

RAPE TRAUMA: A STUDY OF PREFERRED RAPE DISCLOSURE METHODS AND  
FACTORS INFLUENCING PSYCHOLOGICAL OUTCOMES IN RAPE VICTIMS

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Dedicated to all those who suffer from unwanted sexual experiences, and to my wonderful parents, husband, and children, without whom this journey would have never been possible.

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# TABLE OF CONTENTS

	Page
DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	ix
LIST OF FIGURES .....	xi
Chapter	
I. INTRODUCTION .....	1
Significance of the Issue and the Study .....	3
Significance to Society .....	3
Significance to Health Care .....	10
Significance to Science .....	13
Significance to Nursing .....	13
Purpose of the Study .....	15
Research Questions .....	16
II. LITERATURE REVIEW .....	17
History of the Phenomenon .....	17
Current/Ongoing Disparity in Conceptual Definition .....	18
Theoretical Literature Review .....	20
Synthesis of Conceptual/Theoretical Knowledge .....	20
Methodological Literature Review .....	26
Hope, Coping, and Perceived Control as Potential Modifying Factors .....	57
Advantages, Disadvantages, Strengths and Weaknesses of Methods .....	59
and Measures .....	59
Theoretical Framework for the Study .....	65
Key Concepts .....	66
III. MEASUREMENT AND METHODOLOGICAL APPROACHES .....	69
Research Design .....	69
Research Setting .....	70
Sample and Sampling Plan .....	71
Nature of the Sample and Criteria for Inclusion and Exclusion .....	71

Size of Sample .....	72
Subject Recruitment.....	72
Data Collection Methods .....	74
Human Subjects Protection.....	74
Data Collection .....	75
Instruments.....	76
Screening and Type of Rape .....	76
Perpetrator Type.....	77
Psychological Outcomes (RT) .....	77
Psychosocial Variables .....	81
Disclosure .....	85
Sample Characteristics.....	86
Credibility, Rigor, and Validity of Methods.....	87
Internal Validity .....	87
External Validity.....	88
Reliability.....	89
Data Management, Analysis and Interpretation.....	89
IV. FINDINGS.....	94
Sample.....	94
Descriptive Statistics and Internal Consistencies of the Measures .....	97
Data Analysis .....	100
Relationships among Hope, Perceived Control, and Coping.....	104
Relationships among Hope, Perceived Control, and Coping with Depression, Anxiety, and PTSD .....	109
Relationships of Patterns among Hope, Perceived Control, and Coping with Patterns among Depression, Anxiety, and PTSD .....	112
V. DISCUSSION .....	124
Sample Characteristics.....	124
Aims.....	126
Relationships of Hope and Perceived Control with Coping .....	131
Relationships of Hope, Perceived Control with Coping with Depression, Anxiety, and PTSD .....	133
Relationships of Patterns among Hope, Perceived Control, Coping with Patterns among Depression, Anxiety, and PTSD .....	136
Study Strengths and Limitations .....	143
Implications.....	147
Recommendations for Future Research .....	149
APPENDICES	
A: Eligibility Screening .....	152
B: SES-SFV (Modified) to Include Question for Sex Stress.....	153

C: Perpetrator/Victim Relationship Questionnaire .....	155
D: Demographic Questionnaire .....	156
E: Medical Status/Clinical Information Questionnaire.....	159
F: Disclosure and Follow-up Preferences .....	161
G: Herth Hope Index.....	162
H: Brief COPE .....	163
I: Perceived Control .....	165
J: Beck Depression Inventory - II .....	166
K: State-Trait Anxiety Inventory for Adults.....	168
L: Posttraumatic Stress Diagnostic Scale - PDS.....	169
M: Carretta Motivational Scale.....	174
N: Research Registry .....	178
REFERENCES .....	179



## LIST OF TABLES

Table	Page
1. Costs of Intimate Partner Violence (1995) .....	7
2. Key Concepts Related to the Phenomenon .....	66
3. Data Resources and Data Collection Methods.....	87
4. Descriptive Statistical Summaries of Consented Individuals Completing and Not Completing Study Variables – Demographics.....	95
5. Descriptive Statistics and Internal Consistencies of depression, anxiety, hope, and perceived control.....	98
6. Descriptive Statistics and Internal Consistencies of the 14 subscales of the Brief COPE .....	99
7. Summaries of Depression and Anxiety.....	101
8. Summary of PTSD.....	102
9. Summaries of Depression and Anxiety.....	103
10. Summary of PTSD.....	104
11. Correlations among Hope, Perceived Control, and Coping.....	108
12. Correlations among Hope, Perceived Control, and Coping with Depression, Anxiety and PTSD .....	111
13. Correlations, Standardized Canonical Coefficients, Canonical Correlations, Percentages of Variance, and Redundancies between Psychosocial and Psychological Outcome Variables and Their Corresponding First Canonical Variate Psychosocial Set .....	113
14. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables - Demographics .....	115

15. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing – Type of Unwanted Experience and Perpetrator/Victim Relationship .....	117
16. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Disclosure and Follow-up .....	118
17. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Medication Use .....	119
18. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Rape Resource Utilization .....	120
19. Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Blame .....	121
20. Differences between groups for Disclosure Follow-up Preferences and Outcomes (Depression and Anxiety) .....	122
21. Summaries for Disclosure and PTSD .....	123

## LIST OF FIGURES

Figure	Page
1. Conceptual Model of Rape Trauma.....	65

## CHAPTER I

### INTRODUCTION

According to FBI figures that include crimes reported to law enforcement, the levels of violent crime in the United States declined in 2010. The figures indicate that nationally, murder declined 4.4 percent, while forcible rape dropped 4.2 percent, robbery 9.5 percent, and aggravated assault 3.6 percent, all when compared with 2009 crime figures (U. S. Department of Justice, 2011). However, this decline indicates a disconnect between police reports and telephone victimization surveys.

Victimization surveys, not based on police reporting, reveal that each year between 302,000 and 2.7 million women in the United States are raped, and of that, only 19% to 47% are reported to law enforcement (Basile, Chen, Black, & Saltzman, 2007; Catalano, Smith, Snyder, & Rand, 2009; Tjaden & Thoennes, 2006). Current estimates indicate that between 23% and 57% of rapes were committed by a non-intimate offender known to the victim, 20% to 31% were committed by a stranger, and 20% to 30% were committed by an intimate partner (Basile et al., 2007; Catalano et al., 2009).

Rape has a psychological price. Rape victims typically suffer from depression, anxiety, and Posttraumatic Stress Disorder (PTSD). These psychological sequelae are collectively known as Rape Trauma (RT). RT has far reaching implications that include poorer overall health, family dysfunction, and negative effects on employment. Although the exact direct and indirect costs, such as medical fees, lost earnings, pain, suffering, and a diminished quality of life have not been empirically established, estimates suggest that rape is a costly crime to its victims. Total costs to

survivors are estimated to be \$127 billion a year in the United States alone, excluding the costs of child sexual abuse (Miller, Cohen, & Wierseman, 1996). The most recent National Violence Against Women Survey (NVAWS) reports that 21.5% of rape victims lost paid time from work; an estimated 1.1 million days of work activity each year (Tjaden & Thoennes, 1999). These data support the need to develop more effective RT treatment interventions.

There are many unexplored areas related to RT that may compromise the development of successful interventions. The role of the type of rape and type of perpetrator on RT are largely unexplored (Bell, Cattaneo, Goodman, & Dutton, 2008; Bell, Goodman, & Dutton, 2007; Hedtke, Ruggiero, Fitzgerald, Zinzow, Saunders, Resnick, & Kilpatrick, 2008; Krause, Kaltman, Goodman, & Dutton, 2006; Perez & Johnson, 2008; Salomon, Bassuk, & Huntington, 2002). Additionally, trauma survivor intervention studies suggest that interventions that increase hope, coping skills and perceived control, alleviate symptoms of depression, anxiety, and PTSD (Benight & Bandura, 2004; Dutton, 2009; Jaycox, Zoellner, & Foa, 2002; Kilpatrick, Ruggiero, Acierno, Saunders, Resnick, & Best, 2003; Tjaden & Thoennes, 1998). These need to be further studied in rape victims.

The intent of this research was to explore, via an anonymous web-based survey, differences in RT presentation related to: 1) types of rape (forcible rape, pressured sex, sex stress); 2) perpetrator/victim relationship (intimate partner, non-intimate known, and stranger), and; 3) potential protective factors (hope, coping and perceived control). These were examined as they relate to the type of rape, perpetrator type, and RT. Additionally, preferred venues and methods of rape disclosure were examined.

For the purpose of this research, rape was defined and categorized using the Rape Trauma Syndrome framework of Burgess and Holmstrom and the Sexual Experiences Survey (SES –

SFV) (Koss, Abbey, Campbell, Cook, Norris, Testa, et al, 2007; Koss & Gidycz, 1985). Rape was delineated categorically; forcible rape was defined as any unwanted sexual contact experienced by a female 18 years of age or over involving penetration, however slight, of the mouth, vagina, or anus by another person involving use of a hand, finger, penis or other object where the contact ensued because of one of the following: a) the victim was too intoxicated to stop the act(s); b) there was threat of physical harm; or c) force was used in any way. Pressured sex was defined as any unwanted sexual contact experienced by a female 18 years of age or over involving penetration, however slight, of the mouth, vagina or anus by another person involving use of a hand, finger, penis or other object where the contact ensued because of one of the following: a) threats were made to the victims to end the relationship, spread rumors; b) false promises were made; c) continued verbal pressure continued after being told “no”; d) the victim was criticized for the denial, or e) witnessed displays of anger, but no physical force was used (A.W. Burgess, personal communication, July 26, 2010). Sex stress was defined as victims initially giving consent, and the encounter then went beyond the victim’s expectations and ability to control.

### **Significance of the Issue and the Study**

#### **Significance to Society**

##### **Societal risk factors for rape.**

Cultural, economic, legal, and political factors set the stage for rape. Jackson (2007) has outlined “red flag” behaviors that could lead to abusive patterns; the most important of which is a prior history of RT or other domestic violence. Other warning signs include pending or actual

separation or estrangement, obsessive possessiveness or morbid jealousy, making threats to kill, alcohol and drug use, unemployment, and the presence of step-children. Stalking, forced sex, and abuse during pregnancy are also noted (Campbell, Webster, Koziol-McLain, Block, Campbell, Curry, et al., 2003).

Culturally specific issues related to rape, rape risk, and/or contributing factors include perceived appropriate sex roles, expectations of these roles within relationships, perceptions of male superiority, and women and children being treated as property (Castro, Casique, & Brindis, 2008; Chan, 2009; Hien, 2008; Magnussen, Shoultz, Hansen, Sapolu, & Samifua, 2008). The belief that what happens in the family is under male control, as well as some marriage customs and the acceptability of violence against women as a means to resolve conflict, are also known risk/contributing factors.

Economic issues also come into play (Ali & Gavino, 2008; Fahmy & Adb El-Rahman, 2008; Heise, Pitanguy, & Germaine, 1994). Many cultures prohibit women from earning money, thereby increasing their dependence on men. Prohibiting women's access to other financial resources, including credit, allowing for only males to have inheritance rights and to own property, and skewed allowances after partner separation from divorce or widowhood promotes abuse. Prohibiting or limiting the access of women to formal education, training and/or employment are also risk factors.

Finally, legal or political risk factors also exist (Heise et al., 1994). Lesser legal status of women, either by written law and/or by practice, leads to violence in countries where women are oppressed (Ali, Israr, Ali, & Janjua, 2009). Under-representation of women in power, politics, the media and in the legal and medical professions, coupled with the stigma of rape, and

assertions that the family is entitled to privacy and therefore should be not be monitored by the states, are all possible contributing factors to the pervasive abuse that exists.

Studies conducted in Bangladesh, Cambodia, India, Mexico, Nigeria, Pakistan, Papua New Guinea, Tanzania, and Zimbabwe found that violence is frequently viewed as physical chastisement--the husband's right to “correct” an erring wife (United Nations Children's Fund (UNICEF) Innocenti Research Center, 2000). Worldwide, studies identify a consistent list of events that tend to “trigger” violence, including rape. A wife questioning the fidelity of the husband, not having meals prepared in timely manner, failing to meet his expectations of care for the children or home, disobedience to his demands including denial of sex or leaving the home without permission, can lead to violence, including severe beatings and rape (Krug, Mercy, Dahlberg, & Zwi, 2002). Cultural norms and expectations along with sociopolitical stipulations can be factors related to the relevance hierarchy. Prior research conducted with perpetrators of rape reveals a highly heterogeneous population, making creation of a typical rapist profile next to impossible (Centers for Disease Control and Treatment (CDC), 2006). Nor is it easy to profile a typical rape victim, as any woman in any society is at risk.

