

2019

MANAGING JUST WORLD BELIEFS IN AN UNJUST WORLD FOR VICTIMS OF SEXUAL VIOLENCE

Lindsey Chatfield Grove
University of Montana - Missoula

Let us know how access to this document benefits you.

Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Recommended Citation

Grove, Lindsey Chatfield, "MANAGING JUST WORLD BELIEFS IN AN UNJUST WORLD FOR VICTIMS OF SEXUAL VIOLENCE" (2019). *Graduate Student Theses, Dissertations, & Professional Papers*. 11446.
<https://scholarworks.umt.edu/etd/11446>

This Dissertation is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

MANAGING JUST WORLD BELIEFS IN AN UNJUST WORLD

FOR VICTIMS OF SEXUAL VIOLENCE

By

LINDSEY CHATFIELD GROVE

M.A., The University of Montana, Missoula, Montana, 2015
B.S., Appalachian State University, Boone, North Carolina, 2008

Dissertation

Presented in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
In Clinical Psychology

The University of Montana
Missoula, MT

Reviewed by:

Christine Fiore, Chair
Psychology Department, Clinical

Bryan Cochran
Psychology Department, Clinical

Lucian Conway
Psychology Department, Experimental

Allen Szalda-Petree
Psychology Department, Experimental

Jacqueline Brown
Psychology Department, School

Elizabeth Hubble
Women and Gender Studies Department

Grove, Lindsey

Clinical Psychology

Abstract

Chairperson: Christine Fiore, Ph.D.

The foundational expectations for good things to happen to good people, while bad things happen to bad people, is referred to as the belief in a just world (BJW) hypothesis (Lerner, 1980; 1966). The understanding is that BJW is a deep-rooted belief that when challenged with injustice, an individual implements strategies in order to protect this core belief from shattering (Lerner, 1980). BJW has long explained victim blaming (Hayes, Lorenz, & Bell, 2013; Jones & Aronson, 1973) and a positive relationship with psychological protection for injustice to self (L Bègue & Bastounis, 2003; Lerner & Simmons, 1966; Sutton & Douglas, 2005). BJW is clinically used to support recovery for victims of trauma by helping to make sense of their core beliefs about themselves, others, and the world that were influenced by trauma. In Cognitive Processing Therapy (CPT) the aim is to develop a moderate BJW in hopes for lower self-blame and improved psychosocial functioning (Resick, Monson, & Chard, 2016). In some situations blaming the self has been seen as a possible protection factor for injustice for self, although self-blame for sexual violence is correlated with poorer psychological functioning (Peter-hagene & Ullman, 2015; C. M. Reich et al., 2015). The focus for this paper is to explore the role of managing BJW (i.e., self-blame) for victims when they experience the injustice of sexual violence as university students. The cognitive understanding of "why me" could offer a significant contribution to these developments and provide discussion about the injustice of sexual violence (Furnham, 2003). Participants were 115 university college cisgender women and non-binary students who have experienced sexual violence in the past year, since being at UM, or since turning 18 and completed an online cross-sectional survey. Analysis focused on the pattern of relationship between BJW with trauma symptoms and the conditional indirect effect (moderated-mediation) of BJW management factors within the relationship path of sexual violence, BJW, and trauma symptoms. Results found a linear relationship between BJW-self and trauma symptoms, which was consistent with the BJW literature. BJW-S was found to fully mediate the relationship between sexual violence and trauma symptoms. Self-blame and crime recognition did not moderate this mediated relationship, although there was a significant moderating effect between not disclosing the sexual violence and receiving negative social support for the non-mediated relationship between sexual violence and trauma symptoms. Strengths, limitations, and future directions are discussed.

Keywords: Belief in a just world, sexual violence, college, women, resilience, trauma

TABLE OF CONTENTS

ABSTRACT	ii
I. INTRODUCTION	
a. Preface Narrative.....	1
b. Sexual Violence	3
c. Trauma Symptoms.....	5
d. Resilience and Post Traumatic Growth	7
e. Belief in a Just World.....	8
f. Belief in Just World Protection Strategies	16
g. Rationale.....	30
h. Hypotheses	32
II. METHODS	
a. Participants.....	34
b. Measurements	36
i. Demographic Questionnaire.....	36
ii. Abbreviated Sexual Experiences Survey	37
iii. Specific Unwanted Sexual Experiences Survey	38
iv. Briers Trauma Symptom Checklist	38
v. Resilience	39
vi. Posttraumatic Growth.....	40
vii. Just World Belief: Self and Others.....	42
c. Procedure	42
III. RESULTS	44
a. Analysis by Hypothesis	44
b. Discussion	56
c. Strengths and Limitations.....	63
d. Future Directions	66
REFERENCES	68
APPENDIX A (Demographics Table).....	85
APPENDIX B (Intercorrelational matrix of variables).....	86
APPENDIX C (Hypothesis 1 tables and figures)	87
APPENDIX D (Hypothesis 2 tables and figures).....	89
APPENDIX E (Hypothesis 3 tables and figures)	94
APPENDIX F (Informed Consent)	95
APPENDIX G (Demographic Questionnaire)	97
APPENDIX H (Sexual Experiences Information).....	100
APPENDIX I (Trauma, Resilience, Posttraumatic Growth)	109
APPENDIX J (Justice Scales).....	115
APPENDIX K (Open ended responses -Qualitative Information)	116
APPENDIX L (Debriefing Sheet).....	117

Managing Just World Belief In An Unjust World

For Victims Of Sexual Violence

Preface

The following story is a compilation of stories by students who reported to a university advocacy resource center. This example provides a backdrop for why further research is imperative for the greater understanding of the experiences of victims of sexual violence. A young woman was beginning her college career as an honor student, nearly fully funded by academic scholarships, and she had an unwanted sexual experience three weeks into her second semester of college. She will be referred to as Jane Smith for anonymity. Jane was very close to her mother and told her about it the next day. Mrs. Smith believed she was raped and asked her daughter to go to the hospital to have a rape kit completed. Although Jane did not agree with her mother, she agreed to go to the hospital.

Let us depict the scene as a night out with her cousin at a nearby university. Yes, they were drinking underage, but this is the norm for recently "freed" college students. The perpetrator, John, was a friend of her cousin and she remembers thinking he was cute when they first met. Jane thought otherwise when she woke up the next morning in his bed without her pants and no memory of the preceding events. Jane's thoughts raced through her mind: "How did this happen?" "I don't remember sleeping with him. " I must have had way too much to drink last night." "I thought he was cute, but I didn't want to have sex with him." These are just a fraction of the thoughts that went through her mind the next day. She assumed that since they were all drinking this must have been an accident and she mostly blamed herself. Jane thought, "If only I hadn't drunk so much, maybe I could have

stopped this." Jane believed she was a good person and a good student; she did not do anything to suggest that she wanted this from him. Jane went on with her semester and tried to stay on track with her classes, although shortly after the event she began missing classes here and there and needed extra time for assignments. The mystery of what happened that night plagued her mind and left limited capacity for much else in her life.

Jane tried therapy to help sort out her thoughts and emotions. She felt that it was helping; she was able to get back on track with her classes and was regaining hope for putting the unwanted sexual experience behind her. About eight weeks went by, and she received a call from a nurse at the hospital where she had the rape kit done. The nurse reported to Jane that her toxicology screen had just returned and her blood tested positive for Rohypnol. These drugs contributed to Jane's loss of memory, and the news left Jane stunned. This news completely changed the narrative for her. Jane quickly realized that she was a target for rape. Jane thought, "But how could this be? I am a good person. Why would someone do this to me?" At that moment, her belief in a just world crumbled.

Following the news, Jane began to question her cousin and her cousin's friends about what happened that night. They discovered that there was a plot schemed by the group to get Jane to stay over in John's dorm room instead of her cousin's dorm room. Jane's world turned upside down with the news, and she was ultimately unable to complete her second semester at college. Jane knew her scholarships were at stake, but that night haunted her, and she could no longer contain the event as just a memory. She began to experience more trauma symptoms related to the sexual violence, and her symptoms were harder to treat with simple behavioral interventions practiced before the news; Jane could no longer sleep, she lost connections with her friends, became more irritable, and could not

concentrate on school or much else in her life. She was scared and confused, not sure whom to blame, and not sure why she deserved such pain.

Sexual Violence

Rape, sexual assault, and other acts of violence against women are human rights violations that plague women around the world. While people of all genders do experience sexual violence, the occurrence against women is disproportionately high. Based on worldwide estimates, thirty-five percent of all women have experienced violence through physical/sexual intimate partner violence (IPV) or non-partner sexual violence in their lifetime (World Health Organization, 2016). Regrettably, men and boys' experience of sexual violence is underreported and understudied, yet it is still estimated that women are disproportionately affected across the lifespan and should require attention with urgency (Black et al., 2011). A summary report by the Center for Disease Control and Prevention (CDC) concluded that sexual violence, in the form of rape, in the United States is estimated to affect 1 in 5 women and 1 in 71 men (Black et al., 2011). In 2015 the CDC provided an updated data brief stating that the same number of women are predicted to experience sexual violence and also that 1 in 14 men reported being forced to penetrate someone (completed or attempted) during their lifetime (Smith et al., 2018).

The 2010 report stated that 79.8% of women affected by sexual assault experienced their first sexual violence before the age of 25. Similar percentages were found in 2015 for male victims, with 70.8% of men who reporting their first experience of unwanted sexual contact before the age of 25. Within the United States, college students, ages 18 to 25, are more frequently targeted for sexual violence when compared to the same age group not attending college, reaching rates 3 to 4 times higher than the general public (Banyard,

Ward, & Cohn, 2007; Baum & Klaus, 2005; Black et al., 2011). This statistic makes sexual assault the only violent crime that is higher among the college student population than non-students (Baum & Klaus, 2005; Fisher, Cullen, & Turner, 2000; Fisher, Daigle, Cullen, & Turner, 2003).

Around the world, access to education for women is not assured and in the United States challenges exist as well. Title IX is an education amendment that passed in 1972 to protect the rights of education without discrimination based on sex (Department of Justice, 1972). This guarantee proves difficult for 1 out of 5 women who experience sexual violence while attending college. This rate of sexual violence among women college students is why Title IX offices across the US have taken on the challenge of protecting this demographic from losing their access to education. Unfortunately, like the story about Jane, staying in school can prove tricky depending on the perceptions and reactions of the victim, sometimes regardless of the efforts made by the institution. Growing our knowledge about victims' responses to sexual assault and disseminating this information to the general public may prove useful in providing better support for student victims to keep them in school. Given the large risk of sexual coercion among college women, learning how to help victims hold onto their right for education is critical. The hopeful outcome of the present study is to explore the impact of victims' perceptions of belief in a just world on their psychosocial health and recovery from psychological distress, while focusing on a population of students who have experienced difficulties with continuing their education following sexual violence.

Trauma Symptoms

Sexual assault and rape are personal violations that can result in a wide range of psychological reactions. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) indicates that there is no single pattern of response following sexual violence (American Psychiatric Association, 2013). Victims can react very quickly, or they can have a delayed response. Some never quite recover, while some seem to recover in a matter of weeks. There is even a possibility of experiencing a delayed trauma response, months or years down the road. Longitudinal research following this population would be invaluable. The US Department of Veteran Affairs (2015), who represent women in the military who are significantly impacted by sexual assault and rape, states:

In the time just after a sexual assault, many women report feeling shock, confusion, anxiety, and/or numbness. Sometimes women will experience feelings of denial. In other words, they may not fully accept what has happened to them or they may downplay the intensity of the experience. This reaction may be more common among women who are assaulted by someone they know (p. 1).

Sexual violence victims experience a wide range of reactions that may evolve and change with time, with many of their avoidance reactions serving as short-term protection strategies. One study in 1992 interviewed 95 community women, who were raped and treated at a city hospital, for 12 weeks directly following their rape experience. The researchers found that 94% of the women from the study experienced trauma symptoms during the first two weeks (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). As time passed, the trauma symptoms steadily declined among the sample, and by three months less than half of the participants were still demonstrating trauma symptoms (Rothbaum et

al., 1992). Manifestation of distress from trauma can result in a full range of mental health problems and physical health issues including somatization, depression, or substance misuse. Nonetheless, there are some common patterns for sexual violence-related trauma.

Trauma-related disorders first entail exposure to an experience that involved death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence (American Psychiatric Association, 2013). Common traumatic experiences include combat or war, car accidents, natural disasters, and crimes against individuals, with special recognition in the DSM-5 to sexual violence. Depending on the type of trauma, victims are likely to experience disparate patterns in their reactions; for example, the feeling of shame is expressed differently by someone who survived a terrible earthquake compared to someone who is repeatedly abused by her foster parent (Amstadter & Vernon, 2008). Researchers have long recognized group similarities by keeping trauma samples homogenous based on trauma experience, as we recognize the individual differences in trauma responses, particularly with regards to interpersonal forms of violence.

Amid college students, sexual assault has been associated with the highest level of PTSD symptoms when compared to survivors of other forms of trauma (Frazier et al., 2009). In addition to PTSD, sexual assault survivors, when compared to other forms of trauma are more likely to experience a disruption in interpersonal functioning (Harris & Valentiner, 2002). This is potentially amplified for a college student population due to the violation of trust in other human beings and the break to their world view while living away from home for the first time. The disruption in interpersonal functioning at this age can be an isolating occurrence. Trauma symptoms are the primary outcome measure of interest in this study.

Resilience and Posttraumatic Growth

In direct contrast to PTSD and other stress-related symptoms, theories of resilience and posttraumatic growth take a positive psychology approach to trauma by recognizing the positive and constructive outcomes of trauma experience. Resilience is tough to define, although it often encompasses the multiple facets that contribute to dampening the adverse effects of trauma. For some, resiliency is a personal attribute that allows one the ability to bounce back following adversity or trauma; for others, it is the personal and environmental factors in place that provide a cushion following stressful events (Dutton & Greene, 2010; Lanka et al., 2016). Potentially it is both; psychological definitions include traits, characteristics, and internal attributes, but also include established environmental supports. Either way, resiliency is most commonly associated with an ability to maintain or regain strength when faced with complex trauma, stress, or adversity. Some latent factors associated with resilience include personal competence, acceptance of change, secure relationships, trust or tolerance of stress, sense of control, and spiritual influences. These factors are widely seen as recognizable elements that prevent psychological disorders (Windle, Bennett, & Noyes, 2011).

Posttraumatic growth is greater than the ability to bounce back from stress or adversity; it is the emergence of personal growth and development resulting directly from a traumatic experience (Tedeschi & Calhoun, 2004). The accomplishment of growing out of trauma is believed to be a process versus a static outcome that can be fostered through the support of formal health care providers and friends or family. The purpose of this perspective is to recognize not only the aspects where people are struggling but also their strengths and room for growth.

Belief in a Just World

Jane Doe did not want to seek criminal charges, even once she realized she was victimized in a sex crime. There was fear of being judged by her peers or the court because she was aware of too many circumstances where women were blamed for the assault or accused of false reporting. Our society tends to victim blame, and women have an awareness that they may be judged based on the way they were dressed or whether they were drinking alcohol (Girard & Senn, 2008). Social advocates and researchers alike have been wondering about the social, cultural, and even cognitive factors that lead to such victim-blaming behaviors. Naturally, there are sociocultural aspects that are driven by language, social norms, and social structures, but disregarding group influence there are certain human tendencies that have been found across cultures contributing to the way victims of crime are viewed (Vygotsky, 1978).

Adhering to a belief that we live in a just world (BJW) is a suggested theory to explain the tendency for others to blame victims, explicitly of sexual violence, through the reasoning that they have received the misfortune that they deserve (Lerner & Simmons, 1966). The belief is that bad things happen to people for a reason and that reason maintains order in the world. Having the thought "why me" when things have gone bad, or "why not me?" when things have gone well for others, suggests the presence of some degree of a just world belief. We can hold these beliefs as individuals as well as witness institutional beliefs in a just world. The United States court system and even the foundation of United States freedom and authority follows a belief in a just world expectation. "One nation under God, indivisible, with liberty and justice for all."

The BJW theory starts with the understanding that our worlds are confusing and realistically unpredictable; therefore we all utilize natural strategies to manage variability (Lerner, 1980). Throughout each day, individuals are subconsciously attempting to make sense of the world around them because people naturally desire order and understanding. Social psychologists have already established the human need to find causal explanations for day-to-day events using attribution theory (Heider, 1958). Humans have the general desire to understand behavior through causal connections and tendencies to have certain attributions, referred to as attribution bias (Ross, 1977). These tendencies can also lean towards a confirmation bias, where a person's existing beliefs or theories are more likely to be confirmed through interpretation of new information (Rajsic, Wilson, & Pratt, 2015). The confirmation bias likely makes it difficult for people to change their viewpoint when given new information. Humans attribute blame for events in order to determine a cause, which in turn helps to understand the order of outcomes throughout life.

Research into attribution theory began with Fritz Heider (1958) who believed that people were naively trying to make sense of the world, specifically their social world, by applying a cause and effect relationship (i.e., blame), even when there was not one. Heider (1958) put forth the influential ideas of internal attribution and external attribution. These are the more specific processes of assigning the cause (or blame) for behavior to either internal characteristics of the self, to others, or some situation or event outside a person's control (i.e. God, karma, another person's actions). Heider was not solely responsible for the development of the attribution theory (Kelley & Michela, 1980; Ross, 1977; Weiner, 1985), Kelley's (1973) convariation principle of attribution theory, best used when repeatedly observing a behavior, suggests that attributions are based on consensus,

distinctiveness, and consistency. Weiner (1985) takes another spin on explaining the “why” of behavior with identification of three causal dimensions: locus of control (internal vs. external), stability of change over time, and controllability (skills vs. luck).

There is extensive research and development of theories in an attempt to identify how and when one type of attribution is applied versus another. Knowing humans' bias tendencies is essential in understanding human behavior, particularly within social contexts. The attribution theory gives us clear options for creating causal relationships for events within our lives and the world; furthermore, the fundamental attribution error has demonstrated that people are more likely to put undue emphasis on internal attributions versus external attributions (Ross, 1977). This study aimed to focus on the internal attributions for victims of sexual violence.

Social research shows that humans have a particular cognitive bias with their attributions that a person's actions will fit into a morally fair algorithm, resulting in consequences that fit what that person deserves based on their actions or personal characteristics (Lerner & Miller, 1978), thus developing a schema that noble actions are rewarded and evil actions are punished. This concept is referred to as the just world belief, just world hypothesis, or just world fallacy, and has been widely discussed for centuries by scholars and philosophers. Belief in a just world (BJW) is the most prominent term used amongst researchers today; therefore BJW will be used throughout this paper to refer to this phenomenon.

Melvin Lerner (1980) brought the BJW theory into the spotlight for psychological research by boldly proposing that people need to believe in a just world for positive psychological health. Starting in the mid-1960s Lerner and his colleagues began

conducting research, providing robust support for human tendencies to apply various strategies to maintain their BJW foundation, relating with better psychological health. Lerner would argue that the cognitive understanding that if the world treats me fairly then I can expect my life to be orderly, meaningful, and controllable (Sutton & Douglas, 2005). Ultimately, the association is that the human ability to predict the world or maintain order and understanding influences healthier psychological functioning (Dalbert, Lipkus, Sallay, & Goch, 2001; Dzuka & Dalbert, 2007; Lerner, 1980).

In Lerner's book, *The Belief in a Just-World: The Fundamental Delusion* (1980), where he summarizes his early work to date, he recognizes that the social norms and ideologies that surround us influence these beliefs. Cross-cultural research has been conducted across multiple continents to establish the generalizability of this theory (Furnham, 1985, 1993; Rubin & Peplau, 1975). These beliefs that good is constantly rewarded and bad is constantly punished are incessantly reinforced in our pervasive and abundant media, including children's fairytales, novels, news outbreaks, and any other social tales of morality in multiple cultures. Lerner (1980) agreed that sociocultural expectations and direction guide these beliefs; this fundamental belief is likely learned through religion, parents, teachers, or just picked up as a way to make the world seem safer and more predictable.

Differences to some degree, are found between societies, although the usefulness of the belief appears to be consistent across different cultures (Dalbert & Katona-Sallay, 1996; Furnham, 1993). For example, collectivist societies, like China, have demonstrated more significant psychological benefit from BJW in comparison to individualist societies, like the

United States (Oppenheimer, 2006; Wu et al., 2011; Zhang & Zhang, 2015). Through the inclusion of 12 countries on the measurement of BJW, Furnham (1993) concluded that,

Some people believe in a just world because of their personal pathology and experience (individual functionalism), but there is evidence that just world beliefs are a function not only of personal experience but also of societal functionalism (i.e., a country's structural and societal factors; p. 327).

BJW is more complicated than it appears and it is not always the causal agent, but sometimes the outcome. A person's BJW may change or even ebb and flow depending on life experiences, such as interpersonal trauma. BJW may be more beneficial for collectivist societies due to the need to trust their role in the group function and may be a self-perpetuating cycle. We cannot deny that there are sociocultural influences in the development of a BJW, but the cognitive ramifications are intriguing. In an ideal world we can use them to predict the world around us; thus allowing people to plan for their future and engage in goal-driven behavior. Therefore, in a completely just world, when we act out of moral justification the actions and conditions (causes and outcomes) are predictable, appropriate, and substantial. Without those conditions, adherence to BJW would not have a purpose. The ability to plan and know that our good behaviors will be eventually rewarded potentially gives power to the BJW. According to Lerner, this organized and just view of the world gives people the ability to accept delayed gratification, contributing to more successful and psychologically healthy individuals (Lerner, 2000).

Since the world is not completely just, BJW is a defense mechanism to protect us from the belief that bad things will happen to us or that system-wide injustice will not happen. Not everyone effectively sees the world as just, orderly, meaningful, or

controllable, but maybe they can rely more heavily on other factors to achieve psychological health and be able to plan successfully for their future. Either way, people fall on a spectrum of BJW ranging from a weak BJW to a strong BJW (Dalbert, 1999; Lipkus, Dalbert, & Siegler, 1996; Reich & Wang, 2015), and knowing where a person falls on that spectrum is at times clinically useful to help in cognitive-based psychotherapies.

In developing nations, where researchers have used socioeconomic differences to look at the correlations with BJW, they have found that it is more difficult for the economically disadvantaged to believe in a just world and it is more likely for the wealthy and powerful to condemn or devalue the poor, falling in line with their strong BJW (Furnham, 1985). Indeed it is possible that BJW is most beneficial to those who are least likely to be victims of injustice and possibly those who embrace hardiness or resilience in the face of challenges and adversity (Wu et al., 2011). A longitudinal study in Germany found that personal BJW influenced perceived economic impact and was mediated by life satisfaction over time (Christandl, 2013).

Time and maturity should also be considered as characteristics in understanding BJW better. BJW has been called a primitive belief system that may have deteriorating effects with age and experience. Louis Oppenheimer (2006) proposed that BJW loses its importance as children mature into adulthood. Oppenheimer conducted a cross-sectional study across six age groups ranging from twelve to twenty-two, concluding that BJW began losing its importance at as young as twelve-years-old. Oppenheimer believed that with maturity came more sophisticated forms of reasoning that help people see the world as orderly and meaningful without a moral necessity for a cause. Still, BJW is considered a

particularly significant factor in the cognitive understanding of misfortune and disaster among all ages.

