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The Well-being Outcomes of Sexual Assault Survivors After Sexual Assault Kit Examinations

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THE WELL-BEING OUTCOMES OF SEXUAL ASSAULT SURVIVORS AFTER SEXUAL ASSAULT KIT EXAMINATIONS

by

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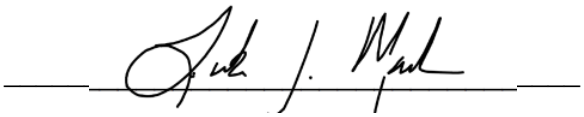

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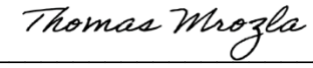

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ABSTRACT

The Well-Being Outcomes of Sexual Assault Survivors After Sexual Assault Kit Examinations

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This study examined how the quality of a sexual assault medical forensic exam, or SAMFE, affects the well-being outcomes of sexual assault victims. A SAMFE is used to collect forensic evidence and provide comprehensive care to victims. Furthermore, SAMFEs are typically collected by a specially trained Sexual Assault Nurse Examiner (SANE) or medical practitioner. It was hypothesized that a more trauma-informed and victim-centered SAMFE allowed victims to have better physical, psychological, and social well-being outcomes. In this study, a victim's well-being outcomes were measured through the dependent variables of the TSC-40, Brief-COPE, and Posttraumatic Growth Inventory scales. Furthermore, the quality of the SAMFE was measured using a scale created out of existing research. Results were controlled through the Social Reactions Questionnaire-Shortened and demographic variables. Overall, as a victim's perception of how quality their SAMFE was increased, their positive well-being outcomes also increased. Also, this study's results highlighted the importance of other people's reactions to a victim's disclosure of their sexual assault.

KEYWORDS: Sexual Assault, Sexual Assault Medical Forensic Exam, Rape Kit, Well-Being, Sexual Assault Nurse Examiner, SANE

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INTRODUCTION

Sexual assault is a pervasive crime that affects a large number of people across the world. In the United States alone approximately 75 million women and 26 million men will be sexually assaulted during their lifetime (Corum & Carroll, 2014). RAINN, an anti-sexual violence organization, estimates that there are 60,000 children that experience or indicate sexual abuse a year and that every 68 seconds an American becomes a victim of sexual assault ("Scope of the Problem: Statistics," 2022). Sexual abuse is a crime that has the potential to affect anyone despite age, gender, sexual orientation, race, and economic status.

Most victims are assaulted by someone that they know (Horvath and Brown, 2011). RAINN reports that 8 out of 10 sexual assaults are committed by someone known to the victim, of which 39% were acquaintances and 33% were a current or former romantic partner ("Perpetrators of Sexual Violence: Statistics," 2022). Meanwhile, only 19.5% of those sexual assaults were committed by a stranger. Additionally, RAINN provides more statistics about the demographics of sexual assault perpetrators. According to RAINN, 50% of perpetrators are 30 and older and 25% are between 21 and 29 years old. When it comes to race, 57% of perpetrators are White and 27% are Black. Finally, perpetrators often have past criminal histories with more than half of all alleged rapists having at least one prior conviction.

According to RAINN, 1 out of every 6 women in America has been a victim of an attempted or completed sexual assault and 1 out of every 10 sexual assault victims are male ("Victims of Sexual Violence," 2022). Moreover, transgender Americans are at extremely high risk for sexual assault during their lifetime ("Sexual Assault and the LGBTQ Community," 2022). One survey reported that 47% of transgender Americans

have been sexually assaulted at one point in their lifetime (“Sexual Assault and the LGBTQ Community,” 2022). Among the transgender individuals who had been sexually assaulted during their life, people of color were most at risk (“Sexual Assault and the LGBTQ Community,” 2022). Sadly, when compared to other races, Native Americans are twice as likely to experience sexual assault. (“Victims of Sexual Violence,” 2022). There are other populations of people that are at high risk of being sexually assaulted. These populations include inmates, military members, and sex workers (“Victims of Sexual Violence,” 2022; "Fact Sheet- Sexual Violence Against Sex Workers," 2022). Finally, a majority of sexual assault victims, nearly 54%, are between the ages of 18 and 34 years old (“Victims of Sexual Violence,” 2022).

Recently sexual assault medical forensic exams (SAMFEs) have become a topic of national discussion due to the large backlog of untested kits across the nation. Untested sexual assault kits are stored not only in hospitals and clinics, but also in police departments, crime labs, and rape crisis centers (Ritter, 2013). For instance, in 2019 during an inventory of sexual assault kits, Detroit found around 11,000 untested sexual assault kits (Campbell & Fehler-Cabral, 2017). Furthermore, at one point research studies and various investigations concluded “that there are at least 200,000 untested SAKs in storage in police property facilities throughout the U.S.A.” (Campbell & Fehler-Cabral, 2017; Campbell et al., 2016; Human Rights Watch, 2009, 2010; Strom & Hickman, 2010). This national attention has provided a spotlight on the discussion about SAMFEs and their importance.

Sexual assault is a deeply personal and horrific experience that many people will encounter in their life. The assault itself will subject the victim to uncomfortable and

painful experiences, which is why it is extremely important for SAMFEs to reduce revictimization and provide victims with a quality experience overall. In fact, some research has indicated that a sexual assault medical forensic exam (SAMFE) that is patient-centered and trauma-informed can reduce negative outcomes from sexual assault (Campbell, Patterson, & Lichty, 2005). This project extends prior research which has been largely qualitative in nature by surveying individuals who have obtained a SAMFE about their perceptions of exam quality and their well-being outcomes. It is predicted that if a victim perceives their SAMFE to be a quality examination that their physical, social, and psychological well-being outcomes will be improved. In the next section, I will first describe SAMFEs, SANE programs, and the well-being outcomes of victims. Then I will present the methods before summarizing the results of this analysis. Finally, I will be going into the discussion and conclusions of this project.

LITERATURE REVIEW

SEXUAL ASSAULT MEDICAL FORENSIC EXAM

A key tool to gather evidence in a sexual assault case is a sexual assault medical forensic exam (SAMFE, colloquially referred to as a "rape kit"). The SAMFE was created and designed to "organize and simplify collection of evidence from a victim's person" (Gaensslen & Lee, 2002, p.16). Collected by a health care practitioner, SAMFE collects and preserves forensic evidence and addresses the physical and psychological aftereffects of the victim (Campbell et al., 2020). In this section, we will explore both parts of the exam.

In this section, I will explore both purposes of a SAMFE. There is an abundance of evidence that may be produced through a SAMFE. Typically, the most sought-after

type of evidence is biological, or DNA. Biological evidence can help corroborate the statement made by the victim, identification of a suspect, connect serial rapes or multiple crimes, or possibly exonerate a convicted suspect (Ritter, 2016). However, while a SAMFE may contain biological evidence there are also other types of evidence that are produced through an examination. This evidence can include physical evidence (clothes, bedding, etc.), toxicology reports, or even a narrative of the assault (Ritter, 2016; Corum & Carroll, 2014). The evidence collected from a sexual assault examination is useful for the investigation of the assault and the possible prosecution of those responsible.

Forensic evidence is collected through a number of different methods during the examination. The medical examiner will typically be looking to collect DNA, trace evidence, toxicology, physical findings, history documentation, and photographic evidence (Lechner et al., 2018). In order to visualize and collect appropriate evidence, techniques such as the use of alternate light sources, swab collection, speculum examination, colposcopy visualization, and anoscopic visualization, are used (Lechner et al., 2018). More specifically, SAMFEs include the collection of vaginal, oral, and anal swabs, blood specimens, a buccal swab, head, and pubic hair reference samples, and pubic hair combings (Gaensslen & Lee, 2002). This evidence is useful for identifying possible evidence from a suspect and as an exclusionary tool (Gaensslen & Lee, 2002). Additionally, forensic examiners will collect fingernail clippings/scrapings, foreign biological material, the victim's clothing, and any other relevant physical items (Gaensslen & Lee, 2002). Victims seek out sexual assault examinations to collect and preserve evidence against their perpetrator(s) and to keep their options open for possibly reporting their assault later (Campbell et al., 2020). Altogether there is a large amount of

forensic evidence that can be collected during a SAMFE; however, it is only one part of the medical examination.

Second, SAMFEs address the well-being and personal health needs of the victim. Most certainly, one of the most important aspects of a medical forensic examination is to give patients comprehensive and compassionate care that addresses their emergency medical needs (Corum & Carroll, 2014). Sexual assault exams include a portion in which victims receive treatment for their injuries, sexually transmitted infection (STI) screenings, pregnancy testing, crisis intervention, and referrals to other services (Campbell et al., 2020). This type of care addresses the victim's needs, instead of focusing on evidence collection for the case. In fact, research has shown that one of the main reasons victims seek out medical forensic exams in order to receive personal health treatment (Campbell et al., 2020). In 2016, it was reported that only 23.2% of rapes or sexual assaults were reported to police (Morgan & Kena, 2018). A SAMFE provides victims with a number of services to help them after their assault, but some victims are still deterred from receiving an examination. Victims can be deterred from receiving a SAMFE because often only focusing on the collection of forensic evidence ignores the needs of the victim.

Some past research has explored the importance of focusing on victim well-being during a SAMFE. In a study conducted by Rebecca Campbell and colleagues (2005), they found that the SANE program's utilization of a trauma-informed and victim-centered approach has been found to positively impact the psychological well-being of victims. Specifically, the SANE provider was perceived by the victim to be both helpful and supportive during the SAMFE process (Campbell, Patterson, & Lichty, 2005).

Additionally, they found that after implementing a SANE program, some hospitals saw an increase in rates of service delivery for overall comprehensive care when attending to rape victims. This suggests that SANE programs, that were specifically developed to provide effective and comprehensive care, can provide a better overall experience for victims and have the potential to impact their well-being outcomes. Another research study confirmed the idea that the SANE program provides victims with positive psychological well-being outcomes (Campbell et al., 2008). They found that SAMFEs administered by SANE professionals both provided empowered care to the majority of victims and that victims reported positive psychological well-being outcomes after their examination (Campbell et al., 2008). This research was based on a qualitative analysis of victim outcomes. This research project is looking to expand on the findings presented by Campbell and colleagues through a quantitative lens.