### **Economic costs.**

Sequelae from rape can be measured not only in terms of psychological outcomes and burdens, but in direct monetary costs as well. There is little research examining the economic burden resulting from rape. One identified study specifically examined the economic costs of RT alone. This study, facilitated by the United States Department of Justice, estimated the cost per survivor of rape to be \$86,464 per incident (Miller et al., 1996). They concluded that rape has the highest annual victim costs at \$127 billion per year (excluding child sexual abuse), and is much higher than other crimes. A more recent 2003 report released by The CDC reported that health-



related costs of rape, physical assault, stalking, and homicide against women by their intimate partners exceeds \$5.8 billion annually, including nearly \$4.1 billion for direct medical and mental healthcare services (CDC, 2003). It is important to note that this report did not take into account lost productivity, cost of police/fire or social/victim services, property loss/damage, or consideration of lost quality of life, and that it only considered intimate partner cases. The CDC report does include findings from the NVAWS that indicated that 79.6% of those who admitted to being raped and sought medical treatment did so in a hospital setting, with over half (51.3%) of these admissions taking place in an emergency department. Almost half (43.6%) of the women treated at the hospital were admitted and spent one or more nights.

Findings from the NVAWS found that one-third of rape victims seek mental health counseling, and one-fifth report time lost from work directly related to the assault(s) (Tjaden & Thoennes, 2006). Additional studies confirmed that rape was a statistically significant predictor of multiple sick days and highlighted that rape results in high utilization of primary care visits (Chrisler & Ferguson, 2006; Koss, 1994; Stein, Lang, Laffaye, Satz, Lenox, & Dresselhaus, 2004), as well as mental health and substance abuse services (Bonomi, Anderson, Reid, Rivara, Carrell, & Thompson, 2009; Bonomi, Anderson, Rivara, & Thompson, 2009; Chrisler & Ferguson, 2006; Plichta & Falik, 2001; Rivara, Anderson, Fishman, Bonomi, Reid, Carrell, & Thompson, 2007). Based on data collected by the CDC in 1995 and published in 2003, Chrisler and Ferguson (2006) calculated the annual costs per incident for physical injuries, mental health services, lost paid time from work, and monetary loss equivalent to replace women's work at home after intimate partner rape. It is important to note that these estimates do not consider non-intimate known or stranger rape, and only reflect those cases where treatment was sought and

incidences of rape were admitted. Since it is documented that >50% cases are never reported, the true costs are probably significantly higher (Chrisler & Ferguson, 2006) (see Table 1).

Table 1

*Costs of Intimate Partner Rape (1995)\**

	Average No. of Visits - Physical	Average No. of Visits - Mental	Paid Time Lost	Household Time Lost
Number of Visits	7.3	12.4	Avg. 8.1/days/yr Equivalent of >2,000 F/T jobs	Avg. 13.5 days
Costs Associated	\$516/visit	\$78.86/visit	>4.4 million/day	>\$800,000/day
% Paid By Victim	>1/4	>1/3	N/A	N/A

*\*Costs are for intimate partner reported rapes only. Numbers are based on data and costs in 1995.*

**Psychological costs.**

Although both the physical and mental health sequelae of rape are expansive (Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; Vandemark & Mueller, 2008), this study focused more comprehensively on the mental health costs which are well documented internationally (Bonomi, Anderson, Reid, et al., 2009; CDC, 2003; Jones, Dienemann, Schollenberger, Kub, O'Campo, Gielen, & Campbell, 2006; Reeves & O'Leary-Kelly, 2007; Vandemark & Mueller, 2008). Mental health issues such as depression, fear, anxiety, low self-esteem, sexual dysfunction, eating problems, obsessive-compulsive disorder, insomnia, self-perceived poor health, fear of intimacy, body image disturbance, inability to trust men, and PTSD can occur as a

result of rape. These psychological sequelae surface in studies conducted in Australia (Roberts, Williams, Lawrence, & Raphael, 1998), New Zealand (Fanslow & Robinson, 2004), Nicaragua (Ellsberg, Caldera, Herrera, Winkvist, & Kullgren, 1999), Pakistan (Fikree & Bhatti, 1999), Italy (Faravelli, Giugni, Salvatori, & Ricca, 2004), and the United States (Cascardi, O'Leary, Lawrence, & Schlee, 1995; Krakow, Melendrez, Johnston, Warner, Clark, Pacheco, et al., 2002; Roberts, Williams, Lawrence, & Raphael, 1998; Vandemark & Mueller, 2008), suggesting that regardless of the culture in which the rape occurs, it is a psychological trauma.

The most commonly identified disorders associated with rape are depression, anxiety, and PTSD (Campbell, Kub, Belknap, & Templin, 1997; Campbell & Soeken, 1999; Chrisler & Ferguson, 2006; Golding, 1999; Sutherland, Bybee, & Sullivan, 1998; Weaver & Clum, 1995, 1996). Rape, childhood sexual abuse, and domestic violence have been identified among the most common causes of PTSD in women (Heise, Ellsberg, & Gottemoeller, 1999). The chances that a woman will develop PTSD after being raped are 50% to 95%, according to studies in France (Darves-Bornoz, 1997), New Zealand (Bownes, O'Gorman, & Sayers, 1991a), and the United States (Breslau, Kessler, Chilcoat, Schultz, Davis, & Andreski, 1998). One study conducted in 1996 in the Detroit, Michigan area of the United States found that the psychological effects of being raped were comparable to the effects of being tortured or kidnapped (Heise et al., 1999).

#### **Cost of litigation/protective orders and prosecution of perpetrator.**

Restraining orders are a common legal recourse for protection from an abusive partner. Current federal protections are in place for ongoing restraining orders for victims of intimate partner rape, but these protections (as defined by statutory rule) are not an automatic imperative for victims who have been raped by a non-intimate known or a stranger. Each state has the

authority to control the restraining order process that determines whether individuals seeking such orders have the ability and/or meet the criteria for such orders. Therefore, there is a lack of consolidated financial and legislative information regarding the general economic impact of restraining orders for RT victims.

Although there is some literature on the cost of divorce litigation throughout the United States, there have been no identified studies that specifically evaluate the costs of such litigation related to incidence of RT. In 2005, Popenoe and Whitehead addressed overall costs, citing that a single divorce costs State and Federal governments about \$30,000 based on such factors as an increased utilization of food stamps and public housing, an increased number of bankruptcies, and more juvenile delinquency. The nation's 10.4 million divorces in 2002 are estimated to have cost the taxpayers over \$30 billion (Popenoe & Whitehead, 2005). Although the actual number of divorces resulting from incidence(s) of RT are unknown, prior research has substantiated that divorce/estrangement is a sequelae of RT (Finkelhor & Yllo, 1985; Starks & Blackie, 2000), and therefore presents an opportunity for more specific research into this area.

### **Summary.**

The sequelae created by rape and RT are expansive and costly to society, both monetarily and psychologically. There is a decisive gap related to analysis of the costs associated with RT as the one study which considered some of these identified costs was conducted almost 15 years ago. Further, there were no studies identified to date that have examined the incidence of restraining orders, estrangement, or divorce as a result of rape. This lack of knowledge substantiates that the true cost of rape and RT to society are likely underestimated.

## **Significance to Health Care**

### **Complexity of Care – Physiological and Psychological**

Women who are victims of rape exhibit more physical, somatic, and psychological complaints than those who have never been raped (Koss, 1994). They are disproportionately frequent users of healthcare services (Hazelwood & Burgess, 2009; Schnurr & Green, 2004). Of the women physically injured during rape, >35 % received medical treatment. In addition, 33 % of the women raped as adults received counseling from a mental health professional as a result of their most recent rape. Almost 20% of these women said that they had lost time from work. Given the nature of rape and its criminal associations, comprehensive care requires a costly interdisciplinary approach.

### **Direct Cost of Care**

#### **Emergency department costs.**

Findings from a review of the literature conducted in 2007 revealed that not all emergency departments have rape care protocols, and those that do, do not necessarily follow them (Martin, Young, Billings, & Bross, 2007). However, the emergency department (ED) is often the first point of care for rape victims. Visits to an ED result in multiple providers having contact with the rape victim, often resulting in a kind of re-victimization (Campbell, Ahrens, Self, Wasco, & Barnes, 2001; Girardin, 2005; Ledray, 1998). These providers include those who provide the initial intake, the ED nurse assigned to the victim, the sexual assault nurse examiner (SANE), if available in that particular area/institution, the ED doctor and, depending on the desire of the victim, police representation. Costs for a single visit to the ED for an incidence of rape have not been empirically established. An analysis by Agency for Healthcare Research and

Quality (AHRQ) in 2003 estimated that an average visit to the ED costs \$560 (Machlin, 2006). It is important to note that this cost is for the ED fee only, and does not reflect the total cost of all testing, and consultations.

### **Primary care visits.**

Research has shown that victims of rape have increased healthcare service utilization in both civilian and veteran populations (Bonomi, Anderson, Rivara, et al., 2009; Chrisler & Ferguson, 2006; Cloutier, Martin, & Poole, 2002; Masho, Odor, & Adera, 2005; Roy-Byrne, Russo, Michelson, Zatzick, Pitman, & Berliner, 2004; Stein et al., 2004; Suris, Lind, Kashner, Borman, & Petty, 2004; Tjaden & Thoennes, 2006). No studies were identified that examined costs of treatment by primary care providers versus specialists either for medical or psychiatric purposes.

### **Mental health services.**

The cost of ED and primary care visits, as well as mental health services, is expansive as rape victims tend to be increased service users with a high rate of recidivism. Estimates of mental health care service use by United States adult female victims of rape by an intimate partner for the year 1995 alone exceeded 1.3 million visits (CDC, 2003). A study examining the use of healthcare services over a five-year period by female members of a health maintenance program found that the number of visits to physicians by rape victims increased 56% in the year following the crime, compared to a 2% utilization increase by non-victims during that same year.

As cited previously, estimates of depression after an incidence of rape in adult women range from 12% to 87%. Visits to providers to obtain prescriptions for anti-depressants for depression and related disorders rose from 13.8 visits, with at least one drug per 100 population in 1996-1996, to 35.5 visits, with at least one prescription in this class in 2004-2005 (Smith,

Grohskopf, Black, Auerbach, Veronese, Struble, et al., 2005). Costs of retail medication prescribed to patients who seek mental health services have increased dramatically overall, increasing from \$2,191,000 in 1986 to \$23,259,000 in 2003 (Smith et al., 2005).

Resick and Schnicke (1993) propose a 12-session approach to Cognitive Processing Therapy for rape victims, but caution that specific issues such as incest history, co-morbid substance abuse, marital rape, and the presence of personality disorders could significantly affect treatment plan and time required for treatment (Ling, Mike, Rubin, Abraham, Howe, Patka, & Vigliotti, 2005). Estimating that an average therapy session lasts one hour, at an approximate cost of \$100-\$150 per hour, the total translates to a minimum twelve hours of therapy, at a minimum cost of \$1,200 to \$1,800.00 per person per incident. Future research in this area may assist in minimizing costs while affording better outcomes.

### **Summary.**

Women who are victims of rape have a significantly higher utilization of healthcare services. This writer was unable to locate any studies that addressed the direct costs of ED visits or primary care visits that resulted from rape, representing a large gap in the literature. Furthermore, although a few studies were found that compared quality of care for victims based on provider type, no studies could be identified that sought to determine whether there was a direct cost difference or difference in continued healthcare service utilization based on initial provider contact.

## **Significance to Science/Significance to Nursing**

### **Clinical Relevance**

#### **Need for better provider assessment and treatment skills.**

National guidelines offer appropriate screening, medication, and follow-up therapy protocols for the victims of rape (CDC, 2006; Smith et al., 2005; Workowski & Berman, 2006). Studies indicate that the likelihood of developing any sexually transmitted disease (STD) as a result of rape is between 2% and 26.3% (Masho et al., 2005; Straight & Heaton, 2007; Upchurch & Kusunoki, 2004). Exact numbers documenting the presence of HIV infection after rape do not currently exist and warrant investigation (Hazelwood & Burgess, 2009). Straight and Heaton (2007) concluded that more than 80% of visits to the EDs as a result of rape in 2003 did not receive sufficient care for STD exposure.

#### **Role of specialists – SANE nurses.**

SANE was formed in 1976 when numerous professionals recognized that services to rape victims were inadequate and did not meet the same high standard of care as that of other ED clients (Holloway & Swan, 1993; O'Brien, 1996). The addition of SANE nurses has resulted in shorter contact for the victim and fewer service interruptions during their initial course of treatment (Girardin, 2005; Stermac & Stirpe, 2002). Further, the addition of SANE nurses nationwide has been shown to increase documentation, evidence collection, and treatment adherence in victims, raise the likelihood of the victim filing formal charges against the perpetrator, and improve conviction rates in victims shown to suffer severe injury as a result of the attack(s) (Campbell, Patterson, & Lichty, 2005; Derhammer, Lucente, Reed, & Young, 2000; Feldhaus, 2002; Feldhaus, Houry, & Kaminsky, 2000; McGregor, Du Mont, & Myhr, 2002). To



date, no studies could be identified that have examined differences in costs associated with treatment of rape victims by SANE providers versus traditional treatment by ED physicians.