Lerner (1998) postulated from the developed research body that adults express two forms of BJW, one conscious and one subconscious. The conscious form utilizes conventional rules, morality and social judgments utilizing high order functioning, while the subconscious utilizes the automatic emotional values for primitive judgments of blame. There are recognizable overlaps of BJW with other conscious or organized belief systems. Those who are particularly religious or socially conservative have a greater tendency to adhere to a stronger BJW (Laurent Bègue, 2002; Benabou & Tirole, 2005; Furnham & Gunter, 1984; Lipkus & Siegler, 1993). Religions provide morally guiding principles to help individuals make good decisions and see order in their world. Among the religious communities, one potential source for learning the basics of a BJW is also likely to see blame of higher powers, such as an act of God that an event has occurred or a belief in ultimate justice either in the afterlife or by the universe (i.e., Dharma and Karma). The justice may not be immediate, but the belief of ultimate justice is still providing hope (i.e. belief) for justice. Even then the interpretation could be “something bad happened to me therefore I must deserve it,” or “I am a bad person,” which does not innately seem to be psychologically helpful.

Much like the BJW, there is a correlation between religious practice and positive psychological wellbeing and even resilience in the face of stress and trauma (Hannay, 1980; Schieman, Bierman, & Ellison, 2013). Organized religion or strong spiritual beliefs provide interconnectedness and help in understanding the answers to questions of “why.” BJW may be primitive and have subconscious origins, but is also likely influenced by conscious

sociocultural foundations that surround each person. The macro- and micro-cultures that surround each person influences their comprehension of the world and helps to embrace social role(s), but the ultimate objective of religion and spiritual systems is to find harmony for the society, not necessarily the individual (Narayan Persaud, 2009).

Research has linked adherence to belief in a just world (BJW) with multiple indicators of a positive subjective well-being (SWB) including positive affect (Dalbert, 1998), optimism (Jiang, Yue, Lu, Yu, & Zhu, 2016; Littrell & Beck, 1999; Sohl, Moyer, Lukin, & Knapp-Oliver, 2011), effective coping with stress (Tomaka & Blascovich, 1994), better sleep (Jensen, Dehlin, Hagberg, Samuelsson, & Svensson, 1998), low levels of depression (Carifio & Nasser, 2012; Harris & Valentiner, 2002; Ritter, Benson, & Synder, 1990), goal planning (Hafer, Bègu, Choma, & Dempsey, 2005), higher confidence (Hafer et al., 2005), less loneliness (Jones, Freemon, & Goswick, 1981) and overall better mental health (Dalbert, 1998; Lipkus, Dalbert, & Siegler, 1996). This long list of positive outcomes linked with a strong BJW gives support for the incorporation of BJW into clinical interventions to improve understanding of the influence of their BJW on how they view themselves, others, and the world. It is a perspective currently utilized in Cognitive Processing Theory for treatment of PTSD (Resick, Monson, & Chard, 2016) and could possibly be used more generally to help individuals make sense of their world.

The BJW is believed to be a stabilizing force that can help in the reduction of potential depression and other stress-induced illnesses from daily hassles (Dalbert, 1998); the additional factors that may contribute to positive psychological wellbeing following a traumatic experience, such as sexual violence, remains to be clear. A connection between the two factors has not been definitively supported, but has been internationally

investigated among victims of natural disasters (Otto, Boos, Dalbert, Schö Ps, & Rgen Hoyer, 2006; Riaz et al., 2015). Among Chinese adult survivors of an earthquake, researchers found higher scores on a general-BJW than a personal-BJW (Wu et al., 2011). They had a measure of low and high exposure to trauma and found that both groups' general-BJW and personal-BJW were positively predictive of life satisfaction, but their general-BJW was the only significant predictor of psychological resilience (Wu et al., 2011).

Otto et al. (2006) completed their study in Germany among survivors of a flood. They found that personal-BJW, but not general-BJW was negatively associated with psychological distress, and neither were associated with PTSD symptoms. In Pakistan, investigators looked into the relationship between BJW with PTSD and wellbeing among survivors of both natural and man-made disasters (e.g. assaults; Riaz et al., 2015). They had similar findings of BJW having a positive predictive relationship with psychological wellbeing and a negative predictive relationship with PTSD symptoms. They also completed a moderation analysis finding that resiliency moderated the relationship between BJW and depression.

BJW Protection Strategies

Lay people or spiritual leaders of any background work to convince themselves that justice will ultimately happen even if they are not able to witness it to provide peace of mind. Therefore, the long list of psychological benefits is the result of individuals guarding themselves against inevitable contradictory experiences through applying strategies to maintain a stronger BJW. Since we are likely to experience or witness injustice at various points in our lives, some more than others, there are different strategies or options people choose in order to maintain their foundation in BJW. Lerner postulated that when

injustices are experienced or witnessed, individuals could apply rational or irrational strategies either consciously or subconsciously (Lerner, 1998; Lerner & Miller, 1978). People can quickly act to help the victim of injustice or practice denial, withdrawal, or reinterpretation to persuade the self that no injustice has occurred (i.e., blaming Jane). The reinterpretation can be of the challenging event or of the BJW itself. When employing reinterpretation, people will derogate or minimize the injustices they see happening to others, or they may adopt a blaming attitude (Lerner & Miller, 1978; Sutton & Douglas, 2005). These are all vastly different solutions ranging from victim blaming to victim support, which both serve to maintain a BJW, but provide extremely different outcomes for the victim.

Initially, Lerner's efforts were focused on explaining why college students blame impoverished individuals for being lazy rather than recognizing victimization imposed by a failing economy (Lerner & Simmons, 1966). This is the research that generated the original theory and proposed the various responses that people engage in when they are unable to provide help to victims of misfortune. The experiment used in this study utilized a confederate to act like the innocent victim who received a painful electric shock when producing errors in a fictitious learning task. When the participants observing the task lacked control over altering the victim's fate, they postulated stronger rejection and devaluation of the victim. Interestingly, potentially related to sexual violence, Lerner and Simmons (1966) found that the higher the perceived injustice, the greater the tendency to degrade the victims, who happened to be women.

Women's appearances were found to be the main influence in the opinion of the peer-female participants (Lerner & Simmons, 1966). In this study the participants were

undergraduate female peers of the confederate “victims.” The participants believed they were participating in a paired learning task with a female of a similar age who received painful electric shocks when they provided an incorrect answer to the task. The 1960s investigators’ reasoning for females was based on typical stereotype expectations for females to be more compassionate and therefore would provide a clearer test of their hypotheses of victim blaming attitudes. An important detail in their design was that the participants in the basic situation should have reason for seeing the suffering, in no way feel responsible for the victim’s experience of pain, with belief that it would be clearly unacceptable to interfere with what was happening. All participants observed videotape followed by one of four sets of instructions with different conditions before giving their judgment of the victim. As expected, they found that female victims were more likely to be derogated or devalued if they possessed aesthetically displeasing qualities, measured through completion of two evaluative measures of attractiveness of the victim. Conversely, if the victims were virtuous or attractive, devaluing the character of the victim became less of a viable choice, resulting in actions of blame towards the victims.

The pattern of victim blaming was further supported by a subsequent, similar study where a woman’s current role in a romantic relationship impacted a person’s conclusion about rape. Jones and Aronson (1973) found that participants who read vignettes about a rape describing the victim as either a virgin, married, or divorced determined that the virgin and the married victims were perceived as more behaviorally responsible for the rape than the divorcée; concluding that more “respectable” victims were more likely to be blamed by observers of the vignette because their character could not be derogated. At this

point, the details of the rape event are not even considered in the development of attribution of blame.

This research area continued to progress with Karuza and Carey (1984), as they designed their study to incorporate both the judgment of character and the victim's actions in a supposed rape scenario. Participants watched a videotape of a mock interview with a rape victim. Initially following the observation of the video, participants were asked to identify the victim as good or bad and careful or careless. Results indicated that the "bad victim" was devalued more than the "good victim," while the "careless victim" was described as more responsible than the "careful victim" for the rape. These findings are consistent with the previous studies and the current fear that victims of rape will be judged based on their appearance, relationship status, and behaviors leading up to the rape (i.e., drinking, dress, flirting). These findings are all in contrast to the necessity for judgment of the perpetrator for their actions in the assault.

A more recent study by Haynes and Olson (2006) determined that the characteristics of the victim were also significant factors in the responses of bystanders. They discovered that if the victim was unlikeable but held low-responsibility in the unjust act, the primary response was character derogation to maintain BJW. Concurrently, if the victim was likable, but perceived to have high-responsibility, the primary strategy was to blame the victim. Both types of victims resulted in what Lerner (1980) would call irrational strategies. In the scenario where the victim who was likable and perceived with low-responsibility, the primary strategy used by the bystanders was compensation, meaning the bystanders were more likely to take a rational strategy to attempt to correct the injustice. The last scenario and BJW strategy to balance injustice may be most

analogous to the traditional rape myth scenario of stranger rape with an apparent physical struggle by the victim.

As a general concept, the endorsement of a BJW has a strong link to psychological health, but there is also a conflicting connection with an increase in victim-blaming behavior. BJW has long been seen as a double-edged sword, due to its positive correlation with psychological wellbeing and its equally correlated connection with harsh social attitudes (Lerner, 1980). Through an exploration into this unfortunate paradox, the BJW was subsequently divided into a bi-dimensional construct: BJW-self (BJW-S) and BJW-others (BJW-O, Lipkus, et al., 1996). BJW-S is the application of the morally just views for one's behaviors, while the BJW-O involves holding morally just expectations for others. BJW-S carries a positive correlation with psychological wellbeing, while BJW-O is associated with the harsher social attitudes (Bègue & Bastounis, 2003; Sutton & Douglas, 2005); unsurprisingly falling in line with the presumption of the correspondence bias. Begue and Bastounis (2003) found the BJW-O significantly correlated with discrimination against the elderly, stigmatization of poverty, and higher penal punishments. There have also been generalizations to other social issues and social groups who receive routine injustices such as crime, aging, and illness (i.e., AIDS and Cancer; Lerner, 2000).

If a victim of sexual violence adheres to a strong BJW, then following Lerner's theory a victim would have two options; to react rationally or irrationally. A rational reaction may include seeking help and support in an attempt to correct the error in justice (including seeking support from a higher power and deferring a just world to another time), while an irrational reaction may be to change one's perception of the event in question and take on blame or responsibility. In turn, a victim may never adhere to a BJW, or they may decide

that the world is not just and abandon their BJW. Therefore, there is a third option of deciding not to repair the belief, if it was even present before the event, possibly contributing to poorer psychological wellbeing.

In addition to all of this work by Melvin Lerner and his colleagues, Claudia Dalbert and Adrian Furnham also provided great influence into the BJW theory. Most of their research provided continued support and clarity to the theoretical understanding of the phenomenon, with some spins, such as adding a spectrum of unjust world belief (Dalbert et al., 2001; Furnham, 2003). Those with little or no power are more likely to have, what Furnham (1993) believed was, a belief in an unjust world. Although there have been some divergent paths with regards to BJW, the primary researchers collectively concluded that BJW is indeed positively correlated with life satisfaction and as a personal coping resource that helps protect from rumination about "why me?" These theorists provide added valuable understanding of the role of BJW among victims. The foundational BJW theory provided by Lerner serves as the primary BJW reference for this study, due to the significant utilization of the rational and irrational response theory and the differentiation between BJW of the self and others.

Self-Blame

Attribution style, or blame for an event by the victim has been heavily related to adjustment to trauma. When experiencing a trauma, such as sexual violence, victims will likely attempt to make sense of what happened to them. Shame and blame are proposed forms of attribution that act as forms of irrational protection of a BJW. The paradox is that a strong BJW that is protected through any form is strongly correlated with positive psychological wellbeing (Furnham, 2003; Lerner, 2003) and separately, self-blame is

strongly correlated with poorer psychological wellbeing (Kiecolt-Glaser & Williams, 1987; Libow & Doty, 1979; Miller, Handley, Markman, & Miller, 2010; Reich et al., 2015; Startup, Makgekgenene, & Webster, 2007).

Another similar framework for looking at the role of cognitive variables in the development of PTSD, in particular, is through the lens of the emotional processing theory (Foa & Kosak, 1986). This framework is used to explain the use of cognitive therapies to help survivors of trauma cope with their experience. Looking specifically at college students and PTSD following a trauma, researchers have searched for the most influential cognitions to the development or maintenance of PTSD. Moser, Hajcak, Simons, and Foa (2007) while controlling for gender and general affective distress, they discovered that negative cognitions about the self, were the only type of cognitions that significantly contributed to PTSD symptoms. They used the posttraumatic cognitions inventory (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999), which broke cognitions into three factors: negative cognitions about self (thoughts of helplessness and alienation), negative cognitions about the world (lack of trust and safety in others/world), and self-blame (attribution of the trauma to themselves). In this study they did not find that self-blame was indicative of PTSD symptoms, although they used depression as a control factor. Self-blame is a predictor for depression and other negative affect (Martin & Dahlen, 2005), meaning controlling for those two aspects likely decreased the influence of self-blame as a predictor for PTSD symptoms. The negative cognitions about self, which look at helplessness and alienation, may be more indicative of social support-seeking behavior discussed in the next section.

The theory fits quite well into the BJW framework, because it essentially suggests

that PTSD develops as a function of changes in pre-trauma knowledge configurations; one very likely being the belief in the level of justice there is in the world. This framework also works well with the Janoff-Bulman (1992) shattered assumptions theory, which also theorizes that the development of trauma symptoms may be strongly associated with changes in basic beliefs that existed prior to a traumatic experience. Ultimately, basic beliefs about one's self and their role in the trauma could have a stronger influence on trauma symptoms than changes in beliefs about the world or others.

Some theorists (Dalbert et al., 2001) and clinical treatments (e.g. Cognitive Processing Therapy) adhere to the idea that self-attributions are positively correlated with BJW. Cognitive Processing Therapy acknowledges that self-blame is not psychologically adaptable and must be challenged and is still a product of a strong BJW. The problem is that nearly all the research reviewed by this investigator has found a positive linear relationship with BJW and psychological wellbeing, meaning there is an expectation that the stronger the BJW, the better for the individual. Researchers have already attempted to challenge this paradox, but the findings are conflicting.

Some research has found seemingly direct support for the adaptability of self-blame; such as from the work done by Bulman and Wortman (1977) who looked into the role of self-blame among people with spinal cord injuries and they found that self-blame for the injury was related to improved coping while in the hospital. On the other hand one study looking at the impact of self-blame found that the stronger a burn victims' BJW, the more they blamed themselves for the accident and their self-blame positively correlated with depression and pain behaviors, but negatively correlated with compliance with treatment

(Kiecolt-Glaser & Williams, 1987). They are declaring that a BJW did not serve to protect the psychological wellbeing of burn victims if they blamed themselves.

When a young college student experiences sexual violence, an apparent injustice may puncture or even shatter their BJW, however strong that belief might be. Various strategies to repair the damage are likely to affect their psychological ramifications differently. Some relationships between BJW and reactions to adverse life events have been investigated in recent decades (i.e., cancer and burn victims; see review by Dalbert et al., 2001), although there have been very limited investigations that look into the personal reactions of victims of sexual violence. This study directly investigates this paradox by measuring both BJW and self-blame in discovery of the effects on psychological wellbeing following sexual violence.

Libow and Doty (1979) made the first known attempt at addressing the effects of BJW perspective of victims of sexual violence on their psychological wellbeing 40 years ago. Their study was purposefully exploratory, and qualitative in nature, with the use of a semi-structured interview about victim responsibility. Their participants were recruited through a rape crisis center and had recently experienced an assault. They found that victims with stronger BJW demonstrated less personal derogation. This finding provided a varying situation with what we have reviewed about the BJW theory. Their final sample size was quite small ($n=7$), suggesting that more research on this topic among this population is warranted. Research of women who were sexually assaulted during childhood found that self-blame is generally connected to poorer adjustment, while blaming others is connected to better adjustment (Wyatt & Newcomb, 1990). In 2005 (Fetchenhauer, Jacobs, & Belschak), similar research focused directly on varying

attributions, such as the internal attributions of blaming one's character or behavior, or the external attributions of blaming others or situations.

Unsurprisingly, the collection of research looking into attribution influence on coping from sexual violence found that women victims of sexual violence had better psychological outcomes when they had stronger scores on personal-BJW and higher attribution to situational circumstance than to their own characterological attributions (Fetchenhauer et al., 2005). Fetchenhauer et al. (2005) utilized measures in BJW, the sexual experiences survey (SES, Koss & Oros, 1982) and developed their own measure for three distinctly factored attributions (characterological, behavioral, and external) with victims of sexual violence. Their moderation analysis found that a higher BJW was negatively correlated with characterological attributions and adjustment (Fetchenhauer et al., 2005), which directly contradicts the theoretical expectation that self-attributions are BJW protective factors (Dalbert, 2001). For their sample, the utilization of external attributions (i.e., "I was just at the wrong place at the wrong time") was particularly adaptable with a strong BJW, which understandably takes the self-blame away from the victim, but leaves them with an implication that the world is chaotic and unpredictable while still endorsing strong BJW.

Jane first convinced herself that a crime did not occur and decided that she was not a victim, then after discovering new details of the event, she worried about the degree of support she would receive from her friends. In order to adhere to a BJW, the question is whether others are going to help her as a victim of injustice (rational strategy) or decide that Jane is still to blame for the event (irrational strategy). Bystanders, men, and women are equally likely to victim blame (Hayes et al., 2013; Koepke, Eyssel, & Bohner, 2014).

Prominent researchers in BJW have established two discrete explanations for irrational strategies taken by men and women to address sexual violence. Men, being privileged and socially more powerful, are likely to hold a strong BJW and therefore victim blame in order to protect their power (Furnham, 1993; Furnham & Boston, 1996), while women, who observe themselves as similar to the victim, are more likely to deny injustice in order to protect themselves from the thought of being a victim themselves (Furnham & Boston, 1996). This explanation helps to clarify why there is widespread victim blaming among sexual assaults and rape.

Sexual violence provides a hopeless feeling for both those involved and those who witness the aftermath. A seriously unjust event has just shattered one's BJW, likely leaving a feeling of helplessness because there is no way to erase the event. Therefore, if we are unable to help the victim, then we are less likely to repair our BJW through assistance and we are more likely to distance ourselves and even decide the victim "must have asked for it" or behaved in a way that lead to the violence (Hafer et al., 2005; Haynes & Olson, 2006; Lerner, 1980; Lerner & Miller, 1978). Whether one decides to help or step away, the options are possibly psychologically protective behaviors in order to keep our world orderly and predictable.

Seeking or Not Seeking Social support

In a simple world, rational strategies (Lerner, 1980) to seek justice, such as reporting the injustice to the police, would be the most ideal protection strategy for social justice reasons. Seeking to correct the injustice is not always the safest option for an individual who has been sexually victimized. Reporting is itself a double-edged sword with both the risk of re-victimization and the potential benefits of receiving positive social

support. Telling someone about the sexual violence would be the first step in seeking a rational response to the injustice in order to seek justice.

One of the most-acclaimed longitudinal studies on resiliency was the Kauai longitudinal study that followed the development of over 210 impoverished children born in 1955 from birth into adulthood up to 40 years of age (Werner, Super, & Harkness, 1993). Their most significant finding was the importance of social support. Just a single person in the child's life, who provided support and mentorship, was able to provide the greatest influence on the participants' resilience from adversity. Social support is the closest factor with an acceptable causal influence on resilience from adversity (Ozbay et al., 2007; Sippel, Pietrzak, Charney, Mayes, & Southwick, 2015; Werner et al., 1993).

Disclosure of sexual violence can be a difficult task, but it probably is one of the most important acts towards recovery. Many have studied the common barriers to seeking social support, finding long lists of fears, emotions, and beliefs provided by victims (Sable, Danis, Mauzy, & Gallagher, 2006; Zinzow & Thompson, 2011). However, above all other factors, positive social support has consistently proven to be a strong factor in the recovery process for victims of sexual violence (Sylaska & Edwards, 2014). Positive responses from supporters can act like medicine to the damaged psyche of the victim when a victim seeks formal or informal support. Conversely, if a victim receives disbelief or blame the response can act as a re-victimization (Messman-Moore & Brown, 2006). There is a fine line for social support, although its role in resilience and recovery is undeniable.

Victim and Crime Recognition

Sexual violence is a clear social and cultural problem. That single complication likely contributes the most to the continued cycle of rape culture, because of the inability

for people to recognize that a crime was committed. Confusion around the definition of consent, existing relationships with the perpetrator, shame, alcohol involvement, and/or the lack of visible physical injury, all contribute to sexual violence not being well reported among college students (Krebs et al., 2007; U.S. Department of Justice, 2005). It estimated that 80% of sexual assaults and rapes among women students are never reported to the police (Department of Justice, 2014). Reduction in formal reporting due to these factors is understandable, but women who complete anonymous surveys also show low rates of acknowledgment that a crime even occurred (25%, Bondurant, 2001; Cleere & Lynn, 2013). Could there be a psychological benefit for a victim of sexual violence not acknowledging that a crime occurred and in turn not acknowledging being a victim? It is unknown what factors contribute to a person's reluctance to acknowledge being a victim of a sexual crime, other than a denial attempt, in order, to maintain BJW. Public knowledge about sexual violence and adherence to rape myths naturally contribute to the ease of denial. The struggle for our government to publicly define sexual violence further extenuates the societal confusion around what constitutes a sexual crime.

A relatively more recent study by Cleere and Lynn (2013) reviewed female victims' viewpoints of their sexual assault as a crime. They had 302 women complete the Sexual Experience Survey and 184 endorsed an unwanted sexual experience. From this sample they found that 22.2% did not label themselves as victims, and 33.3% labeled the experience as a "serious miscommunication." However, their findings suggested that there was no significant difference in psychological distress among acknowledged and unacknowledged victims (Cleere & Lynn, 2013). These women could simply be following sociocultural expectations within rape culture, without clarity in its role in protecting them

from psychological distress in comparison to those who are able to acknowledge the crime. On a larger social justice scale the victims who acknowledged their assault were more likely to attribute responsibility to the perpetrator and press charges (Cleere & Lynn, 2013).

Another study explored the factors that influence women's acknowledgment of rape and found that the majority of women did not acknowledge their experiences as rape, even though their experiences fit the legal definition of rape (Bondurant, 2001). Women who experienced higher levels of violence with more physical force were more likely to acknowledge the assault (Bondurant, 2001). Women may have difficulty acknowledging to themselves or others that a sexual assault has occurred unless they perceive higher levels of physical force. Acknowledgment of a crime could be affected by additional factors that fit the stereotypic rape myth, such as imposed victim responsibility due to voluntary alcohol or drug use, the way they were dressed, or acquaintance with the perpetrator. Not acknowledging an assault has been found to increase a victim's likelihood of continuing a relationship with the perpetrator, therefore increasing the likelihood of being re-victimized (Bondurant, 2001), as well as the potential increase in shame and self-blame behaviors that might be associated due to lack of acknowledgment of the assault.

Despite sexual violence being detrimental and common among traditional college students, the rate of reporting (Littleton, Axsom, & Grills-Taquechel, 2009) or even acknowledgment of the event is astoundingly low (Fisher, Daigle, Cullen, & Turner, 2003; Krebs et al., 2007). Finding the barriers to acknowledgment could provide insight into the development of psychological distress or lack thereof. If BJW-S is associated with positive psychological wellbeing, then a victim of sexual violence with high BJW-S may utilize denial

as an irrational protection strategy (Lerner, 1980), resulting in a limited opportunity for social justice.

