answering these questions.
As you proceed, please keep these answers in mind, and answer the remainder of the questionnaire related to your cyber to your cyber-sexual assault experience(s).

APPENDIX F
DIFFICULTIES IN EMOTION REGUATION SCALE (DERS 16)

DIFFICULTIES IN EMOTION REGULATION SCALE DERS-16

Please indicate how often the following statements apply to you by writing the appropriate number from the scale above (1–5) on the line beside each item.

1---------------2---------------3---------------4---------------5

Almost never always	Sometimes	About half the time	Most of the time	Almost
0–10 %	11–35 %	36–65 %	66–90 %	91–100 %

1. I have difficulty making sense out of my feelings.
2. I am confused about how I feel.
3. When I am upset, I have difficulty getting work done.
4. When I am upset, I become out of control.
5. When I am upset, I believe that I will remain that way for a long time.
6. When I am upset, I believe that I'll end up feeling very depressed.
7. When I am upset, I have difficulty focusing on other things.
8. When I am upset, I feel out of control.
9. When I am upset, I feel ashamed with myself for feeling that way.
10. When I am upset, I feel like I am weak.
11. When I am upset, I have difficulty controlling my behaviors.
12. When I am upset, I believe that there is nothing I can do to make myself feel better.
13. When I am upset, I become irritated with myself for feeling that way.
14. When I am upset, I start to feel very bad about myself.
15. When I am upset, I have difficulty thinking about anything else.
16. When I am upset, my emotions feel overwhelming.

APPENDIX G
IMPACT OF EVENT SCALE-REVISED (IES-R)

IMPACT OF EVENT SCALE-REVISED

Daniel S. Weiss, PhD & Charles R. Marmar, MD

Instructions: Below is a list of difficulties people sometimes have after stressful life events.

Please read each item and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to_____, how much were you distressed or bothered by these difficulties?

Not at all=0, Little bit =1, Moderately=2, Quite a bit = 3, Extremely= 4

	Statement					
1.	Any reminder brought back feelings about it.	0	1	2	3	4
2.	I had trouble staying asleep.	0	1	2	3	4
3.	Other things kept making me think about it.	0	1	2	3	4
4.	I felt irritable and angry.	0	1	2	3	4
5.	I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6.	I thought about it when I didn't mean to.	0	1	2	3	4
7.	I felt as if it hadn't happened or wasn't real.	0	1	2	3	4
8.	I stayed away from reminders about it.	0	1	2	3	4
9.	Pictures about it popped into my mind.	0	1	2	3	4
10.	I was jumpy and easily startled.	0	1	2	3	4
11.	I tried not to think about it.	0	1	2	3	4
12.	I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4
13.	My feelings about it were kind of numb.	0	1	2	3	4
14.	I found myself acting or feeling like I was back at that time.	0	1	2	3	4
15.	I had trouble falling asleep.	0	1	2	3	4
16.	I had waves of strong feelings about it.	0	1	2	3	4
17.	I tried to remove it from my memory.	0	1	2	3	4
18.	I had trouble concentrating.	0	1	2	3	4
19.	Reminders of it caused me to have physical reaction, such as sweating, trouble breathing.	0	1	2	3	4
20.	I had dreams about it.	0	1	2	3	4
21.	I felt watchful and on-guard.	0	1	2	3	4
22.	I tried not to talk about it.	0	1	2	3	4

APPENDIX H
CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE-REVISED
(CESD-R)

Center for Epidemiologic Studies Depression Scale – Revised (CESD-R)

Below is a list of the ways you might have felt or behaved. Please check the boxes to tell me how often you have felt this way in the past week or so.	Last Week				Nearly every day for 2 weeks
	Not at all or Less than 1 day	1 – 2 days	3 – 4 days	5 – 7 days	
My appetite was poor.	0	1	2	3	4
I could not shake off the blues.	0	1	2	3	4
I had trouble keeping my mind on what I was doing.	0	1	2	3	4
I felt depressed.	0	1	2	3	4
My sleep was restless.	0	1	2	3	4
I felt sad.	0	1	2	3	4
I could not get going.	0	1	2	3	4
Nothing made me happy.	0	1	2	3	4
I felt like a bad person.	0	1	2	3	4
I lost interest in my usual activities.	0	1	2	3	4
I slept much more than usual.	0	1	2	3	4
I felt like I was moving too slowly.	0	1	2	3	4
I felt fidgety.	0	1	2	3	4
I wished I were dead.	0	1	2	3	4
I wanted to hurt myself.	0	1	2	3	4
I was tired all the time.	0	1	2	3	4
I did not like myself.	0	1	2	3	4
I lost a lot of weight without trying to.	0	1	2	3	4
I had a lot of trouble getting to sleep.	0	1	2	3	4
I could not focus on the important things.	0	1	2	3	4