There are several reasons why a victim decides not to have a SAMFE done. The kits themselves are incredibly invasive and can be considered re-traumatizing for victims. Victims have reported that the treatment and evidence collection associated with a SAMFE was traumatizing and have mentioned that it feels like a "second rape" (Campbell et al., 2020). Additionally, the time leading up to the exam can be especially difficult for victims. Often at hospitals, there isn't specially trained staff at the ready for a sexual assault exam. This will leave victims waiting for 4 to 10 hours to receive an examination. Also, during the time leading up to the exam victims are advised to not eat, drink, or go to the bathroom in order to preserve any evidence (Campbell et al., 2020). These are just some of the reasons why victims may not be inclined to receive a medical forensic exam.

Medical forensic exams offer victims the chance to collect and preserve evidence related to their assault along with receiving medical treatment for any issues related to their assault. Furthermore, the evidence collected from SAMFEs gives police officers and prosecutors the opportunity to investigate and build their case against the assailant(s). However, victims should be the first priority within the SAMFE process. By ensuring that victims receive both trauma-informed and victim-centered care, health providers have the ability to improve victims' physical, social, and psychological well-being outcomes. Overall, by understanding what makes a SAMFE a quality exam and its impact on the well-being of victims, victims can receive better treatment after their assault. In order to address this issue, the SAMFE process has been reformed through the emergence of Sexual Assault Nurse Examiner (SANE) programs.

SANE NURSING PROGRAMS

To improve the execution of SAMFEs and victim experiences, the Sexual Assault Nurse Examiner (SANE) program was created (Diamond-Welch, Zimmer, & Jones, forthcoming). SANE programs are a relatively new development in the field of medicine and medical investigations (Ciancone et al., 2000). SANE programs were specifically "designed to remove sexual assault evidence collection from the emergency department staff, to create a compassionate examination process, and to obtain complete consistent data" (Ciancone et al., 2000, p. 354). Additionally, the SANE program paid special attention to developing a program that:

> "applies established evidence-based standards of forensic nursing practice to ensure that all patients reporting sexual violence and victimization receive a competent medical forensic examination, taking into consideration

> developmental, cultural, racial, ethnic, gender identity, sexual, and socioeconomic diversity" (Lechner et al., 2018, p. 1).

One of the biggest assets of the SANE program is the fact that the principles and care provided are both trauma-informed and victim-centered. In order to provide trauma-informed care providers need to adhere to four underlying principles (Raja, 2015; Lechner et al., 2018). These underlying principles include knowing the prevalence of traumatic events and the impact of trauma, knowing and being able to recognize the signs and symptoms of trauma, integrating knowledge of trauma into policies, procedures, and practices, and avoiding re-traumatization. Meanwhile, being victim-centered means putting the needs of the victim at the forefront of any response ("Victim/Survivor-Centered Approach," 2019). Through SANEs this can look like providing resources like victim advocates to victims, treating the victim with dignity and respect, providing a healthy environment, and empowering the victim to make their own decisions throughout the process ("Victim/Survivor-Centered Approach," 2019; Littel, 2001). The practice of being trauma-informed and victim-centered is carefully integrated into all of the services that SANEs provide.

While SANE programs are a rather new concept to the field of medicine, "the development of a sexual assault program is an ever-challenging process" (Botello, King, & Ratner, 2003). This is why SANE programs need "to be able to flex with the needs of the community" (Botello, King, & Ratner, 2003). Originally, SANE programs were developed with the goal to provide compressive and compassionate care to victims of sexual assault. However, the new pressure to prosecute sexual assault cases has caused a shift in priorities in SANE programs. In a study done by Debra Patterson and associates

(2006) aimed to identify the guiding principles and philosophies of modern SANE programs and how they have diverted from the SANE program's original goals. In their study, they identified three separate clusters of types of SANE programs. The three clusters were High Prosecution which has a high emphasis on legal prosecution, Community Change which is focused on attending to the victim and the community as a whole, and Low Prosecution which has prosecution as its lowest ranking goal, but only had mid-range results for the other goals. They also concluded that programs that had prosecution as a primary goal overall provided less comprehensive services to victims and therefore impacted the well-being of victims after their examination. This just reinforces the idea that SAMFEs need to be primarily focused on the victim and the services they receive to improve their well-being outcomes. As SANE programs continue to develop across the United State and as the criminal justice system continues to evolve, the goals of the program may also change. However, as time goes on the victim will continue to be the center focus of the program due to their teaching practices and founding principles.

SANE nurses receive an extensive amount of training due to the high risk of re-traumatization of patients and the importance of evidence collection. The training of a SANE nurse may consist of "56 hours of classroom time, 8 hours of courtroom training, and 96 additional hours of clinical time" (Botello, King, & Ratner, 2003). However, the job as a SANE nurse also comes with several difficulties. One main challenge of SANE programs is burnout. Burnout occurs within a position when the emotional, physical, and psychological toll of a job causes people to resign at high rates. This often occurs in positions that have high risks for secondary trauma. SANE programs are a high risk for

burnout and "historically it has been identified that SANE nurses have experienced a high burnout rate with the average SANE practice lasting only 1 to 2 years" (Botello, King, & Ratne, 2003). The training the SANE nurses receive helps them be prepared for the difficulties associated with the job; however, this is a high risk for burnout within the position.

When it comes to investigations, SANE programs are able to provide a better standard of care and forensic evidence collection when it comes to medical forensic exams. One study concluded that evidence collected by SANE professionals was overall more accurate and complete when compared to SAMFEs that were collected by providers that were not SANEs (Sievers, Murphy, & Miller, 2003). Additionally, they concluded that "SANEs were significantly more likely to have a completed chain of custody, appropriately sealed and labeled individual specimen envelopes, appropriate amounts of swabs, head, and public hair, collected blood, and vaginal motility specimens" (Sievers, Murphy, & Miller, 2003, p.514). Another study found that forensic evidence analysts had positive comments about the SANE nurses and "remarked how much they truly appreciate the difference SANE nurses make in the collection of evidence, further stating that these nurses fill a valuable and essential role" (Corum & Carroll, 2014, p. 51). Also, they determined that Overall, this study concluded that there is "a correlation between SANE collected evidence and documentation with the increased potential of arrest, prosecution, and conviction of the perpetrator" (Corum & Carroll, 2014, p. 51). SANE programs can provide a higher quality of evidence collection which adds to the effectiveness of the criminal investigation.

It is important to note that the use of SANE programs is not the only way in which a victim can receive a quality, trauma-informed, and victim-centered SAMFE. In reality, a lot of hospitals don't have the personnel, funds, capacity, or ability to implement a SANE program (Diamond-Welch, Zimmer, & Jones, forthcoming). According to the United States Government Accountability Office all states, especially rural communities are limited in their ability to train and fund sexual assault examiners (Thomas, Nobrega, & Britton-Susino, 2020). Instead of certifying medical professionals through the SANE program, many hospitals operating at a limited capacity opt to just train their medical professionals on the principles of a quality SAMFE themselves (Diamond-Welch, Zimmer, & Jones, forthcoming). This allows hospitals to still deliver quality SAMFEs, while also catering to the specific limitations that the hospital endures (Diamond-Welch, Zimmer, & Jones, forthcoming).

In short, for a quality exam to take place, it does not need to be done by a certified SANE. However, it does need to be trauma-informed and victim-centered by focusing on the needs of the victim and reducing the possibility of re-traumatization. Research has shown that the quality of a SAMFE has an impact on a victim's well-being outcomes (Campbell, Patterson, & Lichty, 2005). In order to properly understand the impact of a quality SAMFE, it is important to know which specific well-being outcomes are being affected for victims.

WELL-BEING OUTCOMES

This research will explore the well-being outcomes of sexual assault victims after their SAMFEs through the use of several different scales. Victims have the possibility of experiencing numerous negative effects stemming from their assault or even the SAMFE

itself. This project will be looking into the idea that a quality SAMFE has the ability to reduce the negative well-being outcomes of victims after their assault.

Victims have the potential to experience physical, psychological, and social issues that stem from the assault (Ullman, 2010). Physical issues are ones that cause the victim to have some sort of damage, injury, or consequence to their body. These physical issues can include pregnancy, bodily injury, sexually transmitted infections, food issues, or even somatic problems (Ullman, 2010). Research into pregnancy resulting from rape had demonstrated that the number of children born out of rape in the United States is between 7,750-12,500 each year ("Victims of Sexual Violence," 2022). Psychological issues affect the mind and mental status of the victim. Some examples of psychological effects of sexual assault include mental illness, anxiety, fear, guilt, and post-traumatic stress disorder (PTSD) (Ullman, 2010). For example, 94% of women who were sexually assaulted have PTSD symptoms for the two weeks following their assault ("Younger People Are at the Highest Risk of Sexual Violence," 2021). Victims are also at risk for self-harm, dissociation, and panic attacks after their assault ("Effects of Sexual Violence," 2022). Finally, social issues affect how a victim may interact with others surrounding them. Social issues stemming from sexual assault can include isolation, loss of trust, and fear of intimacy (Ullman, 2010). About 37% of rape victims have family or friend problems after the assault and feel as if they cannot trust them ("Victims of Sexual Violence," 2022). All of these physical, psychological, and social issues affect a victim's well-being after experiencing an assault.

There are several scales that this research project will utilize to test the well-being outcomes of victims after their SAMFE. The scales that are used to measure a victim's

well-being outcomes are the TSC-40, Brief-COPE, and the Posttraumatic Growth Inventory (PTGI). First, the TSC-40 is a trauma checklist that will be used to identify the level of trauma a victim is dealing with (Elliot & Briere, 1992). Trauma is just one way that this study is measuring psychological and social well-being outcomes. There have been a number of studies that have used the TSC-40 to evaluate trauma within victims of traumatic experiences. This scale is being used in this study because it has been found to be an effective way to measure levels of trauma within adults that have experienced a traumatic event (Elliot & Briere, 1992). First, in a study conducted by Zlotnick and colleagues (1996), they were able to demonstrate that female psychiatrist inpatients who were victims of sexual abuse demonstrated an overall higher score on the TSC-40 than individuals who did not experience sexual abuse. Another study confirmed the idea that the TSC-40 can be used to measure a variety of traumatic incidents, but it is most notably used when measuring sexual abuse effects (Elliot & Briere, 1991). The scale was originally used to measure childhood abuse; however, the creators of the scale have validated its use for adult sexual assault victims (Elliot & Briere, 1992). Overall, the TSC-40 will be an effective tool when measuring the level of trauma a victim is experiencing after their SAMFE.