By creating the SANE program, nurses established RT as an issue of major importance to the nursing profession. Implications for nursing beyond the SANE specialist as a dedicated provider solely of services for acute RT could facilitate more effective and proactive reporting and treatment of any prior incidence of rape. Further, utilization of specialist nursing providers may facilitate eliciting information from past or current situation of abuse from visits where the presenting complaint is seemingly for a purpose unrelated to rape (e.g., marriage counseling, other traumatic experience, OB/GYN visit).

### **Summary.**

The concept of RT is important to nursing to help generate a theoretical model for nursing initiated RT interventions and prevention approaches. Nurses can address the issue of violence against women and provide sensitive nursing care in all healthcare settings. As demonstrated by the success of the SANE program, nurses are a credible group of healthcare professionals with whom rape victims can discuss their attack. Nurses can take a more active role in developing health care planning, public policies, and community responses to sexual violence (Emergency Nurses Association, 2006). According to Joel (2009) “evidence and research based practice is the standard to which we are held” (Joel, 2009).

In order to move forward with improvement of RT treatment and reduce costs to society and the victims, significant gaps related to the quality and cost of treatment should be addressed. It is also necessary to explore ways to enhance rape disclosure. In summary, RT is clearly an area of great significance to society, healthcare, nursing, and science.

## **Purpose of the Study**

The purposes of this study were to explore, via an anonymous web-based survey, differences in RT presentation related to: 1) types of rape (forcible rape, pressured sex, sex stress); 2) perpetrator/victim relationship (intimate partner, non-intimate known, and stranger), and; 3) potential protective factors (hope, coping and perceived control) as they relate to the type of rape, perpetrator type, and RT. Additionally, preferred venues and methods of rape disclosure were also evaluated.

## **Aims**

The specific aims for the study were:

*Aim 1.* To test for differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of rape (forcible, pressured sex, sex stress).

*Aim 2.* To test for differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger).

*Aim 3.* To examine possible protective factors of hope, coping, and perceived control on depression, anxiety and PTSD.

*Aim 4.* To explore the use of an anonymous web-based survey as a preferred “safe” data collection/self-disclosure mechanism in adult female rape victims.

## Research Questions

1. What are the differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of rape (forcible, pressured sex, sex stress)?
2. What are the differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger)?
3. What are the relationships among hope, coping, and perceived control with depression, anxiety, and PTSD?
4. Is the use of an anonymous web-based survey perceived as a “safer” disclosure format than person-to-person?
5. Are there differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among women who have and have not disclosed the event?

## **CHAPTER II**

### **LITERATURE REVIEW**

The section reviews the problem of interest from the perspectives of its origin and history, along with relevant theoretical frameworks and the methodological approaches used in the literature related to rape and RT. The key concepts and the theoretical framework for the study were developed.

#### **History of the Phenomenon**

In ancient times, women were wholly owned subsidiaries of men - first by their fathers and then by their husbands (Brownmiller, 1975). Researchers, such as Anna Clark, investigated sexual violence from 1770-1845, a period which marked the industrialization of England. She alluded to a culture of masculine eliteness and patriarchy and the issues of gender and class as issues relative to rape (Clark, 2006).

Legal definitions of rape and of sexual violence have changed over time. Until at least the Early Modern Period (to c.1700), rape or raptus meant abduction irrespective of intercourse. However, many cases spoke in terms of rapuit meaning ravished (D'Cruze, 1993). Codification of the law against sexual violence began with the Statutes of Westminster in 1275 and 1285, and established rape as a serious crime with the possibility of a death penalty. In the late 17th century, Lord Hale established a definition of rape that required vaginal penetration without consent.

Beginning in the 1970's with the feminist movement, perceptions of rape began to change. The belief that rape was a crime primarily involving sex broadened into a view that rape was a crime of power and control. Rape crisis centers began to appear in major cities, improving crisis intervention and therapy referrals. In 1975, marital rape was first recognized as a crime in the United States when South Dakota became the first state to pass legislation to that effect (Karmen, 2009). The National Center for the Prevention and Control of Rape was established in 1976 after enactment by Congress. This forum facilitated a funding structure for study of the psychological impact of rape (Ellis, 1983).

The research on the psychological sequelae of rape began in the past 30 years. Prior to the 1970's, rape research focused almost exclusively on the rapist with little to no emphasis on the victim (Frank, Turner, & Duffy, 1979; Kilpatrick, Resick, & Veronen, 1981). Early studies by Burgess and Holmstrom (1974), and Sutherland and Scherl (1970), supplied the initial evidence that both acute and chronic psychological distress resulted from rape (Burgess & Holmstrom, 1974a, 1974b), and further, that a portion of the initial sample continued to self-report symptoms five years later (Burgess & Holmstrom, 1979).

### **Current/Ongoing Disparity in Conceptual Definition**

Rape is a pattern of behavior in which the abuser is trying to gain and maintain power and control over the victim. The violence is committed without concern for the victim's mental or physical well-being, performed to show domination and control, and/or punish the victim, and is reoccurring, often escalating in severity and frequency. Historically, rape is legally defined as vaginal penetration in the absence of lawful consent (D'Cruze, 1993). However, cohesive

definitions of the requisite factors that constitute rape including the object used in the act of penetration (e.g., penis, finger, object), intended access of penetration (e.g., mouth, vagina, anus), gender of the perpetrator, type of relationship, and the definition of consent vary greatly across jurisdictions. In the United States, laws are statutory rather than Federal, and thus legal definition is reserved for each individual state (CDC, 2006).

This disparity continues relative to rape research. For example, in the NVAWS (Tjaden & Thoennes, 1999), rape was defined as an event that occurred without the victim's consent that involved the use or threat of force in vaginal, anal, or oral intercourse. This definition closely resembles the definition used in the National Women's Study (NWS) (Kilpatrick, Edmunds, & Seymour, 1992). However, unlike the NWS, NVAWS includes both attempted and completed rape. In the 2005 WHO multi-country study entitled, "Women's Health and Domestic Violence against Women," sexual violence was defined by the following three behaviors: being physically forced to have sexual intercourse against her will; having sexual intercourse because she was afraid of what her partner might do; being forced to do something sexual she found degrading or humiliating (World Health Organization (WHO), 2005). Interestingly, neither of the studies addressed issues with disclosure, creating a significant gap in the literature. Aligned with the debate over the conceptual definition of rape is incongruence relative to delineation of the type of rape victim. Currently, the term "rape victim" is used irrespective of the characteristics of the actual or attempted assault.

## **Theoretical Literature Review**

### **Conceptual Approaches/Theories Related to the Phenomenon**

The Theory of Stress and Coping (Lazarus & Folkman, 1984), Ecological Theories (Bronfenbrenner, 1979; Campbell, Dworkin, & Cabral, 2009; Neville & Heppner, 1999), Snyder's Hope Theory, (Snyder, 2000; Snyder, 1999; Snyder, Simpson, Ybasco, Borders, Babyak, & Higgins, 1996), and a diagnostic model of RTS (Burgess & Holmstrom, 1974a, 1974b), influenced the development of the conceptual model for this study .

### **Synthesis of Conceptual/Theoretical Knowledge**

#### **Theory of Stress and Coping Model**

As posited by Lazarus and Folkman (1984), coping can be described as an integral feature of the emotion process. Problem-Focused (directed toward managing or altering the problem causing distress) and Emotion-Focused (directed at regulating the emotional response) coping formulation are widely known and researched. Coping strategy use is not considered to be a trait phenomenon; instead, situation-specific appraisals influence the selection of coping strategy (Lazarus & Folkman, 1984). The appraisal process is influenced both by situation and person variables. Identified within this framework are four (4) central features - appraisal, coping, the flow of actions and reactions, and relational meaning (Lazarus & Folkman, 1984), while appraisals themselves are influenced both by situation and person variables.

Upon determining the presence of a stressor, the person affected evaluates the perceived threat (primary appraisal), whereby the individual makes a judgment as to the significance of the

event. Once deemed relevant, secondary appraisal follows. Here, the person assesses internal and external resources available to address the stressor and its sequelae (Lazarus & Folkman, 1984). Based on these appraisals, the person selects adaptive or maladaptive coping strategies that eventually affect psychological and physical outcomes. The Transactional Model of Stress and Coping highlights how coping is integral to physical and psychological sequelae from stressful or harmful experiences.

### **Ecological Theory**

Ecological Theories represent a sociocultural view of development and are considered to highlight contextual aspects of RT experiences that affect primary appraisal.

Comprised of five systems: microsystem: immediate environments; mesosystem: a system comprised of connections between immediate environments; exosystem: external environmental settings which only indirectly affect development; macrosystem: the larger cultural context and chronosystem: the patterning of environmental events and transitions over the course of life, the model represents a holistic perspective on human development (Bronfenbrenner, 1979). The model represents a progressive, mutual consideration, throughout the life course of a person and ever changing contexts and situations within which the person lives (Von Richthofen & Mellor, 1980); and acknowledges that humans don't develop in isolation, but in relation to their family and home, school, community, and society.

A recent adaptation of the original model by Bronfenbrenner was constructed by Campbell, Dworkin, and Cabral (2009), adding the concept of self-blame as a meta-construct. This model, termed the Ecological Model of the Impact of Sexual Assault on Women's Mental Health, focuses on the negative mental health effects of rape instead of the recovery aspect, and further considers the role of personality characteristics, preexisting mental health conditions,



biological/genetic factors, use of force and/or threats, and substance use not examined in previous models (Campbell et al., 2009). The authors of this model posit that the impact of disclosure, contained at the microsystem level, is integral to victims' post-assault psychological distress, and further, that self-blame transcends any one level of the model and is therefore conceptualized as a meta-construct stemming from interactions across all levels of social ecology. The construct of self-blame is important, as it is associated with negative psychological outcomes at the individual level, and should victims of rape blame themselves, they may not disclose the event to anyone. This failure to disclose then denies them opportunities for treatment and support. Maladaptive coping strategies have been associated with higher levels of self-blame, integrating the construct of self-blame to secondary appraisals. Although this model includes many of the proposed constructs and addresses primary appraisal and coping strategies along with Lazarus and Folkman, it does not incorporate or consider an individual's sense of hope or perceived control, nor coping style. While each of these models contains factors relevant to RT, none specifically focus on all of the proposed aspects together.(Lazarus & Folkman, 1984).

### **Snyder's Hope Theory**

Snyder's theory of hope is built upon, and expanded from an earlier definition by Stotland (1969), which described hope as one's expectation of achieving a goal that had a value greater than zero (Stotland, 1969). Snyder theorizes that hope is the "master personality" variable affecting the pursuit of all goals targeting mental action, and its absence is associated with clinical disorders such as depression (Snyder, 2000). This theory is based on the two interrelated components of successful agency (goal-directed determination) and pathways (planning to meet goals) (Snyder, 1999). To this end hope has, in Snyder's model, become multidimensional.

Agency describes a person's ability to make a decision to move toward a goal and sustain its pursuit. Pathways deal with the survivor's inherent belief that they are able to come up with strategies and mechanisms to achieve the goals set. Though these constructs are related, they remain distinct dimensions of hope (Babyak, 1993).

Snyder et al. (1996) propose that higher hope is associated with less psychological distress and increased ability to cope. Research conducted with veterans suffering from post-traumatic stress disorder (PTSD) revealed that higher hope is correlated with greater perceived social support from family and friends (Irving, Telfer, & Blake, 1997). Additionally, studies conducted that examined hope in the context of traumatic health events such as cancer diagnosis or impending surgery have shown that dispositional hope acts as a parlay to more positive psychological outcomes (Carver, Pozo, Harris, Noriega, Scheier, Robinson, et al., 1993).

Research conducted by Seligman and Csikszentmihalyi (2000) suggests that certain human strengths such as courage, hope, and optimism, can act as buffers against psychological disorders (Farran, Herth, & Popovich, 1995; Peterson, 2000; Seligman & Csikszentmihalyi, 2000). Hope is a particularly interesting attribute that can serve as a motivational factor to help initiate and sustain action toward goals that has also been linked to happiness, perseverance, achievement, and health (Peterson, 2000).

Researchers have theorized that individuals possessing higher hope are better able to envision and undertake adaptive coping strategies when faced with significant life stress (Horton & Wallander, 2001). Hope was one of the factors identified by Yalom (1995) of importance to therapy. This mechanism can be seen when both therapist and the patient believe in the efficacy of the treatment combined with the patient's expectations that help is desired (Yalom, 1995). Qualitative research conducted by Symes (2000) on readiness behaviors necessary to recover

from sexual assault, revealed that hope for the future was reported by participants as part of the process of healing. A study conducted in 2005 examining protective factors against suicide in African American women found that hope was one of only two protective factors studied that was able to distinguish uniquely African American women who had not made a suicide attempt from those who had made one or more suicide attempts (Meadows, Kaslow, Thompson, & Jurkovic, 2005).