APPENDIX I
TRAUMA RELATED GUILT INVENTORY (TRGI)

TRGI (Trauma Related Guilt Inventory Edward S. Kubany, Ph.D)

Individuals who have experienced traumatic events — such as physical or sexual abuse, military combat, sudden loss of loved ones, serious accidents or disasters, etc. --- vary considerably in their response to these events. Some people do not have any misgivings about what they did during these events, whereas other people do. They may have misgivings about something they did (or did not do), about beliefs or thoughts they had, or for having had certain feelings (or lack of feelings). The purpose of this questionnaire is to evaluate your response to a traumatic experience.

Briefly describe what happened:

Please take a few moments to think about what happened. All the items below refer to events related to this experience.

For the next 32 questions, you are to rate your response on a 5 point scale.

1. _____I could have prevented what happened.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

2. _____I am still distressed about what happened.
   Never true 1— 2 — 3 — 4 —5 always true

3. _____I had some feelings that I should not have had.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

4. _____What I did was completely justified.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

5. _____I was responsible for causing what happened.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

6. _____What happened causes me emotional pain.
   Never true 1— 2 — 3 — 4 —5 always true

7. _____I did something that went against my values.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

8. ____What I did made sense.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

9. ____I knew better than to do what I did.
   Not at all true 1— 2 — 3 — 4 —5 extremely true

10. ____I feel sorrow or grief about the outcome.
    Never true 1— 2 — 3 — 4 —5 always true

11.____What 1 did was inconsistent with my beliefs.
    Not at all true 1— 2 — 3 — 4 —5 extremely true

12. ____If I knew today only what 1 knew when the event(s) occurred I would do exactly the same thing.
    Not at all true 1— 2 — 3 — 4 —5 extremely true

13.____I experience intense guilt that relates to what happened.
    Never true 1— 2 — 3 — 4 —5 always true

14. ____I should have known better.
    Not at all true 1— 2 — 3 — 4 —5 extremely true

15. ____I experience severe emotional distress when I think about what happened.
    Never true 1— 2 — 3 — 4 —5 always true

16. ____I had some thoughts or beliefs that I should not have had.
    Not at all true 1— 2 — 3 — 4 —5 extremely true

17. ____I had good reasons for doing what I did.
    Not at all true 1— 2 — 3 — 4 —5 extremely true

18. ____Indicate how frequently you experience guilt that relates to what happened.
    Never true 1— 2 — 3 — 4 —5 always true

19. ____I blame myself for what happened.

Not at all true 1— 2 — 3 — 4 —5 extremely true

20. ____What happened causes a lot of pain and suffering.
Not at all true 1— 2 — 3 — 4 —5 extremely true

21. ____I should have had certain feelings that I did not have.
Not at all true 1— 2 — 3 — 4 —5 extremely true

22. ____Indicate the intensity or severity of guilt that you typically experience about the event(s).
None 1— 2 — 3 — 4 —5 extreme

23.____I blame myself for something 1 did, thought, or felt.
Not at all true 1— 2 — 3 — 4 —5 extremely true

24. ____When I am reminded of the event(s), I have strong physical reactions such as sweating, tense muscles, dry mouth, etc.
Never true 1— 2 — 3 — 4 —5 always true

25. ____Overall, how guilty do you feel about the event(s)?
Not guilty at all 1— 2 — 3 — 4 —5 extremely guilty

26. ____I hold myself responsible for what happened.
Not at all true 1— 2 — 3 — 4 —5 extremely true

27. ____What I did was not justified in any way.
Not at all true 1— 2 — 3 — 4 —5 extremely true

28. ____I violated personal standards of right and wrong.
Not at all true 1— 2 — 3 — 4 —5 extremely true

29. ____I did something that I should not have done.
Not at all true 1— 2 — 3 — 4 —5 extremely true

30. ____I should have done something that I did not do.
Not at all true 1— 2 — 3 — 4 —5 extremely true

31. ____What I did was unforgivable.
         Not at all true 1— 2 — 3 — 4 —5 extremely true

32. ____I didn't do anything wrong.
         Not at all true 1— 2 — 3 — 4 —5 extremely true

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