Next, the Brief-COPE scale will be used to measure the positive and negative coping strategies of victims. The Brief-COPE scale measures three different types of coping strategies, problem-focused, emotion-focused, and avoidant (Carver, 1997). This scale is an effective way of measuring physical, social, and psychological well-being outcomes in victims because of the variety of coping mechanisms the scale covers. Several studies have shown how the Brief-COPE scale is useful when studying sexual

assault victims (Ullman et al., 2013; Bryant-Davis et al., 2012). In a research project conducted by Ullman and colleagues, they used the Brief-COPE scale to measure substance use to cope among sexual assault victims (Ullman et al., 2013). They determined that the use of alcohol and drugs as a coping mechanism was highly correlated with victims of sexual assault (Ullman et al., 2013). Another project looked at the use of religious coping for sexual assault victims (Bryant-Davis et al., 2012). They found that religious coping has high significance for sexual assault victims (Bryant-Davis et al., 2012). The Brief-COPE scale is a good measure of a victim's psychological and physical well-being after their assault.

The last major scale that is being used to measure a victim's well-being is the Posttraumatic Growth Inventory (PTGI). This scale is used to measure a victim's growth and positive outcomes after a traumatic event (Hamby, Grych, & Banyard, 2015). This scale is used to measure the psychological well-being of a victim. This scale is an effective tool for this study considering its reliability in measuring sexual assault victims' posttraumatic growth (Kaur et al., 2017; Ullman, 2014). One study concluded that the PTGI was successful in their study for measuring the psychological well-being of their sample (Kaur et al., 2017). Another study conducted by Ullman (2014) concluded that among sexual assault victims, the demographics of the victim are related to the level of posttraumatic growth of the victim. In the end, the PTGI will provide an interesting measure for this research project.

This study will also be controlling for other factors that have been known to impact the well-being outcomes of victims. These controls include the Social Reactions Questionnaire-Shortened (SQR-S) and the demographics of the victim. The SRQ-S

evaluates the type of reactions a victim receives when disclosing their sexual assault (Ullman et al., 2017). The reactions of others provide a key indicator of a victim's well-being outcomes after an assault. For instance, one study demonstrated that the responses, especially negative responses, have an impact on a victim's mental and physical health (Ullman, 1999). Additionally, another project has demonstrated that a positive reaction during a disclosure has the ability to lower the negative well-being outcomes of a victim (Dworkin, Brill, & Ullman, 2019).

The demographics of a victim can also highly impact the well-being outcomes of a victim. The demographic controls that will be used for this research project include gender identity, age, race, education, and sexual identity. There has been a large body of research that has demonstrated the relationship between the well-being outcomes of a victim and their demographics. For instance, one study found that victims that have already been sexually assaulted once before and have a lower level of education are more likely to use negative coping strategies to deal with their assault (Ullman et al., 2017). Additionally, several other studies have demonstrated how sexual identity and race can be tied to higher levels of mental health concerns in victims of sexual assault (Walters, Chen, & Breiding, 2013; Sigurvinsdottir & Ullman, 2016).

This research project will be testing several separate hypotheses in order to determine the relationship between a quality SAMFE and a victim's well-being outcomes. These hypotheses include:

Hypothesis 1: As a victim's perception of a quality SAMFE increases, the amount of trauma the victim will experience after the SAMFE will decrease.

Hypothesis 2a: As a victim's perception of a quality SAMFE increases, the amount of problem-focused coping will increase.

Hypothesis 2b: As a victim's perception of a quality SAMFE increases, the amount of emotion-focused coping will increase.

Hypothesis 2c: As a victim's perception of a quality SAMFE increases, the amount of avoidant coping will decrease.

Hypothesis 3: As a victim's perception of a quality SAMFE increases, the amount of posttraumatic growth will increase.

METHODOLOGY

PROCEDURES

The survey was disseminated through Amazon mTurk which is a service in which researchers can post Human Intelligence Tasks (HITs) for participants/workers to complete. Workers were financially compensated for their participation in the HIT (Mason and Suri, 2012). Amazon mTurk provides researchers with the ability to quickly obtain survey responses from a wide population of people. Several researchers have evaluated the reliability and usefulness of using Amazon mTurk to gather research data. One researcher states that Amazon mTurk provides researchers "access to a large, stable, and diverse subject pool, the low cost of doing experiments, and faster iteration between developing theory and executing experiments" (Mason and Suri, 2012, p. 1). Overall, Amazon mTurk allows researchers to obtain reliable and high-quality data from a wide range of participants (Mason and Suri, 2012; Shank, 2015). This survey included an advertised HIT that explained the survey and the necessary qualifications to participate.

The HIT was specifically advertised to gain participants that had experienced a sexual assault examination.

In order for workers to participate in this study, they needed to receive a SAMFE or rape kit within the last 5 years, be 18 years or older, and be a United States citizen. The HIT warned participants that the subject matter would be dealing with their assault and their medical forensic exam. Once participants were reviewed and accepted to the HIT they were directed to the Qualtrics survey. The first page of the survey included an informed consent which participants were expected to read and review before continuing with the survey. After the informed consent, participants were directed to complete the rest of the survey. Once the survey was complete, each worker was instructed to create a unique code. The code they created was then able to be redeemed through Amazon mTurk to receive the $2.00 that was advertised as payment to participate in the study.

OVERALL SAMPLE

This research project collected survey results through Human Intelligence Tasks (HITs) advertised on Amazon mTurk. Originally, 430 people participated and submitted survey responses. The survey included five separate attention checks to ensure that the participants were actively participating throughout the entire survey. The attention checks were used during data cleaning to discard responses that were not suitable for statistical analysis. Only responses that passed three separate attention checks were used for analysis. This eliminated 19 participants from the data. Further, only 8 individuals indicated they were not cisgender (e.g. were transgender). These eight participants dropped from analysis due to their small population size and lack of statistical significance. While the experiences of these individuals are vital to understand, the

sample size here is too small for statistical power, and thus eliminated from the data. The resulting base sample size was 403.

Demographics

Overall, 263 participants (65%) were female and 140 participants (35%) were male. Next, the ages of the participants ranged from 21 as the youngest and 68 as the oldest ($\bar{x}$=37, sd=10). Of the overall sample size, 346 participants (85.86%) were White and 6.95% of participants were Black/African American ($\bar{x}$=0.86, sd=0.35). No other race was reported as being significantly large, with many other participants reporting mixed race. Out of all the observations, 337 participants had a bachelor's degree or higher and 66 participants did not. Finally, 276 participants (68%) were heterosexual and 114 participants (28%) were bisexual ($\bar{x}$=0.68, sd=0.47).

PARTICIPANT ASSAULT DEMOGRAPHICS

Out of the 403 sample size, all participants indicated whether they had been assaulted either before or after the sexual assault examination they were answering the survey about. Participants were directed to answer the survey questions based on their most recent SAMFE. A total of 245 (61%) participants answered that they have been assaulted at least one time before the assault they answered the survey about and the remaining 158 (39%) participants indicated that they had not been. Meanwhile, 197 (49%) participants answered that they were assaulted again after their examination, while the remaining 206 (51%) participants answered that they were not assaulted again. This means that a total of 159 (39%) participants were both victimized both before and after their sexual assault examination and a total of 283 (70%) were at least victimized twice. This indicates a high level of re-victimization for victims.

A total of 385 participants answered the question about the number of sexual assault examinations each participant has received. Of the 385 answers, 166 (43.12%) participants indicated that they had only received only one SAMFE, and 75 people (19.48%) indicated that they had received two SAMFEs. The remainder of the victims, 144 (37.40%) recorded that they had received more than two SAMFEs.

DEPENDENT VARIABLES

TSC-40

TSC-40, a trauma symptom checklist, is a 40-item scale that measures symptoms in adults resulting from traumatic experiences (Elliot and Briere, 1992). The TSC-40 was created by John Briere and Marsha Runtz and it specifically measures six symptoms associated with trauma (Briere and Runtz, 1989). These six symptoms include anxiety, depression, dissociation, sexual abuse, trauma index, sexual problems, and sleep disturbances (Briere and Runtz, 1989). This scale includes questions like "How often have you experienced insomnia in the last two months" and "How often have you experienced anxiety attacks in the last two months." The scale ranges from 1-4, with 1= Never and 4= Often. To create one scale, I added all forty items together and divided by 40, resulting in a possible range of 1 to 4 (Cronbach Alpha= 0.94). A higher score indicates more trauma. There were a total of 402 observations for the TSC-40 ($\bar{x}$=2.37, sd=0.51). The lowest score on the TSC-40 was 1 and the highest score was 3.6.

Brief-COPE

Brief-COPE is a 28-item scale that measures effective and ineffective ways to cope with a life event (Carver, 1997). Coping is defined by the American Psychological Association as "the use of cognitive and behavioral strategies to manage the demands of a

situation when these are appraised as taxing or exceeding one's resources or to reduce the negative emotions and conflict caused by stress" ("APA Dictionary of Psychology," 2022). The Brief-COPE scale has three subscales: problem-focused coping, emotion-focused coping, and avoidant coping. The scale ranges from 1-4, with 1= I haven't been doing this at all and 4= I have been doing this a lot.

Problem-Focused

Problem-focused subscale contains 8-items. This scale is characterized "by the facets of active coping, use of informational support, planning, and positive reframing" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)"). It includes questions like "I've been taking action to try and make the situation better" and "I've been concentrating my efforts on doing something about the situation I'm in." There were a total of 403 observations for the problem-focused subscale ($\bar{x}$=2.49, sd=0.58). To create one scale, I added all 8 items together and divided by 8, resulting in a possible range of 1 to 4 (Cronbach Alpha= 0.76). A higher score indicates positive coping and "indicates coping strategies that are aimed at changing the stressful situation" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)").