Schrank, Stanghellini & Slade (2008) examined the concept of hope to inform the use of the concept within the mental health arena. Findings revealed that only eleven studies investigated hope as a predictive variable for differing outcomes, with inconclusive results. The authors' synthesis revealed that hope is defined primarily as a future-oriented expectation of attaining goals that one personally values, relationships that are perceived as important, and/or spirituality (Schrank, Stanghellini, & Slade, 2008). Thus, in broad terms, hope can be viewed as a function of secondary appraisal, if one considers Lazarus and Folkman's theory (Lazarus & Folkman, 1984). Despite the fact that hope is conceptualized and measured differently in the studies cited, there is an overall pattern relating hope to positive outcomes.

While previous research exists substantiating that people who are hopeful cope better and possess better overall insight under stress (Irving, Snyder, Cheavens, Gravel, Hanke, Hilberg, & Nelson, 2004; Tollett & Thomas, 1995), the study of perception of hope on the ability to decrease symptoms of depression, anxiety and/or PTSD after incidence(s) of rape has not been examined. Given that this model asserts that higher hope is associated with less psychological distress, and calls for goal-directed determination to meet the specified goal of symptom reduction or relief and identification of ways to meet this goal, it would be important to include hope in a conceptual framework relating trauma to depression, anxiety and PTSD.

## **Rape Trauma Syndrome**

RTS was first identified by Ann Wolbert Burgess and Lydia Lytle Holmstrom in response to their work with survivors who experienced RT (Burgess & Holmstrom, 1974a, 1974b). This model describes the acute phase and long-term reorganization process that takes place when someone is either forcibly raped or experiences an attempted forcible rape, and encompasses behavioral, somatic, and psychological reactions. Symptoms of RT syndrome (RTS), a subset of PTSD, include: recurrent and intrusive recollections of the rape, nightmares, numbing of general responses, feelings of detachment and estrangement, difficulty sleeping, outbursts of anger and exaggerated startled response. Unlike acute PTSD, RTS does not necessarily begin immediately following the event.

Two types of emotional responses are identified related to RTS in the acute phase; expressed and controlled (Burgess & Holmstrom, 1974b). The expressed response can vary from hysteria (uncommon) to crying, shaking, walking or talking nervously, and in some cases will present with self-conscious or demure smiling. With a more controlled response, the victim may appear subdued, detached, or numb. Vacillating between several different responses is not uncommon. During the long-term process of reorganization, various factors affect coping; characterological strength, social support, and treatment of the victims (Burgess & Holmstrom, 1974a, 1974b; Burgess & Holmstrom, 1985). This second phase often begins several weeks after the assault and presents with increased motor activity, intrusive thoughts, and traumatophobia, which involves fears and phobias developing as a defensive reaction to the rape. The process of reorganization in this model is also consistent with Lazarus and Folkman (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus & Folkman, 1984).

## **Summary.**

While all of the models discussed above are specific regarding their constructs, no one theoretical framework accounted for or covered the specific breadth of the constructs and relationships contained within the study. A conceptual framework was needed to account for the salient role of coping that acknowledged that contextual factors of rape as well as intrapersonal variables, psychosocial characteristics, and cultural factors influence the subsequent development of psychopathology (depression, anxiety and PTSD) and physiological sequelae. For this reason, a hybrid framework based upon The Theory of Stress and Coping (Lazarus & Folkman, 1984), and a diagnostic model of RTS (Burgess & Holmstrom, 1974a, 1974b) was created to guide this research. Hope is included as variable in this framework based upon Snyder's Hope Theory, and disclosure based upon ecological theory.

## **Methodological Literature Review**

RT often results in psychological sequelae; depression (Bengtsson-Tops & Tops, 2007; Faravelli et al., 2004; Lawrence, Chau, Lennon, Columbia University & National Center for Children in Poverty, 2004; Samelius, Wijma, Wingren, & Wijma, 2010), anxiety (Bengtsson-Tops & Tops, 2007; Pico-Alfonso, Garcia-Linares, Celda-Navarro, Blasco-Ros, Echeburua, & Martinez, 2006; Winfield, George, Swartz, & Blazer, 1990), and PTSD (Bownes et al., 1991a; Breslau, Chilcoat, Kessler, & Davis, 1999; Breslau et al., 1998; Darves-Bornoz, 1997; Faravelli et al., 2004). These sequelae have far-reaching implications that include poorer overall health (Bonomi, Anderson, Reid, et al., 2009; Bonomi, Anderson, Rivara, et al., 2009; Chrisler & Ferguson, 2006; Hazelwood & Burgess, 2009; Plichta & Falik, 2001; Rivara et al., 2007;

Schnurr & Green, 2004; Tjaden & Thoennes, 2006), family dysfunction (Finkelhor & Yllo, 1985; Starks & Blackie, 2000), and negative effects on employment (Chrisler & Ferguson, 2006; Tjaden & Thoennes, 2006). Intervention work aimed at increasing hope, coping skills and perceived control has been shown to alleviate symptoms of depression, anxiety and PTSD in other non-rape, trauma survivor populations (Benight & Bandura, 2004; Dutton, 2009; Jaycox et al., 2002; Kilpatrick et al., 2003; Tjaden & Thoennes, 1998).

The purposes of this section include: (1) critically analyzing methodological approaches that have been used to study rape; (2) discussing advantages and disadvantages of methods used in the literature (e.g., efficiency of method, cost of method); and, (3) identifying strengths and weaknesses of the methodological approaches used to investigate the problem of interest (e.g., small sample size, poor reliability/validity of instruments).

The methodological approaches to the study of RT related to the various constructs of primary interest for this study are reviewed and analyzed in detail: (1) type of rape; (2) perpetrator/victim relationship; (3) RTS (depression, anxiety, and PTSD); (4) hope; (5) coping; (6) perceived control; and (7) disclosure.

### **Type of Rape**

Forcible rape is the concept most often discussed in the literature on rape; however, definitions of rape (aka forcible rape) are vast and vary widely. For this study, the term forcible rape was defined as: no consent for sex; forced compliance for sex; fear and/or threat of injury; penetration (or attempted) of a body orifice. In criminal law, rape is an assault by a person involving sexual intercourse with another person without that person's consent. Outside of law, the term is often used interchangeably with sexual assault, a closely related term (Burgess & Holmstrom, 1974b). In addition to forcible rape, Burgess and Holmstrom (1974) delineated

terms to describe other possible victimization types, specifically pressured sex and sex stress, neither of which has been well utilized in the literature or in RT research. All of these terms have been defined previously. No studies were identified that have used this terminology. There is currently no instrument available to measure the concept of sex stress specifically; therefore, a question was developed in consultation with Dr. Ann Burgess to measure the concept in this study.

As cited earlier, there is a lack of congruence relative to delineation of the type of rape victim. Currently, the term “rape victim” is used irrespective of the characteristics of the actual or attempted assault. Although Burgess and Holmstrom (1974) proposed this delineation as an important and integral component of rape victimization, it has been overlooked and not pursued. (Burgess & Holmstrom, 1974b) Only two studies were identified that attempted to classify rape victims in “rape categories.” The first study delineated the categories as forcible rape, drug or alcohol facilitated rape, incapacitated rape, and multiple rapes. The sole focus of the first study was on help-seeking behaviors and therefore, no other associations were reported (Amstadter, McCauley, Ruggiero, Resnick, & Kilpatrick, 2008). The second study used categories (or tactics as they were referred to) of forcible rape, incapacitated rape, and drug or alcohol intoxication. Results of this study indicated that all three tactics were associated with an increased risk of PTSD and depression, and the authors posit that the definition of rape experiences be expanded to include other categories beyond forcible rape (Zinzow, Resnick, McCauley, Amstadter, Ruggiero, & Kilpatrick, 2010). The dearth of research utilizing multiple categories to describe the difference in RT experience(s) represents a significant gap in the literature that warranted further investigation, meriting focus in this study.

## **Perpetrator/Victim Relationship**

The rapist perpetrator has been categorically portrayed through history as a monster, deviant, lurking in bushes, and in alleyways, waiting for the unsuspecting victim (D'Cruze, 1993; Johnson, Zlotnick, & Perez, 2008). Although this form of perpetrator and victimization does exist, it is neither the only, nor the most prevalent form, according to most individual studies (Basile et al., 2007; Johnson et al., 2008; Plichta & Falik, 2001; Tjaden & Thoennes, 1999; Tjaden & Thoennes, 2006; U.S. Department of Justice Office of Justice Programs, 2008). A meta-analysis examining rape treatment outcome research found that 51.6% of victims were raped by strangers (Stermac & Stirpe, 2002; Vickerman & Margolin, 2009). This finding was similar to findings in studies by Frazier (2004) and Resick, Jordan, Girelli, Hutter, & Marhoefer-Dvorak (1988), that 45% and 54% of victims respectively were assaulted by a stranger (Frazier, Tashiro, Berman, Steger, & Long, 2004; Resick et al., 1988). However, this pattern is directly opposite from findings of the NVAWS that concluded only 17.6% were raped by strangers. In one recent cross-sectional, correlational study of 1172 patients presenting to a local emergency department with a complaint of rape, the relationship between the victim and perpetrator was documented in 88.5% of cases (N = 1037). Of the total, 550 patients (53.0%) reported knowing their attacker, 437 (42.2%) did not know the perpetrator, and 50 (4.8%) were unsure. Results indicated that victims who were African American, as opposed to Caucasian (62.6% vs. 43.5%, respectively,  $p < 0.0001$ ), and young (age < 26 years) reported significantly higher rates of known perpetrators than older victims (58.1% vs. 49.2%, respectively,  $p < 0.005$ ). Victims who reported knowing their attacker most often categorized the relationship as “acquaintance” (50.8%), or “friend” (30.8%) (Avegno, Mills, & Mills, 2009). Contrary to some other studies,



categorizing of the relationship as a “date” comprised only 9.6% of cases; spouse/partner accounted for (4.0%), of cases, and family member (another 4.9%).

Significant discrepancies are found in the literature relative to the type of perpetrator and assault location, nature and extent of injuries, reporting of the assault to police, and resulting psychological sequelae. First, there is a lack of congruency and agreement on what constitutes an intimate partner versus an acquaintance. Although studies categorize a former husband or boyfriend as intimate partner (Logan, Cole, & Capillo, 2007), others include an ex-boyfriend or partner in the acquaintance category (Bownes, O’Gorman, & Sayers, 1991b; Pazzani, 2007), spouse, partner, relative or friend in the intimate category (Plichta & Falik, 2001), or do not inclusively categorize other than to state that assaults were committed by someone known to the victim or unknown to the victim (Fairbrother & Rachman, 2006). Lack of agreement as to the categorization of individuals and their respective perpetrator category does not facilitate cohesive research strategies, and makes any generalization of results difficult.

Further, findings relative to the location of the assault are inconsistent and contradictory. One cross-sectional study examining characteristics of assault for victims presenting to a level I trauma center over a four-year period found that the majority (84.9%) of victims assaulted by intimate partners were assaulted either in their own home or the home of the perpetrator (Logan et al., 2007). Although another study found similar results for assaults of victims with prior knowledge of the perpetrator occurring in the perpetrator’s home (43%), other results were opposite, with almost half (43%) of stranger assaults occurring in the home of the victim (Jones, Wynn, Kroeze, Dunnuck, & Rossman, 2004). However, another study found no difference in the relationship between the perpetrator and victim and the incidence of assault in the victim’s home (Bownes et al., 1991b).

Similar disparity exists relative to reporting. One study examining lifetime rape prevalence rates and reporting practices for victims presenting to the emergency department found that individuals assaulted by a stranger were significantly more likely to report the crime to police than those assaulted by a partner (79%; 95% CI 62 to 95), or by any other person known to them (e.g., acquaintance, family member, etc.) (18%; 95% CI 20 to 43;  $p < .001$ ) (Logan et al., 2007). Findings relative to reporting of assaults by a stranger versus intimates were corroborated in more recent studies (Clay-Warner & McMahon-Howard, 2009; Seifert, Lambe, Anders, Pueschel, & Heinemann, 2009). However, Clay-Warner & McMahon Howard (2009) found no difference in the likelihood of reporting between strangers and other known assailants. Other researchers also found that reporting is more likely in stranger assaults than in those by a known perpetrator (Clay-Warner & McMahon-Howard, 2009; Feldhaus et al., 2000; Felson & Paré, 2005; Fisher, Daigle, Cullen, & Turner, 2003). In contrast, other studies found that victims of assaults by a spouse (Stermac & Stirpe, 2002) were more likely to be reported to police, or that there was no difference in the aspect of reporting based on victim-offender relationship (Bachman, 1993; Baumer, Felson, & Messner, 2003).

Although the majority of the studies addressed demographic variables such as age, race and socioeconomic status, and many report on past trauma and likelihood of re-victimization (Cloutier et al., 2002; Messman-Moore & Long, 2000), only one considered cultural implications relative to RT and perpetrator type. This study found that women who were victims of child abuse in general or prior sexual assault(s) were more likely to be current victims (within 5 years) of acquaintance rape, but not stranger rape (Pazzani, 2007). These studies were all cross-sectional in nature.