Rationale for the Present Study

Among individuals ages 18 to 25, sexual violence is the only crime more frequently reported among college students than among non-college students (Baum & Klaus, 2005). With that said, sexual assault and rape are also the most under-reported crimes in our country for students and non-students. By national statistics, it is estimated that 80% of sexual assaults and rapes among women students are never reported to the police (Department of Justice, 2014). Of the 20% that are reported to the police, less than 1 in 5 will lead to an arrest of the perpetrator, and only a fraction of those are referred to prosecutors. All in all, it is estimated that 99.4% of sexually violent perpetrators will not be held accountable for their actions; inversely, only 0.7% will face incarceration following a rape or sexual assault (Department of Justice, 2014). In general, justice has not been found among victims and survivors of sexual violence, likely further contributing to the barriers for seeking social support or reporting to the police. Nonetheless, when reporting sexual violence goes wrong (i.e., adverse reactions, disbelief, rejection of a case, or failure to convict), victims can experience re-victimization that further contributes to their psychological distress (Littleton, Axsom, et al., 2009; Messman-Moore & Brown, 2006).

Researchers across the social and criminal justice sciences have looked into the reasons why victims do not report to the police or even seek social support for their experience. For a large percentage of victims, they do not even acknowledge that a crime occurred (75%, Cleere & Lynn, 2013), therefore it would not make any sense to make a report to law enforcement. For those who do recognize a crime occurred, the top barriers

are guilt, embarrassment, and not wanting family or friends to know about the assault (Sable et al., 2006). Sable et al. (2006) specifically found that college students had the most substantial concerns about confidentiality and fear of not being believed. Together with the low rates of prosecution, what would motivate one to report, tell, or get assistance?

Jane first fell subject to her just world belief with an irrational strategy of withdrawal through avoidance behaviors and reinterpretation through blaming the situation and herself. After the story of the event changed, Jane's BJW was shattered, and she could no longer participate in her strategies to keep it together. Her experience was lousy either way, but her perceptual beliefs about the situation and her role were affected by trying to find justice in an unjust world. What if Jane decided to report her assault to the police or other formal supports? Would the use of a "rational" strategy of seeking justice have worked to maintain her BJW or would it have ultimately broken her BJW? In this study, we analyze whether the use of irrational and rational strategies to maintain a strong BJW serve to protect a victim's psychological wellbeing. The idea that the BJW theory is linearly related to psychological wellbeing may not hold for this particular population.

Men, women, bystanders, and victims alike are reluctant to acknowledge the prevalence and tragic outcomes of sexual violence among our society, particularly at our universities. BJW-S is predicted to provide psychological protection to victims. Although, one of the primary tactics for maintaining a BJW following an unjust event is blaming oneself; self-blame has also been associated with poorer psychological wellbeing (Miller et al., 2010; Perilloux, Duntley, & Buss, 2014; Startup et al., 2007). Victims of sexual violence may be in a no-win situation to protect their psychological wellbeing. According to BJW-theory, other coping options include minimizing or denying the sexual violence. However,

psychological wellbeing typically suffers under these methods of coping when the violation has been harmful. Unfortunately, in order to make greater social change, that also means asking victims to take significant risks, but perhaps coping through more effective and empowering strategies by utilizing coping styles that increase awareness of the injustice of sexual violence would ease the burden.

The application of the BJW for a better understanding of victims and survivors' cognitions has already been established among the evidence-based therapy Cognitive Processing Therapy (CPT, Chard, 2005; Resick, Monson, & Chard, 2016). CPT directly utilizes the BJW theory to explain to patients that their cognitive appraisal of their traumatic experience is related to their assimilation, accommodation, or over-accommodation of their experience with their BJW (Resick et al., 2016). The manualized treatment suggests that accommodation or a moderate BJW is the most effective stance for fewer trauma symptoms. That stance suggests a potential nonlinear relationship between BJW and trauma symptoms. This research is essential to further understand the experiences of victims and survivors of sexual violence by providing theoretical support and addressing contradictions in the literature related to the development or maintenance of psychological distress. This study will directly address questions about how the challenges of sexual violence on the fundamental beliefs of justice can be helpful or harmful to the human psyche.

Hypotheses

The proposed study used the theoretical framework of the just world hypothesis to explore the influences of BJW on victims of sexual violence (Abbreviated Sexual Experiences Survey, ASES). The primary outcome measures are psychological wellbeing

measured by trauma symptomatology (Trauma Symptom Checklist, TSC-40) and posttraumatic growth (Posttraumatic Growth Inventory, PTGI). Trauma symptomatology was chosen to address the variety of clinical outcomes following sexual violence that may be useful among treatment facilities. Posttraumatic growth was chosen to provide emphasis on the importance of incorporating a positive strength-based aspect of wellbeing. Additional factors of interest are measures of protection of BJW: perceptions of blame (self-blame, SUSES), denial and minimizing (recognition of crime, Specific Unwanted Sexual Experiences Survey, SUSES), and reporting and justice seeking (negative social feedback and telling formal social supports, SUSES). There is also a question of how resiliency fits into this theory and how much of a role it could play in predicting BJW-S.

The aims of this study are:

1. To increase comprehension of the role of BJW for student victims of sexual violence in the understanding and perceptions of their unwanted sexual experience.
2. To establish a relationship between BJW with the theory-based protection measures among traumatic distress.
3. To demonstrate appropriateness for the use of BJW as a variable in the recovery process for victims of sexual violence, in future research on sexual violence victimization and public education efforts.

Hypothesis one. Participants who adhere to a low or high BJW-S, versus a moderate BJW-S, are more likely to experience higher trauma symptoms. A non-linear positive quadratic relationship (non-monotonic, inverted bell-shaped curve) between BJW-S and trauma symptoms is predicted, with lowest trauma symptoms associated with moderate BJW-S scores.

Hypothesis two. Theoretical protection measure of BJW-S (self-blame, denial, and reporting) will moderate the relationship between sexual violence and trauma symptoms via the mediation of BJW-S.

Hypothesis three. Participants who experience sexual violence are more likely to experience higher posttraumatic growth if they adhere to a moderate BJW-S. A non-linear negative quadratic relationship between BJW-S and posttraumatic growth is predicted, with the lowest posttraumatic growth scores associated with weak and strong BJW-S.

Hypothesis four. Choice of BJW-S theoretical protection measure (self-blame, denial, and reporting) will mediate posttraumatic growth with a BJW-S.

Hypothesis five. Participants who experience sexual violence will report higher resilience when they adhere to a moderate BJW-S.

Method

Participants

512 undergraduates from Introduction to Psychology courses and Women and Gender Studies at the University of Montana completed the survey between the dates of May 2017 through May 2018 for research participation credit or extra credit, respectively. Participants for this study consisted of a convenient volunteer sample from University of Montana undergraduate college student subject pools. During each semester introduction classes from psychology, women and gender studies, and sociology programs offer credit for participation in research. In the psychology department, the survey was provided through the online SONA participant manager program; through Women and Gender Studies, the course instructors provided a link to the online survey. Access to the full

survey and course credit for participation was provided through SONA or via a separate certificate of completion.

120 (23.44%) women participants between the ages of 18-25 reported experiencing an unwanted sexual experience and completed the majority of the survey. There were an additional 34 participants over the age of 25 who endorsed having an unwanted sexual experience. Three participants were deleted due to missing answers to the dependent and mediating variables in their entirety. Two participants were deleted as outliers based on the Mahalanobis, Cooks, and Leverage tests for outliers considering all predictor variables and dependent variables. If a participant met criteria as an outlier for two or more of the tests, then they were further reviewed for a suspicious response pattern which indicated inattention to the questions and were removed from the study. The final sample size of 115 made up the study group.

The final sample consisted of students who identify as women between the ages of 18-25. Gender identification was 96.7% as cisgender women, .8% (1) transgender woman, and 1.7% (3) gender fluid. In class ranking, 38.3% were freshman, 32.5% were sophomores, 16.7% were juniors, and 12.5% were seniors. This study focused on women of this age group to control for gender and age related variables as well as providing a focus on this population since they are disproportionately affected by sexual assault and rape (Baum & Klaus, 2005; Black et al., 2010; Ii, 2012). Limiting the sample to this age group was also essentially controlling for demonstrated developmental or time relationship with BJW (Oppenheimer, 2006), PTSD symptoms (American Psychiatric Association, 2013; Roth et al., 1997; US Department of Veteran Affairs, 2015), and resilience (Dutton & Greene, 2010). Inclusion of older individuals increases the likelihood of time contributing to more

trauma experience with more trauma symptoms, or fewer trauma symptoms and less effect of BJW on psychological wellbeing. The sample is somewhat ethnically similar to the population at the University of Montana with a majority of the sample being White/Non-Hispanic (85.2%, see table 1 in Appendix A for demographic characteristics). 52.5% of the sample endorsed experiencing childhood physical or sexual abuse from a guardian, family member, or other authority figure.

Initial power analysis suggested a sample size of 107 for multiple regression with two predictors, to provide sufficient power at .80 confidence and a moderate effect size of .15 (Faul, Erdfelder, Buchner, & Lang, 2009). With the estimation of 1 in 5 college women experiencing sexual violence while attending college (Black et al., 2010), this indicated a necessity for screening about 500 potential participants to obtain about 107 participants who have experienced sexual violence.

Measurements

Demographic questionnaire. An informed consent (see Appendix A) and debriefing sheet (see Appendix G) were provided to all participants. Each participant completed demographic information (See Appendix B) to determine inclusion or exclusion from the sample based on gender identity, age, and university attendance. This study focused on college women and gender minorities between the ages of 18 to 25 years. This specific population was decided a priori because of three different reasons. First, while recognizing that people of all genders can be victims or survivors of sexual violence, women are disproportionately victimized compared to men. Additionally, the majority of women experience their first sexual violence before the age of 25 (Baum & Klaus, 2005; Black et al., 2010). Second, to control for elapsed time since the assault, since maturity

itself can be associated with improved psychological wellbeing following trauma (Rothbaum et al., 1992). Third, this age group of college students are at higher risk of experiencing sexual violence than non-college students in the same age range (Baum & Klaus, 2005). Overall this is a high-risk population that needs well-informed support services. Additional demographic questions were used to describe the make-up of the sample.

Abbreviated Sexual Experience Survey (USES). An abbreviated portion of the sexual experience survey (Koss & Oros, 1982) was used to detect cases of sexual violence. This section consists of six multiple choice questions that explicitly refer to sexual experiences that are associated with coercion, force, or threat of sexual assault or rape (i.e. Has anyone ever made sexual advances or requests for sexual favors toward you? Check all that apply: a) Yes, in the past year b) Yes, since I've been at UM [not including this past year] c) Yes, since turning 18 [not including since attending UM] d) No; see Appendix C).

Sexual assault is defined as an attempt or event of sexual contact without consent when penetration did not occur. Concurrently, the rape questions inquire about sexual intercourse with penetration. The abbreviated sexual experience survey was used to determine inclusion into the study. Participants who endorsed experiencing any of the sexual violence options that fit legal definitions as a crime were included in this study. In 1982, the authors reported an internal reliability of .74 for this measure (Koss & Oros, 1982). A study in 2010 found an even better Cronbach's alpha of .81 for the full sexual experiences survey (Humphreys & Kennett, 2010), indicating that this survey has good internal consistency, making it an acceptable measure for detecting an unwanted sexual experience.

Specific Unwanted Sexual Experiences Survey (SUSES). Participants who endorsed one or more unwanted sexual experiences from the Abbreviated Sexual Experiences Survey (see Appendix C) were provided the opportunity to answer specific questions regarding their most serious event. Participants were asked to indicate which of the sexual violent descriptions they referred. Questions included information about the perpetrator and the participant's perceptions and experiences of the event. There are no known validity or reliability measures for this survey. The primary use of this survey was of single questions; therefore an internal reliability value for this measure is not relevant.

Briere Trauma Symptom Checklist (TSC-40). This measure is designed only for research and is openly sourced for researchers by the developers (Briere & Runtz, 1989). The TSC-40 is a 40-item self-report measure that evaluates symptomatology in adults associated with childhood or adult traumatic experiences (see Appendix D). The psychological reactions among victims of sexual violence are not limited to Acute Stress Disorder (ASD) or PTSD. The TSC-40 provides an overall trauma symptom score, as well as six factored subscales: anxiety, depression, dissociation, sexual abuse trauma index (SATI), sexual problems, and sleep disturbance (Briere & Runtz, 1989). Each subscale is measured according to its frequency of occurrence over the prior two months. Items are measured using a four point Likert scale ranging from 0 ("never") to 3 ("often"). The TSC-40 typically takes 10-15 minutes to complete. It is notable that the TSC-40 recognizes sexual abuse as well as perpetration of intimate violence (Briere & Runtz, 1989).

This measure does not assess all 24 potential criteria for PTSD, nor was a diagnostic interview conducted. Therefore, this study was not able to determine if any of the participants meet full criteria for PTSD or any other clinical mental health condition. TSC-

40 was used to succinctly measure trauma distress within various clusters, and it has been adequately validated for research purposes. The TSC-40 is a relatively reliable measure among non-clinical, trauma experienced, research populations. The alphas typically range from .66 to .77 for the subscales and average .89 to .91 for the full-scale score as tested by the developers (Briere & Runtz, 1989). The subscales have a naturally lower internal consistency compared to the full-scale score due to the fewer number of items in the subscale (Cortina, 1993). We can confidently assume that the TSC-40 accurately measures the latent construct of trauma symptomatology in traumatized individuals. The TSC-40 has also been specifically validated among a nationally represented population of women who experienced childhood sexual abuse (Elliott & Briere, 1992). Cronbach's Alpha for the current study was .95.

Connor-Davidson Resilience Scale (CD-RISC). The CD-RISC (Connor & Davidson, 2003) was utilized to measure adaptive characteristics and environmental resources related to resilience among participants. There are several scales that have been developed to measure resilience; nevertheless resilience has been a difficult concept to define among research and clinical professionals. For the purpose of this study, resilience is understood as the existence of personal qualities (i.e. self-efficacy) and environmental opportunities (i.e. access to social support) that allow an individual to bounce back from adversity or crisis. The CD-RISC is a 25 item self-report measure of resilience (Connor & Davidson, 2003; see Appendix D). It provides a Total Score and five factored-out subscales: personal competence, acceptance of change and secure relationships, trust/tolerance/strengthening effects of stress, control, and spiritual influences.

The CD-RISC has been extensively validated among various populations, including

the general population, primary care patients, psychiatric outpatients, generalized anxiety samples, and PTSD samples (Connor & Davidson, 2003). Internal consistency is adequate with an alpha of .89 and the scale has demonstrated suitable test-retest reliability. The authors also provided helpful convergent validity tests and found a negative correlation with the Perceived Stress Scale (PSS-10) and the Sheehan Stress Vulnerability Scale (SVS), demonstrating the connection between resilience and lower levels of perceived stress. Connor and Davidson concluded that greater resilience was associated with less disability and greater social support (2003). The CD-RISC has been highly used by a diverse base of researchers amongst the general population and clinical samples, across cultures, for the past decade. Cronbach's Alpha for the current study was .95.

Posttraumatic Growth Inventory (PTGI). Tedeschi and Calhoun (1996) developed the PTGI synonymously with the creation of the latent construct of posttraumatic growth (PTG). Prior to 1996, PTG was referred to as perceived benefits, positive aspects, or transformations of trauma. The PTGI is a 21 question self-report inventory that measures positive psychological change experience following a traumatic event (see Appendix D). Instructions indicated that participants are expected to indicate for each statement the "degree to which this change occurred in [their] life as a result of crisis/disaster, using the following scale." The items are measured on a 6-point Likert scale ranging from 0 (I did not experience this change as a result of my crisis) to 5 (I experienced this change to a very great degree as a result of my crisis). The PTGI provides an overall Total Score as well as five domains of growth (growth factors). The factors are divided into: relating to others, new possibilities, personal strength, spiritual change, and

appreciation of life (see Appendix D). There is no other known validated measure for posttraumatic growth or similar constructs by this researcher.

As suggested in the instructions, the PTGI does not measure growth following everyday stress or accumulated stress, but from a major crisis or crises that might otherwise contribute to trauma symptoms. This is important to distinguish from what could otherwise be considered resilience or hardiness, indicating that PTGI will not be a redundant measure to the Connor-Davidson Resilience Scale. While resilience recognizes factors that contribute to recovery, PTG accounts more for the process of recovery following trauma. Resiliency has shown to have a poor direct correlation with posttraumatic growth (Levine, Laufer, Stein, Hamama-Raz, & Solomon, 2009; Ogińska-Bulik & Kobylarczyk, 2016). One perspective is that resilience is one's adaptive capacity and PTG is the positive reception to change.

The PTGI was developed out of interviews with persons who experienced spousal death, physical disabilities, and other life crises (Tedeschi & Calhoun, 1996; Tedeschi et al., 2004). There are a handful of studies that have looked into the level of PTG related to the type of trauma. The results show that the highest PTG scores came from college students who reported severe trauma from varying events (Tedeschi & Calhoun, 1996). Women are also found to report more benefits from growth following trauma when compared to men, with a modest relationship with optimism and extraversion (Tedeschi & Calhoun, 1996). The PTGI is an internally consistent measure with an alpha of .90 for the overall Total Score. The subscale factors also show considerable internal consistency, ranging from .67 to .85 alpha scores. Tedeschi and Calhoun (1996) provide a test-re-test reliability score of .65 to .74 (n=28). Cronbach's Alpha for the current study was .96.

Just World Belief: Self and Others. The Just World Belief Scale for Self and Others was developed by Lipkus, Dalbert, & Siegler (1996) by simply modifying the Belief in Just World Scale previously created by Lipkus (1991). For BJW-S, participants are asked how well the following statements apply to them through a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree): (a) I feel that the world treats me fairly; (b) I feel that I get what I deserve; (c) I feel that people treat me fairly in life; (d) I feel that I earn the rewards and punishments I get; (e) I feel that people treat me with the respect I deserve; (f) I feel that I get what I am entitled to have; (g) I feel that my efforts are noticed and rewarded; (h) I feel that when I meet with misfortune, I have brought it upon myself. For the BJW-O, the same questions are asked with the pronouns “people” or “person” replacing first-person pronouns to reflect the options for others. For example the question, “I feel that I get what I deserve” reads, “I feel that people get what they deserve.”

BJW-S has primarily been tested in accordance with other measures relating to the self, such as self-depression or self-stress, while BJW-O has primarily been tested in accordance with measures relating to perceptions of others, such as others-depression or others-stress (Lipkus et al., 1996). BJW-S was used for its perception of just world for the individual to better understand the victim’s perspective following sexual violence. Cronbach’s Alpha for BJW-S and BJW-O for the current study was .91 and .91 respectively.

Procedure

Access to the study was provided online through UM’s SONA system, which is used for psychological research on campus, or via individualized survey link. Participants were recruited through instructor announcements in Women and Gender Studies and the psychology subject pool. Access began mid-spring semester of 2017 and continued

through the summer and fall semesters of 2017. The administration of the survey was managed through the Qualtrics Survey System, which held the collected data separate from the certificates of credit and SONA.

Prior to the survey, participants were able to print off the consent form and resource page. All participants were asked to complete the following screening measures: (1) demographic questionnaire and (2) the Abbreviated Sexual Experiences Survey (ASES). If a participant responded yes to the B, C, D, E, or F descriptions of unwanted sexual experiences (See Appendix C) they were immediately offered the Specific Unwanted Sexual Experiences Survey (SUSES), followed by the Posttraumatic Growth Inventory (PTGI). The remainders of the survey sections were offered by randomized administration through Qualtrics's use of the Mersenne Twister for each participant, to reduce the chance for order effect. Those surveys are: (1) Briere Trauma Symptom Checklist (TSC-40) by Elliot and Briere (1992), (2) Connor-Davidson Resilience Scale by Connor and Davidson (2003), and the (3) Global Belief in Just World Scale: self & others (Lipkus, 1991; Lipkus et al., 1996). All surveys were approved for online administration. After completion of the provided surveys participants had the opportunity to write in an open-ended section to provide space for sharing their experience with the survey (see Appendix F). Following completion of the survey, participants were able to print the debrief sheet (including support resources, see Appendix G), consent form, and credit certificate.

Each participant was given a unique ID after consenting to participate to provide individual participant identification that is clearly separate from personal identification. This study was conducted in accordance with the American Psychological Association's ethical guidelines for research and under approval from the University of Montana's

Institutional Review Board (IRB). There was a minimal expected risk posed to participants. A study in 2009 specifically looked into the reactions of college women's participation in sexual assault research and they found that although women with a history of sexual violence reported more negative emotional reactions, they also indicated greater benefit following research participation (Edwards, Kearns, Calhoun, & Gidycz, 2009).

Results

Analysis By Hypothesis

Table 1

Analysis by hypothesis

Hypothesis	Measuring	Test
One	Non-linear relationship between BJW-S and trauma symptoms	Residual scatter plot and polynomial regression
Two	Conditional indirect effect of sexual violence (x) on trauma symptoms (y) via BJW-S (m) determined by BJW protective factor (self-blame)	Moderated-Mediation (multiple linear regression) with Bootstrapping
Two-b	Conditional indirect effect of sexual violence (x) on trauma symptoms (y) via BJW-S (m) determined by BJW protective factors Denial of Crime and Negative Social Support	Moderated-Mediation (multiple linear regression) with Bootstrapping
Three	Non-linear relationship between BJW-S and posttraumatic growth	Residual scatter plot and polynomial regression
Four	Moderated-Mediation of protection factors via BJS-S (m) with sexual violence (x) on posttraumatic growth (y)	Analysis not completed because there was no relationship between BJW-S and PTGI
Five	Correlation between BJW-S and Resilience	Correlation Analysis

Hypothesis One. *Participants who adhere to a low or high BJW-S, versus a moderate BJW-S are more likely to experience higher trauma symptoms. A non-linear positive*

quadratic relationship (non-monotonic, inverted bell-shaped curve) between BJW-S and trauma symptoms was predicted with lowest trauma symptoms associated with moderate BJW-S scores.

To test the hypothesized positive quadratic relationship the approach was two-step; first through hierarchical multiple regressions entering a linear regression between BJW-S and TSC-40 followed by entering a second order polynomial regression between BJW-S² onto TSC-40 (see Table 2). The purpose was to see if a quadratic relationship would add to the presentation and significantly improve the relationship above and beyond a linear relationship. Results of the regression indicated that BJW-S has a negative linear relationship with the trauma symptom checklist ($\beta = -.341, p < .0001$), explaining about 11.6% of the variance ($R^2 = .12, F(1,113) = 14.87, p < .0001$). When the polynomial regression was added to the equation, it did not significantly improve the relationship adding zero change in the explained variance ($R^2 = .12, F(1,112) = .00, p = .950$) suggesting that the linear relationship better explains the correlation between BJW-S and TSC-40.

The second step was to look at the data visually through a simple scatter plot (see Appendix C, Fig. 1) and residual scatter plot (see Appendix C, Fig. 2) looking for a linear, quadratic, or other relational pattern to concur with the statistical findings. Visually the data appears linear, with lower portion of the graph having more incongruity between data points. The residual plot shows a fairly symmetrically distributed data points with a tendency to cluster towards the middle of the graph, and in general there are no noticeable patterns. Residuals range from 4 to -3 on the residual values and from 3 to -2 on the predicted values. Both graphs suggest some heteroscedasticity among the data points. Even with unequal distribution of the data points, if there were a quadratic relationship, there

would likely be a clear visual curvilinear pattern in both graphs. The Normal P-P Plot (Fig 3) shows a slight bow of the standardized residuals, but not far enough off to suggest a relationship other than linear.