Emotion-Focused

Emotion-focused is a 12-item subscale. This scale is characterized "by the facets of venting, use of emotional support, humor, acceptance, self-blame, and religion" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)"). It includes questions like "I've been saying things to let my unpleasant feelings escape" and "I've been getting emotional support from others." The emotion-focused subscale had a total of 403 observations ($\bar{x}$=2.48, sd=0.47). To create one scale, I added all twelve items

together and divided by 12, resulting in a possible range of 1 to 4 (Cronbach Alpha= 0.69). A higher score indicates positive coping and "indicates coping strategies that are aiming to regulate emotions associated with the stressful situation" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)").

Avoidant

Avoidant is an 8-item subscale that is characterized "by the facets of self-distraction, denial, substance use, and behavioral disengagement" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)"). It includes questions like "I've been using alcohol or other drugs to make myself feel better" and "I've been turning to work or other activities to take my mind off things." There were a total of 403 observations for the avoidant subscale ($\bar{x}$=2.35, sd=0.52). To create one scale, I added all eight items together and divided by 8, resulting in a possible range of 1 to 4 (Cronbach Alpha= 0.66). A higher score indicates negative coping and indicates "physical or cognitive efforts to disengage from the stressor" ("Coping Orientation to Problems Experienced Inventory (Brief-Cope)").

Posttraumatic Growth Inventory

The Posttraumatic Growth Inventory, or the PTGI, is a 9-item scale that measures an individual's growth or positive outcomes after a traumatic and/or stressful event (Hamby, Grych, & Barnyard, 2015). Overall, the scale "assesses increased strengths, spiritual change, new life possibilities, and appreciation of life" (Hamby, Grych, & Barnyard, 2015). The original PTGI, a 28-item scale was developed by Richard G. Tedeschi and Lawrence G. Calhoun (Tedeschi & Calhoun, 1996). It was shortened to a 9-item scale by Sherry Hamby, John Grych, and Victoria Banyard (Hamby, Grych, &

Barnyard, 2015). The scale asks questions like “I established a new path for my life” and “I changed my priorities about what is important in life.” The scale ranges from 1 to 4, with 1= Not true about me and 4= Mostly true about me. There were a total of 403 observations for the PTGI ($\bar{x}$= 3.26, sd=0.88). To create one scale, I added all nine items together and divided by 9, resulting in a possible range of 1 to 5 (Cronbach Alpha= 0.79). A higher score indicates more positive posttraumatic growth after the traumatic event.

INDEPENDENT VARIABLE OF INTEREST

Exam Quality

Exam Quality is a 14-item scale that measures what makes a medical forensic exam high quality. This scale was created out of research from Campbell and colleagues and The Department of Justice (Campbell, Adams, & Patterson, 2008; Department of Justice, 2013). First Campbell and colleagues found that a quality exam includes a number of things such as treating the victim with compassion and respect and making the victim feel cared for, supported, believed, and finally informed (Campbell, Adams, & Patterson, 2008). Furthermore, the Department of Justice concludes that to be trauma-informed and victim-centered a SAMFE needs to provide access to resources (eg. victim advocates), prioritize the care of the victim over the collection of forensic evidence, and address all of the needs of the victim through the examination (Department of Justice, 2013). These were the tenants that were used to create the exam quality scale within this survey. It includes questions like “My caregiver showed me care and compassion” and “My caregiver answered my questions.” The scale ranges from 1 to 5, with 1=Strongly Disagree and 5=Strongly Agree. The Exam Quality scale had a total of 402 observations ($\bar{x}$=3.69, sd=0.59). To create one scale, I added all fourteen items together and divided by

14, resulting in a possible range of 1.2 to 5 (Cronbach Alpha= 0.86). A higher score means a higher quality exam.

CONTROL VARIABLES

Social Reactions Questionnaire-Shortened

The Social Reactions Questionnaire-Shortened, or SRQ-S, is a 16-item scale that measures the reactions of others after an individual discloses their sexual assault (Ullman et al., 2017). The SRQ-S was shortened from the original Social Reactions Questionnaire, SRQ, which was a 48-item scale (Ullman et al., 2017). The SRQ-S has three subscales: turning against, unsupportive acknowledgment, and positive support. The scale ranges from 1-5, with 1= Never and 5= Always.

Turning Against

Turning against is a 6-item subscale that measures stigmatization, infantilization, and blame (Ullman et al., 2017). This subscale included questions such as other people "Treated you differently in some way than before you told them that made you uncomfortable," "Make you feel like you didn't know how to take care of yourself," and "Told you that you could have done more to prevent this experience from occurring." Items on this subscale are always viewed as harmful (Ullman et al., 2017). There were a total of 403 observations for the turning against subscale ($\bar{x}$=2.80, sd=0.87). To create one scale, I added all six items together and divided by 6, resulting in a possible range of 1 to 4.8 (Cronbach Alpha= 0.81). A higher score on this subscale indicates that the victim received negative and harmful reactions from others.

Unsupportive Acknowledgement

The unsupportive acknowledgment is a 6-item subscale that measures ideas of distraction, control, and egocentrism (Ullman et al., 2017). It includes questions like other people "Told you to go on with your life," "Made decisions or did things for you," and "Has been so upset that they needed reassurance from you." Items on this scale could be seen as harmful or helpful (Ullman et al., 2017). However, generally, the other person still validated the assault of the victim (Ullman et al., 2017). There were a total of 402 observations for the unsupportive acknowledgment subscale ($\bar{x}$=2.97, sd=0.77). To create one scale, I added all six items together and divided by 6, resulting in a possible range of 1 to 4.83 (Cronbach Alpha= 0.74). A higher score on this subscale indicates that the victim received more neutral responses to their assault that were viewed as both helpful and harmful.

Positive Support

Positive support is a 4-item subscale that measures emotional support and tangible aid (Ullman et al., 2017). It includes questions like other people ``Comforted you by telling you it would be all right or by holding you" and "Helped you get information of any kind about coping with the experience." Items on this scale are generally seen as helpful by the victim (Ullman et al., 2017). There were a total of 402 observations for the positive support subscale ($\bar{x}$=3.35, sd=0.80). To create one scale, I added all four items together and divided by 4, resulting in a possible range of 1 to 5 (Cronbach Alpha= 0.69). A higher score on this subscale indicates the victim had overall positive support from others regarding their assault.

Gender Identity

During the survey, participants were prompted to select their preferred gender identity. Participants were able to select woman/female, man/male, transgender (male to female), transgender (female to male), transgender (non-conforming), two-spirit, non-binary, prefer not to respond, or a fill-in blank answer. Gender identity was coded as a nominal variable. Those who answered woman/female were coded as zero (0) and those who answered man/male were coded as one (1).

Age

Participants were asked to select their year of birth from a drop-down menu. The birth years ranged from 1920 to 2005. Victims under the age of 18 were not permitted to participate in the study. Age was coded as a nominal variable. Each age was computed numerically based on the response of the participant.

Race

Victims were asked to select various options to best describe their race. Participants were allowed to select more than one option. The options for race included American Indian/Alaskan Native, Asian, Black/African American, Hispanic, Native Hawaiian or Other Pacific Islander, White, prefer not to answer, and fill-in-the blank option. Race was coded as a nominal variable. White respondents were coded as zero (0) and non-White respondents were coded as one (1).

Education

In the survey, participants were asked to select their high level of education or the highest degree they had received. The options for education level included: less than high school degree, high school graduate (high school diploma, GED), some college but no

degree, associate degree in college (2-year), bachelor's degree in college (4-year), master's degree, doctoral degree, and a professional degree (JD, MD). Education level was coded as a nominal variable. As stated in the demographics section, when analyzing education level participants were separated into two groups: less than a bachelor's degree and a bachelor's degree or higher. Those who had less than a bachelor's degree were coded as zero (0) and those who had a bachelor's degree or higher were coded as one (1).

Sexual Orientation

Participants were asked to identify their sexual orientation. They were prompted to select one of the following options: bisexual, gay/lesbian, heterosexual, prefer not to answer, and a fill-in-the-blank option. Sexual orientation was coded as a nominal variable. Those who answered heterosexual were coded as zero (0) and those who answered bisexual were coded as one (1).

RESULTS

All of the dependent variables, TSC-40, problem-focused coping, emotion-focused coping, avoidant coping, and the PTGI, as discussed above were created by combining the scales together and standardizing them so that they were treated as continuous variables. The most appropriate methodology was regression analysis. For each regression analysis, I controlled for social reactions with the turn against, unsupportive acknowledgment, and positive support subscales and also with sex, age, race, education, and sexual orientation.

Table 1: Regression Analysis Results

	TSC-40 β (SE)	Problem-Focused β (SE)	Emotion-Focused β (SE)	Avoidant β (SE)	PTGI β (SE)
Exam Quality	-0.066 (0.045)	0.209*** (0.052)	0.174*** (0.043)	0.120* (0.048)	0.417*** (0.080)
Turn Against	0.240*** (0.037)	-0.118** (0.043)	0.109** (0.035)	0.130** (0.040)	-0.229** (0.067)
Unsupportive Acknowledgement	0.146*** (0.041)	0.233*** (0.048)	0.149*** (0.039)	0.216*** (0.044)	0.417*** (0.074)
Positive Support	-0.025 (0.033)	0.158*** (0.038)	0.053 (0.031)	-0.019 (0.035)	0.137* (0.059)
Female	0.0008 (0.046)	-0.063 (0.054)	0.022 (0.044)	-0.033 (0.050)	0.059 (0.083)
Age	-0.004 (0.002)	0.0002 (0.002)	0.001 (0.002)	-0.0002 (0.002)	0.002 (0.004)

White	0.094 (0.062)	0.034 (0.073)	-0.017 (0.059)	0.095 (0.067)	0.017 (0.112)
Education	-0.107 (0.062)	0.296*** (0.073)	0.106 (0.060)	0.054 (0.067)	0.337** (0.112)
Heterosexual	0.042 (0.047)	-0.027 (0.055)	-0.024 (0.045)	-0.079 (0.050)	-0.023 (0.084)
	R^2= 0.335 Observations =401	R^2= 0.286 Observations =402	R^2=0.266 Observations =402	R^2= 0.270 Observations =402	R^2= 0.271 Observations =402
*p< 0.05, **p <0.01, ***p < 0.001					

Hypothesis 1 argued that as a victim's perception of a quality exam increases the amount of trauma the victim will experience after a SAMFE will decrease This hypothesis was not supported. Exam quality yielded no significant results. The strongest result was the turn against the subscale (t=6.49, p< 0.001) (Table 1). As the level of turn against reactions increased, the amount of trauma the victim experienced increased. On the other hand, the unsupportive acknowledgment also had significant results (t=3.58, p<0.001) (Table 1). As the level of unsupportive acknowledgment reactions increased, the amount of trauma the victim experienced increased. No other controls yielded a significant value. To explore why the hypothesis was not supported further, I broke TSC-40 into its six separate subscales (dissociation, anxiety, depression, sexual abuse trauma

index, sleep disturbance, and sexual problems) (Briere & Runtz, 1989). Of the six subscales, only sleep disturbance (eg. insomnia, nightmares) was negatively related to exam quality ($t=-0.243$, $p<0.05$) (analysis is available upon request). Furthermore, in a follow-up analysis (not shown here but available upon request) the three SRQ-S subscales (turn against, unsupportive acknowledgment, and positive support) were taken out of the regression (other controls were left in). This analysis showed that higher exam quality ($t=-3.28$, $p< 0.001$) was associated with a reduction in trauma ($\beta=-0.142$). The SRQ-S is a general estimate of other people's reactions to a victim's assault, which would include the victim's health care provider. It is possible that the SRQ-S could be masking the effects of exam quality.