There is little research on the perpetrator-victim relationship and psychological sequelae of RT, and what does exist does not delineate the nature and extent of the problem (Ellis, Atkeson, & Calhoun, 1981). One study that examined psychosocial correlates of violence found that the perpetrator-victim relationship was not a significant correlate of PTSD; however, the authors noted that important PTSD correlates, such as trauma history of any kind and incidence of child sexual abuse, were omitted from the study (Ullman, Filipas, Townsend, & Starzynski, 2007; Ullman, Townsend, Filipas, & Starzynski, 2007).

The relationship between the perpetrator and victim and treatment-seeking behavior is another phenomenon with disparate results. Whereas the NVAWS and another study by Logan et al. (2007), found that more women raped by intimate partners self-reported injuries (Tjaden, Thoennes, & Allison, 2000), the majority of studies report women raped by an acquaintance are the most likely to seek treatment, followed by strangers, and then intimate partners (Kimerling, Rellini, Kelly, Judson, & Learman, 2002; Riggs, Houry, Long, Markovchick, & Feldhaus, 2000; Sugar, Fine, & Eckert, 2004). Conflicting results were found in a study of more than 3,000 women nationwide. Resnick et al. (2000) found that survivors of stranger rape were more likely to present for medical care, compared to victims of acquaintance or intimate partner rape (Resnick, Bellg, Borrelli, DeFrancesco, Breger, Hecht, et al., 2005).

Prior research suggests that there is a difference in patterns of sustained injury depending on the victim-offender relationship. However, there is disagreement as to the nature and extent of the injuries relative to the victim-offender relationship. The majority of studies examining this phenomenon categorize injuries into genital and non-genital injuries. Although there are numerous studies that address the injury component of RT, very few address it relative to the perpetrator-victim relationship. Of those identified that did examine this association, one found

that more women assaulted by an intimate partner had more non-genital injuries (Logan et al., 2007), and one found the exact opposite; those assaulted by a stranger had more non-genital injuries (Jones et al., 2004).

### **Summary.**

A paucity of research exists that attempts to include the victim-offender relationship as a key variable in RT. The majority of the studies identified and evaluated are descriptive, cross-sectional analyses, other than as specifically noted in the previous section. Current available research findings reveal a lack of consistent categorization of the victim-offender relationship (intimate partner, non-intimate; known, stranger). This gap in the literature deserves to be addressed as this fact alone could be a major limitation in determining actual risk factors, and possible intervention strategies. Other significant gaps exist related to cultural implications, psychological sequelae depending on the type of encounter, incidence, and reasons for seeking treatment, and patterns, extent, and nature of injury related to the type of victim-offender relationship. Finally, there were no studies identified relative to type of RT (e.g., forcible rape, pressured sex, sex stress) and perpetrator-victim relationship, and both of these factors have been extensively discussed previously and are a focus of this study.

### **RT Syndrome**

Overarching information on the syndrome is presented earlier. Initial derivation of RTS came from an analysis of symptoms from 146 patients who presented to the Boston City Hospital between July 20, 1972 and July 19, 1973 with the complaint of being raped (Burgess & Holmstrom, 1974a, 1974b). Victims were divided into three categories: forcible rape; victims who lack the ability to consent (including children); victims who were threatened with consequences should they not have sex (pressured sex); and victims of sexually stressful

situations (sex stress). A separate qualitative analysis was completed for the 92 adult women who were victims of forcible rape. The findings, as described previously, resulted in the creation of the term RTS.

RTS became recognized as a psychiatric diagnosis when the American Psychiatric Association (APA) (APA, 2000) included it as a form of PTSD in its Diagnostic and Statistical Manual of Mental Disorders (DSM-III), and the diagnosis remains as such in the most recent addition, the DSM-IV-TR (APA, 2000). Interestingly, RTS has been utilized as admissible evidence in court proceedings related to lack of consent, civil suit damages, defense to culpable behavior, and any explanation of behavior of the victim that would seem to be inconsistent with a claim of rape (Block, 1990; Frazier & Borgida, 1985). However, a discussion with one of the main authors revealed that RTS was never intended to be a legal issue, but a clinical one, and therefore its use in court is not supported. Burgess (2010) asserts, “if it is a criminal case, it is the decision of the court as to its legal terminology.” (A.W. Burgess, personal communication, July 26, 2010). Key components of RTS, depression, anxiety, and PTSD are discussed below.

### **Depression**

Two early studies were identified that discussed depression as a sequelae of RT (Peters, 1975; Sutherland et al., 1998; Sutherland & Scherl, 1970), with the first actual evidence of the presence of depressive symptoms coming from the work of three research groups (Atkeson, Calhoun, Resick, & Ellis, 1982; Frank & Stewart, 1984; Frank et al., 1979). Initial findings demonstrated that 44% to 56% of rape survivors were moderately or severely depressed at one month post rape, with 43% meeting the criteria for major depressive disorder (MDD)(Frank & Stewart, 1984; Frank et al., 1979) Atkeson et al. (1982) built on these results, finding that rape victims were significantly more depressed than non-victims at two months post assault (Atkeson

et al., 1982) In this longitudinal study, 115 rape victims (aged 15-71 years) were examined at two weeks and at 1, 2, 4, 8, and 12 months after the assault. Subjects were matched with 87 case controls that had never experienced rape who were assessed at the same intervals. Two measures of depression were used in this study-- the Beck Depression Inventory (BDI) (self-report) and the Hamilton Rating Scale for Depression (HPRS). Results indicated that depressive symptoms were significantly higher in victims of rape than in non-victim controls following the assault ( $p < .05$ ). However, at four months post-rape, depressive symptoms in the victim group had diminished to the level of the non-victim control group for the BDI and HPRS. Because a sufficient number of victims continued to exhibit depressive symptoms at 4, 8 and 12 months post assault, a series of stepwise multiple regression analyses were performed. For the initial analysis, six predictor variables readily available to rape-crisis counselors were selected. Victim BDI scores were significantly predicted by assault reaction, age, and socioeconomic status ( $F(3, 62) = 4.45, p < .01$ , combined  $R^2 = 0.18$ ) at 12 months post assault. The second analysis utilized 11 predictor variables from the structured clinical interview. Variables predicting BDI scores 12 months post assault were anxiety attacks, psychiatric treatment history, and physical health problems prior to the rape ( $F(3,55) = 12.94, p < .001$ , combined  $R^2 = 0.41$ ). This study highlights the importance of assessing pre-rape presence of psychiatric and physical health problems, especially anxiety and depression related to post-rape outcomes. Findings substantiated that victims with pre-rape physical and psychological pathology are likely to experience adverse duration and severity of depressive symptoms.

There are numerous more recent studies that highlight the association of rape and depression. For example, the NWS found that rape victims suffered a major depressive episode at a rate three times greater than non-victims (Kilpatrick et al., 1992). Similarly, the

Commonwealth Fund's 1998 Survey of Women's Health found that experiencing sexual violence was significantly associated with higher scores for depressive symptoms, having received a physician's diagnosis of depression and/or anxiety in the past five years, and with current use of medication for depression and/or anxiety (Plichta & Falik, 2001). Further, Pico-Alfonso, et al. (2006) found that women who had experienced concomitant sexual violence exposed to both physical/psychological and psychological abuse had a higher incidence and severity of depression and thoughts of suicide than control women, with no differences between the two abused groups.(Pico-Alfonso et al., 2006) A detailed analysis of this study is provided later.

A prospective case-control study in a national sample of American women showed that the women with intimate partner violence (IPV), compared to women without IPV, experienced a higher degree of depressive symptoms and functional impairment, and less self-esteem and life satisfaction (Zlotnick, Johnson, & Kohn, 2006). Using data from the National Survey of Families and Households (NSFH), this study examined a sub-group of 3,173 married or cohabitating women from wave 1 of a larger study who completed questions about physical (including sexual) victimization in intimate relationships and were re-interviewed at wave 2. Analyses were conducted on 148 women who reported varying degrees of interpersonal victimization at wave 1 to those who denied such victimization. The NSFH used an abbreviated version of the Centers for Epidemiologic Studies Depression Scale (CES-D) to measure depression. Social support was also measured; however a standardized instrument was not used. The majority (94.7%) of participants were married. Inspection of mean scores demonstrated that women who reported IPV at wave 1 reported significantly more depression and greater functional impairment at wave 2.

Three other studies of interest were conducted by Stein and Kennedy (2004), O'Campo et al. (2006), and Lipsky, Field, Caetano, & Larkin, (2005). These were the three studies identified in which co-morbid psychological sequelae (PTSD and depression) were examined relative to Intimate partner violence (IPV), or more specifically to RT. In a cross-sectional analysis, Stein and Kennedy (2004) evaluated the co-occurrence and correlates of PTSD and Major Depressive Disorder (MDD) in female victims of interpersonal violence (Stein et al., 2004). The participants in this study were also part of a larger study examining psychological and neurobiological effects on trauma in general in women. Forty-four female victims of IPV were recruited through advertisements placed at agencies that provide services to victims of abuse and to community medical clinics. Exclusion criteria included use of any psychotropic medication within the six weeks prior to the study. The presence of PTSD was measured using the clinician administered PTSD Scale for the DSM (Blake, Weathers, Nagy, Kaloupek, Gusman, Charney, & Keane, 1995). Level of depression was assessed using the CES-D. Findings from this study substantiate that PTSD and MDD frequently occur as sequelae of violence, that depression alone is rare, and that nearly all cases of current major depression occurred in the context of concurrent PTSD that was directly attributable to the interpersonal violence (Stein & Kennedy, 2001).

The second study by O'Campo, et al (2006) compared associations of MDD, PTSD, and PTSD/MDD co-morbidity in samples of civilian and military women experiencing IPV. Depressive symptoms were measured using the Brief Symptom Inventory (Derogatis & Melisaratos, 1983), and PTSD symptoms were assessed using the Crime Related PTSD Scale for Women (Saunders, Arata, & Kilpatrick, 1990). A higher prevalence of mental health sequelae was found in both groups having suffered abuse (military and civilian) versus no abuse, with the highest proportion among the civilian cohort. Almost 20% of the women in the civilian abused



group were categorized as co-morbid MDD/PTSD compared to 6.6% of non-abused women; however, there was little difference in co-morbidity between the abused and non-abused military women (O'Campo et al., 2006). There are two important caveats to both of these studies relative to this study: a) both examined IPV as a whole, and therefore included physical as well as sexual violence; and, b) they did not account for any incidence(s) of rape experienced by non-intimate or stranger contact(s).

A cross-sectional case control study by Lipsky, Field, Caetano, & Larkin (2005) using a sample of 182 women found that women with PTSD symptomatology were four times more likely than those without PTSD to be depressed, and twice as likely to have been married, experienced sexual IPV, and six or more types of physical IPV (based on the Conflict Tactics Scale, Form R), and three times as likely to have a partner who consumed 5 or more alcoholic drinks per occasion at least once a month . PTSD symptomatology was assessed using the PTSD portion of the Complete Diagnostic Interview (CIDI) and depressive symptomatology was measured by the CES-D. Since the authors sought to measure IPV in general and not rape specifically, the Conflicts Tactics Scales, Form R was used to measure IPV. Sexual IPV was defined as “forced sex” and was dichotomized into a yes/no format. Of the 182 cases, 68 (37.4%) reported rape.

Although there is no longer debate as to whether or not survivors of rape suffer from depression, there is continued disparity in the reported incidence and prevalence, length of time that symptoms persist, and how other factors may contribute to or be protective of continued sequelae. There are no studies to date that have examined the co-morbid phenomenon of depression and PTSD considering all possible categories of perpetrator/victim relationship, nor the combination of those with anxiety in a population of RT survivors. Further, significant gaps

exist in understanding the temporal and etiologic relationships between rape, PTSD and MDD over the life course. It is important to note that most studies thus far have assessed IPV only, and therefore results are not necessarily representative or generalizable to all possible RT victims. Further, many studies have assessed symptomatology and have not been diagnostic in nature.

### **Anxiety**

The most common psychological disturbance associated with general trauma (Mayou, Bryant, & Ehlers, 2001), or RT has been anxiety (Neville & Heppner, 1999). Significant disparity exists relative to the prevalence, extent and duration of symptoms of anxiety in quasi-experimental (Kilpatrick & Veronen, 1984), longitudinal (Kilpatrick et al., 1981) and cross sectional analyses (Resick & Schnicke, 1993).

A recent review of the literature found a statistically significant relationship between rape and lifetime diagnosis of anxiety (Chen, Murad, Paras, Colbenson, Sattler, Goranson, et al., 2010). However, evaluation of individual studies related to anxiety revealed that the studies were all cross-sectional (Frank & Anderson, 1987; Spataro, Mullen, Burgess, Wells, & Moss, 2004) or longitudinal analyses (Fergusson, Boden, & Horwood, 2008; Fergusson, Swain-Campbell, & Horwood, 2002; Fergusson, Woodward, & Horwood, 2000; Price, Maddocks, Davies, & Griffiths, 2002) specifically related to examination of occurrences of past child sexual assault measured in adult subjects (age > 18 years). Only two recent studies were identified that actually measured anxiety as an individual construct related to the sequelae of female adult victims of RT (Pico-Alfonso et al., 2006; Samelius et al., 2010). Two other studies were identified that had some relevance; one study examined a specific construct called health anxiety (Stein et al., 2004), and one was an intervention study (Foa, Zoellner, & Feeny, 2006). Since neither of these

studies specifically evaluated anxiety as a distinct variable associated directly with RT, they are not discussed in detail.