Table 2

Linear and Polynomial Regression of BJW-S onto Trauma Symptoms

Model	<u>R</u>	<u>R²</u>	<u>Adj R²</u>	<u>Std. Error of the estimates</u>	<u>R² Change</u>	<u>F Change</u>	<u>df1</u>	<u>df2</u>	<u>Sig.</u>
1	.341 ^a	.116	.108	20.75	.116	14.87	1	113	<.001
2	.341 ^b	.116	.101	20.84	.000	.004	1	112	.950

a. Predictors: (Constant), BJW-Self

b. Predictors: (Constant), BJW-Self, BJW-Self²

Hypothesis Two. *Theoretical protection measure of BJW-S (self-blame, denial, and reporting) moderates the relationship between Sexual Violence and trauma symptoms via the mediation of BJW-S.*

Due to an a priori overestimation of the effect size ($R^2=.15$, $n=98$) for six predictor variables, the sample size was determined to be too small to test all three BJW protective factors together. Therefore, via committee approval, negative social support and denial of the crime were separated from the analysis to ensure enough power to accurately make predictions. A focus on the role of self-blame as a moderating factor was chosen based on the interest of the investigator in targeting the apparent paradox of self-blame.

Moderated-mediation regression testing a conditional indirect effect with bootstrapping proposed by Preacher and Hayes (2008) was conducted to examine the use of the BJW-S theory to better explain the relationship among student victims of sexual violence and their post-trauma symptomatology. Mediation analysis is fundamentally a causal model that is best used for randomized experimental designs, yet the model has also

been shown to assist in cross-sectional relations to test theories in which interventions are based (MacKinnon, Fiarchild, & Fritz, 2007). Moderation variables are often stable characteristics or can be other relations across subgroups. Moderation attempts to describe the situation where the relation between the two variables differs across the levels of the moderating variable. In this study, the moderating factors were anticipated to be the BJW protection factor of self-blame; hypothesizing that a participant's trauma symptom checklist (TSC-40) will differ depending on whether a participant adheres to self-blame for the sexual violence. Moderated-mediation is used because of the expectation that the mediating process is thought to be present in the non-self-blame group but not in the self-blame group. Another way to say this is that higher BJW-S predicts lower trauma symptoms, except for those who utilize self-blame as a way to maintain their BJW. Adhering to a high BJW-S may be counterproductive for those who self-blame. See figure 1 for depiction of the moderated-mediation conceptual model that was tested.

An SPSS macro, PROCESS (Hayes, 2017), was utilized to analyze the entirety of the model with use of model-15 from the Model Templates for PROCESS for SPSS (Hayes, 2017). The PROCESS macro completes six analyses to complete the test for the model. The direct relationships between the independent variable and the mediation variable (a, in figure 1), then the independent and the dependent variable (c', in Figure 1), then the relationship between the mediating variable and the dependent variable (b, in Figure 1), complete the mediation analysis. For the moderation portion there are three more steps starting with the direct effect of the moderator on the dependent variable (c₂', Figure 5), then the interaction between the independent variable and the moderator with the dependent variable (c₃', Figure 1), and finally the interaction of the mediator and the

independent variable with the dependent variable (b_2 , Figure 1). Bootstrapping confidence intervals were based on 5,000 samples of the data to yield a 95% confidence of the indirect effects to adjust for non-normality of the sample data. See table in Appendix D for a summary of the bootstrapping results.

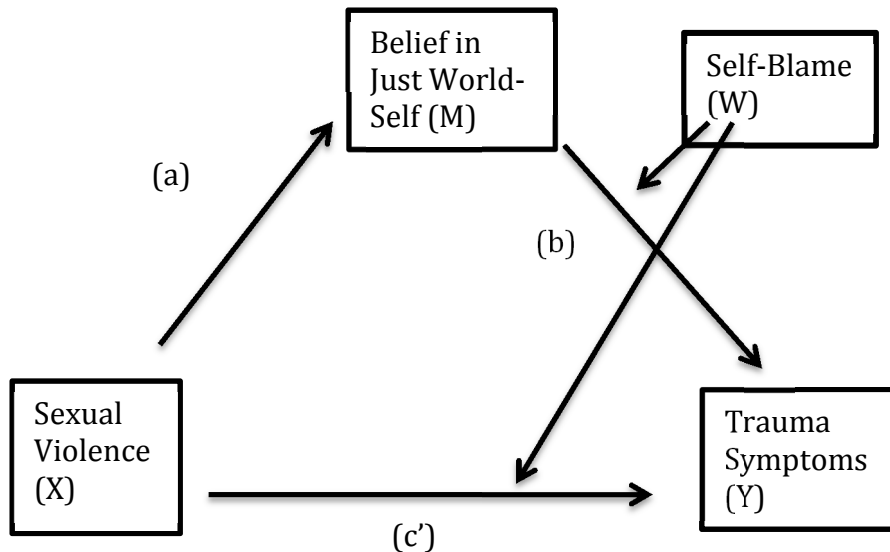


Figure 1: Conceptual diagram for a moderated-mediation model, where BJW-S mediates the relationship between SV and trauma symptoms, and the existence of self-blame moderates the mediated or the direct relationship.

The relationship between sexual violence and BJW-S (path-a). Identification of the most impactful sexual violence (SV) experience in order by severity was regressed on the BJW-S scale as the a-path. There is an overall model summary for the outcome of the mediator (BJW-S) where SV explained 8.64% of the variance ($F[1,113]=10.68$, $p=.001$, $R^2=.09$). SV significantly predicted BJW-S ($\beta=-1.65$, $p<.01$) with a negative relationship in which for every one-unit increase in SV severity there is a 1.65 decrease in BJW-S scores. As SV severity increasing BJW-S decreases, meaning those with the most severe SV are expected to endorse lower BJW-S scores.

The relationship between sexual violence and trauma symptoms (path c'). SV was regressed on trauma symptoms (TSC-40) as the c-path and c'-path in the model. Before adding in the mediator, the c-path shows that the severity of sexual violence (SV) explained 6.5% of the variance in trauma symptoms (TSC-40, $F [1, 113] = 7.83, p = .006, R^2 = .07$). Without consideration of BJW-S, SV severity is a significant predictor of trauma symptom severity ($\beta=3.21, p<.01$); with every one-unit increase in SV (severity level) there is a predicted 3.21 unit increase in trauma symptoms scores. With the mediator of BJW-S the direct relationship between SV and trauma symptoms loses significance ($\beta=1.93, p=.13$). The overall model for the outcome variable of trauma symptoms explained 15.5% of the variance and was statistically significant ($F[5, 102] = 3.99, p = .002, R^2=.15$). This means that BJW-S significantly contributes to the explanation of trauma symptoms following SV. The indirect effect of BJW-S improves the understanding of the direct effect so much that the direct effect without BJW-S is no longer a significant relationship at an alpha level of less than .05.

The relationship between BJW-S and trauma symptoms (path-b). BJW-S significantly predicts trauma symptoms (TSC-40, $\beta=-.63, p<.01$) with a negative relationship in which for every one-unit increase in BJW-S there is a .63 decrease in trauma symptoms (TSC-40). As BJW-S increases, trauma symptoms decrease, therefore those with stronger BJW-S are likely to endorse fewer trauma symptoms. Inversely, those with weaker BJW-S are likely to endorse more trauma symptoms.

Moderation of Self-Blame. The overall model with the outcome of trauma symptoms may have been significant, but the influence of self-blame as a moderating factor was not found to be a significant moderating predictor on trauma symptoms. Via path-b

the interaction (BJW-S x self-blame) relationship had a negative slope ($\beta=-2.54$, $p=.34$) and via path-c (SV x self-blame) the relationship also appeared negative ($\beta=-.16$, $p=.72$); the direct effect of self-blame was also not significant, but demonstrated a positive relationship ($\beta=2.70$, $p=.55$). Without significant difference these results are not interpretable.

Mediation without conditional findings. The analysis found a significant mediation of BJW-S (M in Figure 1) as a predictor that helped improve the explanation between severities of SV (X in Figure 1) with trauma symptoms (Y in Figure 1). The conditional moderating effect of self-blame (W in Figure 4) was found to be not significant for this model amongst this sample and these measures.

Hypothesis Two-B. Due to the decision not to run all three theoretical protective factors in one analysis due to insufficient a prior power, denial and negative social support were looked at separately to still explore their conditional influence on the same BJW-S mediation model. The conceptual model (Figure 2) was chosen to see the influence of negative social support experience and denial of a crime as perceptual factors that could be conditions that would influence the relationship of SV with BJW-S or trauma symptoms.

SPSS PROCESS macro was used for the analysis with model-10 from the Model Templates (Hayes, 2013 & 2014). As before, completion of the mediation analysis started with running the direct relationships between the independent variable and the mediation variable (a, in figure 2), then the independent and the dependent variable (c', in Figure 2); and finally the relationship between the mediating variable and the dependent variable (b, in Figure 2). For the moderation portion there were eight more steps starting with the direct effect of the two moderators on the mediating variable (a₂ & a₃ Figure 2), the effects of the two moderators on the dependent variable (c₂' & c₃' Figure 2), then the interaction

between the independent variable and the two moderators with the mediating variable (a_4 & a_5 Figure 2), finally the interactions between the independent variable and the two moderators with the dependent variable (c_4' & c_5' Figure 2). Bootstrapping confidence intervals were based on 5,000 samples of the data to yield a 95% confidence of the indirect effects to adjust for non-normality of the sample data. See Appendix D for a summary of the bootstrapping results.

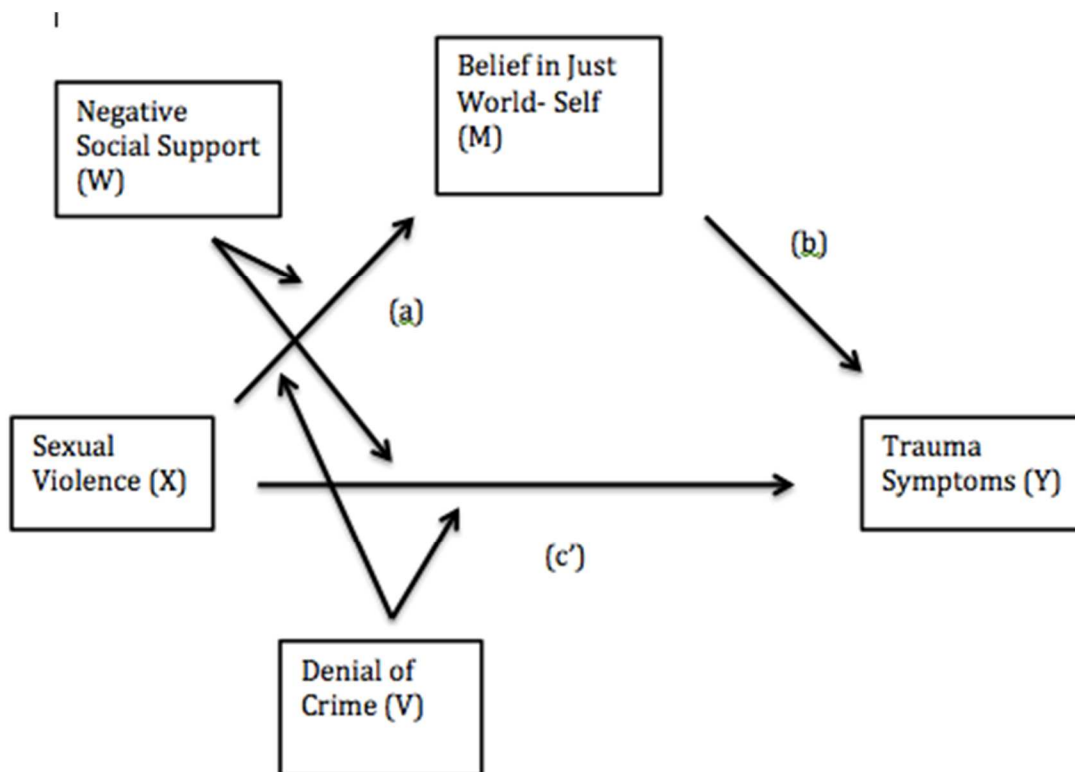


Figure 2: Conceptual model for moderated-mediation where BJW-S mediates the relationship between SV and trauma symptoms, where negative social support and denial of a crime potentially moderate the indirect or the direct relationship.

Mediation. The indirect effect of SV on trauma symptoms via BJW-S did not change dramatically from the first analysis, but there were slight changes due to the chosen location of the moderator variables. There is an overall model summary for the outcome of the mediator (BJW-S) where SV explained 11.6% of the variance ($F[5,109]=5.00, p=.018,$

$R^2=.12$). SV significantly predicted BJW-S ($\beta=-3.54$, $p=.02$) with a negative relationship in which for every one-unit increase in SV severity there is a 3.54 decrease in BJW-S scores. As SV severity increases BJW-S decreases, meaning those with the most severe SV are expected to endorse lower BJW-S scores. BJW-S significantly predicts trauma symptoms (TSC-40, $\beta=-.58$, $p=.003$) with a negative relationship in which for every one-unit increase in BJW-S there is a .58 decrease in trauma symptoms (TSC-40). As BJW-S increases trauma symptoms decrease; therefore, those with stronger BJW-S are likely to endorse fewer trauma symptoms.

SV was regressed on trauma symptoms (TSC-40) as the c-path and c'-path in the model. Before adding in the mediator, the c-path shows that the severity of sexual violence (SV) explained 6.5% of the variance (TSC-40, $F [1, 113] = 7.83$, $p = .006$, $R^2 = .07$). Without consideration of BJW-S, SV severity is a significant predictor of trauma symptom severity ($\beta=3.21$, $p<.01$), with every one-unit increase in SV (severity level) there is a predicted 3.21 unit increase in trauma symptoms scores. With the mediator of BJW-S the direct relationship between SV and trauma symptoms sees a reduction in significance ($\beta=6.28$, $p=.05$). The overall model for the outcome variable of trauma symptoms explained 32.7% of the variance and was statistically significant ($F[6, 108] = 8.72$, $p = .002$, $R^2=.33$). This means that BJW-S still significantly contributes to the explanation of trauma symptoms following SV in this model. Power analysis via (Faul, Erdfelder, Buchner, & Lang, 2009) G*Power 3.1 with the resulted effect size of .33, a total sample size of 115 and 6 predictors and α at .05 determined a power at 1.00 rounded from .9985.

Moderating Variables. The influence of denial as a moderating factor was not found to be a significant moderating predictor on trauma symptoms or on BJW-S. The

direct conditional effect of denial on BJW-S and trauma symptoms were not significant ($\beta = -1.07, p = .47$ & $\beta = -3.16, p = .28$ respectively); via path-a, the interaction (SV x denial) relationship had a positive slope ($\beta = .24, p = .52$) and via path-c (SV x denial), the relationship appeared negative ($\beta = -.93, p = .21$). Without significant difference from zero these results are not interpretable.

Negative social support was found to be a significant moderating factor on the relationship between SV and trauma symptoms, but not for the relationship between SV and trauma symptoms. It was difficult to decipher the results of the significant moderation with the presence of denial; therefore the model was re-calculated without denial as a factor for easier interpretation. For the analysis, the negative social support variable was divided into three categories in order to recognize those from the sample who did not tell anyone ($n = 31, M = 32.61$), from those who told someone but did not receive an overt negative response ($n = 66, M = 26.95$), and those who told someone and received any negative response ($n = 18, M = 34.50$). A potential issue was the inequality in the sample size of each category and the differences in the means for each group should be kept in mind while reading the results.

The PROCESS output for the moderation analysis includes tests of comparison between the categories, the interactions of those differences, and the simple slopes for each category. The difference between not telling anyone with no negative response was not significant ($\beta = 6.44, p = .46$), but the difference between not telling anyone and a negative response was significant ($\beta = 34.45, p < .01$). The interaction of did not tell versus no negative response by the levels of SV is not significant ($\beta = -3.28, p = .17$), but there is a significant interaction of did not tell versus a negative response at the different levels of SV

($\beta=-10.53$, $p<.01$). The addition of the interaction added 5.42% explained variance ($F[2,108]$, $p=.02$, $R^2=.054$) to the overall model effect for outcome of trauma symptoms ($F[6, 108]$, $p<.001$, $R^2=.21$).

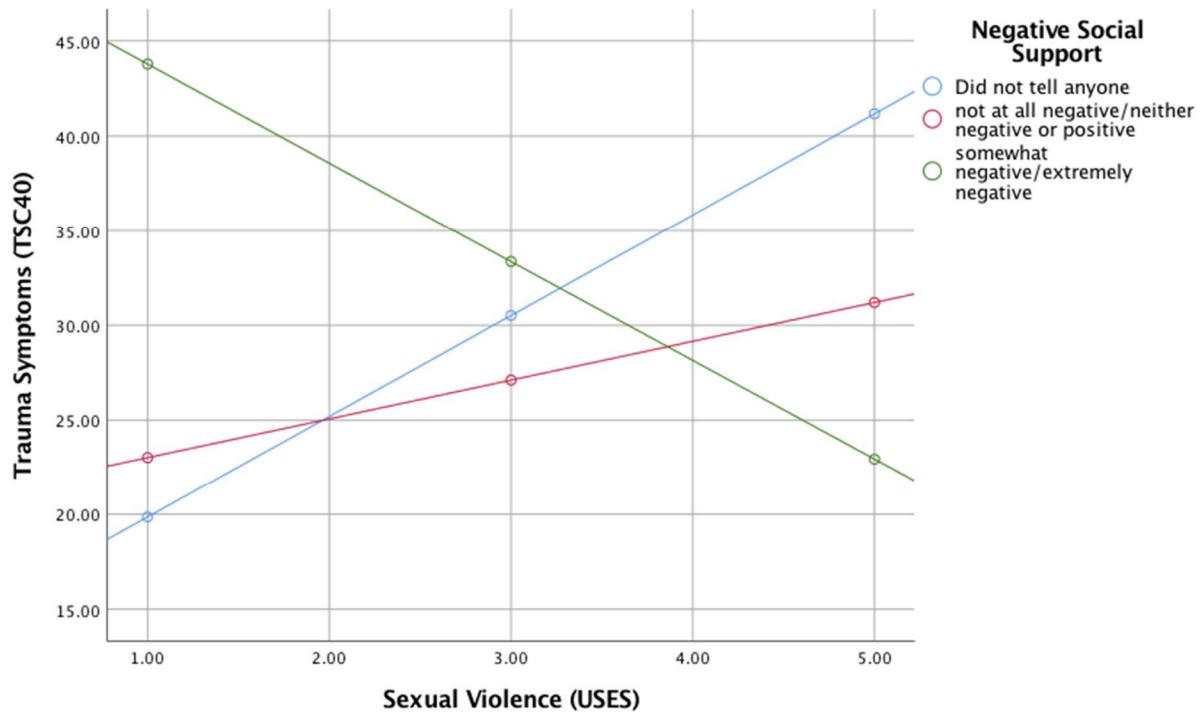


Figure 3. Conditional Effect of Negative Social Support on the relationship between Sexual Violence and Trauma Symptoms

The comparison of the groups and their interactions by level of SV is difficult to understand; therefore, looking at the simple slopes for each category is simpler form of describing the data. The simple slopes provide the linear relationship for SV on trauma symptoms given each level of negative social support. For the group who did not tell anyone, SV significantly predicted trauma symptoms ($\beta=5.33$, $p<.01$), while the no negative response ($\beta=2.05$, $p=.17$) and negative response ($\beta=-5.21$, $p=.12$) do not make the $\alpha=.05$ significance cutoff to predict the relationship between SV and trauma symptoms for those groups. A graph visualizing the conditional effect of these variables for the focal predictor

of trauma symptoms is provided as a line graph of the points for the means and standard deviations of each group (Figure 3).

Hypothesis three. *Participants who experience sexual violence are more likely to experience higher posttraumatic growth (PTGI) if they adhere to a moderate BJW-S. A non-linear negative quadratic relationship between BJW-S and posttraumatic growth is predicted, with the lowest posttraumatic growth scores associated with weak and strong BJW-S.*

The approach for analysis of this hypothesis was the same as for hypothesis one. Through hierarchical regression, a linear regression is entered first followed by a polynomial regression of BJW-S² onto PTGI to see if BJW-S predicts PTGI as quadratic relationship above and beyond the effect of the linear relationship. Results showed that there was not a significant linear relationship between BJW-S and PTGI ($R^2=.000$, $F(1,113)=.005$, $p=.942$) and the polynomial quadratic relationship did not add significantly to the relationship ($R^2=.000$, $F(1,112)=.034$, $p=.854$). A visual analysis of a simple scatter plot confirmed this finding that there is no clear pattern for the relationship between BJW-S and PTGI. The residual scatter plot (Appendix E) appears to cluster toward zero in the bottom left corner.

Hypothesis Four: Moderated-Mediation of protection factors (self-blame) via BJW-S (m) with sexual violence (x) and posttraumatic growth (y). There was no observed statistically significant relationship between BJW-S and posttraumatic growth, therefore continuation with a mediation analysis is not warranted.

Hypothesis Five. There is a high correlation between BJW-S and resilience. BJW-S and resilience (CDRS) were significantly correlated, $r=.55$, $p < .0001$. When regressing

resilience onto BJW-S, resilience explains 30.7% of the variance ($R^2=.31$, $F(1,113)=50.09$, $p<.0001$).

Discussion

There were multiple purposes to this study: foremost among these, to provide statistical support for the clinical understanding of BJW to possibly help survivors of sexual traumas in their recovery. The focus was on traditional college age survivors due to the high risk for this population and the generalizability of the convenience sample, which has potential to help inform university based educational programs that target this population for prevention of sexual violence among students. The second purpose was to determine the influence of BJW in explaining the relationship between the experience of sexual violence with trauma symptoms and posttraumatic growth. The third purpose was to test the influence of Lerner's theoretical BJW protection strategies, particularly the strategies (e.g. self-blame) that would be expected to both strengthen BJW and worsen trauma symptoms, which would be paradoxical in accordance with the current literature (Lerner, 1980, Bulman & Wortman, 1977). The final aim was to look at the correlational relationship of the BJW-S and resiliency among this sample for an early conceptual comparison of BJW-S with other similar concepts. Resiliency is another conceptual framework that has been useful in predicting positive and negative outcomes from trauma or adverse experiences.

As a short review, BJW is a social-cognitive theory derived from attribution theories to help understand the influence of cognitions about justice on people's psychological wellbeing. BJW has often been used to understand the shifts in beliefs following unjust traumatic experiences to make sense of one's control over their world experience. Melvin

Lerner (1980) brought the BJW theory into the spotlight for psychological research by boldly proposing that people need to believe in a just world for positive psychological health. Ultimately, the association is that the human ability to predict the world or maintain order and understanding influences healthier psychological functioning (Dalbert, Lipkus, Sallay, & Goch, 2001; Dzuka & Dalbert, 2007; Lerner, 1980), although the theoretical understanding for the mechanisms expected to protect one's BJW in the face of injustice is not clearly understood among survivors of sexual violence.

Hypothesis one, that the relationship between BJW and trauma symptoms is non-linear, was not supported with the data from this sample. All the previous research reviewed for this study on BJW looked at BJW linearly, so this was an exploratory undertaking. Ultimately the findings were consistent with previous research with BJW-S having a negative predictive relationship with trauma symptoms; meaning that a victim of sexual violence with a stronger BJW-S is predicted to endorse fewer trauma related symptoms. Therefore, it may be beneficial in clinical settings to help survivors find ways to rebuild their potentially shattered BJW-S beliefs to improve healing and recovery. Clinically, the catch would be finding strength in BJW-S while encouraging rational coping strategies versus irrational.

Re-testing this hypothesis with a larger sample would help with power of detecting significance with more variables in moderated-mediation analysis. More data points would also help with the visual testing of this hypothesis and fulfillment of the normality assumptions. It would also be beneficial to include greater variety in demographics, including a wider variety of victims of sexual violence. Specifically varying trauma type and time since range in trauma might provide additional variation needed for discovering

more complex findings. The greater variety of demographics and trauma experiences would also potentially expand the generalizability of the findings for the clinical treatment of trauma outside of the university setting.