Next, Hypothesis 2a proposed that as a victim's perception of a quality SAMFE increases, the amount of problem-focused coping will increase. This hypothesis was statistically supported. Exam quality did significantly predict increased use of problem-focused coping ($t=3.99$, $p< 0.001$) (Table 1). As the victim's perception of the exam quality increased, the amount of problem-focused coping the victim used increased. Unsupportive acknowledgment ($t=4.84$, $p<0.001$) and positive support ($t=4.12$, $p< 0.001$) were also significant predictors of problem-focused coping (Table 1). As the level of unsupportive acknowledgment and positive support reactions increased, the amount of problem-focused coping the victim used increased. Another statistically significant result was for the turn against subscale. However, the turn against subscale ($t=-2.71$, $p< 0.001$) was less strong when compared to the other scales (Table 1). As the level of turn against reactions increased, the amount of problem-focused coping the victim used decreased. The only demographic control variable that resulted in a statistically strong result was

education (t=4.05, p< 0.001) (Table 1). As a victim's level of education increased, the use of problem-focused coping would also increase. No other demographic control variable had significant results.

Hypothesis 2b proposed that as a victim's perception of a quality SAMFE increases, the amount of emotion-focused coping will increase. This hypothesis was statistically supported. Higher perception of exam quality positively predicted the use of emotion-focused coping (t=4.08, p< 0.001) (Table 1). As the victim's perception of the exam quality increased, the amount of emotion-focused coping the victim used increased. Also, the unsupportive acknowledgment subscale (t=3.80, p<0.001) yielded a strong statistical result (Table 1). As the level of unsupportive acknowledgment reactions increased, the amount of emotion-focused coping the victim used increased. Finally, another statistically significant result was for the turn against subscale. The turn against subscale (t=3.09, p< 0.05) was less strong when compared to the exam quality and unsupportive acknowledgment subscale (Table 1). As the level of turn against reactions increased, the amount of emotion-focused coping the victim used increased. No other control variable had significant results.

For the final Breif-COPE subscale, hypothesis 2c proposed that as a victim's perception of a quality SAMFE increases, the amount of avoidant coping will decrease. This hypothesis was not statistically supported. Exam quality has the lowest significant result during this regression model (t=2.50, p< 0.05) (Table 1). Instead of having a negative relationship where exam quality increases and avoidant coping decreases, the opposite happens (Table 1). On the other hand, the strongest statistical result came from the unsupportive acknowledgment subscale (t=4.90, p< 0.000) (Table 1). As the level of

unsupportive acknowledgment reactions increased, the amount of avoidant coping the victim used increased. The turn against subscale also has a strong statistical result ($t=3.26$, $p< 0.001$) (Table 1). As the level of turn against reactions increased, the amount of avoidant coping the victim used increased. No other control variable had significant results.

Finally, the last regression model was performed with the PTGI variable. Hypothesis 3 proposed that as a victim's perception of a quality SAMFE increases, the amount of posttraumatic growth will increase. This hypothesis was supported. Also, this regression model yielded the most statistical results. First, exam quality had a really strong significant result ($t=5.19$, $p< 0.001$) (Table 1). As the victim's perception of the exam quality increased, a victim's posttraumatic growth increased. Additionally, the unsupportive acknowledgment subscale yielded a strong significant result ($t=5.66$, $p< 0.001$) (Table 1). As the level of unsupportive acknowledgment reactions increased, a victim's posttraumatic growth increased. Next, with a slightly lower significance level was the turn against subscale ($t=-3.43$, $p< 0.001$) (Table 1). As the level of turn against reactions increased, a victim's posttraumatic growth decreased. The positive support subscale also yielded a significant result ($t=2.34$, $p<0.05$). As the level of positive support reactions increased, a victim's posttraumatic growth increased. Finally, the only other control variable that led to a significant result was education ($t=3.00$, $p< 0.01$) (Table 1). As a victim's level of education increased, a victim's posttraumatic growth increased. No other control variable had significant results.

DISCUSSION AND CONCLUSIONS

This research examined the relationship between the quality of a SAMFE and the well-being outcomes of victims. To examine this, I looked at trauma effects (measured by the TSC-40), positive (problem-focused and emotion-focused coping) and negative coping (avoidance coping), and posttraumatic growth (PTGI) to measure victim well-being outcomes. Meanwhile, the exam quality scale measured a victim's perception of a quality SAMFE. This was done by creating a scale based on the qualitative research of Campbell and colleagues and the Department of Justice (Campbell, Adams, & Patterson, 2008; Department of Justice, 2013). Analyses also controlled for social reactions of others (measured by the SRQ-S subscales: unsupportive acknowledgment subscale, positive support subscale, avoidant subscale), sex, age, race, education, and sexual orientation.

Analyses indicated that the perception that an exam was of better quality resulted in more positive outcomes and fewer negative outcomes for victims. Specifically, research supported the hypotheses for problem-focused coping, emotion-focused coping, and PTGI, and they were found to be statistically significant with exam quality when a regression model was performed. The two variables that were found to not be supported with exam quality were the TSC-40 and the avoidant coping subscale. TSC-40 was found to be significantly related to the turn against subscale and unsupportive acknowledgment subscale.

Overall, the social reactions of others were an important predictor of well-being outcomes, supporting prior research (Ullman, 1999; Dworkin, Brill, & Ullman, 2019). TSC-40 was found to be significantly related to the turn against subscale and unsupportive acknowledgment subscale. The problem-focused subscale was found to be

significant with turn against subscale, unsupportive acknowledgment subscale, positive support subscale, and education. The emotion-focused subscale was significant with turn against subscale and unsupportive acknowledgment subscale. The avoidant subscale was found to be significantly related to the turn against subscale and unsupportive acknowledgment subscale. Finally, the PTGI scale was found to be significant with turn against subscale, unsupportive acknowledgment subscale, positive support subscale, and education.

The results of the regression analysis for the TSC-40 scale demonstrate the importance of other people's reactions when it comes to the victim's trauma outcomes. The results from the TSC-40 regression show that if a victim receives harmful or negative reactions from other people regarding their assault they are more likely to have more trauma symptoms after their assault. Even with unsupportive acknowledgment, when another person acknowledges that the person has been assaulted but is not necessarily supportive of their experience, the victim is more likely to experience trauma outcomes. For the TSC-40, exam quality was shown to have no statistical significance on a victim's trauma outcome. As stated before, medical practitioners are included within the measure of the SRQ-S. This means that if a victim receives a harmful reaction from their SANE or medical examiner it could lead to negative trauma outcomes. Overall, when it comes to trauma well-being outcomes for victims, it is important for other people to have positive and helpful reactions when a victim discloses to them.

The regression results for problem-focused coping supported the hypothesis that exam quality has a positive impact on a victim's use of problem-focused coping. The results indicate that a victim is more likely to utilize problem-focused coping if they

perceive they received a quality SAMFE. This is because quality sexual assault examinations utilize victim-centered and trauma-informed approaches. Additionally, quality exams provide victims with proper support, resources, and outreach in order to overall help the victim. All of these things provide victims with the tools necessary to begin to positively cope with their assault. Problem-focused coping was also found to be significantly related to all three subscales of the SRQ-S. Victims who did not experience negative and harmful reactions (turn against subscale) to their assault were more likely to have problem-focused coping. Meanwhile, victims who experienced unsupportive acknowledgment and positive support were more likely to engage in problem-focused coping. This indicates the importance that the victim's assault be at least acknowledged by the person they disclose to. On the other hand, if a victim experiences an outright negative reaction to the disclosure, it impacts the victim's ability to have positive psychological well-being. The analysis for problem-focused coping also indicated that individuals who possess a bachelor's degree or higher were more likely to engage in problem-focused coping. There could be a number of things that could explain this phenomenon. For instance, college-educated individuals often make significantly more money than their counterparts. Increased wages allow a victim to have more access to resources that could aid in positive coping such as privatized therapy (Taylor et al., 2011).

Next, the regression analysis for emotion-focused coping supported the idea that a quality SAMFE leads to more positive coping, like emotion-focused coping. According to these results, victims of sexual assault are more likely to engage in emotion-focused coping when they perceive their SAMFE to be of higher quality. Similar to problem-

focused coping, high-quality SAMFEs are providing victims with the tools necessary to begin positively coping and dealing with the aftermath of their assault. These results add to the idea that a quality exam allows victims to more successfully utilize positive coping mechanisms. Emotion-focused coping was also significantly related to both the turn against and unsupportive acknowledgment subscales. Surprisingly, the turn against subscale was positively related to emotion-focused coping. This suggests that if a victim experiences harmful reactions (turn against) from the person(s) they disclose to, they are more likely to engage in emotion-focused coping. Additionally, if a victim experienced unsupportive acknowledgment from their disclosure they are likely to engage in emotion-focused coping. This result indicates that when victims experience negative or unhelpful reactions from their assault, emotion-focused coping is possibly a useful and positive way for victims to cope with their assault and/or the negative reaction.