Pico-Alfonso et al (2006) conducted a descriptive cross-sectional, correlational study with 182 participants. The aim of the study was to determine the specific impact of physical, psychological, and sexual IPV on women's mental health. The authors hypothesized that psychological IPV would be as detrimental as physical IPV, with respect to symptoms of depression, anxiety and PTSD, as well as suicidality (Pico-Alfonso et al., 2006). Structured interviews were conducted along with self-report instruments. Depression was measured using the BDI, anxiety was measured using the State-Trait anxiety inventory (STAI-Y), and PTSD was measured with a structured interview - Echeburua's Severity of Symptom Scale of Posttraumatic Stress Disorder. It is important to note that the measures of depression and anxiety were self-report, while the measure of PTSD was completed using a structured interview. Findings suggest that women exposed to physical/psychological and psychological IPV had a higher incidence and severity of depressive and anxiety symptoms, PTSD, and thoughts of suicide than control women, with no differences between the two abused groups (psychological IPV and physical IPV). However, sexual IPV was not an independent predictor related to depressive, anxiety or PTSD symptomatology or suicidality. This finding supports results from the study conducted by Basile, Arias, Desai, & Thompson (2004), but contradicts findings from a study by Bennice, Resick, Mechanic, & Astin (2003) relative to PTSD. The authors address this discrepancy by suggesting that differences in the method of assessment of depression, characteristics of the sample, and characteristics of IPV may explain some discrepancies. Additionally, this study highlights how future research should control for lifetime history of victimization, and underscores this variable's possible contribution to mental health status. It should be noted that

this study considered IPV only, and therefore did not address abuse suffered based on non-intimate or stranger relationships. The authors fail to address any study limitations and the cross-sectional nature of study negates any causal inference. Finally, other than mean ages for the three groups, no other demographic information was provided, limiting generalizability of the results.

Samelius et al. (2010) investigated lifetime history of physical, sexual, and psychological abuse and current suffering in a representative sample of Swedish women. The authors used the Abuse Screening Inventory (ASI) to assess lifetime experiences of these three forms of abuse, and asked questions about personal health in the past twelve months. In addition, participants were asked to what extent they were currently suffering from the abusive experience on a scale from zero (no suffering) to ten (severe suffering). The 50th percentile was tested as a cutoff for non-suffering (0-2), and suffering (3-10). Sexual abuse was reported by 9.2% of the sample, and 81.4% of the sample reported suffering.

### **Posttraumatic Stress Disorder - PTSD**

PTSD affects about 7.7 million American adults (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). Women are more likely to develop PTSD than men (Jaycox et al., 2002; Margolin & Gordis, 2000). PTSD is defined in terms of the trauma itself and the person's response to the trauma. Trauma occurs when a person has experienced, witnessed, or been confronted with a traumatic event. Sexual assault leaves lasting, deleterious effects on the mind and body of those who have to live with the sequelae of this traumatic event (Sarkar, 2008). Multiple studies have determined that symptoms of PTSD were found with significantly greater prevalence among women who had been raped than in women who experienced a traumatic event that did not involve any sexual content (Faravelli et al., 2004; Masho & Ahmed, 2007).

Traumatic events sufficient to produce PTSD in susceptible subjects may reach a lifetime prevalence of 50% to 90% (Vieweg, Julius, Fernandez, Tassone, Narla, & Pandurangi, 2006). A nationally representative sample of women in the US (N = 2,850) found a lifetime prevalence of PTSD of 35% (Plichta & Falik, 2001). In data from 8,005 women in the NVAWS, the lifetime prevalence of PTSD as a result of physical interpersonal violence alone was 13.3%, and the strongest risk factor for IPV was physical assault as a child (Coker, Smith, Thompson, McKeown, Bethea, & Davis, 2002). In a meta-analysis conducted by (Brewin, Andrews, & Valentine, 2000), fourteen (14) variables were found to be statistically significant risk factors for posttraumatic stress disorder. Younger age, adverse childhood factors and severity of trauma comprised the top three variables in the civilian group, followed by female gender, lack of social support and minority status in the military group. A recent literature review reported that the prevalence of PTSD was between 7 to 65% for victims of rape alone (Campbell et al., 2009), with most studies reporting prevalence of greater than 33%. Unlike most psychiatric diagnoses, PTSD is defined in relation to a potentially etiologic event (the traumatic "stressor criterion") that is fundamental to its conceptualization. The diagnosis of PTSD thus inherently depends on two separate but confounded processes: exposure to trauma and development of a specific pattern of symptoms that appear following the trauma. The three categories of symptoms associated with PTSD include intrusive memories, avoidance and numbing, and hyperarousal, with evidence suggesting that avoidance and numbing appear to be the most specific for identification of PTSD (APA, 2000).

By definition, PTSD may occur in association with a range of trauma types, e.g., natural disasters and terrorism, rape and other assaultive violence, military combat, and accidental injuries. Trauma types demonstrated most commonly associated with PTSD are rape,

kidnapping, and torture (North, Suris, Davis, & Smith, 2009). PTSD is in itself a disorder in which the individual has persistent and pervasive thoughts about an event that has already happened. Ehlers and Clark (2000) posit that continuing symptoms occur due to individual processing of the traumatic event and/or its sequelae, which produces perceptions of a serious current threat. Two processes identified by the authors as leading to a sense of threat are: 1) individual differences in the appraisal of the trauma and/or its sequelae; and 2) individual differences in the nature of the memory for the event and its link to other autobiographical memories. This perception is accompanied by intrusions and other re-experiencing symptoms, symptoms of arousal, anxiety, and other emotional responses.

As mentioned earlier, rape can be perpetrated by an intimate partner, non-intimate assailant known to the victim, or by a stranger. IPV has multiple facets; sexual, physical, and psychological. A review of the literature reveals that although numerous mental health problems are associated with IPV, PTSD is the most prevalent disorder in women who have been battered or raped (Jones, Hughes, & Unterstaller, 2001; Jordan, Campbell, & Follingstad, 2010). As discussed previously, it is important to remember that rape as a result of IPV constitutes only one type of victim-offender relationship. Thus, it is important to consider PTSD resulting from non-intimate known assailants (e.g., friends, family, and coworkers) and strangers, as well.

Multiple studies have determined that symptoms of PTSD were found with significantly greater prevalence among raped women than in women who experienced a traumatic event that did not involve any sexual content (Faravelli et al., 2004; Masho & Ahmed, 2007), and that numerous factors are associated with PTSD symptomatology (Borja, Callahan, & Long, 2006; Clum, Calhoun, & Kimerling, 2000; Dunmore, Clark, & Ehlers, 2001; Ullman, Filipas, et al., 2007).

For example, Faravelli et al (2004) was the first study to examine psychological consequences in women reporting a single incidence of rape with none having occurred in childhood or adolescence. Forty women who had reported rape to authorities and pursued court prosecution of their offenders were interviewed by a female psychiatrist using the Florence Psychiatric Interview, an instrument created by the principal author and other colleagues in 2001. Participants were compared to a group of non-abused women. Significantly greater PTSD prevalence was found among RT victims ( $X^2 = 21.2$ ,  $df = 1$ ,  $p < .001$ ).

Masho and Ahmed (2007) examined prevalence, correlates and practice implications in a cross-sectional study of 1,769 adult female residents of Virginia. The prevalence of PTSD among women with no history of sexual assault, and those assaulted for the first time at  $\geq 18$  years of age were 8.1%, and 30.2%, respectively. The risk of PTSD among women reporting a history of sexual assault at  $\geq 18$  years of age was 2.9 times higher than an adult with no history of sexual assault ( $OR 2.89$ ,  $95\% CI = 1.46-5.74$ ).

Only one study was identified that assessed PTSD related to experiences of acquaintance rape only. Borja, Callahan and Long (2006) examined sexual assault related to PTSD and other constructs (e.g., adjustment, social support, perceived benefits) in a sample of 115 participants who met the criteria as a sexual assault survivor from an initial pool of 517 women recruited from a large Midwestern research university. Screening was accomplished using a modified version of the SES, an instrument relevant to this study. Measurement of PTSD was accomplished using the Posttraumatic Stress Diagnostic Scale (PDS). Results indicated that PTSD severity was related to number of assaults ( $r = .50$ ,  $p < .01$ ), and PTSD symptoms were related to negative informal support (Borja et al., 2006).

A study conducted with 57 female college students self-reporting a history of rape as their most significant trauma ever experienced revealed that while depressive symptoms accounted for large portion of the variance (20%) in self-reported health symptoms, PTSD emerged as an even greater predictor (multiple  $R = 0.78$ ,  $R^2 = 0.61$ ,  $F(6,50) = 13.00$ ,  $p < .0001$ ) (Clum et al., 2000). PTSD was measured by the PDS and depression was measured by the Beck Depression Inventory (BDI) in this study.

Dunmore et al. (2001) conducted a prospective study examining the role of cognitive factors in persistent PTSD after physical or sexual assault. Semi-structured interviews were conducted accompanied by questionnaires. Fifty-seven participants (31 women and 26 men) who had been assaulted within the previous four months were included in the study. Those women who were still involved in the relationship or situation within which the assault(s) occurred were excluded. Follow-up was done by mail monthly for nine months thereafter to determine severity of symptoms. Semi-structured interviews for the purpose of determining background characteristics and the nature of the assault, as well demographic information, were also conducted. Variables found to predict PTSD severity were: cognitive processing style during assault, appraisal of assault sequelae, negative beliefs about self and the world, and maladaptive control strategies. Evidence from this study suggests that victims, who held more negative beliefs before the assault, developed more long-lasting PTSD after the event(s).

Finally, in a cross-sectional study of 1,084 women survivors of sexual assault, Ullman, Filipas, Townsend and Starzynski (2007) examined psychosocial correlates of PTSD. Women in the Chicago area were recruited on college campuses, in the community, and at mental health agencies and rape crisis centers to complete a confidential mailed survey. Measures that have relevance to this study included: SES, Brief COPE, five supplemental items measuring perceived



control from the Rape Attributions Questionnaire (RAQ), and the Posttraumatic Stress Diagnostic Scale (PDS). A strength in this study was the use of *a priori reasoning*, proposing correlations prior to the data analysis. Though they may assume causality based on the substantiation of correlations found, the model does not prove causal direction, but suggests a theoretical basis for arguing their case (deVaus, p. 180, 2001). Results indicated that while assault severity and victim-offender relationship were not significant correlates of PTSD symptom severity, avoidance coping and negative reactions to assault disclosure, social support and characterological self-blame were associated with greater PTSD symptom severity, and present perceived control over the individual's recovery process was associated with a decrease in symptoms (Ullman, Townsend, et al., 2007).

### **Summary.**

As evidenced by the information presented, depression, anxiety, and PTSD are significant sequelae of RT. However, there is a lack of recent research on the sequelae of anxiety as separate and distinct from PTSD. One possible explanation for the lack of recent studies evaluating anxiety related to RT is that PTSD is considered an anxiety disorder (Rauch & Foa, 2007). Although PTSD is in fact a disorder on the anxiety spectrum, it has wholly separate diagnostic criteria from that of other anxiety disorders, including overall generalized anxiety disorder (GAD). Whereas anxiety can be generalized to many situations, PTSD symptomatology and diagnosis requires the participant to have experienced trauma of some sort. Further, RTS is listed as a documented form of PTSD that is specific to rape/sexual assault. However, this writer was unable to find any studies to date that have discussed findings of PTSD related to RTS. This gap in the literature deserves to be addressed. The positive diagnosis of PTSD directly related to rape should be designated as RTS for numerous reasons including: a) incidence and prevalence of RT

and resulting sequelae of RTS can be more accurately tracked and reported; and b) victims can be identified as survivors of RT and not catalogued in a pool of all other trauma survivors with PTSD, allowing for more effective initial and ongoing treatment. Further, it is important to distinguish generalized anxiety from PTSD to effectively manage symptoms and provide more cohesive treatment and interventions. In addition, although numerous studies have substantiated the presence of depression and PTSD in RT survivors, there was no study identified to date that has examined depression, anxiety (general), and PTSD as co-morbid sequelae. Finally, the majority of studies utilized samples with victims of IPV only. There is clear substantiation in the literature of RT from intimate partner relationships as well as from non-intimate known (e.g., acquaintance, family member) and strangers. We do not currently know if there are differences in the nature and/or extent of symptoms or number of RT victims diagnosed with depression, general anxiety and/or PTSD based on victim-offender relationship, a gap meriting further exploration.