In hypothesis two, I sought to investigate the mediating relationship of BJW-S between SV and trauma symptoms, with the expected conditional effect of self-blame between BJW-S and trauma symptoms. This analysis was designed to directly address the paradoxical understanding of the role of self-blame among survivors of SV in accordance with the BJW theory. The indirect effect of BJW-S better explained the relationship between SV and trauma symptoms. This means that BJW-S helps to explain trauma symptoms for victims of sexual violence above and beyond the existence of SV itself. Thus, BJW-S is confirmed as a viable cognitive theory to utilize in helping to explain trauma reactions in clinical and non-clinical settings of student survivors of sexual violence. Just as the bystander intervention approach to sexual violence prevention has spread in the education of college students to increase the general population's understanding of sexual violence, such a finding may support incorporating educational material about BJW to increase awareness of common effects on basic belief systems that may happen following sexual violence, as is currently applied in Cognitive Processing Therapy (CPT).

CPT is a well-established evidence-based clinical treatment for PTSD; it uses the BJW theory to help survivors of trauma understand how a traumatic experience may influence their overall belief in the world (Resick, Monson, & Chard, 2016). The protocol suggests there are dangers of having too weak and too strong of a BJW. Too weak of a BJW view would include thoughts that "the world is unsafe" or "no one can be trusted," while too strong of a BJW would include thoughts that "I am to blame" or "I must be a bad

person.” This is in line with Lerner’s (1998) theory of BJW protective factors. The treatment focuses on challenging the extremes of this basic belief to ultimately decrease trauma symptoms. According to this sample, there is actually a significant negative correlational relationship between BJW-S and self-blame, $r=-.263$, $p<.01$, meaning that higher self-blame was associated with a weaker BJW-S rather than stronger as is predicted by CPT. Perhaps self-blame is not ultimately a protective factor for BJW or trauma symptoms among this population, making its role less of a paradox as previously predicted. Both lower BJW-S and self-blame relate to higher trauma symptom scores. Self-blame does not serve as a protective factor as Dalbert (2001) and Bulman and Wortman (1977) have predicted with other populations suggesting supportive importance of clinically working on self-blame just as CPT suggests.

Hypothesis two also predicted that self-blame would be used as a protective factor for BJW-S, in that if one found blame in their own actions for the SV occurring then they would have more sense of control over preventing it from happening again. It was predicted that with more sense of input and control with the presence of self-blame, participants would in turn have a stronger BJW-S, but worse trauma symptoms because self-blame is already established as a factor in predicting higher trauma symptoms. Although the relationship between BJW-S and self-blame is significant, when visually looking at the correlation, it is difficult to see a clear association between the two factors. A simple boxplot of BJW-S by self-blame suggests that the linear correlation should be in question (Figure 4).

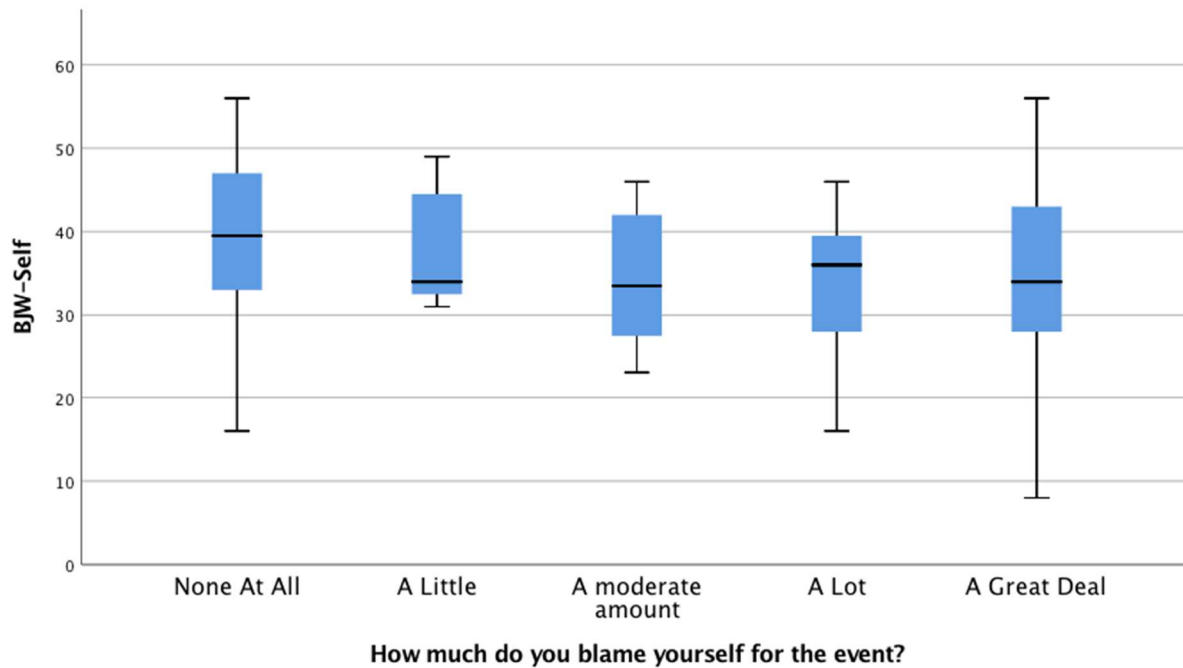


Figure 4. Simple Boxplot of BJW-S by self-blame.

Interestingly, the greatest variability in BJW-S scores was among two extreme groups: those who endorsed no self-blame at all and those who take on “a great deal” of self-blame. This means that it may be more difficult to confidently predict outcomes for these two groups of survivors with greater variation in their BJW-S measures. The large variability within groups of self-blame may explain the lack of conditional effect for self-blame among the predictive relationship between SV and BJW-S. The variability is difficult to interpret without a more sophisticated measure of self-blame, which likely has a complex role in survivors’ experiences. Further research using another measure, such as the Posttraumatic Cognitions Inventory (PTCI, Foa et al., 1999), would possibly provide a more refined understanding of the role of self-blame among survivors of SV.

Hypothesis two-b sought to investigate the impact and role of negative social support and denial of a crime in the explanation of the relationship between SV and BJW-S as well as SV and trauma symptoms as moderators of the same mediation model. Results

did not support either of the moderators significantly showing an interaction with the relationship between SV and BJW-S. Only negative social support, or really the lack of seeking social support in comparison to receiving negative social support, was a significant condition for the relationship between SV and trauma symptoms. These findings are difficult to interpret with much precision due to the unsophisticated nature of how the data were collected via a single question.

What can be observed is the stark contrast of the relationship between SV and trauma symptoms among those who did not disclose their unwanted sexual experience with anyone and those who did disclose and received a negative response. The slopes were nearly perpendicular with each other. Not disclosing the SV predicted an increase in trauma symptoms by 5.33 points as severity of SV worsens, while receiving a negative response from disclosing the SV predicted a decrease in trauma symptoms by 5.21 points as severity of SV worsens. Regardless of the way the information was measured, it is difficult to interpret receiving negative social support. The significance of the interaction also shows higher trauma symptoms for those who did not disclose at all at the highest level of sexual violence severity, which is logical based on current knowledge that avoidance of the trauma memory is a hallmark for development of trauma symptoms.

As for the positive psychology outlook of this study, it may be beneficial to consider other measures of psychological wellbeing than posttraumatic growth (PTG). Hypothesis three did not find a significant relationship either linearly or non-linearly between BJW-S and PTG among this sample. Subsequently, the testing of hypothesis four was baseless. Past research among victims of trauma have found connections with BJW and tests of psychological wellbeing, so it is possible that the measure of PTG is too profound of a

measure. Furthermore, for this sample where it has been 5 years or less since the trauma there may not have been sufficient time for opportunity to see growth from the trauma (Occhipinti, Chambers, Lepore, Atkin, & Dunn, 2015). Future research with this particular population would likely benefit from a more general measure of psychological wellbeing, such as Satisfaction with Life Scale (SWL, Pavot & Diener, 2008), which is often used clinically as a subjective measure of psychological wellbeing in the face of physical health or social adversity. The SWL has been found to be consistent in stable life conditions and sensitive to changes in circumstances in people's lives (Diener, Inglehart, & Tay, 2013), which would likely be acceptable for the perceptual nature of this research.

The overlap of BJW theories and resiliency has been minimally investigated, with just a couple international studies done in China and Pakistan. Among collectivist societies, Wu et al. (2011), found that a general-BJW (corresponds with BJW-Others) was strongly predictive of resilience in the face of different traumatic experiences. The same was not found for a personal-BJW (corresponding with BJW-Self). Previous research has shown that there is a stronger connection between BJW-S and psychological wellbeing among individualistic societies, such as the United States (Dalbert, 1999). Therefore, the final hypothesis sought to be exploratory in the possible correlation between BJW-S and resiliency in a North American population. The findings showed a highly significant correlation ($r=.55, p<.0001$) between these two variables. In this study of sexual assault survivors, it is possible to use BJW-S to be predictive for resilience in the face of sexual violence. It may be beneficial to utilize resiliency in future research among student sexual assault survivors and BJW to predict trauma symptom response.

A possible approach to incorporating BJW in educational materials for incoming college students would be to include the current understanding of its influence on trauma reactions with bystander intervention training. For example, as a part of the bystander intervention training, it could demonstrate the possible invisible damage that can occur following sexual violence. This could provide a context for students to gain more understanding for what their peer who has experienced sexual violence may be going through. They can approach the situation similarly to how they are taught to intervene as a bystander for prevention, with the knowledge that their belief in justice may have been shattered or altered to negatively impact their mental health. The prevention of all sexually violent acts from happening in the future would be unlikely, therefore, it is vital to help students learn ways they can be more of an approachable and supportive friend. Would increased awareness and education about BJW serve to help increase the use of rational protection strategies? As efforts to increase awareness of implicit bias, education on the relationship between BJW-S and trauma symptoms following sexual violence could help understand a survivor's bias. Thus adding to the current literature on bystander with hopes of increasing compassion about self-blame. Ideally, dissemination of this information to the general public may help decrease stigma, and increase support and help seeking behaviors among survivors of sexual violence.

Strengths and Limitations

A longitudinal and randomized design would have been the ideal method for testing the aims of this study, although the access to resources and ethical reality for that plan has little hope. Therefore, the cross-sectional nature of collecting a one-time survey was acceptable for the testing of mediation. As for the primary variable measures, some were

stronger measures than others. In utilizing a non-clinical sample it was beneficial to utilize the TSC-40, which included symptoms in line with depression, substance abuse, somatization, and anxiety, in addition to the typical posttraumatic symptoms present in a diagnosis of PTSD. The assessment of general negative symptomatology increases the sensitivity to outcomes across the wide variety of responses people may have to sexual violence.

The Unwanted Sexual Experiences Survey used to measure sexual violence is commonly used among this type of research and is believed to reliably measure unwanted sexual experiences that meet legal definitions for sexual harassment, sexual assault, and rape. The use of the measure as severity of experience, as it was used in this study, could be taken into question without the inclusion of other factors that may add to the sense of distress or intrusion of their life, such as use of coercion or complex-repeated traumas. Future research could control for previous childhood abuse and use of therapeutic support would provide clarity in the impact of one's world view on their trauma symptoms.

The measures of BJW protective strategies, self-blame, denial of a crime, and social support seeking were developed by this researcher, based on the format of questions from reviewed research (e.g. Cleere & Lynn, 2013), although use of more robust measures would have provided more adequate depth to the interpretation of the findings. The form of a single-item measure utilized presents the challenge of accurately capturing the concept desired while potentially contributing to a potentially higher measurement error. As such, each participant could interpret the question differently, which in turn can make the results difficult to decipher. When looking at the role of blame in accordance with BJW, for example, it is likely more complicated than a single spectrum. Future research could more

thoroughly explore this concept by including blame of the perpetrator, bystanders, the environment, the universe, or even God. This could help provide richness in explanation of blame. Measures of guilt and shame could also help paint a clearer picture of the broader concept. Finally, a major limitation is the inability to measure the internal consistency reliability. In future research it would be important to find more robust and previously used self-blame measures, even if they need to be adapted. These measures, such as the eleven questions Cardiac Self-Blame Attributions Scale (Harry et al., 2018) have been used and adopted to measure self-blame more robustly.

A limitation due to the lack of generalizability of the sample data is the course credit psychology sample. A broader sample across the campus or from multiple universities would have strengthened the study. However, the aim of the study was to focus on traditional college aged women due to the potential educational benefits that could come from this focus. Yet, the exploratory nature of the hypotheses would have benefited from a more generalizable sample population. Increased diversity in demographics and trauma may have provided stronger sampling, particularly for hypotheses one and three, which were testing nonlinear patterns.

Lastly, an unfortunate limitation due to oversight was the miscalculation of the a priori power analysis, which limited the number of variables that were ultimately included in the main analysis model. Fortunately, the final effect sizes for the model were higher than expected resulting in very strong post hoc measure of power.

Future Directions

In continued research to help student victims of sexual violence, longitudinal studies that would collect similar data regardless of experiences would provide pre- and post-data with group comparisons, which would greatly strengthen any findings. This could be possible with the prospect of regular intervals of campus climate surveys. With sufficient planning, collaboration, and expertise, support for this method of research could significantly inform education and treatment to better support students of all genders to allow for prevention models to be developed and tested. This would require identification of participants to allow for longitudinal tracking, which would be an additional barrier.

The percentage of students who drop out or take breaks from college due to stress related to an experience of sexual violence is unknown. This study and most studies looking at college student populations are gathering data from current students and are likely missing an entire subset of students who may have been significantly impacted by sexual violence and dropped out of school. Addressing this sampling issue would be difficult to tackle, but is essential to note. The participants would need to somehow be identified and followed for consent to participate or categorized by a larger data set that cast a wide net.

Comparing and incorporating other similar and related belief-shift theories that predict trauma symptoms including moral injury, complicated grief, emotional processing theory (Foa, Huppert, & Cahill, 2006) and the shattered assumptions theory (Janoff-Bulman, 1985) may extend the understanding of BJW in trauma and recovery. The shattered assumptions theory is very similar to the BJW theory and even includes justice as a factor in a person's fundamental world-view. As the BJW theory suggests it is these fundamental beliefs that provide stability and predictability, with an added aspect of self-

esteem and meaning, together that allows for psychological wellbeing. Theories such as emotional processing theory, also take a view that a person's prior belief system is compromised through trauma and what maintains PTSD is the lack of experiences that disconfirm negative posttraumatic cognitions (Foa & Cahill, 2006).

All of these theories are on a constructive track for clinical treatment of psychological disorders following traumatic experiences. A very recent review of the literature on treatment of PTSD (Brown, Belli, Asnaani, & Foa, 2019) found that clinical treatments that focus on negative post-trauma cognitions were associated with the greatest degree of reduction in PTSD symptoms. It is hoped that this study and more research into post-trauma cognitions will contribute to the literature on ameliorating the psychological impact of trauma.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, D.C.
- Amstadter, A. B., & Vernon, L. L. (2008). Emotional Reactions During and After Trauma: A Comparison of Trauma Types. *Journal of Aggression, Maltreatment & Trauma*, 16(4), 391–408. <http://doi.org/10.1080/10926770801926492>
- Banyard, V. L., Ward, S., Cohn, E. S., Plante, E. G., Moorhead, C., & Walsh, W. (2007). Unwanted sexual contact on campus: A comparison of women's and men's experiences. *Violence and victims*, 22(1), 52.
- Baum, K., & Klaus, P. (2005). Violent victimization of college students, 1995-2002. *age*, 18, 24.
- Bègue, L. (2002). Beliefs in justice and faith in people: Just world, religiosity and interpersonal trust. *Personality and Individual Differences*, 32(3), 375-382.
- Bègue, L., & Bastounis, M. (2003). Two Spheres of Belief in Justice: Extensive Support for the Bidimensional Model of Belief in a Just World. *Journal of Personality*, 71(3), 435–463. <http://doi.org/10.1111/1467-6494.7103007>
- Benabou, R., & Tirole, J. (2005). *Belief in a Just World and Redistributive Politics*. Cambridge, MA. Retrieved from <http://www.nber.org/papers/w11208.pdf>
- Black, M., Basile, K., Breiding, M., Smith, S., Walters, M., Merrick, M., ... & Stevens, M. (2011). National intimate partner and sexual violence survey: 2010 summary report.
- Bodenhausen, G. V., Kramer, G. P., & Süsler, K. (1994). Happiness and stereotypic thinking in social judgment. *Journal of personality and social psychology*, 66(4), 621.
- Bondurant, B. (2001). University women's acknowledgment of rape individual, situational,

- and social factors. *Violence Against Women*, 7(3), 294–314.
- Briere, J. (1995). *Trauma Symptom Inventory Professional Manual*. Odessa, Florida: Psychological Assessment Resources.
- Briere, J. (2001). *Detailed Assessment of Posttraumatic Stress (DAPS)*. Odessa, Florida: Psychological Assessment Resources.
- Briere, J., & Runtz, M. (1989). The Trauma Symptom Checklist (TSC-33): Early Data on a New Scale. *Journal of Interpersonal Violence*, 4(2), 151–163.
<http://doi.org/10.1177/088626089004002002>
- Brown, L. A., Belli, G. M., Asnaani, A., & Foa, E. B. (2019). A review of the role of negative cognitions about oneself, others, and the world in the treatment of PTSD. *Cognitive Therapy and Research*, 43(1), 143-173.
- Bulman, R. J., & Wortman, C. B. (1977). Attributions of blame and coping in the "real world": severe accident victims react to their lot. *Journal of personality and social psychology*, 35(5), 351.
- Carifio, J., & Nasser, R. (2012). Belief in a just world and depression in elderly nursing home residents.: EBSCOhost. *Work*, 43, 303–312. <http://doi.org/10.3233/WOR-2012-1371>
- Chard, K. M. (2005). An evaluation of cognitive processing therapy for the treatment of posttraumatic stress disorder related to childhood sexual abuse. *Journal of Counseling and Clinical Psychology*, 73(5), 965–971. <http://doi.org/10.3233/WOR-2012-1371>
- Christandl, F. (2013). The Belief in a Just World as a Personal Resource in the Context of Inflation and Financial Crises. *Applied Psychology*, 62(3), 486–518.

<http://doi.org/10.1111/j.1464-0597.2012.00489.x>

Cleere, C., & Lynn, S. J. (2013). Acknowledged versus unacknowledged sexual assault among college women. *Journal of Interpersonal Violence*, 0886260513479033.

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: the Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, 18(April), 76–82. <http://doi.org/10.1002/da.10113>

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78(1), 98–104. <http://doi.org/10.1037/0021-9010.78.1.98>

Dalbert, C. (1998). Belief in a Just World, Well-Being, and Coping with an Unjust Fate. In *Responses to victimization and belief in just world* (pp. 87–105). Springer US. http://doi.org/10.1007/978-1-4757-6418-5_6

Dalbert, C. (1999). The world is more just for me than generally: About the personal belief in a just world scale's validity. *Social Justice Research*, 12(2), 79-98.

Dalbert, C., & Katona-Sallay, H. (1996). The belief in a just world construct in Hungary. *Journal of Cross-Cultural Psychology*, 27(3), 293–314. <http://doi.org/http://dx.doi.org.weblib.lib.umt.edu:8080/10.1177/0022022196273003>

Dalbert, C., Lipkus, I. M., Sallay, H., & Goch, I. (2001). A just and an unjust world: Structure and validity of different world beliefs. *Personality and Individual Differences*, 30(4), 561–577. [http://doi.org/10.1016/S0191-8869\(00\)00055-6](http://doi.org/10.1016/S0191-8869(00)00055-6)

Department of Justice. (1972). *Overview Of Title IX Of The Education Amendments Of 1972, 20 U.S.C. A§ 1681 Et. Seq. | CRT | Department of Justice*. Retrieved from

<https://www.justice.gov/crt/overview-title-ix-education-amendments-1972-20-usc-1681-et-seq>

Department of Justice. (2014). *Rape and Sexual Victimization Among College-Aged Females, 1995-2013*.

Department of Justice. (2014). *Rape and Sexual Victimization Among College-Aged Females, 1995-2013*.

Diener, E., Inglehart, R., & Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research*, 112(3), 497-527.

Dutton, M. A., & Greene, R. (2010). Resilience and crime victimization. *Journal of Traumatic Stress*, 23(2), 215-222. <http://doi.org/10.1002/jts>.

Dzuka, J., & Dalbert, C. (2007). Student Violence Against Teachers. *European Psychologist*, 12(4), 253-260. <http://doi.org/10.1027/1016-9040.12.4.253>

Edwards, K. M., Kearns, M. C., Calhoun, K. S., & Gidycz, C. A. (2009). College Women's Reactions To Sexual Assault Research Participation: Is It Distressing? *Psychology of Women Quarterly*, 33(2), 225-234. <http://doi.org/10.1111/j.1471-6402.2009.01492.x>

Elliott, D. M., & Briere, J. (1992). Sexual abuse trauma among professional women: Validating the Trauma Symptom Checklist-40 (TSC-40). *Child Abuse and Neglect*, 16(3), 391-398. [http://doi.org/10.1016/0145-2134\(92\)90048-V](http://doi.org/10.1016/0145-2134(92)90048-V)

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160.

Fetchenhauer, D., Jacobs, G., & Belschak, F. (2005). Belief in a just world, causal attributions,

- and adjustment to sexual violence. *Social Justice Research*, 18(1), 25-42.
- Fisher, B. S., Cullen, F. T., & Turner, M. G. (2000). *The Sexual Victimization of College Women*. Research Report.
- Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Acknowledging sexual victimization as rape: Results from a national-level study. *Justice Quarterly*, 20(3), 535-574.
- Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Acknowledging sexual victimization as rape: Results from a national-level study. *Justice Quarterly*, 20(3), 535-574.
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: exposure to corrective information. *Psychological bulletin*, 99(1), 20.
- Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The posttraumatic cognitions inventory (PTCI): Development and validation. *Psychological assessment*, 11(3), 303.
- Foa, E. B., Huppert, J. D., & Cahill, S. P. (2006). *Emotional Processing Theory: An Update*.
- Foa, Edna B., and Shawn P. Cahill. "Psychological Treatments for PTSD: An Overview." 9/11: Mental Health in the Wake of Terrorist Attacks; 9/11: Mental Health in the Wake of Terrorist Attacks. Eds. Yuval Neria, et al. Cambridge University Press, New York, NY, 2006. 457-474, Chapter xxviii, 646 Pages. ProQuest. Web. 17 Apr. 2019.
- Frazier, P., Anders, S., Perera, S., Tomich, P., Tennen, H., Park, C., & Tashiro, T. (2009). Traumatic events among undergraduate students: Prevalence and associated symptoms. *Journal of Counseling Psychology*, 56(3), 450-460.
<http://doi.org/10.1037/a0016412>

Furnham, A. (1985). Just world beliefs in an unjust society: A cross cultural comparison.

European Journal of Social Psychology, 15(3), 363–366.

<http://doi.org/http://dx.doi.org.weblib.lib.umt.edu:8080/10.1002/ejsp.242015031>

0

Furnham, A. (1993). Just world beliefs in twelve societies. *The Journal of Social Psychology*,

133(3), 317–329. <http://doi.org/10.1080/00224545.1993.9712149>

Furnham, A. (2003). Belief in a just world: research progress over the past decade.

Personality and Individual Differences, 34(5), 795–817.