There were three significant results for the avoidant coping regression model. The hypothesis that a victim's perception of a higher quality exam would lead to less use of avoidant coping styles was not statistically supported. Rather, the data showed a slight significant positive relationship that indicates that higher exam quality leads to more use of avoidant coping strategies. This result is curious because the results for the problem-focused and emotion-focused subscales indicate that a quality SAMFE would help a victim engage in positive coping mechanisms. However, this result is only slightly significant and there could be other factors at play. For instance, as it happened in the analysis for the TSC-40 scale, a control variable could be masking the effects of exam quality. Meanwhile, the other two results fall more in line with prior research. The other two significant results suggest that if a victim receives a reaction during their disclosure

that falls within the turn against or unsupportive acknowledgment category, they are more likely to engage in avoidant coping. It makes sense that a victim who receives a negative reaction from the people that learn about their assault would turn to a negative coping method. Furthermore, sexual assault is a deeply personal violation of a victim's life and autonomy and avoidant coping allow the victim to avoid resolving any negative emotions stemming from their assault.

Finally, there were numerous significant results for the PTGI regression model. First and foremost, the hypothesis that higher exam quality leads to more posttraumatic growth for the victim was statistically supported. As stated before a quality sexual assault exam provides victims with the tools and resources necessary to begin moving on from their assault. Moreover, quality sexual assault exams utilize trauma-informed and victim-centered approaches that overall help positively impact a victim's well-being. By having a quality exam, victims are better equipped to deal with the trauma of their assault and therefore have better posttraumatic growth. Next, the results of the regression analysis demonstrate that if a victim experiences a harmful reaction (turn against) to their assault from others, they are less likely to exhibit posttraumatic growth. This follows the idea that negative reactions from others can have a significant impact on a victim's well-being outcomes, especially posttraumatic growth. On the other hand, the data also shows that if a victim receives at least an acknowledgment about their assault (unsupportive acknowledgment), or better yet positive support they are more likely to engage in posttraumatic growth. Overall, this data demonstrates that in order for victims to have positive well-being outcomes after their assault, the people they disclose their assault to must at the bare minimum acknowledge that the assault happened. Finally, the last

significant result showed that education has a significant relationship with a victim's posttraumatic growth. As stated before, educated individuals typically have more access to tools and resources, like therapy, that could aid in their posttraumatic growth.

LIMITATIONS

This research project has several limitations due to the nature of the study itself. This project is limited by its convenience sample. As stated before, participants were recruited through Amazon mTurk. If someone is not registered through mTurk as a worker who participates in HITs, they were not able to participate in the study. Additionally, the sample itself is not nationally representative of the entire population which limits the external validity. Through the mTurk survey, there was no way to obtain a sample population that was nationally representative. All Amazon mTurk participants are anonymous and are not required to provide their demographic information unless it is specifically asked within the survey.

Another major limitation of this study is the fact that the survey only provides a snapshot in time of the victim's well-being. Participants of this survey were required to have received a SAMFE within the last five years. Theoretically, this means that a participant could be in the process of recovering from their assault for anywhere between one day and five years. Overall, this presents the problem that the survey is only measuring the victim's well-being from one point in time. A victim's well-being could either have gotten worse or better, before or after the victim took the survey. This snapshot in time limits the measure of well-being for the participants.

Future research would help address both of these limitations. For instance, future research should attempt to obtain a nationally representative sample. This includes representing minority and underrepresented groups (eg. LGBTQ+, Native American, and gender non-conforming people). In order to achieve a nationally representative sample, a larger overall sample would be needed. Future research should also look into different modes of survey dissemination to negate the problem of the convenience sample. Another way future research could improve this project would be to look at a victim's well-being over time. This can include having participants re-take the survey over certain time markers to see how well-being changes over time. However, this could pose certain challenges such as maintaining the anonymity of participants and getting victims to actively participate in a study that takes place over a period of time.

IMPLICATIONS

There are two major implications that stem from the results of this research analysis of the well-being outcomes of sexual assault victims after SAMFEs. The results from the regression analysis show the high impact of other people's reactions during a victim's disclosure of their sexual assault. It also showed that harmful reactions to a victim's disclosure have tangible negative effects on a victim's well-being after an assault. This shows a great need for better education about sexual assault overall and about how to react to someone disclosing an assault. If the general population has more knowledge about how/why sexual assault happens and how to react to someone telling them about their assault, victims have a better chance of improving their well-being outcomes. Education about sexual assault is a practice that could be implemented either in a simple or complex manner. It could be something as simple as a pamphlet outlining

the basic information about sexual assault or something like an educational program in schools to teach young adults about reaction techniques, resources available, or ways to support victims of assault. Education about sexual assault could also be easily implemented on an individual level by people talking and informing their social circle and peers about sexual assault. If more victims are receiving helpful, positive, and reassuring reactions to their sexual assault, the victims have more of an opportunity to have positive physical, social, and psychological well-being outcomes.

Another major implication of this research is the fact that the regression analysis supports

the idea that the SANE program and other programs that support and implement quality SAMFEs need to be invested in further. The results of the analysis show that quality exams have an impact on a victim's ability to have positive well-being outcomes after their assault. A quality SAMFE can lead victims to participate in more positive coping and more posttraumatic growth. By investing in programs that deliver trauma-informed and victim-centered SAMFEs, more victims have the ability to receive quality SAMFEs. It is important to not just invest in implementing the SANE program in every hospital due to a lack of feasibility. For instance, hospitals may not be able to dedicate time and money to put their nurses through the extensive SANE certification. Rather, hospitals with fewer means can invest in training their staff that administers SAMFEs on the principles and practices of being trauma-informed and victim-centered. This idea is especially helpful for rural hospitals and communities that lack both funding and personnel.

APPENDICES

Appendix A: The Effect of the Quality of Sexual Assault Medical Forensic Exams (Rape Kits) on Survivors Survey

What will happen if you take part in this study?

If you agree to participate in this survey by selecting "Next" below, it should take you about twenty minutes to complete. First, there will be one section that asks you about the characteristics of your assault (e.g. if there was injury or weapons used) and your perpetrator(s) (e.g. their sex and race). Second, you will be asked basic information about your medical forensic exam (rape kit). This includes the location, date, and time of your exam. Third, you will be asked to evaluate the person who provided your sexual assault medical forensic exam (rape kit). This will include questions such as whether your caregiver "showed me care and compassion." Fourth, you will answer questions about how others reacted to you when they found out about your assault (e.g. comforted you or tried to take control). Fifth, you will provide assessment of how you have coped. This will include measures of psychological distress (e.g. nightmares or sexual disorders), coping (e.g. using drugs or alcohol or getting support from others), and resilience (e.g. discovered you were stronger than you knew). Finally, you will be asked a few demographic questions (e.g. your sex and race).

Are there risks to being part of this study?

Responding to this survey may cause you some emotional distress. This risk is minimized by providing you a way to take the survey at a time that is best for you. You may stop at any time or choose not to answer a question. If you need support, please reach out for support. Either contact an individual you have been working with (e.g. your advocate or counselor) or call 1-800-656-HOPE.

How could you benefit from this study?

Although you will not directly benefit from being in this study, others might benefit because we will learn about how the quality of a sexual assault medical forensic exam can help or hurt the recovery of sexual assault survivors.

How will we protect your information?

The records of this study will be kept confidential to the extent permitted by law. To protect your privacy, we will not ask for any identifying information.

However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware

that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

It is possible that other people may need to see the information we collect about you. These people work for the University of South Dakota and other agencies as required by law or allowed by federal regulations.

How will we compensate you for being part of the study?
At the end of the survey, you will create a code that you will copy and paste into your MTurk account to receive your $2.00. If you have issues with your payment, please contact Brianna, **Brianna.Zimmer@usd.edu.** This information will not be connected to your survey responses, keeping your survey responses completely confidential.

There will be attention checks throughout the survey that will ask you to answer questions particular ways to show you are reading the questions. If you do not pass these attention checks, you will not be paid for your participation.

Your Participation in this Study is Voluntary
It is totally up to you to decide to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Contact Information for the Study Team and Questions about the Research
The researchers conducting this study are Bridget Diamond-Welch, Brianna Zimmer, and Tom Mrozla. You can call or text Bridget during regular work week hours at 605-857-3150 or via email at Bridget.K.Diamond-Welch@usd.edu. If you have later questions, concerns, or complaints about the research please contact Bridget at the number above during the day. Questions about payment should be directed to Brianna Zimmer.

If you have questions regarding your rights as a research subject, you may contact The University of South Dakota- Office of Human Subjects Protection at (605) 658-3743. You may also call this number with problems, complaints, or concerns about the research. Please call this number if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. If you have any questions about the study later, you can contact the study team using the information provided above.

SECTION I. Details about the Assault

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

To understand how exams can be helpful to a person's wellbeing, it is important to know some basic factors about the assault. This is the only section that will ask you specifics about your sexual assault.

Some of you may have been sexually assaulted more than once and may have had more than one sexual assault forensic medical exam (rape kit).

How many sexual assault medical forensic exams (also know as a "rape kit") have you conesented to and had completed in your life to date?

Thank you.

If you have had more than one rape kit done in your life, please answer the rest of these questions thinking **only of the most recent** sexual assault that you got a rape kit done for.

You are not to blame for your assault. This is true regardless of the use of alcohol, drugs, or any other factor listed below. Sexual assault is never the fault of the person who is assaulted. However, there are some stereotypes about sexual assault that incorrectly blame the victim for their assault. These stereotypes can make healing after an assault harder. The below questions are only included to understand if these stereotypes play a role in well-being outcomes for survivors who obtain a sexual assault medical forensic exam.

Think about the assault related to your most recent rape kit.

In terms of that assault, please select all the factors that were involved:

- [ ] I was under the influence of drugs at the time of the assault.
- [ ] I was under the influence of alcohol at the time of the assault.
- [ ] The perpetrator used a weapon (e.g. knife or gun).
- [ ] I was assaulted by multiple perpetrators.
- [ ] I was physically injured during the assault in a way that could be documented (e.g. cut, bruised, broken bone).