## **Hope**

The basic premise of hope theory (Snyder, 2002; Snyder, 2000; Snyder, Harris, Anderson, Holleran, Irving, Sigmon, et al., 1991) is that hope is comprised of not only emotion, but thinking, which is the actual core of hope (Snyder, 2002). Dispositional hope is comprised of cognitions regarding beliefs about one's capacity for both agency (ability to initiate and sustain actions) and pathways (ability to find methods in order to meet one's needs). It is theorized that the more hope an individual possesses, the better the individual is able to envision and undertake adaptive coping strategies when faced with significant life stress (Horton & Wallander, 2001). Therefore, hope is beneficial to both mental and physical health (Farran et al., 1995; Scheier &

Carver, 1985; Snyder, 1994; Snyder et al., 1991; Snyder et al., 1996), and has been identified as being critically important to successful psychotherapy (Yalom, 1995).

Two qualitative studies were identified that examined hope related to abused women (Marden & Rice, 1995; Symes, 2000). Qualitative research on readiness behaviors necessary to recover from sexual assault indicated that hope for the future is a necessary component of the healing process (Symes, 2000). This researcher used grounded theory to investigate the experiences of women who sought help recovering from sexual assault. Participants 18 years and older who were self-identified survivors of sexual assault were recruited from a rape crisis program at a women's center located in a large, southern, metropolitan area. Eleven women participated in the study. Data collection occurred during a period of 9 months in 1995 and 1996. It is important to note that participants in this study experienced abuse at different life stages (childhood, adolescence, adults), and had a variety of different experiences (e.g., type of perpetrator, number of occurrences, number of perpetrators).

Marden and Rice (1995) conducted a phenomenological exploratory analysis with a total of 24 participants to determine how abused women use hope in their lives. Subjects were recruited via announcements made at group counseling sessions for battered women by the group leader, and through posters placed in a women's shelter. Data was collected during focus group sessions using an established list of open-ended questions. Two major themes were identified; clinging to hope during the abuse, and hope as a positive emotional coping mechanism. Several women identified that the use of hope as a mechanism for coping was the only thing that remained when all other coping mechanisms had failed.

Research conducted with veterans suffering from PTSD found that higher hope was correlated with higher perceived social support from family and friends (Irving et al., 1997).

Additionally, studies that examined hope in the context of traumatic health events, such as a cancer diagnosis or impending surgery, have shown that dispositional hope, a general expectancy for positive outcomes, acts as a parlay to positive psychological outcomes (Carver et al., 1993).

A study of protective factors against suicide in African American women conducted by Meadows et al. (2005) revealed that hope was one of only two protective factors that uniquely distinguished African American women who had not made a suicide attempt from those who had made one or more suicide attempts. The second factor was social support from family. Other factors assessed included: spirituality, self-efficacy, coping, social support–friends, and effectiveness of obtaining resources. This study was a two group correlational design with participants recruited from a large level 1 trauma center. The sample consisted of two groups (suicide attempters, non-suicide attempters) of abused women aged 18-59, each with 100 participants. Face-to-face interviews were conducted with those meeting eligibility criteria that lasted between 2-3 hours. The authors reported no differences in demographic variables between the two groups. Because these findings only represent conclusions found within one social class and from one ethnic background, the results may not be generalizable to other women who experienced some form of interpersonal violence. In addition, because the data were cross-sectional, it is not possible to imply causation or test the direction of the effects of any of the protective factors measured (de Vaus, 2001). The HHI was used to measure participants' level of hope, and is instrument used in this study.

Any discussion on hope would be incomplete without mentioning the construct of optimism. Optimism as a construct is related to hope, yet it is conceptually different. Optimism involves the perceived ability to move toward goals with valued outcomes and to avoid those that are undesirable (Carver & Scheier, 1999). Optimistic people set goals and attempt to attain

them although negative outcomes tend to be attributed to external rather than internal forces. Hope theory, by contrast, includes both agency, component one, (goal directed determination) and pathways, component two, (ability to meet goals), which are intertwined in an iterative process with equal weight given to both facets (Snyder, 1999). As Peterson (2000) points out,

“According to Snyder’s view, goal-directed expectations are composed of two separate components. The first is agency, and it reflects someone’s determination that goals can be achieved. The second is identified as pathways, the individual’s belief that successful plans can be generated to reach goals. The second component is Snyder’s novel contribution, not found in other formulations of optimism as an individual difference.”  
(Peterson, 2000)

Thus, although these concepts share similarities, they represent two distinct constructs.

Hope is a powerful factor in emotional healing that has not been extensively explored. Some posit that hope occurs on a continuum ranging from hopeless to hopeful, while others believe that one can be both hopeful and hopeless simultaneously for different reasons, and related to different events. Measurement instruments may focus on either end of this continuum (e.g., Herth Hope Index (Herth, 1992), Miller Hope Scale (Miller & Powers, 1988), Snyder Hope Scale (Snyder et al., 1996), Beck Hopelessness Scale) (Beck, Weissman, Lester, & Trexler, 1974).

A recent review examined the concept of hope in psychiatry to inform the use of the concept within the mental health arena (Schrank et al., 2008). Findings indicated that only 11 studies have investigated hope as a predictive variable for differing outcomes, with inconclusive results. Authors of the review recommended that measurement tools of hope as it relates to mental health are needed. In light of this finding, I conducted a pilot study in fall 2009 with 26

anonymous outpatient psychiatric patients in my own private practice. Findings from this study indicated that the shorter Herth Hope Index displays the strongest associations between hope and anxiety in an outpatient clinical population seeking psychiatric services (Carretta, Ridner, & Dietrich, 2011).

### **Summary.**

Based on these findings, greater focus on potentially modifiable factors (e.g., hope, coping, perceived control) is needed. Hope has been identified as an integral and important factor to more adaptive coping from life stressors including RT.

### **Coping**

Coping as a construct has been extensively studied in the literature (Carver & Scheier, 1999; Folkman & Lazarus, 1988; Folkman et al., 1986; Lazarus, 2000, 2006; Lazarus & Folkman, 1984). Many studies have examined various trauma populations relative to appraisals and coping with a vast array of results (Fairbrother & Rachman, 2006; Krause, Kaltman, Goodman, & Dutton, 2008; Taft, Resick, Panuzio, Vogt, & Mechanic, 2007; Ullman, Filipas, et al., 2007; Valentiner, Foa, Riggs, & Gershuny, 1996). However, none have specifically examined coping relative to RT survivors and associations with cultural factors, type of rape, perpetrator type, psychosocial variables of hope and perceived control, along with sequelae of depression, anxiety and PTSD.

In their 2004 cross-sectional study, Fairbrother and Rachman tested the hypothesis that negative appraisals of a sexual traumatic experience and/or its sequelae are associated with PTSD symptomatology. An important distinction of this work is that sexual assault as a construct was broadly defined based on Canadian law and therefore did not distinguish rape specifically. This issue, a cohesive conceptual definition of rape, in itself is problematic as previously

discussed. Fifty female victims of sexual assault were recruited through advertising on the British Columbia campus or the University of British Columbia Hospital in Vancouver. Structured interviews were conducted to test the aforementioned hypothesis. One measurement tool, The Clinician Administered PTSD Scale (CAPS), was utilized. Sexual Assault and Rape Appraisals (SARA) was used to assess women's appraisals of their sexual assault experience and sequelae. These instruments could be utilized based on the interview format of the study. PTSD was measured via the PTSD Symptoms Scale – Self Report (PSS-SR). It should be noted that this scale is dated and assesses PTSD defined by the older DSM-III-R criteria. Results from this study indicated that victims' appraisals of the assault, (35% or greater) and resulting sequelae were strongly and positively related to PTSD (Fairbrother & Rachman, 2006). In their initial paper on RT syndrome, Burgess and Holmstrom (1974) outlined various factors that affect coping behavior of a victim of RT--ego strength, social network support, and the way people treated them as victims (Burgess & Holmstrom, 1979).

A longitudinal examination of coping among 61 female victims of relationship abuse in general found that sexual aggression was a stronger predictor of poorer mental health (depression, PTSD) than physical assault, and was significantly associated with coping ( $p < .05$ ) (Taft et al., 2007). Depression was assessed using the BDI-II, and PTSD was assessed using the PDS during the first visit by self-report. Another study by Valentiner et al. (1996) used a simple prospective single panel without replacement design to examine coping strategies and posttraumatic stress disorder (PTSD) symptoms in female victims of sexual and non-sexual assault (Valentiner et al., 1996). The authors obtained a convenience sample of 215 participants, 103 who reported sexual assault and 112 who claimed no sexual assault occurred. The sample ages ranged from 17 to 65 with a mean of 30.4. One positive aspect of this study is that the first

measurement (time 1) was conducted within 2 weeks of the assault, lessening a history threat to internal validity. Participants were first interviewed and then completed a self-report questionnaire. The second assessment (time 2) was completed three months later. The authors report that 62% of the participants from time 1 completed the time 2 questionnaire. In addition to the maturation threat, the authors did not delineate whether the dropout was symmetrical between the two groups, representing a possible threat to internal validity by selection-maturation (Trochim & Donnelley, p. 162, 169, 2007). Although the authors reported a significant decrease in post-traumatic symptoms from time 1 to time 2, the significant attrition coupled with the inability to determine the final sample distribution at time 2, poses a threat to external validity and the overall generalizability of the findings. The authors do note in their final discussion that victims who dropped out “apparently had more trauma-related symptoms to begin with” lending further credence that the findings may not be representative (Trochim & Donnelly, 2007). Other studies have similarly found that avoidant coping was found to be significantly related to PTSD in longitudinal studies (Benotsch, Brailey, Vasterling, Uddo, Constans, & Sutker, 2000; Krause et al., 2008) and cross-sectional analysis (Arias & Pape, 1999); however, it should be noted that some studies used populations suffering PTSD in various forms other than RT (e.g., domestic violence (Krause et al., 2008), and psychological abuse (Arias & Pape, 1999)), and others specifically from military experience (Benotsch et al., 2000). In a recent longitudinal study by Krause et al (2008), avoidant coping and posttraumatic stress symptoms were examined in a sample of 262 women, primarily low-income, minority women, relative to domestic violence exposure. This single group pretest-posttest, non-equivalent group design (NEGD) measured avoidant coping and symptoms of posttraumatic stress symptoms at multiple time points over a one-year period. Participants were given the option of completing the



questionnaires by self-report, personal interview, or via mail return at time one, posing a threat to interval validity by instrumentation. Findings included: a) a history of child sexual assault associated with more severe PTSD symptoms; b) more social support associated with fewer PTSD symptoms; c) more formal support associated with more PTSD symptoms; d) avoidant coping associated with PTSD symptoms at time 1 and at the 1 year follow-up; and e) IPV severity was a significant predictor of time 2 PTSD symptoms. The instruments used in this study included: the PTSD Checklist – (Civilian-- PCL) and for coping-- nine items from frequently used avoidant coping scales, including the Coping Responses Inventory and the Ways of Coping Questionnaire.

### **Summary.**

The literature substantiates that coping is of integral importance to psychological outcomes and warrants further studies in this population.

### **Perceived Control**

For the purpose of this study, perceived control was measured as a broad construct, with self-efficacy considered as situation specific perceived control. Locus of control was not measured specifically, as this construct was not noted as measured in the vast majority the literature relative to rape, and thus is beyond the scope of this study. As a construct, perceived control is multidimensional, involving beliefs about controllability of a situation (or in some cases, as in this study, controllability of responses to a situation), called the contingency component, and a competence component (perceptions that one is capable of producing the desired outcome and avoiding/suppressing undesired outcomes). Further, perceived control is subjective, rather than objective, so these perceptions of reality may vary from actual control available. Perceived control can also be conceptualized as involving past, present, and future

control over trauma. In other words, it is temporal in nature (Frazier, Keenan, Anders, Perera, Shallcross, & Hintz, 2011; Frazier, Steward, & Mortensen, 2004).

Higher levels of perceived control are associated with lower levels of psychological distress. A sense of perceived control is achieved when an individual believes that they have the ability to control their actions and possess the necessary skills, and that outcomes do not happen as a function of chance or their external surroundings (Frazier, 2003; Thompson & Schlehofer, 2008). Furthermore, those possessing a high sense of perceived control are more likely to act in ways that facilitate the ability to continue or regain control, and are more engaged in active problem solving (Ajzen, 2002; Wallston, 1997; Wallston, Wallston, Smith, & Dobbins, 1987).

A number of investigators have demonstrated that anxiety and depression levels are substantially higher and quality of life lower in individuals with low levels of perceived control (Ballash, Pemble, Usui, Buckley, & Woodruff-Borden, 2006; Donovan & Hartenbach, 2005; Evangelista, Moser, Dracup, Doering, & Kobashigawa, 2004; Moser, Riegel, McKinley, Doering, Meischke, Heo, et al., 2009; Thuen & Rise, 2006). Further, present perceived control over recovery from rape has been found to be associated with fewer PTSD symptoms (Najdowski & Ullman, 2009; Ullman, Filipas, et al., 2007).