[http://doi.org/10.1016/S0191-8869\(02\)00072-7](http://doi.org/10.1016/S0191-8869(02)00072-7)

Furnham, A., & Boston, N. (1996). Theories of rape and the just world. *Psychology, Crime &*

Law, 2(3), 211–229. <http://doi.org/10.1080/10683169608409779>

Furnham, A., & Gunter, B. (1984). Just world beliefs and attitudes towards the poor. *British*

Journal of Social Psychology, 23(3), 265–269. <http://doi.org/10.1111/j.2044->

8309.1984.tb00637.x

Girard, A. L., & Senn, C. Y. (2008). The role of the new “date rape drugs” in attributions

about date rape. *Journal of Interpersonal Violence*, 23(1), 3–20.

Hafer, C. L., Bègue, L., Choma, B. L., & Dempsey, J. L. (2005). Belief in a just world and

commitment to long-term deserved outcomes. *Social Justice Research*, 18(4), 429–

444. <http://doi.org/10.1007/s11211-005-8569-3>

Hannay, D. R. (1980). *Religion and health. Social Science & Medicine. Part A: Medical*

Psychology & Medical Sociology (Vol. 14).

Harris, H. N., & Valentiner, D. P. (2002). World assumptions, sexual assault, depression, and

- fearful attitudes toward relationships. *Journal of Interpersonal Violence*, 17(3), 286–305.
- Harry, K. M., Bennett, K. K., Marszalek, J. M., Eways, K. R., Clark, J. M., Smith, A. J., ... & Wilson, E. J. (2018). Scale development and psychometric properties of the Cardiac Self-Blame Attributions scale in patients with cardiovascular disease. *Health psychology open*, 5(2), 2055102918786865.
- Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Publications.
- Hayes, B. E. (2019). Bystander Intervention to Abusive Behavior on Social Networking Websites. *Violence against women*, 25(4), 463-484.
- Hayes, R. M., Lorenz, K., & Bell, K. a. (2013). Victim blaming others: Rape myth acceptance and the just world belief. *Feminist Criminology*, 8(3), 202–220.
<http://doi.org/10.1177/1557085113484788>
- Haynes, G. A., & Olson, J. M. (2006). Coping With Threats to Just-World Beliefs: Derogate, Blame, or Help? *Journal of Applied Social Psychology*, 36(3), 664–682.
<http://doi.org/10.1111/j.0021-9029.2006.00023.x>
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Humphreys, T. P., & Kennett, D. J. (2010). The reliability and validity of instruments supporting the sexual. *The Canadian Journal of Human Sexuality*, 19, 1-2.
- Janoff-Bulman, R. (1985). The aftermath of victimization: Rebuilding shattered assumptions. *Trauma and its wake*, 1, 15-35.
- Jensen, E., Dehlin, O., Hagberg, B., Samuelsson, G., & Svensson, T. (1998). Insomnia in an 80-year-old population: relationship to medical, psychological and social factors.

- Journal of Sleep Research*, 7(3), 183–9. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9785273>
- Jiang, F., Yue, X., Lu, S., Yu, G., & Zhu, F. (2016). How Belief in a Just World Benefits Mental Health: The Effects of Optimism and Gratitude. *Social Indicators Research*, 126(1), 411–423. <http://doi.org/10.1007/s11205-015-0877-x>
- Jones, C., & Aronson, E. (1973). Attribution of fault to a rape victim as a function of respectability of the victim. *Journal of Personality and Social Psychology*, 26(3), 415–419. <http://doi.org/1973-31242-001>
- Jones, W. H., Freemon, J. E., & Goswick, R. A. (1981). The persistence of loneliness: Self and other determinants. *Journal of Personality*, 49(1), 27–48.
- Kahn, A., & al, e. (1977). Attribution of fault to a rape victim as a function of respectability of the victim: A failure to replicate or extend. *Representative Research in Social Psychology*, 8(2), 98-107. Retrieved from <https://search-proquest-com.weblib.lib.umt.edu:2443/docview/616288602?accountid=14593>
- Karuza, J., & Carey, T. O. (1984). Relative preference and adaptiveness of behavioral blame for observers of rape victims. *Journal of Personality*, 52(3), 249–260. <http://doi.org/10.1111/j.1467-6494.1984.tb00880.x>
- Kelley, H. H., & Michela, J. L. (1980). Attribution Theory and Research. *Annual Review of Psychology*, 31(1), 457–501. <http://doi.org/10.1146/annurev.ps.31.020180.002325>
- Kiecolt-Glaser, J. K., & Williams, D. A. (1987). Self-blame, compliance, and distress among burn patients. *Journal of Personality and Social Psychology*, 53(1), 187–193. <http://doi.org/10.1037/0022-3514.53.1.187>
- Koepke, S., Eyssel, F., & Böhner, G. (2014). “She deserved it”: Effects of sexism norms, type

- of violence, and victim's pre-assault behavior on blame attributions toward female victims and approval of the aggressor's behavior. *Violence against Women*, 20(4), 446–64. <http://doi.org/10.1177/1077801214528581>
- Koss, M. P., & Oros, C. J. (1982). Sexual experiences survey: a research instrument investigating sexual aggression and victimization. *Journal of consulting and clinical psychology*, 50(3), 455.
- Krebs, C. P., Lindquist, C. H., Warner, T. D., Fisher, B. S., & Martin, S. L. (2007). The campus sexual assault (CSA) study: Final Report. *Washington, DC: National Institute of Justice, US Department of Justice*.
- Krebs, C. P., Lindquist, C. H., Warner, T. D., Fisher, B. S., & Martin, S. L. (2007). The campus sexual assault (CSA) study: Final Report. *Washington, DC: National Institute of Justice, US Department of Justice*.
- Lerner, M. J. (1980). *The Belief in a Just World*. Springer US. http://doi.org/10.1007/978-1-4899-0448-5_2
- Lerner, M. J. (1998). The Two Forms of Belief in a Just World (pp. 247–269). http://doi.org/10.1007/978-1-4757-6418-5_13
- Lerner, M. J. (2000). Just world belief. *Encyclopedia of Psychology, Vol. 4*, 4, 425–427. <http://doi.org/10.1037/10519-172>
- Lerner, M. J. (2003). The Justice Motive: Where Social Psychologists Found It, How they Lost It, and Why They May Not Find It Again. *Personality and Social Psychology Review*, 7(4), 388–399. http://doi.org/10.1207/S15327957PSPR0704_10
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, 85(5), 1030–1051.

<http://doi.org/10.1037/0033-2909.85.5.1030>

Lerner, M. J., & Simmons, C. H. (1966). Observer's reaction to the "innocent victim": compassion or rejection? *Journal of Personality and Social Psychology*, 4(2), 203–210. <http://doi.org/10.1037/h0023562>

Levine, S. Z., Laufer, A., Stein, E., Hamama-Raz, Y., & Solomon, Z. (2009). Examining the relationship between resilience and posttraumatic growth. *Journal of Traumatic Stress*, 22(4), 282–286. <http://doi.org/10.1002/jts.20409>

Libow, J. A., & Doty, D. W. (1979). An exploratory approach to self-blame and self-derogation by rape victims. *American Journal of Orthopsychiatry*, 49(4), 670–679. <http://doi.org/10.1111/j.1939-0025.1979.tb02652.x>

Libow, J. A., & Doty, D. W. (1979). An exploratory approach to self-blame and self-derogation by rape victims. *American Journal of Orthopsychiatry*, 49(4), 670–679. <http://doi.org/10.1111/j.1939-0025.1979.tb02652.x>

Lipkus, I. M. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world scale. *Personality and Individual Differences*, 12(11), 1171–1178. [http://doi.org/10.1016/0191-8869\(91\)90081-L](http://doi.org/10.1016/0191-8869(91)90081-L)

Lipkus, I. M. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world scale. *Personality and Individual Differences*, 12(11), 1171–1178. [http://doi.org/10.1016/0191-8869\(91\)90081-L](http://doi.org/10.1016/0191-8869(91)90081-L)

Lipkus, I. M., & Siegler, I. C. (1993). The Belief in a Just World and Perceptions of Discrimination. *The Journal of Psychology*, 127(4), 465–474.

<http://doi.org/10.1080/00223980.1993.9915583>

- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The Importance of distinguishing the belief in a just world for self versus for others: implications for psychological well-being. *Society for Personality and Social Psychology, 22*(7), 666–677.
- Littleton, H., Axsom, D., & Grills-Taquechel, A. (2009). Sexual Assault Victims' Acknowledgment status and revictimization risk. *Psychology of Women Quarterly, 33*(1), 34–42.
- Littrell, J., & Beck, E. (1999). Perceiving Oppression: Relationships with resilience, self-esteem, depressive symptoms, and resilience on God in African-American Homeless Men. *The Journal of Sociology & Social Welfare, 26*(4), 137–158.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annu. Rev. Psychol., 58*, 593-614.
- Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and individual differences, 39*(7), 1249-1260.
- Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and individual differences, 39*(7), 1249-1260.
- Messman-Moore, T. L., & Brown, A. L. (2006). Risk perception, rape, and sexual revictimization: A prospective study of college women. *Psychology of Women Quarterly, 30*(2), 159–172.
- Miller, A. K., Handley, I. M., Markman, K. D., & Miller, J. H. (2010). Deconstructing self-blame following sexual assault: the critical roles of cognitive content and process. *Violence*

- against Women*, 16(10), 1120–37. <http://doi.org/10.1177/1077801210382874>
- Moser, J. S., Hajcak, G., Simons, R. F., & Foa, E. B. (2007). Posttraumatic stress disorder symptoms in trauma-exposed college students: The role of trauma-related cognitions, gender, and negative affect. *Journal of Anxiety Disorders*, 21(8), 1039–1049.
- Narayan Persaud, S. (2009). *Eternal Law: The Underpinnings of Dharma and Karma in the Justice System*. *J. L. Pub Int.* 49 (Vol. 49). Retrieved from <http://commons.law.famu.edu/faculty-research>
- Occhipinti, S., Chambers, S. K., Lepore, S., Aitken, J., & Dunn, J. (2015). A Longitudinal Study of Post-Traumatic Growth and Psychological Distress in Colorectal Cancer Survivors. *PloS one*, 10(9), e0139119. doi:10.1371/journal.pone.0139119
- Ogińska-Bulik, N., & Kobylarczyk, M. (2016). Association between resiliency and posttraumatic growth in firefighters: the role of stress appraisal. *International Journal of Occupational Safety and Ergonomics : JOSE*, 22(1), 40–8. <http://doi.org/10.1080/10803548.2015.1109372>
- Oppenheimer, L. (2006). The belief in a just world and subjective perceptions of society: A developmental perspective. *Journal of Adolescence*, 29(4), 655–669. <http://doi.org/http://dx.doi.org.weblib.lib.umt.edu:8080/10.1016/j.adolescence.2005.08.014>
- Otto, K., Boos, A., Dalbert, C., Schö Ps, D., & Rgen Hoyer, J. (2006). Posttraumatic symptoms, depression, and anxiety of flood victims: The impact of the belief in a just world. *Personality and Individual Differences*, 40, 1075–1084. <http://doi.org/10.1016/j.paid.2005.11.010>

- Ozbay, F., Johnson, D. C., Dimoulas, E., Morgan, C. A., Charney, D., Southwick, S., & Southwick, S. (2007). Social support and resilience to stress: from neurobiology to clinical practice. *Psychiatry (Edgmont (Pa. : Township))*, 4(5), 35–40. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20806028>
- Pavot, W., & Diener, E. (2008). The Satisfaction With Life Scale and the emerging construct of life satisfaction. *Journal of Positive Psychology*, 3, 137–152
- Perilloux, C., Duntley, J. D., & Buss, D. M. (2014). Blame attribution in sexual victimization. *Personality and Individual Differences*, 63, 81–86.
<http://doi.org/10.1016/j.paid.2014.01.058>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, 40(3), 879-891.
- Rajsic, J., Wilson, D. E., & Pratt, J. (2015). Confirmation bias in visual search. *Journal of experimental psychology: human perception and performance*, 41(5), 1353.
- Reich, B., & Wang, X. (2015). And justice for all: Revisiting the Global Belief in a Just World Scale. *Personality and Individual Differences*, 78, 68–76.
<http://doi.org/10.1016/j.paid.2015.01.031>
- Resick, P. A., Monson, C. M., & Chard, K. M. (2016). *Cognitive processing therapy for PTSD: A comprehensive manual*. Guilford Publications.
- Riaz, M. N., Sultana, R., Riaz, M. A., Shah, S. Z., Batool, N., & Murad, M. G. (2015). Outcomes of Belief in Just World Among Victims of Natural and Man-Made Disaster. *Pakistan Journal of Psychological Research*, 30(1), 39–64. Retrieved from <http://web.a.ebscohost.com.weblib.lib.umt.edu:8080/ehost/detail/detail?sid=81d5>

a763-db7d-4824-a03b-

48cdb7e3ed26%40sessionmgr4009&vid=0&hid=4002&bdata=JnNpdGU9ZWhvc3Q

tbGl2ZQ%3D%3D#AN=113841092&db=a9h

Ritter, C., Benson, D. E., & Synder, C. (1990). Belief in a Just World and Depression.

Sociological Perspectives, 33(2), 235–252. <http://doi.org/10.2307/1389045>

Ross, L. (1977). "The intuitive psychologist and his shortcomings: Distortions in the attribution process". In Berkowitz, L. *Advances in experimental social psychology*.

10. New York: Academic Press. pp. 173–220. ISBN 978-0-12-015210-0.

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the

attribution process. *Advances in Experimental Social Psychology*, 10, 173–220.

[http://doi.org/10.1016/S0065-2601\(08\)60357-3](http://doi.org/10.1016/S0065-2601(08)60357-3)

Rothbaum, B. O., Foa, E. B., Riggs, D. S., Murdock, T., & Walsh, W. (1992). A prospective

examination of post-traumatic stress disorder in rape victims. *Journal of Traumatic stress*, 5(3), 455-475.

Rubin, Z., & Peplau, L. A. (1975). Who Believes in a Just Worrlld. *Journal on Social Issues*,

31(3).

Sable, M. R., Danis, F., Mauzy, D. L., & Gallagher, S. K. (2006). Barriers to reporting sexual

assault for women and men: Perspective of college students. *Journal of American*

College Health, 55(3), 157–162. <http://doi.org/10.3200/JACH.55.3.157-162>

Schieman, S., Bierman, A., & Ellison, C. G. (2013). Religion and Mental Health (pp. 457–478).

Springer Netherlands. http://doi.org/10.1007/978-94-007-4276-5_22

Sippel, L. M., Pietrzak, R. H., Charney, D. S., Mayes, L. C., & Southwick, S. M. (2015). How does

social support enhance resilience in the trauma-exposed individual? *Ecology and*

Society, 20(4). <http://doi.org/10.5751/ES-07832-200410>

Smith, S. G., Zhang, X., Basile, K. C., Merrick, M. T., Wang, J., Kresnow, M. J., & Chen, J. (2018).

The National Intimate Partner and Sexual Violence Survey: 2015 data brief–updated release.

Sohl, S. J., Moyer, A., Lukin, K., & Knapp-Oliver, S. K. (2011). Why are optimists optimistic?

Individual Differences Research, 9(1), 1–11.

Startup, M., Makgekenene, L., & Webster, R. (2007). *The role of self-blame for trauma as*

assessed by the Posttraumatic Cognitions Inventory (PTCI): A self-protective cognition? Behaviour Research and Therapy (Vol. 45).

Sutton, R. M., & Douglas, K. M. (2005). Justice for all, or just for me? More evidence of the

importance of the self-other distinction in just-world beliefs. *Personality and*

Individual Differences, 39(3), 637–645. <http://doi.org/10.1016/j.paid.2005.02.010>

Sylaska, K. M., & Edwards, K. M. (2014). Disclosure of Intimate Partner Violence to Informal

Social Support Network Members A Review of the Literature. *Trauma, Violence, & Abuse*, 15(1), 3–21.

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring

the positive legacy of trauma. *Journal of traumatic stress*, 9(3), 455-471.

Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the

positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455–471.

<http://doi.org/10.1007/BF02103658>

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic Growth : Conceptual Foundations

and Empirical Evidence, 7965(March), 1–18.

<http://doi.org/10.1207/s15327965pli1501>

- Tomaka, J., & Blascovich, J. (1994). Effects of justice beliefs on cognitive appraisal of and subjective, physiological, and behavioral responses to potential stress. *Journal of Personality and Social Psychology*, 67(4), 732–740. <http://doi.org/10.1037/0022-3514.67.4.732>
- U.S. Department of Justice. (2005). *Sexual Assault on Campus: What Colleges and Universities Are Doing About It*. Washington, DC. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/205521.pdf>
- US Department of Veteran Affairs. (2015). *Military Sexual Trauma - PTSD: National Center for PTSD*. Washington, DC. Retrieved from <http://www.ptsd.va.gov/public/types/violence/military-sexual-trauma-general.asp>
- Vygotsky, L. (1978). Interaction between learning and development. In *Mind and Society* (pp. 79–91). Cambridge, MA: Harvard University Press.
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548–573. <http://doi.org/10.1037/0033-295X.92.4.548>
- Weiner, Bernard. "Attribution Theory, Achievement Motivation, and the Educational Process." *Review of Educational Research* 42.2 (1972): 203-15. ProQuest. Web. 18 Mar. 2019.
- Werner, E. E., Super, C. M., & Harkness, S. (1993). Risk, resilience, and recovery: Perspectives from the Kauai Longitudinal Study. *Development and Psychopathology*, 5(04), 503. <http://doi.org/10.1017/S095457940000612X>
- Windle, G., Bennett, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes*, 9, 8. <http://doi.org/10.1186/1477-7525-9-8>

- World Health Organization. (2016). *World health statistics 2016: monitoring health for the SDGs sustainable development goals*. World Health Organization.
- Wu, M. S., Yan, X., Zhou, C., Chen, Y., Li, J., Zhu, Z., ... Han, B. (2011). General Belief in a Just World and Resilience: Evidence from a Collective Culture. *European Journal of Personality, 25*, 431–442. <http://doi.org/10.1002/per.807> General
- Wyatt, G. E., & Newcomb, M. (1990). Internal and external mediators of women's sexual abuse in childhood. *Journal of Consulting and Clinical Psychology, 58*(6), 758–767. <http://doi.org/10.1037/0022-006X.58.6.758>
- Zhang, Z., & Zhang, J. (2015). Belief in just world mediates the relationship between institutional trust and life satisfaction among elderly in china. *Personality and Individual Differences, 83*, 164–169.

APPENDIX A*Demographic Characteristics of Participants*

Characteristics	N	%
Gender Identity		
Cisgender Woman	112	97.4
Transgender Woman	1	.9
Gender Fluid	2	1.7
Racial/Ethnic Background		
White/Non-Hispanic	98	85.2
Hispanic	3	2.6
Asian or Pacific Islander	2	1.7
American Indian/Alaska Native	3	2.6
Two or more races	8	7
Other (Creole)	1	.9
Sexual Orientation		
Heterosexual or straight	90	78.9
Bisexual	13	11.4
Asexual	3	2.6
Queer	3	2.6
Other (bicurious and pansexual)	3	2.6
Homosexual or gay	2	1.7
Class Ranking		
Freshman	43	37.4
Sophomore	37	32.2
Junior	20	17.4
Senior	15	13

APPENDIX B

Intercorrelations of Independent, Dependent, Mediation, and Moderation Variables

Measure	1	2	3	4	5	6	7	8	9
1. SV	--								
2. BJW-S	-.29**	--							
3. TSC-40	.26**	-.34**	--						
4. PTGI	.27**	.01	.16	--					
5. Self-Blame	.35**	-.26**	.18	.07	--				
6. Denial	-.45**	.12	-.43**	-.35**	-.08	--			
7. NSS	-.05	-.05	.08	.12	-.11	-.23*	--		
8. Resiliency	-.19*	.56**	-.29**	.16	-.17	.02	-.05	--	
9. BJW-O	-.11	.41**	.02	.09	.06	.13	.00	.37**	--

Note.

** Correlation is significant at $p < .01$.

* Correlation is significant at $p < .05$.

SV=Sexual Violence, BJW-S=Belief in Just World-Self, TSC-40=Trauma Symptom Checklist, PTGI=Posttraumatic Growth Inventory, NSS=Negative Social Support, and BJW-O=Belief in Just World-Others

APPENDIX C

Graphs for results of hypothesis 1:

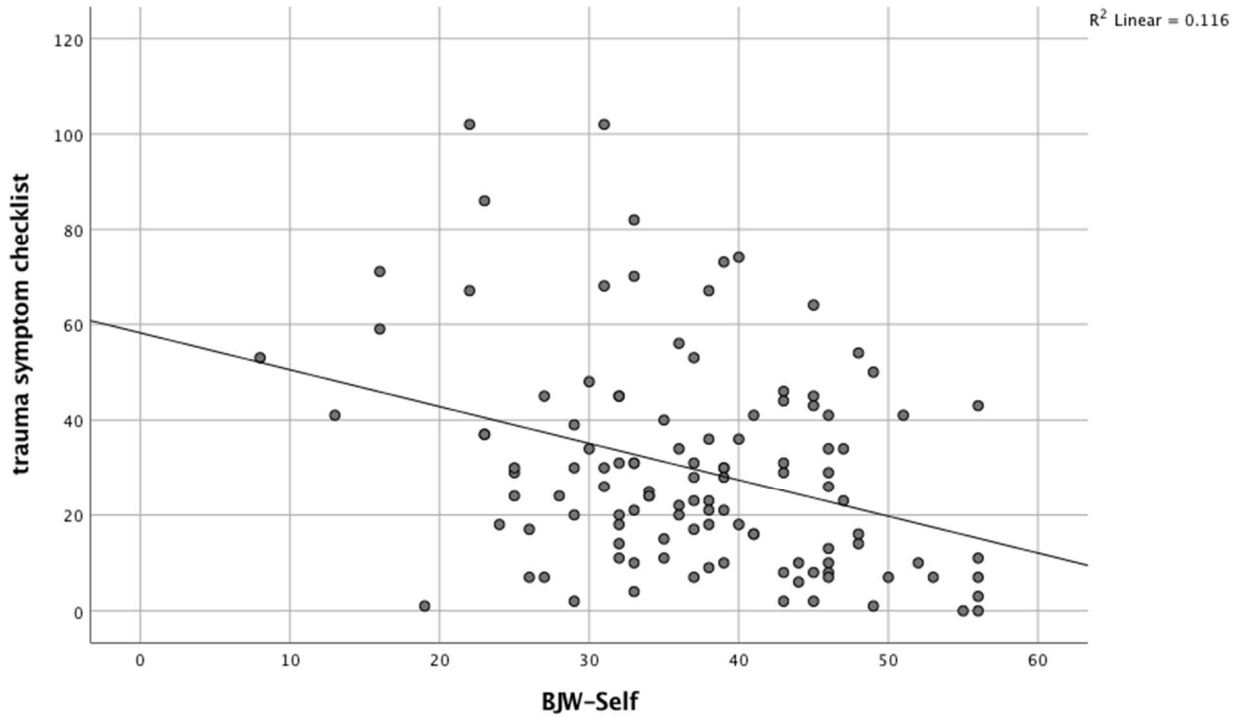


Figure 1: Linear regression of B JW-S and trauma symptom checklist.