For the same assault, how would you describe the perpetrator(s)? Select all that apply:

- [ ] Spouse/Significant other
- [ ] Spouse/Significant other you had divorced/broken up with prior to the assault
- [ ] Someone you regarded as a friend
- [ ] Acquaintance
- [ ] Stranger
- [ ] I do not know
- [ ] _____ Other (please specify)
- [ ] Prefer not to answer

Please select the sex of the perpetrator. Select all that apply:

- [ ] Male
- [ ] Female
- [ ] I do not know
- [ ] _____ Other (please specify)

Please select the race of the perpetrator. Select all that apply:

- [ ] American Indian/Alaskan Native
- [ ] Asian
- [ ] Black/African American
- [ ] Hispanic
- [ ] Native Hawaiian or Other Pacific Islander

- [ ] White
- [ ] I do not know

Had you been sexually assaulted **BEFORE** the assault for which you answered the above questions?

- ○ Yes
- ○ No

Have you been sexually assaulted **AFTER** the assault for which you answered the above questions?

- ○ Yes
- ○ No

SECTION II. General Information about Your Exam

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

We would like some basic information about your exam including the location and timing of your exam. For some of you, this may have been five years ago and you may not remember. Please just do your best.

For those of you who may have had multiple sexual assaults occur, and multiple exams, please answer all of the following questions related to your most recent exam where you had a sexual assault medical forensic exam (or rape kit) completed.

To the best of your knowledge, what was the location of your sexual assault exam?

Hospital Name _____

State _____

City _____

How would you describe the location of the hospital where you received your exam?

- ○ The hospital was in a large city.

- ○ The hospital was in a suburb near a large city.
- ○ The hospital was in a small city or town.
- ○ The hospital was in rural area.

After being assaulted, how much time passed before you were able to go get your exam?

- ○ Within 24-hours.
- ○ More than a day, less than three days.
- ○ Three days to a week.
- ○ One to two weeks.
- ○ Three weeks to a month.
- ○ A month to six weeks.
- ○ More than six weeks.

Please select the year that you got your exam.

Was your exam a telehealth exam? A telehealth exam is one where there is a health care provider connected to you via technology. For example, a provider on a screen might be the one to ask you questions and walk the provider in the room with you through how to complete the exam.

- ○ Yes
- ○ No
- ○ Unsure

SECTION III. Evaluation of your Care Provider

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

This section asks you to think about the provider (frequently a nurse) who completed your sexual assault medical exam (rape kit).

Read the following statements. Rank how much you agree (from strongly disagree to strongly agree) that your caregiver:

- showed me care and compassion.
- provided me with a sense of control during the exam.
- made me feel informed about what was happening and the reasons for it.
- made me feel listened to.
- answered my questions.
- since I am paying attention, I will select agree.
- provided me with choices about how the exam would occur (e.g. asked me if I consented to different parts of the exam).
- prioritized my medical needs over evidence collection.
- made me feel safe.
- made me feel as physically comfortable as I could feel before I left.
- pressured me to report to the police.
- provided me with what I needed to start down the path towards healing.
- respected any accommodations I needed (e.g. for disability, culture, gender identity, sexual identity, other).
- provided me with the opportunity to have an advocate present during the exam.
- provided me with the opportunity to have another support person (e.g. friend or family member) present during the exam.

Demographics Base/Universal

SECTION IV. Other's Reactions

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

Beyond your care provider, how others react to your assault also can affect your personal outcomes. This section asks you about those responses.

The following is a list of reactions that other people sometimes have when responding to a person with this experience. Please indicate how often you experienced each of the listed responses from other people.

- Avoided talking to you or spending time with you.
- Reassured you that you are a good person.

I am selecting always here to show that I am still paying attention.

Told you that you could have done more to prevent this experience from occurring.

Told you that you were irresponsible or not cautious enough.

Comforted you by telling you it would be all right or by holding you.

Made you feel like you didn't know how to take care of yourself.

Expressed so much anger at the perpetrator that you had to calm them down.

Told you to go on with your life.

Has been so upset that they needed reassurance from you.

Helped you get information of any kind about coping with the experience.

Made decisions or did things for you.

Told you to stop thinking about it.

Treated you as if you were a child or somehow incompetent.

Provided information and discussed options.

Tried to take control of what you did/decisions you made.

Treated you differently in some way than before you told them that made you uncomfortable.

Did you report this assault to law enforcement?

- ○ Yes
- ○ No

SECTION V. Personal Outcomes

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

It is important to understand how the initial examination is related to your ongoing healing process. As such, we will ask some questions related to your mental and physical wellbeing after the exam.

How often have you experienced the following in the last two months?

Headaches

Insomnia (trouble getting to sleep)

Weight loss (without dieting)

Stomach problems	
Sexual problems	
Feeling isolated from others	
“Flashbacks” (sudden, vivid, distracting memories)	
Restless sleep	
Low sex drive	
Anxiety attacks	
Sexual overactivity	
Loneliness	
Nightmares	
“Spacing out” (going away in your mind)	
I am paying attention and will select rarely	
Sadness	
Dizziness	
Not feeling satisfied with your sex life	
Trouble controlling your temper	
Waking up early in the morning	
Uncontrollable crying	
Fear of men	
Not feeling rested in the morning	
Having sex that you didn’t enjoy	
Trouble getting along with others	
Memory problems	
Desire to physically hurt yourself	
Fear of women	
Waking up in the middle of the night	
Bad thoughts or feelings during sex	
Passing out	
Feeling that things are “unreal”	
Unnecessary or over-frequent washing	
Feelings of inferiority	
I am paying attention and will select never	
Feeling tense all the time	
Being confused about your sexual feelings	
Desire to physically hurt others	

Feelings of guilt

Feeling that you are not always in your body

Having trouble breathing

Sexual feelings when you shouldn't have them

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673.

Please complete the items below by selecting the answer that best describes the experiences and reactions you had had during and immediately after the (most recent) assault. If an item does not apply to your experience, please select "not at all true."

I had moments of losing track of what was going on. I "blanked out" or "spaced out" or in some way felt that I was not part of what was going on.

I found that I was on "automatic pilot." I ended up doing things that I later realized I hadn't actively decided to do.

My sense of time changed. Things seemed to be happening in slow motion.

What was happening seemed unreal to me, like I was in a dream, or watching a movie or play.

I felt as though I were spectator watching what was happening to me, as if I were floating above the scene or observing it as an outsider.

There were moments when my sense of my own body seemed distorted or changed. I felt disconnected from my own body, or it was unusually large or small.

I felt as though things that were actually happening to others were happening to me — like I was in danger when I really wasn't.

I was surprised to find afterwards that a lot of things happened at the time that I was not aware of, especially things I ordinarily would have noticed.

I felt confused; that is, there were moments when I had difficulty making sense of what was happening.

I felt disoriented; that is, there were moments when I felt uncertain about where I was or what time it was.

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673.

The following question asks how you have sought to cope with the sexual assault you are answering questions about. Each item is a different way of coping. Answer in terms of how frequently you used that method to cope with your assault. Don't answer in terms of whether it seems to work. Just whether or not you used it.

I've been turning to work or other activities to take my mind off things.	
I've been concentrating my efforts on doing something about the situation I'm in.	
I've been saying to myself "this isn't real."	
I've been using alcohol or other drugs to make myself feel better.	
I've been getting emotional support from others.	
I've been giving up trying to deal with it.	
I've been taking action to try to make the situation better.	
I've been refusing to believe that it has happened.	
I've been saying things to let my unpleasant feelings escape.	
I've been getting help and advice from other people.	
I've been paying attention to this study and will select I have been doing this a lot.	
I've been using alcohol or other drugs to help me get through it.	
I've been trying to see it in a different light, to make it seem more positive.	
I've been criticizing myself.	
I've been trying to come up with a strategy about what to do.	
I've been getting comfort and understanding from someone.	
I've been giving up the attempt to cope.	
I've been looking for something good in what is happening.	
I've been making jokes about it.	
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	
I've been accepting the reality of the fact that it has happened.	
I've been expressing my negative feelings.	
I've been trying to find comfort in my religion or spiritual beliefs.	
I've been trying to get advice or help from other people about what to do.	
I've been learning to live with it.	
I've been thinking hard about what steps to take.	
I've been blaming myself for things that happened.	
I've been praying or meditating.	
I've been making fun of the situation.	

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673.

Answer these questions in terms of how you reacted after your sexual assault.

I changed my priorities about what is important in life.	
I have a greater appreciation for the value of my own life.	
I established a new path for my life.	
I have a greater sense of closeness with others.	
Now I know that I can handle hard times.	
I am able to do better things with my life.	
I have a stronger religious faith.	
I discovered that I am stronger than I thought I was.	
I learned a great deal about how wonderful people are.	

SECTION VI. Demographics

If you need support, contact your local advocate or call the National Sexual Assault Hotline 1-800-656-4673

This is the last section and just asks about some basic information about you.

What was the year of your birth?

What is the highest level of school you have completed or the highest degree you have received?

- ○ Less than high school degree
- ○ High school graduate (high school diploma, GED)
- ○ Some college but no degree
- ○ Associate degree in college (2-year)
- ○ Bachelor's degree in college (4-year)
- ○ Master's degree
- ○ Doctoral degree
- ○ Professional degree (JD, MD)

Please select the option(s) that best describes your race (please check all that apply):

- ☐ American Indian/Alaskan Native

- [ ] Asian
- [ ] Black/African American
- [ ] Hispanic
- [ ] Native Hawaiian or Other Pacific Islander
- [ ] White
- [ ] _____ None of these describe me, I prefer to identify as:
- [ ] Prefer not to answer

Please select the option that best describes your gender identity:

- ○ Woman/Female
- ○ Man/Male
- ○ Transgender, male to female
- ○ Transgender, female to male
- ○ Transgender, non-conforming
- ○ Two-spirit
- ○ Non-binary
- ○ _____ None of these describe me, I prefer to identify as:
- ○ Prefer not to respond

I identify my sexuality as:

- ○ Bisexual
- ○ Gay/Lesbian
- ○ Heterosexual
- ○ _____ None of these describe me, I prefer to identify as:
- ○ Prefer not to answer

Including yourself and the number of people currently contributing, please estimate your current household income per week, bi-week, month, or year. For example, if you make 25,000 a year, you would put 25,000 in the "estimated income" box and select year for "estimate per."

	Estimated Income	Estimated Per:			
	In $	Week	Bi-Week	Month	Year

	Estimated Income In $	Estimated Per: Week	Bi-Week	Month	Year
Income in $		○	○	○	○

In order to get paid, you need to create a code that you will copy and paste back into mTurk. Please answer the following questions to create this code.