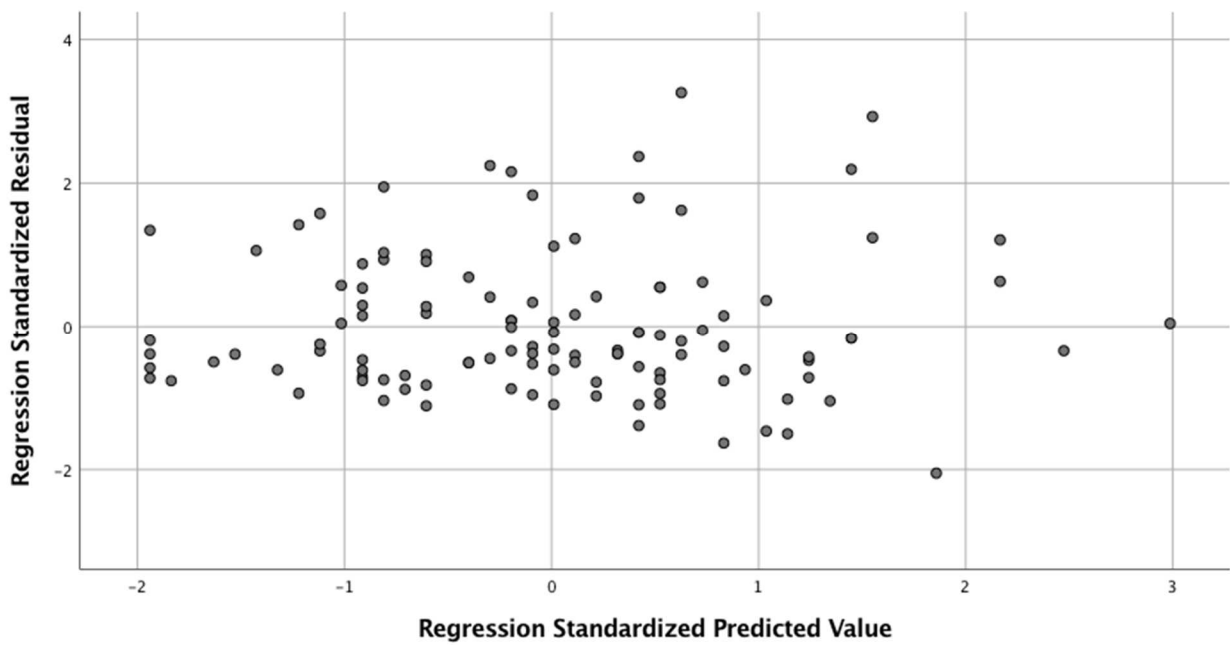


Figure 2: Scatterplot of standardized residuals of B JW-S on standardized predicted values.

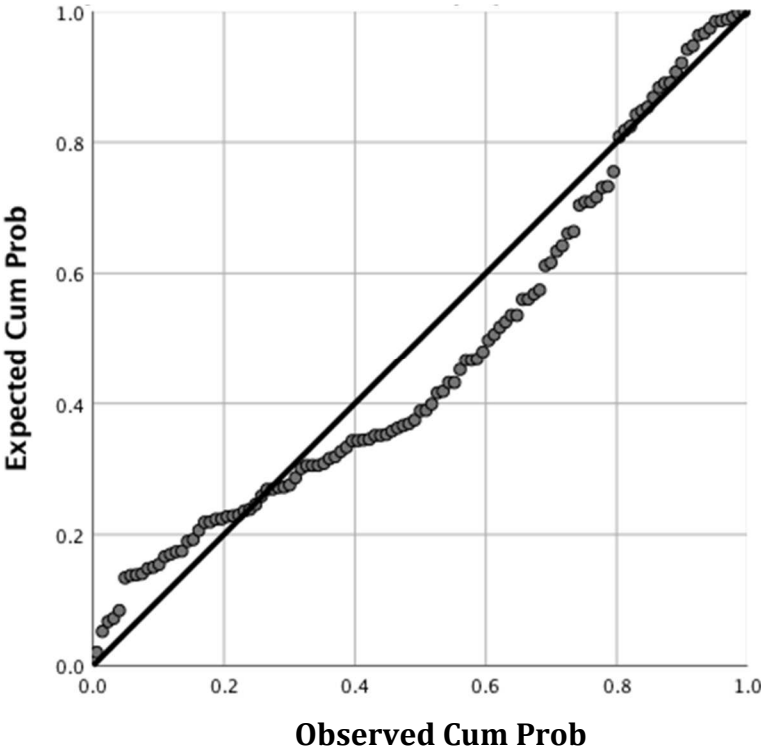
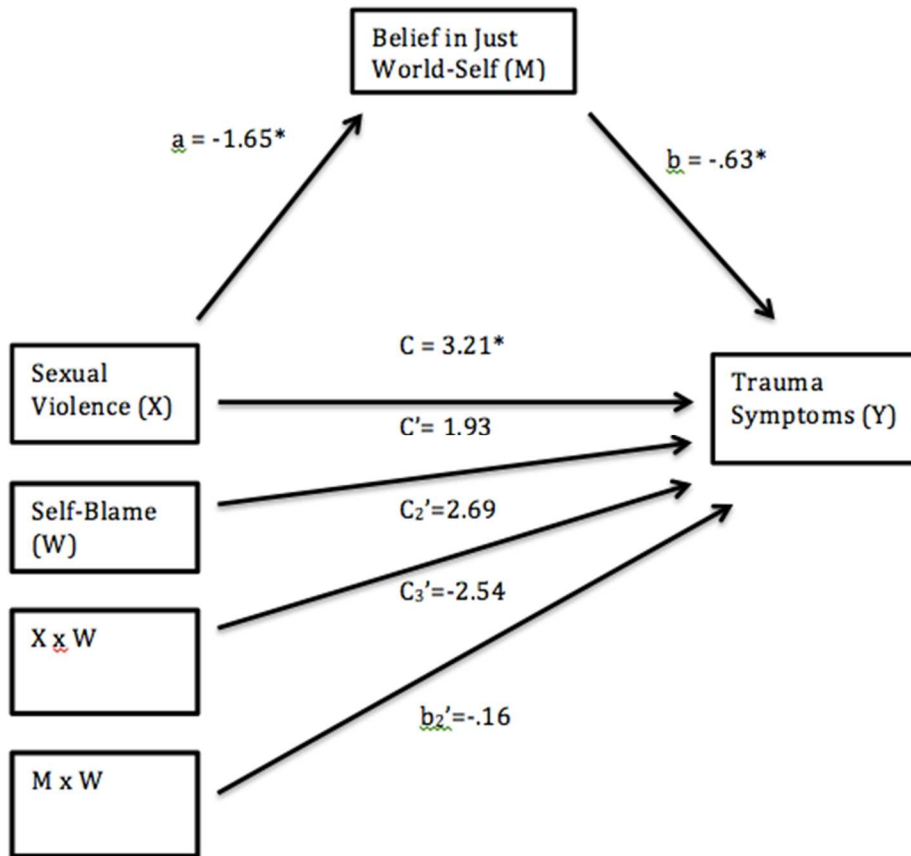


Figure 3: Normal P-P Plot of Standardized Residuals. Dependent Variable: Trauma Symptom Checklist

APPENDIX D

Tables and Figures for Hypothesis 2



ow t

Figure 1: Statistical model for conditional indirect effect (moderated-mediation) for outcome variable trauma symptoms (TSC-40) with unstandardized β .

* Significant at $p < .01$

Bootstrap Results for Regression Model: Outcome Variable BJW-Self

	β	Mean	SE	LLCI	ULCI
Sexual Violence (SV)	-1.65	-1.67	.50	-1.66	1.68

Bootstrap Results for Regression Model: Outcome Variable Trauma Symptoms (TSC-40)

	β	Mean	SE	LLCI	ULCI
SV	1.93	2.00	1.37	-.56	4.8
*BJW-Self	-.63	-.62	.21	-1.03	-.21
Self-Blame	2.7	2.5	4.5	-7.11	10.70
BJW-S x SB	-2.54	-2.64	2.72	-8.11	2.40
SV x SB	-.16	-.18	.42	-1.02	.63

- Confidence interval does not include zero

Direct and Indirect Effects of X on Y with Bootstrapped 95% Confidence Intervals
Conditional Direct Effect(s) of SV on TSC-40

<u>Self-Blame</u>	<u>Effect</u>	<u>SE</u>	<u>t</u>	<u>P</u>	<u>LLCI</u>	<u>ULCI</u>
-.60	3.45	2.16	1.60	.11	-.82	7.73
.40	.92	1.5	.60	.55	-2.12	3.95

Conditional Indirect Effects of X on Y

<u>Self-Blame</u>	<u>Effect</u>	<u>BootSE</u>	<u>LLCI</u>	<u>ULCI</u>
-.60	.88	.61	-.18	2.19
*.40	1.14	.59	.16	2.44

Tables and Figures for Hypothesis 2-b

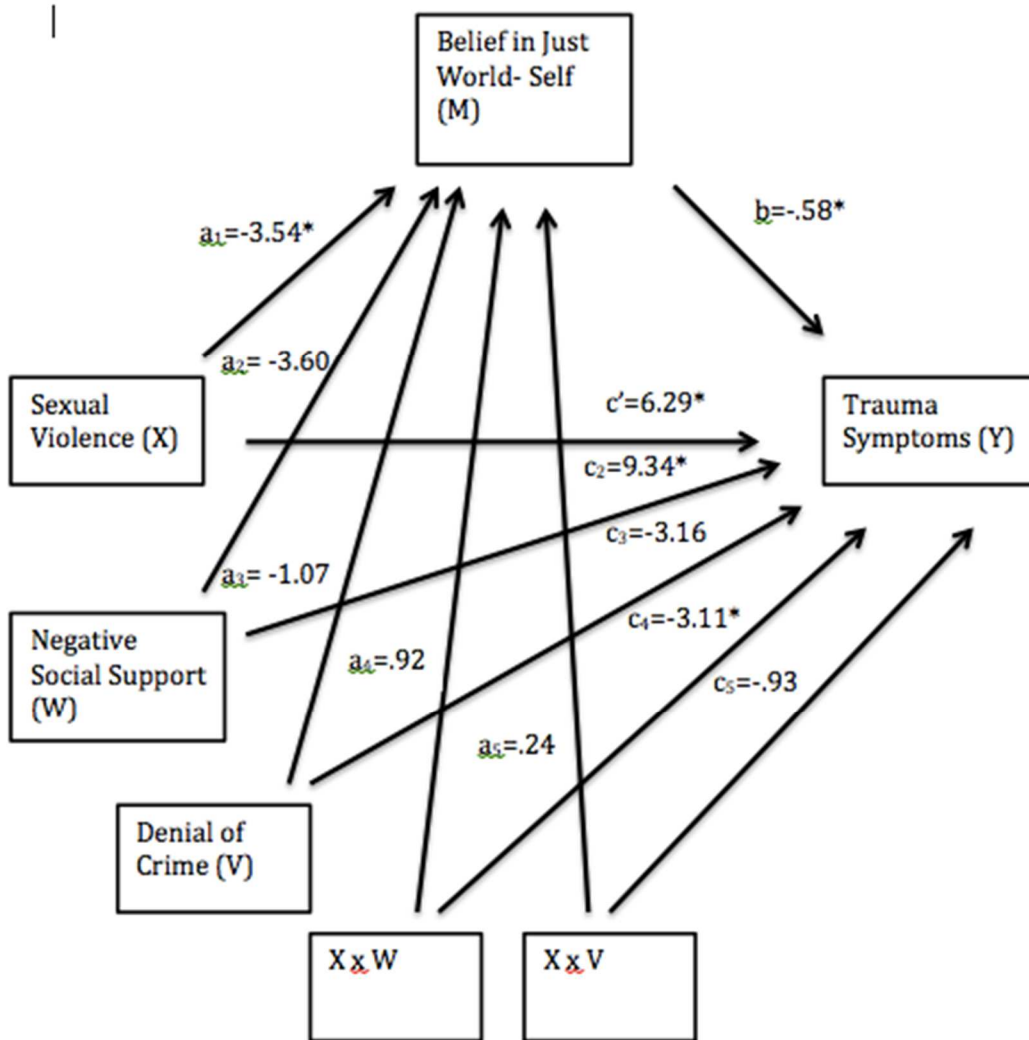


Figure 5: Statistical model for conditional indirect effect (moderated-mediation) for outcome variable trauma symptoms (TSC-40), moderators Negative Social Support and Denial of Crime, with unstandardized β .

* Significant at $p < .01$

Bootstrap Results for Regression Model: Outcome Variable BJW-Self

	β	Mean	SE	LLCI	ULCI
*Sexual Violence (SV)	-2.33	-2.33	.83	-4.03	-.79
Did not tell vs. not negative (W1)	-1.32	-1.21	3.98	-8.97	6.41
Did not tell vs. negative (W2)	-9.86	-9.52	6.64	-22.37	3.55
W1 Interaction	.60	.58	1.08	-1.48	2.73
W2 Interaction	3.15	3.08	1.77	-.37	6.60

- Confidence interval does not include zero

Bootstrap Results for Regression Model: Outcome Variable Trauma Symptoms (TSC-40)

	β	Mean	SE	LLCI	ULCI
*Sexual Violence (SV)	5.32	5.36	2.62	.53	10.84
*Did not tell vs. not negative (W1)	-.55	-.55	.20	-.95	-.15
*Did not tell vs. negative (W2)	34.45	34.77	14.00	7.70	62.50
W1 Interaction	-3.28	-3.29	2.86	-9.12	2.03
*W2 Interaction	-10.54	-10.66	4.17	-18.72	-2.55

- Confidence interval does not include zero

Direct and Indirect Effects of X on Y with Bootstrapped 95% Confidence Intervals
Conditional Direct Effect(s) of SV on TSC-40:

<u>Negative Social Support</u>	<u>Effect</u>	<u>SE</u>	<u>t</u>	<u>P</u>	<u>LLCI</u>	<u>ULCI</u>
*Did not tell	5.33	1.97	2.69	.01	1.41	9.25
No Negative Response	2.05	1.47	1.39	.17	-.87	4.96
Negative Response	-5.21	3.32	-1.57	.12	-11.79	1.37

Conditional Indirect Effects of X on Y:

<u>Negative Social Support</u>	<u>Effect</u>	<u>BootSE</u>	<u>LLCI</u>	<u>ULCI</u>
*Did not tell	1.28	.68	.19	1.81
*No Negative Response	.95	.53	.14	2.15
Negative Response	-.45	.95	-2.55	1.35

- Confidence interval does not include zero

APPENDIX E

Graphs for results of hypothesis 3

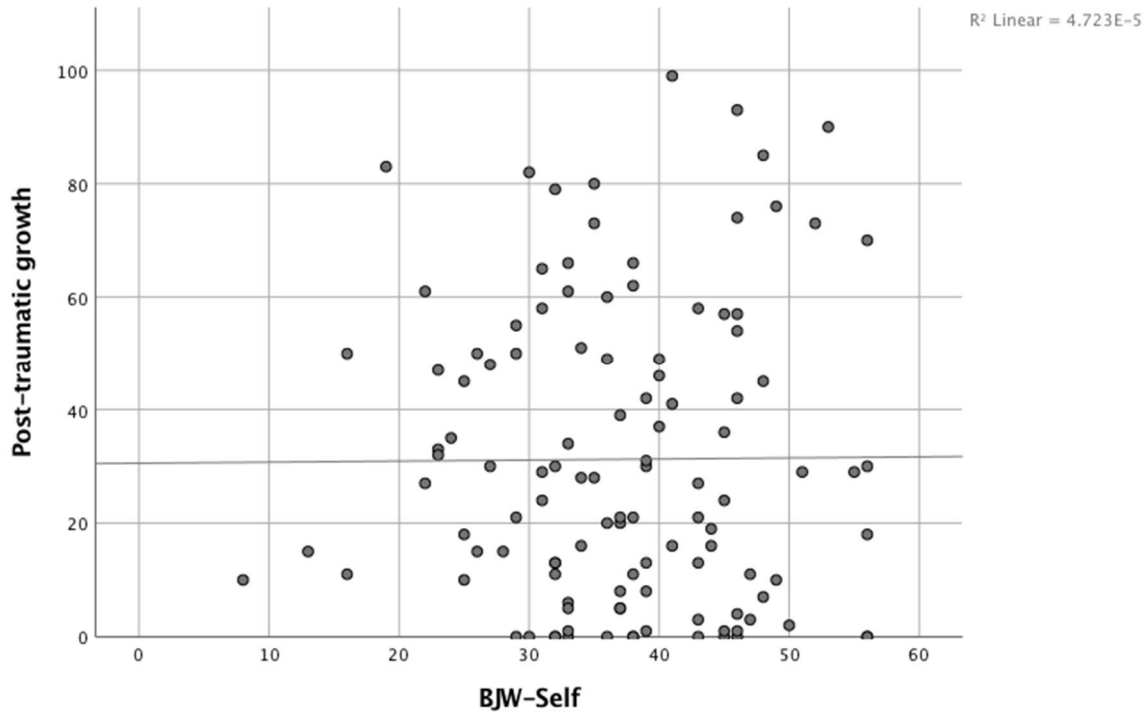


Figure 1: Simple Scatter Plot with Fit Line of Posttraumatic Growth Inventory by B JW-Self

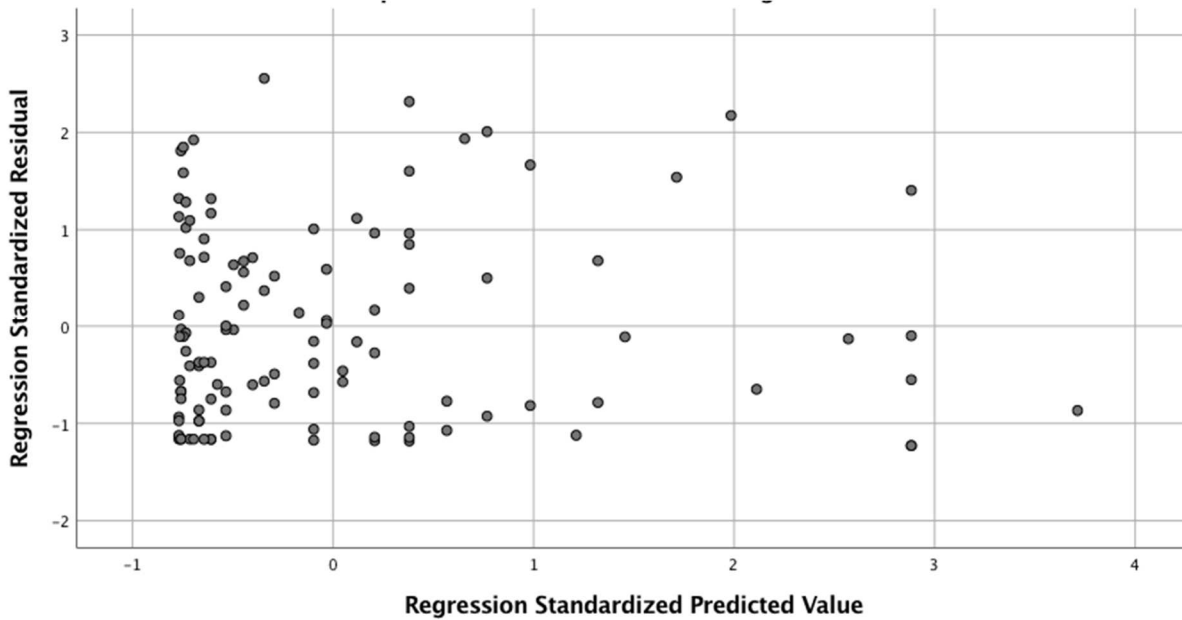


Figure 2: Scatterplot of standardized residuals of B JW-S on standardized predicted values. Dependent Variable: Posttraumatic Growth

APPENDIX F

INFORMED CONSENT

Thank you for agreeing to participate in this survey!

Who should complete this survey?

The survey should be completed by all University of Montana and Missoula College students who attend class, either full or part time in the current academic year. During the questionnaire, we will ask about your experiences on either campus; however, both will be referred to collectively as UM. Please note: this refers to either campus. To ensure the results accurately represent all students at UM, it is important that it be completed by ONLY YOU! The survey is completely voluntary and anonymous.

How do I complete the Survey?

The survey contains two types of questions: Questions that require you to check a box associated with the response that best describes your experience and questions where you are asked to type your answers in a text presented beneath the question. For the questions that ask you to type your answers, please be sure to give as complete a response as you can. Please answer as honestly and openly as you can. Remember that this survey is completely anonymous.

How long does it take to complete the survey?

Answering the survey should take approximately forty to sixty (40-60) minutes to complete all the questions. The complete time will vary: take enough time to answer each of the questions. Please do not skip sections or questions unless prompted to do so.

Are there any risks associated with taking this survey?

We believe that the likely risks of completing this survey are minimal. However, because we are asking about personal experiences some of the questions may make you uncomfortable or be distressing to you. If you become distressed or desire assistance during or after taking the survey, you should contact either or both the following numbers:

Counseling Services.....243-4711

Student Advocacy Resource Center.....243-6559

Please also note that you may exit out of the survey at any time. There will be an option at the end of every page that allows you to discontinue the survey.

Are there any benefits for me in completing the survey?

There are no benefits anticipated for you from answering questions on this survey. However, this survey will provide the campus with needed information about knowledge, attitudes, program use and satisfaction information, and experiences of our students. This

can be very helpful to the campus community, and may help with the development of effective programs, and in creating positive change in sexual and interpersonal violence. The summary findings will also be made available to help others schools learn from us as well.

There are also two potential ways in which you may be compensated for your time. *First*, some faculty members are offering extra credit/research credit to students who complete the survey. Please check with your professor in order to see if this is a possibility in your class. In order to receive credit, please follow the instructions at the end of the survey. At the end there will be an option to print off a confirmation of your participation. This confirmation page will be in **no way** connected to your responses.

Second, students who complete this survey have the opportunity to enter a drawing to win one of: 1, University parking pass (\$225 value), or 2, \$50 Amazon gift cards, or 5, \$10 campus coffee cards. If you are interested in being entered into the drawing, please follow the link at the end of this survey. This link will take you to a separate page where you can enter your contact information. Your contact information will in no way be connected to your responses.

To request more information about this questionnaire or the study, please email Christine Fiore at christine.fiore@umontana.edu.

Clicking below indicates that I have read the description of the study and I agree to participate in this study.

_____ I agree

_____ I disagree

Please provide the following information as accurately as possible. Thank You.

APPENDIX G**DEMOGRAPHIC INFORMATION****Demographic Questionnaire**

We would like to learn a little about you. Tell us about You.

1. How old are you? _____
 - a. 18-25 (inclusion criteria)
 - b. 26-35
 - c. 36-45
 - d. 46-55
 - e. 55+
2. Gender identity (Cisgender means that you self-identify with the gender that corresponds with your assigned sex at birth)
 - a. Cisgender Woman
 - b. Cisgender Man
 - c. Transgender Woman
 - d. Transgender Man
 - e. Gender Queer
 - f. Gender Fluid
 - g. Other _____
3. Semesters in college
 - a. Provide scale from 1-18
4. Class ranking
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Graduate Student
 - f. Law Student
5. My religious orientation is _____.
6. Time spent dedicated to my recognized religion or spirituality. How frequently do you attend your house of worship or organized religious events? (Sliding scale provided with anchors)
 - a. Never
 - b. Occasionally, 1-3 times per year
 - c. Once a month
 - d. Once a week
 - e. Multiple times a week
 - f. Everyday
 - g. Multiple times a day
7. Socio-Political beliefs (sliding scale provided with anchors)
 - a. Conservative
 - b. Moderate conservative

- c. Independent
 - d. Moderate liberal
 - e. liberal
8. What is your racial/ethnic background?
- a. White/non-Hispanic
 - b. Black
 - c. Hispanic
 - d. Asian or Pacific Islander
 - e. American Indian/Alaska Native
 - f. Two or more races
 - g. Other
9. What is your current relationship status?
- a. Single
 - b. Dating, in a non-committed relationship
 - c. Dating, in a committed relationship
 - d. Married
 - e. Divorced or separated
 - f. Widowed
10. (If yes to relationship) How long have you been in this relationship? (sliding scale in months)
11. (If yes to relationship) Are you in a same-sex relationship?
- a. Yes
 - b. No
12. Which of the following sexual orientations do you most identify with?
- a. Heterosexual or straight
 - b. Gay
 - c. Bisexual
 - d. Asexual
 - e. Queer
 - f. Other (open space for text)
13. How would you categorize your social class?
- a. Lower class/poverty
 - b. Working class
 - c. Middle class
 - d. Upper-middle class
 - e. Upper class
 - f. Elite upper class
14. The area I primarily grew up in can be described as:
- a. Rural
 - b. Rural town
 - c. Town
 - d. Small city
 - e. Urban-metropolitan city
15. Are you currently enrolled at the University of Montana?
- a. Yes
 - b. No

16. (If yes to 12) How many credits are you currently enrolled in? (sliding scale 1-20)
17. Have you ever had to take a semester or more off from school?
 - a. Yes
 - b. No
18. (If yes to 14) Why did you need to take time off from school?
 - a. Open ended
19. Semesters of higher education after high school but before UM. _____

APPENDIX H**SEXUAL EXPERIENCES INFORMATION – INCLUSION CRITERIA****Abbreviated Sexual Experiences Survey**

Prior to the age of 18, did you have any experiences with sexual abuse or physical abuse? Physical abuse defined as a parent, stepparent, or guardian (such as a teacher, sibling, etc.) ever: throwing something at you that could hurt; pushing, grabbing, or shoving you; pulling your hair; slapping or hitting you; kicking or biting you; choking or attempting to drown you; hitting you with some object; beating you up; threatening you with (or using on you) a gun, a knife, or other object.

- a. Yes, physical abuse only
- b. Yes, sexual abuse only
- c. Yes, both physical and sexual abuse
- d. No

The following questions concern sexual experiences you may have had while attending UM. Some of the questions may look similar, so please be sure to read all of them carefully. Please respond how many times each of the following incidents have occurred within the time period of starting college to the present.

A.

1. Has anyone ever made sexual advances or requests for sexual favors toward you?
Check all that apply.
 - a. Yes, in the past year
 - b. Yes, since I've been at UM (not including this past year)
 - c. Yes, since turning 18 (not including since attending UM)
 - d. No
2. (If yes) How many times since starting college?
 - a. One time
 - b. Twice
 - c. Three times
 - d. More than three times
3. (If yes) Did the sexual advances or requests for sexual favors impact the following?
(Y/N)
 - a. Terms or conditions of employment
 - b. Educational benefits
 - c. Academic grades or opportunities
 - d. Living environment
 - e. Participation in a university activity
 - f. Other _____
4. (If yes) Did the sexual advances or requests for sexual favors create a hostile environment that seriously limited your ability to participate in or benefit from university programs or opportunities?
 - a. Yes
 - b. No

B.

5. Has anyone ever made sexual contact with you (sexual contact meaning kissing, touching, grabbing, fondling of the breasts, buttocks, or genitals) without your consent? Check all that apply.
 - a. Yes, in the past year
 - b. Yes, since I've been at UM (not including this past year)
 - c. Yes, since turning 18 (not including since attending UM)
 - d. No
6. (If yes) How many times since starting college?
 - a. One time
 - b. Twice
 - c. Three times
 - d. More than three times
7. (If yes) Did the sexual contact without your consent impact the following? (Y/N)
 - a. Terms or conditions of employment
 - b. Educational benefits
 - c. Academic grades or opportunities
 - d. Living environment
 - e. Participation in a university activity
 - f. Other _____
8. (If yes) Did the sexual contact without your consent create a hostile environment that seriously limited your ability to participate in or benefit from university programs or opportunities?
 - a. Yes
 - b. No

C.

9. Has anyone ever attempted to have sexual intercourse with you (sexual intercourse meaning oral, anal, or vaginal penetration with the penis) without your consent, but penetration did not occur?
 - a. Yes, in the past year
 - b. Yes, since I've been at UM (not including this past year)
 - c. Yes, since turning 18 (not including since attending UM)
 - d. No
10. (If yes) How many times since starting college?
 - a. One time
 - b. Twice
 - c. Three times
 - d. More than three times

D.

11. Has anyone ever had sexual intercourse with you without your consent, and penetration did occur?
 - a. Yes, in the past year
 - b. Yes, since I've been at UM (not including this past year)
 - c. Yes, since turning 18 (not including since attending UM)
 - d. No

12. (If yes) How many times since starting college?

- a. One time
- b. Twice
- c. Three times
- d. More than three times

E.

13. Has anyone ever attempted to have invasive sexual contact with you (invasive sexual contact meaning penetration of the vagina or anus with a tongue, finger, or object) without your consent, but penetration did not occur?

- a. Yes, in the past year
- b. Yes, since I've been at UM (not including this past year)
- c. Yes, since turning 18 (not including since attending UM)
- d. No

14. (If yes) How many times since starting college?

- a. One time
- b. Twice
- c. Three times
- d. More than three times

F.

15. Has anyone ever had invasive sexual contact with you without your consent, and penetration did occur?

- a. Yes, in the past year
- b. Yes, since I've been at UM (not including this past year)
- c. Yes, since turning 18 (not including since attending UM)
- d. No

16. (If yes) How many times since starting college?

- a. One time
- b. Twice
- c. Three times
- d. More than three times

Specific Unwanted Sexual Experiences Survey

You answered yes to one or more of the following items:

- A. Has anyone ever made *sexual advances or requests for sexual favors* toward you?
- B. Has anyone ever made *sexual contact* with you (sexual contact meaning kissing, touching, grabbing, fondling of the breasts, buttocks, or genitals) *without your consent*?
- C. Has anyone ever attempted to have sexual intercourse with you (sexual intercourse meaning oral, anal, or vaginal penetration with the penis) without your consent, but penetration did not occur?
- D. Has anyone ever had sexual intercourse with you without your consent, and penetration did occur?
- E. Has anyone ever attempted to have invasive sexual contact with you (invasive sexual contact meaning penetration of the vagina or anus with a tongue, finger, or object) without your consent, but penetration did not occur?
- F. Has anyone ever had invasive sexual contact with you without your consent, and penetration did occur?

Please focus on the single event that you consider to be the **most significant**. Please answer the following questions about that single event.

1. To which of the events are you referring? A-F
2. Where did the event occur?
3. When did the event occur?
4. How long ago?
 - a. Less than 2 weeks
 - b. More than 2 weeks, but less than 3 months
 - c. More than 3 months, but less than 6 months
 - d. More than 6 months, but less than a year
 - e. More than a year, but less than 5 years
5. What is your relationship to the other person(s) involved? (i.e. friend, partner, online, friend-of-a-friend, etc. open text box)
6. How well did you know the other person(s) involved?
 - a. Did not know at all
 - b. Slightly acquainted
 - c. Acquainted
 - d. Very Acquainted
7. How much did you trust this person? (sliding scale with anchors)
 - a. Not at all
 - b. Just a little
 - c. Pretty much

- d. Very much
 - e. A lot
8. Where you ever romantically involved with the other person(s)?
- a. Yes
 - b. No
9. Was physical force used?
- a. Not at all
 - b. Just a little
 - c. Pretty much
 - d. Very much
 - e. A lot
10. (If yes) What sort of physical force was used?
11. During the incident did you feel as though you were frozen (i.e. unable to move or unable to talk)?
- a. Not at all
 - b. Just a little
 - c. Pretty much
 - d. Very much
 - e. A lot
12. Was alcohol involved in the event?
- a. Yes
 - b. No
13. (If yes) How drunk was the other person?
- a. Not at all drunk
 - b. Somewhat drunk
 - c. Drunk
 - d. Very drunk
14. (If yes) How drunk were you?
- a. Not at all drunk
 - b. Somewhat drunk
 - c. Drunk
 - d. Very drunk
15. Were drugs involved?
- a. Yes
 - b. No
16. (If yes) How high was the other person?
- a. Not at all
 - b. Somewhat high
 - c. High
 - d. Very high
17. (If yes) How high were you?
- a. Not at all
 - b. Somewhat high
 - c. High
 - d. Very high
18. What kind of memory do you have of the event?

- a. None at all
 - b. Only bits and pieces
 - c. It's foggy, like a dream
 - d. I can remember all of it
19. This question refers to coercive tactics that may have been used. Would you say that the event involved: (Yes or No)
- a. Continual arguments and pressure
 - b. Misuse of authority (boss, teacher, supervisor)
 - c. Threats of physical force
 - d. Threat of a weapon
 - e. Threat to kill you
 - f. Pressure to drink alcohol
20. Did you feel as though you had a choice in the event occurring?
- a. Not at all
 - b. Partially, not much
 - c. I do not know
 - d. Partially, some choice
 - e. Yes, fully
21. Do you feel the other person intended on the event happening?
- a. Not at all
 - b. Partially, not much
 - c. I do not know
 - d. Partially, some choice
 - e. Yes, fully
22. Did you tell anyone about the incident?
- a. Yes
 - b. No
23. (If yes) The following are people who you may have told about the incident. Please select all that apply.
- a. Roommate
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - b. Close friend other than roommate
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - c. Romantic partner (other than the one who did this to you)
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful

4. Very helpful
- d. Parent or guardian
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- e. Other family member
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- f. Social Media (i.e. Facebook, Twitter, blog)
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- g. Counselor or Therapist
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - ii. (IF selected) How long have you been seeing a counselor or therapist?
 1. (sliding scale)
- h. Faculty or staff
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- i. Residence hall staff
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- j. Campus police
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
- k. City police

- i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - l. County sheriff
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - m. Campus sexual assault advocate
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - n. Title IX/EO Office
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 - o. Other (specify)
 - i. (IF selected) How helpful was/were this/these individual(s)?
 1. Not at all helpful
 2. Somewhat helpful
 3. Helpful
 4. Very helpful
 24. What were some barriers you experienced that made it difficult to discuss this event with others?
 25. How much time passed before you told anyone about the event?
 26. (If yes to #20) Were there any negative consequences for you because you told somebody?
 - a. Yes
 - b. No
 27. (If yes to #25) What were the negative consequences?
 28. How much do you blame yourself for the event?
 - a. None at all
 - b. Very little
 - c. Some
 - d. Mostly
 - e. Completely
 29. How much do you blame the other person(s) involved?
 - a. None at all
 - b. Very little

- c. Some
 - d. Mostly
 - e. Completely
30. How much shame did you feel concerning the event?
- a. None at all
 - b. Very little
 - c. Some
 - d. Mostly
 - e. Completely
31. What was your level of embarrassment concerning the event?
- a. None at all
 - b. Very little
 - c. Some
 - d. Mostly
 - e. Completely
32. How helpless did you feel following the event?
- a. None at all
 - b. Very little
 - c. Some
 - d. Mostly
 - e. Completely
33. Did a crime occur?
- a. I am *sure* that a crime *did not* occur
 - b. I do *not think* that a crime occurred
 - c. I am *unsure* whether or not a crime occurred
 - d. It is *possible* that a crime occurred
 - e. I am *sure* that a crime *did* occur
24. How often do you think about the event?
- a. Not at all
 - b. Very little
 - c. Some
 - d. Most often
 - e. Very often
34. Do you consider yourself a victim or a survivor of a sexually violent crime?
- a. Yes, a victim
 - b. Yes, a survivor
 - c. No
35. (if yes #20) Do you feel you were ever re-victimized by telling someone about this event?
- a. Yes
 - b. Maybe
 - c. No
36. (if yes #34) By whom and how did they make you feel re-victimized?
37. What you believe is ultimately going to happen to the other person involved, due to what they did in the event?

APPENDIX I

TRAUMA, RESILIENCE, AND POSTTRAUMATIC GROWTH

Briere Trauma Symptom Checklist (Briere & Runtz, 1989)

TSC-40	
How often have you experienced each of the following in the last two months?	
0 = Never 3 = Often	
1. Headaches	0 1 2 3
2. Insomnia (trouble getting to sleep)	0 1 2 3
3. Weight loss (without dieting)	0 1 2 3
4. Stomach problems	0 1 2 3
5. Sexual problems	0 1 2 3
6. Feeling isolated from others	0 1 2 3
7. "Flashbacks" (sudden, vivid, distracting memories)	0 1 2 3
8. Restless sleep	0 1 2 3
9. Low sex drive	0 1 2 3
10. Anxiety attacks	0 1 2 3
11. Sexual over activity	0 1 2 3
12. Loneliness	0 1 2 3
13. Nightmares	0 1 2 3
14. "Spacing out" (going away in your mind)	0 1 2 3
15. Sadness	0 1 2 3
16. Dizziness	0 1 2 3
17. Not feeling satisfied with your sex life	0 1 2 3
18. Trouble controlling your temper	0 1 2 3
19. Waking up early in the morning and can't get back to sleep	0 1 2 3
20. Uncontrollable crying	0 1 2 3
21. Fear of men	0 1 2 3

22. Not feeling rested in the morning	0 1 2 3
23. Having sex that you didn't enjoy	0 1 2 3
24. Trouble getting along with others	0 1 2 3
25. Memory problems	0 1 2 3
26. Desire to physically hurt yourself	0 1 2 3
27. Fear of women	0 1 2 3
28. Waking up in the middle of the night	0 1 2 3
29. Bad thoughts or feelings during sex	0 1 2 3
30. Passing out	0 1 2 3
31. Feeling that things are "unreal"	0 1 2 3
32. Unnecessary or over-frequent washing	0 1 2 3
33. Feelings of inferiority	0 1 2 3
34. Feeling tense all the time	0 1 2 3
35. Being confused about your sexual feelings	0 1 2 3
36. Desire to physically hurt others	0 1 2 3
37. Feelings of guilt	0 1 2 3
38. Feelings that you are not always in your body	0 1 2 3
39. Having trouble breathing	0 1 2 3
40. Sexual feelings when you shouldn't have them	0 1 2 3

Trauma Symptom Checklist - 40 (TSC-40)

Subscale composition and scoring for the TSC-40 The score for each subscale is the sum of the relevant items, listed below:

Dissociation: 7,14,16,25,31,38

Anxiety: 1,4,10,16,21,27,32,34,39

Depression: 2,3,9,15,19,20,26,33,37

SATI (Sexual Abuse Trauma Index): 5,7,13,21,25,29,31

Sleep Disturbance 2,8,13,19,22,28

Sexual Problems 5,9,11,17,23,29,35,40

TSC-40 total score: 1-40

Connor-Davidson Resilience Scale

For each item, please mark which best indicated how much you agree with the following statements as they apply to you over the last month.

	Not true at all	Rarely True	Sometim es True	Often True	True Nearly all of the time
1. I am able to adapt when changes occur.	0	1	2	3	4
2. I have at least one close and secure relationship that helps me when I am stressed.	0	1	2	3	4
3. When there are no clear solutions to my problems, sometimes fate or God can help.	0	1	2	3	4
4. I can deal with whatever comes my way.	0	1	2	3	4
5. Past successes give me confidence in dealing with new challenges and difficulties.	0	1	2	3	4
6. I try to see the humorous side of things when I am faced with problems.	0	1	2	3	4
7. Having to cope with stress can make me stronger.	0	1	2	3	4
8. I tend to bounce back after illness, injury or other hardships.	0	1	2	3	4
9. Good or bad, I believe that most things happen for a reason.	0	1	2	3	4
10. I give my best effort no matter what the outcomes may be.	0	1	2	3	4
11. I believe I can achieve my goals, even if there are obstacles.	0	1	2	3	4
12. Even when things look hopeless, I don't give up.	0	1	2	3	4

13. During times of stress/crisis, I know where to turn for help.	0	1	2	3	4
14. Under pressure, I stay focused and think clearly.	0	1	2	3	4
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.	0	1	2	3	4
16. I am not easily discouraged by failure.	0	1	2	3	4
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	0	1	2	3	4
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	0	1	2	3	4
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	0	1	2	3	4
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	0	1	2	3	4
21. I have a strong sense of purpose in life.	0	1	2	3	4
22. I feel in control of my life.	0	1	2	3	4
23. I like challenges.	0	1	2	3	4
24. I work to attain my goals no matter what roadblocks I encounter along the way.	0	1	2	3	4
25. I take pride in my achievements.	0	1	2	3	4

All rights reserved. No part of this document may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopying, or by any information storage or retrieval system, without permission in writing from Dr. Davidson at mail@cd-risc.com. Further information about the scale and terms of use can be found at www.cd-risc.com. Copyright © 2001, 2013, 2015 by Kathryn M. Connor, M.D., and Jonathan R.T. Davidson, M.D.

Post Traumatic Growth Inventory

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster, using the following scale.

- 0 = I did not experience this change as a result of my crisis.
 1 = I experienced this change to a very small degree as a result of my crisis.
 2 = I experienced this change to a small degree as a result of my crisis.
 3 = I experienced this change to a moderate degree as a result of my crisis.
 4 = I experienced this change to a great degree as a result of my crisis.
 5 = I experienced this change to a very great degree as a result of my crisis.

Possible Areas of Growth and Change:

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. I changed my priorities about what is important in life. | 0 | 1 | 2 | 3 | 4 | 5 |
| 2. I have a greater appreciation for the value of my own life. | 0 | 1 | 2 | 3 | 4 | 5 |
| 3. I developed new interests. | 0 | 1 | 2 | 3 | 4 | 5 |
| 4. I have a greater feeling of self-reliance. | 0 | 1 | 2 | 3 | 4 | 5 |
| 5. I have a better understanding of spiritual matters. | 0 | 1 | 2 | 3 | 4 | 5 |
| 6. I more clearly see that I can count on people in times of trouble. | 0 | 1 | 2 | 3 | 4 | 5 |
| 7. I established a new path for my life. | 0 | 1 | 2 | 3 | 4 | 5 |
| 8. I have a greater sense of closeness with others. | 0 | 1 | 2 | 3 | 4 | 5 |
| 9. I am more willing to express my emotions. | 0 | 1 | 2 | 3 | 4 | 5 |
| 10. I know better that I can handle difficulties. | 0 | 1 | 2 | 3 | 4 | 5 |
| 11. I am able to do better things with my life. | 0 | 1 | 2 | 3 | 4 | 5 |
| 12. I am better able to accept the way things work out. | 0 | 1 | 2 | 3 | 4 | 5 |
| 13. I can better appreciate each day. | 0 | 1 | 2 | 3 | 4 | 5 |
| 14. New opportunities are available which wouldn't have been otherwise. | 0 | 1 | 2 | 3 | 4 | 5 |
| 15. I have more compassion for others. | 0 | 1 | 2 | 3 | 4 | 5 |
| 16. I put more effort into my relationships. | 0 | 1 | 2 | 3 | 4 | 5 |
| 17. I am more likely to try to change things which need changing. | 0 | 1 | 2 | 3 | 4 | 5 |
| 18. I have a stronger religious faith. | 0 | 1 | 2 | 3 | 4 | 5 |
| 19. I discovered that I'm stronger than I thought I was. | 0 | 1 | 2 | 3 | 4 | 5 |
| 20. I learned a great deal about how wonderful people are. | 0 | 1 | 2 | 3 | 4 | 5 |
| 21. I better accept needing others. | 0 | 1 | 2 | 3 | 4 | 5 |

Post Traumatic Growth Inventory Scoring:

The Post Traumatic Growth Inventory (PTGI) is scored by adding all the responses. Individual factors are scored by adding responses to items on each factor. Factors are indicated by the Roman numerals after each item below. Items to which factors belong are not listed on the form administered to clients.

PTGI Factors:

- Factor I: Relating to Others
- Factor II: New Possibilities
- Factor III: Personal Strength
- Factor IV: Spiritual Change
- Factor V: Appreciation of Life

1. I changed my priorities about what is important in life. (V)
2. I have a greater appreciation for the value of my own life. (V)
3. I developed new interests. (II)
4. I have a greater feeling of self-reliance. (III)
5. I have a better understanding of spiritual matters. (IV)
6. I more clearly see that I can count on people in times of trouble. (I)
7. I established a new path for my life. (II)
8. I have a greater sense of closeness with others. (I)
9. I am more willing to express my emotions. (I)
10. I know better that I can handle difficulties. (III)
11. I am able to do better things with my life. (II)
12. I am better able to accept the way things work out. (III)
13. I can better appreciate each day. (V)
14. New opportunities are available which wouldn't have been otherwise. (II)
15. I have more compassion for others. (I)
16. I put more effort into my relationships. (I)
17. I am more likely to try to change things which need changing. (II)
18. I have a stronger religious faith. (N)
19. I discovered that I'm stronger than I thought I was. (III)
20. I learned a great deal about how wonderful people are. (I)
21. I better accept needing others. (I)

APPENDIX J

JUSTICE SCALES

Belief in Just World Scale for Self and Others (Lipkus, 1996)

How well do the following statements apply to you?

BJW-S 1=strongly disagree; 7 strongly agree

1. I feel that the world treats me fairly	1	2	3	4	5	6	7
2. I feel that I get what I deserve.	1	2	3	4	5	6	7
3. I feel that people treat me fairly in life.	1	2	3	4	5	6	7
4. I feel that I earn the rewards and punishments I get.	1	2	3	4	5	6	7
5. I feel that people treat me with the respect I deserve.	1	2	3	4	5	6	7
6. I feel that I get what I am entitled to have.	1	2	3	4	5	6	7
7. I feel that my efforts are noticed and rewarded.	1	2	3	4	5	6	7
8. I feel that when I meet with misfortune, I have brought it upon myself.	1	2	3	4	5	6	7

How well do the following statements apply only to people other than yourself?

BJW-O 1=strongly disagree; 7 strongly agree

1. I feel that the world treats people fairly	1	2	3	4	5	6	7
2. I feel that people get what they deserve.	1	2	3	4	5	6	7
3. I feel that people treat each other fairly in life.	1	2	3	4	5	6	7
4. I feel that people can earn the rewards and punishments they get	1	2	3	4	5	6	7
5. I feel that people treat each others with the respect they deserve.	1	2	3	4	5	6	7
6. I feel that people get what they are entitled to have.	1	2	3	4	5	6	7
7. I feel that a person's efforts are noticed and rewarded.	1	2	3	4	5	6	7
8. I feel that when people meet with misfortune, they have brought it upon themselves.	1	2	3	4	5	6	7

APPENDIX K

Open Ended

Your participation in this research project is greatly appreciated! Below is some open space for you to provide some final thoughts or feelings about your experiences that you might like to add or any comments you might have about this study.

(open text box)

APPENDIX L

DEBRIEFING SHEET

Thank you for your participation!

We realize that completing this study may bring up thoughts or feelings that you may want to discuss in more depth. If you would like to speak to someone who may provide further support, the following resources are available:

Student Advocacy Resource Center (SARC).....243-6559

University Counseling Center.....243-4711

Clinical Psychology Center.....243-2367

Nationwide:

The information HelpLine

1 (800) 950-NAMI (6264) is an information and referral service which can be reached Monday through Friday, 10 am – 6 pm, Eastern time. You may also e-mail: info@nami.org.

Mental Health America (MHA) (800) 969-6642 www.mentalhealthamerica.net

If you are interested in receiving a copy of the preliminary results of the study, please write to me at the address listed below. Your request to receive a copy of the results will in **NO WAY be connected** to your responses on the survey.

Christine Fiore
christine.fiore@umontana.edu
Department of Psychology
Skaggs Building Room 143
Missoula, MT 59812-1584