Last two digits of your phone number (e.g. 01)

Two digit birth month (e.g. 05 for May)

Favorite color (e.g. orange)

Favorite TV show (e.g. Law & Order)

Please provide any other comments or information you would like us to consider.

To create the code, add all of these above items together into one statement. Copy and paste it into mTurk (e.g. 0105orangeLaw&Order)

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WORKS CITED

APA Dictionary of Psychology. (2022). American Psychological Association. https://dictionary.apa.org/coping

Botello, S., King, D., & Ratner, E. (2003). The SANE Approach to Care of the Adult Sexual Assault Survivor. *Topics in Emergency Medicine, 25(3)*, 199-228.

Briere, J. & Runtz, M. (1989). The Trauma Symptom Checklist (TSC-33): Early data on a new scale. *Journal of Interpersonal Violence, 4*, 151-163.

Bryant-Davis, T., Ullman, S. E., Tsong, Y., & Gobin, R. (2012) Surviving the Storm: The Role of Social Support and Religious Coping in Sexual Assault Recovery of Africant American Women. *Violence Against Women, 17(12)*, 1601-1618.

Campbell, R. & Fehler-Cabral, G. (2017). Accountability, Collaboration, and Social Change: Ethical Tensions in an Action Research Project to Address Untested Sexual Assault Kits (SAKs). *American Journal of Community Psychology, 60(3-4*), 476-482.

Campbell, R., Adams, A.E., & Patterson, D. (2008). Methodological challenges of collecting evaluations data from traumatized clients/consumers: A comparison of three methods. *American Journal of Evaluation, 29(3)*, 369-381.

Campbell, R., Ma, W., Javorka, M., Gregory, K., Vollinger, L., & Opsomme, M. (2020). Why do sexual assault survivors seek medical forensic exams and forensic evidence collection? Exploring patterns of service needs in a state-wide study. *Psychology of Violence, 11(3*), 264-275.

Campbell, R., Patterson, D., & Lichty, L.F. (2005). The effectiveness of sexual assault nurse examiner (SANE) programs: A review of psychological, medical, legal, and community outcomes. *Trauma, Violence, & Abuse, 6(4)*, 313-329.

Campbell, R., Patterson, D., Adams, A. E., & Diegel, R. (2008). A participatory evaluation project to measure SANE nursing practice and adult sexual assault patients' psychological well-being. *Journal of Forensic Nursing, 4(1)*, 19-28.

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine, 4*, 92–100.

Ciancone, A. C., Wilson, C., Colette, R., & Gerson, L. W. (2000). Sexual Assault Nurse Examiner Programs in the United States. *Annals of Emergency Medicine*, *35(4)*, 353-357.

Coping Orientation to Problems Experienced Inventory (Brief-Cope). NovoPsych. https://novopsych.com.au/assessments/formulation/brief-cope/#:~:text=The%20scale%20can%20determine%20someone%27s,Avoidant%20Coping

Corum, V. & Carroll, J. (2014) Forensic Analysts' Perspectives: Sexual Assault Kits Under the Microscope. *Journal of Forensic Nursing*, 10(1), 50-57.

Department of Justice. (2013). *A national protocol for sexual assault medical forensic examinations: adults/adolescents (2nd e.)*. Washington, DC.

Diamond-Welch, B., Zimmer, B., & Jones, M. (forthcoming). Providing Sexual Assault Medical Forensic Exams in Rural Areas.

Dworkin, E.R., Brill, C.D., & Ullman, S.E. (2019). Social reactions to disclosure of interpersonal violence and psychopathology: A systematic review and meta-analysis. *Clinical Psychology Review, 72*, 101750.

Effects of Sexual Violence. (2022). RAINN. https://www.rainn.org/effects-sexual-violence

Elliot, D.M. & Briere, J. (1992). Sexual abuse and trauma among professional women: Validating the Trauma Symptom Checklist-40 (TSC-40). *Child Abuse & Neglect, 16*, 391-398.

Elliot, D.M. & Briere, M., (1991). Studying the Long-Term Effects of Sexual Abuse: The Trauma Symptom Checklist (TSC) Scales. In A.W. Burgess (Ed.). Rape and sexual assault III. New York: Garland.

Elliot, D.M., Mok, D.S, & Briere, J. (2004). Adult sexual assault: Prevalence, symptomatology, and sex differences in the general population. *Journal of Traumatic Stress, 17(3),* 203-211.

Fact sheet-sexual violence against sex workers. (2022). Sexual Violence Against Sex Workers. https://swp.urbanjustice.org/wp-content/uploads/sites/14/2020/08/Fact-Sheet-Sexual-Violence-Against-Sex-Workers-1-1-1.pdf

Gaensslen, R. E. & Lee, H. C. (2002) *Sexual Assault Evidence: National Assessment and Guidebook*. U.S. Department of Justice.

Hamby, S., Grych, J., & Banyard, V. L. (2015). *Life Paths Measurement Packet: Finalized Scales.* Sewanee, TN: Life Paths Research Programs.

Horvath, M. & Brown, J. (Eds.). (2011) *Rape: Challenging Contemporary Thinking*. Willan.

Kaur, N., Porter, B., LeardMann, C. A., Tobin, L. E., Lemus, H., & Luxton D. D. (2017). Evaluation of a modified version of the Posttraumatic Growth Inventory-Short Form. *BMC Medical Research Methodology, 17(69)*.

Lechner, M., Britton-Susino, S., Daiber, D., Day, K., Faugno, D., Gill-Hopple, K., Maguire, K., Nash, K., Pierce-Weeks, J., & Rooney, E (2018). *Sexual Assault Nurse Examiner (SANE): Education Guidelines*. International Association of Forensic Nurses.

Littel, K. (2001). Sexual Assault Nurse Examiner (SANE) Programs: Improving the Community Response to Sexual Assault Victims. *U.S. Department of Justice*.

Mason, W. & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior research methods, 44(1),* 1-23.

Patterson, D., Campbell, R., & Townsend, S. M. (2006). Sexual Assault Nurse Examiner (SANE) Program Goals and Patient Care Practices. *Journal of Nursing Scholarship, 38(2),* 180-186.

Perpetrators of sexual violence: Statistics. (2022). RAINN. https://www.rainn.org/statistics/perpetrators-sexual-violence

Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., & Rajagopalan, C. (2015). Trauma informed care in medicine: Current knowledge and future research directions. *Family & Community Health, 38(3)*, 216-226.

Ritter, N. (2013). Untested evidence in sexual assault cases: Using research to guide policy and practice. *Sexual Assault Report, 16(3)*, 33-48.

Ritter, N. (2016). Down the road: Testing evidence in sexual assaults. *National Institute of Justice*.

Scope of the Problem: Statistics. (2022). RAINN. https://www.rainn.org/statistics/scope-problem

Sexual assault and the LGBTQ community. (2022). Human Rights Campaign. https://www.hrc.org/resources/sexual-assault-and-the-lgbt-community

Shank, D. B. (2015). Using crowdsourcing websites for sociological research: The case of Amazon Mechanical Turk. *The American Sociologist, 47(1)*, 47-55.

Sievers, V., Murphy, S., & Miller, J. J. (2003). Sexual Assault Evidence Collection More Accurate When Completed by Sexual Assault Nurse Examiners: Colorado's Experience. *Journal of Emergency Nursing, 29(6*), 511-514.

Sigurvinsdottir, R., & Ullman, S. E. (2016). Sexual Orientation, Race, and Trauma as Predictors of Sexual Assault Recovery. *Journal of Family Violence, 31(7)*, 913–921.

Taylor, P., Fry, R., Cohn, D. V., Wang, W., Velasco, G., & Dockterman, D. (2011). The Monetary Value of a College Education. In K. Parker (Ed.), Is College Worth It? College Presidents, Public Assess Value, Quality and Mission of Higher Education (pp. 83–109). Pew Research Center: Social & Demographic Trends.

Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455-471.

Thomas, T. L., Nobrega, J. C., & Britton-Susino, S. (2020). Rural health, forensic science and justice: A perspective of planning and implementation of sexual assault nurse examiner

training program to support victims of sexual assault in rural underserved areas. *Forensic Science International: Reports, 2*, 100053.

Ullman, S. E. (2014). Correlates of posttraumatic growth in adult sexual assault victims. *Traumatology, 20(3),* 219-224.

Ullman, S. E., Relyea, M., Peter-Hagene, L., & Vasquez, A. L. (2013). Trauma histories, substance use coping, PTSD, and problem substance use among sexual assault victims. *Addictive Behaviors, 38(6),* 2219-2223.

Ullman, S. E., Relyea, M., Sigurvinsdottir, R., & Bennett, S. (2017). A Short Measure of Social Reactions to Sexual Assault: The Social Reactions Questionnaire-Shortened. *Violence and Victims, 32(6),* 1096–1115.

Ullman, S.E. (2010). Talking about sexual assault: Society's response to survivors. Washington DC: American Psychological Association.

Ullman, SE. (1999). Social support and recovery from sexual assault: A review. *Aggression and Violent Behavior, 4(3),* 343-358.

Victim/survivor-centered approach. UN Women. (2019). Retrieved from https://www.endvawnow.org/en/articles/1790-victim-survivor-centred-approach.html?next=1789

Victims of Sexual Violence: Statistics. (2022). RAINN. https://www.rainn.org/statistics/victims-sexual-violence#:~:text=Younger%20People%20Are%20at%20the,for%20rape%20and%20sexual%20assault.&text=Those%20age%2065%20and%20older,than%2025%2D49%20year%20olds

Walters, M.L., Chen, J., Breiding, M.J. (2013). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Findings on Victimization by Sexual Orientation.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Younger People Are at the Highest Risk of Sexual Violence. (2021). RAINN. Retrieved from https://www.rainn.org/statistics/victims-sexual-violence#:~:text=Younger%20People%20Are%20at%20the,for%20rape%20and%20sexual%20assault.&text=Those%20age%2065%20and%20older,than%2025%2D49%20year%20olds

Zlotnick, C., Shea, M. T., Begin, A., Pearlstein, T., Simpson, E., & Costello, E. (1996). The validation of the Trauma Symptom Checklist-40 (TSC-40) in a sample of inpatients. *Child Abuse & Neglect, 20(6)*, 503–510.