The concept of perceived control has been examined in various clinical populations, (e.g., cancer, diabetes, heart failure, rheumatoid arthritis, fibromyalgia, mental illness and systemic lupus) (Burckhardt & Bjelle, 1996; Covic, Tyson, Spencer, & Howe, 2006; Doerfler, Paraskos, & Piniarski, 2005; Hasson-Ohayon, Walsh, Roe, Kravetz, & Weiser, 2006; Kidd, Hubbard, O'Carroll, & Kearney, 2009; Lawson, Bundy, Belcher, & Harvey, 2010; Vollman, LaMontagne, & Wallston, 2009) (Pertl, Hevey, Thomas, Craig, Ní Chuinneagáin, & Maher, 2010; Ranchor, Wardle, Steptoe, Henselmans, Ormel, & Sanderman, 2010; van Middendorp, Geenen, Sorbi,

Hox, Vingerhoets, van Doornen, & Bijlsma, 2005), as well as perceptions of control over the recovery process from rape in general (Frazier & Borgida, 1985; Frazier, Tashiro, et al., 2004; Frazier, 2003). Thus, results from a variety of populations with different health issues support that higher perceived control is associated with a decrease in symptoms of depression, anxiety and PTSD.

### **Summary.**

Based on these findings, greater focus on potentially modifiable factors (e.g., hope, coping, perceived control) is needed. Hope has been identified as an integral and important factor to more adaptive coping from life stressors, including RT. In addition, perceived control over one's own internal thoughts and behavior, influence over their environment, and ability to bring about desired outcomes has been shown to reduce psychological pathology (e.g., depression, anxiety, PTSD) in a variety of clinical populations, excluding victims of rape. Only two studies were identified that addressed the concept of perceived control relative to rape; both specifically related to recovery principles. No studies were identified that addressed hope and perceived control in victims of RT to examine and evaluate possible associations between the constructs and further, to inform possible relationships between perceived control, hope and psychological sequelae (e.g., depression, anxiety, PTSD).

### **Summary**

Perceived control over one's own internal thoughts and behavior, influence over their environment, and ability to bring about desired outcomes has been associated with reduced psychological pathology (e.g., depression, anxiety, PTSD) in a variety of clinical populations, excluding victims of rape.

## **Hope, Coping, and Perceived Control as Potential Modifying Factors**

Greater focus on these potentially modifiable factors (e.g., hope, coping, perceived control) is needed. Hope has been identified as an integral and important factor to more adaptive coping from life stressors, including RT. No studies were identified that addressed hope and perceived control in victims of RT to examine and evaluate possible associations between the constructs and further, to inform possible relationships between perceived control, hope and psychological sequelae (e.g., depression, anxiety, PTSD). Further, there was also no study identified that examined hope, coping, and perceived control to evaluate their respective and/or combined effects with outcomes of depression, anxiety and PTSD. Therefore, hope, coping, and perceived control were determined to be potential modifying factors worthy of investigation in this study.

### **Disclosure**

Studies have found that negative disclosure reactions may play unique roles in rape victims' adjustment (Borja et al., 2006; Kearns, Edwards, Calhoun, & Gidycz, 2010; Littleton, 2010), and have reported a plethora of mixed findings relative to rape disclosure (Bachman, 1993; Baumer et al., 2003; Clay-Warner & McMahon-Howard, 2009; Feldhaus et al., 2000; Felson & Paré, 2005; Fisher et al., 2003; Logan et al., 2007; Stermac & Stirpe, 2002). These mixed findings may be related to the failure to use the same relationship categories across studies. The findings also support the belief that only 19% (Tjaden & Thoennes, 2006), to 47% (Catalano et al., 2009) of all rapes are reported and suggest that exploring interventions to enhance disclosure is indicated because failure to disclose may result in inadequate treatment (Kilpatrick et al., 1992). Koss (1994) posits that interviewer effects, and the possibility of others

overhearing a conversation and/or answers to questions asked, as with phone interviews, decreases the willingness of victims to report rape (Koss, 1994). Web-based survey research allows access to groups and individuals who would be difficult, if not impossible, to reach through other channels and to those who may not wish to disclose information in face-to-face settings (Wright, 2005). Numerous web-based studies have been conducted in areas such as interpersonal (Tidwell & Walther, 2002; Wright, 2004), group (Hobman, Bordia, Irmer, & Chang, 2002; Hollingshead, McGrath, & O'Connor, 1993) organizational (Ahuja & Carley, 1998), health (Katz, Rice, & Aspden, 2001; Wright, 2000), and mass communication.(Flaherty, Pearce, & Rubin, 1998; Flanagan & Metzger, 2001). Two studies have used online surveys with rape victims, and both were able to obtain participants (Littleton, 2007, 2010). Use of a confidential web-based survey format may increase participant comfort with disclosure of personal information, and this vehicle could increase reporting of unwanted sexual experiences (Gosling, Vazire, Srivastava, & John, 2004). Additionally, email solicitation of participants for rape research affords privacy, as individuals can simply read the e-mail and either respond, or delete the e-mail from their computer. When an opportunity to anonymously participate in rape research is offered to a broad general population, men and women who have not previously disclosed may choose to do so.

### **Summary.**

Disclosure of unwanted sexual experiences remains a major problem. To date, there is no study less than 10 years old that has attempted to update incidence and prevalence. Moreover, the reports that do exist present divergent findings. In order to pursue development of studies aimed at testing prolific treatment interventions, we must first glean a more accurate and concrete understanding of the true depth of the number of survivors and also begin to identify

more acceptable methods for disclosure. Web-based anonymous surveys have demonstrated effectiveness in other populations. Thus, it is reasonable to assert that this method could be optimal for providing the most cohesive and accurate estimates to date from a broad, diverse population.

### **Advantages, Disadvantages, Strengths and Weaknesses of Methods and Measures**

The majority of the research on rape to date has been cross-sectional, with a few longitudinal exceptions. Cross-sectional studies allow for comprehensive description of the phenomenon, and allow for determination of associations among variables. They do not establish cause and effect relationships. Longitudinal designs can be descriptive or explanatory, and have value as examination of change or stability can be realized (de Vaus, 2001). Due to the lack of longitudinal studies, and design issues noted below, many opportunities exist to improve study designs to address the phenomenon of RT.

#### **Cross-Sectional Design**

Cross-sectional designs are the most prevalent design in RT research to date. Since there is still a lack of research in this area, and much of what exists is fraught with inconsistencies and disagreement, this design is appropriate to describe contextual and cultural factors, psychosocial correlates, relationships, and psychological outcomes, and pursue associations and group differences among these variables of interest. This design however, is not appropriate for exploring causation and/or timing (Polit & Beck, 2004). Strengths of this design include the ability to collect data at one point in time, and the lack of subject attrition and burden. Numerous studies herein have been discussed and evaluated that utilized cross-sectional designs, including

both prospective and retrospective analyses, and had varying strengths and weaknesses. A discussion of some of the weaknesses found follows. For example, many studies sought to examine associations among variables in sexual assault survivors utilizing a sample comprised solely of college students, limiting generalizability (Borja et al., 2006; Brown, Testa, & Messman-Moore, 2009; Clum et al., 2000) Others utilized only those who were victims only of IPV. (Coker et al., 2002; O'Campo et al., 2006; Stein et al., 2004; Sullivan & Beech, 2003), used a variety of trauma populations in the same study (Irving et al., 1997; Mayou et al., 2001), or utilized samples that had a high percentage of one particular race (Clum et al., 2000; Meadows et al., 2005). Some studies attempted to broadly generalize findings to both children and adults (Avegno et al., 2009), or to adults in general (e.g., men and women) where there was unequal distribution. Another study surveyed victims of abuse who utilize psychiatric care in which the sample included both inpatient and outpatient clients (Bengtsson-Tops & Tops, 2007), despite the fact that an individual necessitating inpatient hospitalization is usually more symptomatic and acute, whereas those seeking outpatient care vary significantly in need for support. Some studies indicated that their samples would be comprised of adults, and then either failed to designate an age range (Bengtsson-Tops & Tops, 2007; Clum et al., 2000), or cited participants of 18 or older although they included experiences of assault prior to age 18 (Ullman, Filipas, et al., 2007), or included participants not meeting criterion as adults in the study. Most studies used a criterion of ages 12 and up (Ali et al., 2009; Atkeson et al., 1982; Fergusson et al., 2002; Hilden, Schei, & Sidenius, 2005). A major design issue is a failure to appropriately delineate the concept of rape. Numerous studies purport to study rape yet include victims of attempted rape, and non-penetrative acts, making any generalizations about rape or the victims questionable (Foa, Rothbaum, Riggs, & Murdock, 1991; Rothbaum, Astin, & Marsteller, 2005). One other

noteworthy issue related to design is the difference between completion of the instrument via self-report, or via clinician interviews, and in fact, some studies used both in the same analysis. The writer was unable to find any information comparing and contrasting the two methods in this population, and both have been widely used. Finally, although some studies included a control group for comparison (Conoscenti & McNally, 2006; Pico-Alfonso et al., 2006; Valentiner et al., 1996), the majority of studies did not. Since a descriptive correlational design is appropriate as an initial step for development of an evidence base from which to develop hypotheses for future studies, this design was selected for this study as the most appropriate given the lack of prior research on the variables of interest in studying RT.

### **Longitudinal Design**

Throughout the literature, investigators noted the need for more longitudinal studies to facilitate the ability to predict individuals more susceptible to rape and subsequent trauma and to more effectively treat the sequelae. However, reconciliation of continued disagreement and paucity of congruent findings in the literature must happen first.

Although the majority of research with rape and sexual assault victims has been cross sectional, there are studies that attempted to study a variety of variables to determine changes over time. For example, Valentiner et al. (1996) used a simple prospective single panel without replacement design to examine coping strategies and posttraumatic stress disorder (PTSD) symptoms in female victims of sexual and non-sexual assault. This study is an example of how attrition may limit the viability of results, as only 68% of the participants who completed the assessment at time 1 completed the time 2 assessment (Valentiner et al., 1996). Another study had similar issues, with only 74 of the original 262 participants completing the assessment at the 6-month follow-up (Littleton, 2010). Other studies did not report percentage of completers from



time 1 to time 2, but instead discussed use of the full information maximum likelihood estimation (FIML) to handle missing data, resulting in all participants being included in the final data analysis at both time 1 and time 2 (1 year follow-up) (Krause et al., 2008). Small sample sizes were an issue in other studies, causing a potential problem related to insufficient power to detect statistically significant associations for example, (Dunmore et al., 2001; Taft et al., 2007; Zlotnick et al., 2006). One other potential confounding issue that exists when attempting to conduct research in this population is the fact that life is not static, and there could be potential new instance(s) of abuse between baseline and subsequent measurements.

### **Measurement Issues**

Although the majority of the constructs measured used validated instruments (e.g., depression, anxiety, PTSD, hope, coping, perceived control), there were no available measures for some constructs of interest to this researcher. For example, the concepts of forcible rape were assessed using a portion of the SES-SFV; however, there was no such measure for the concept of sex stress. A question was written to facilitate measurement of this concept, and was approved for use by Dr. Ann Wolbert Burgess, the concept creator. In addition, as highlighted previously, there is not only disagreement as to the categories of perpetrator/victim relationship, and who specifically falls within those categories, but there is no standardized measure previously created for that purpose. A specific question was created about perpetrator/victim relationships and used for this study. Finally, since no study was identified that attempted to measure the concept of prior “safe disclosure,” questions were developed to acknowledge and identify: a) whether, prior to this study, a participant had previously disclosed their unwanted sexual experience(s); b) if they affirmed prior disclosure, to whom they disclosed; and, c) their preferences for disclosure and follow-up.

## **Additional Issues**

There were a few additional noteworthy issues. First, a significant number of studies did not include any information on a power analysis to support their sample size (Avegno et al., 2009; Clum et al., 2000; Dunmore et al., 2001; Resick et al., 1988). Second, many studies used instruments not previously validated (Basile et al., 2007; Bengtsson-Tops & Tops, 2007; Cloitre, Tardiff, Marzuk, Leon, & Portera, 1996).

## **Synthesis of Knowledge**

Although previous research has attempted to discern the incidence, prevalence, risk and protective factors, and outcomes of RT, findings have been inconsistent. There has been no attempt by most individual states to study this phenomenon, and the last attempt at a national study was over 10 years ago. One major problem with RT research is the lack of reporting, and/or inconsistent ability to track cohesive information on victims and resulting sequelae. Although investigators have attempt to study rape as an overarching construct, there is no research identified to date that considers the differences that may exist related to RT outcomes based on the type of rape suffered and/or the perpetrator/victim relationship, considering potential psychosocial protective factors, cultural implications, and other contextual factors of the rape.

The majority of data from studies attempting to study RT have come from cross-sectional analyses with small sample sizes or uneven group comparisons. Sample attrition over time has also been problematic in many longitudinal studies. Some measurement instruments used in the literature lacked proper information about validity and reliability. There is a lack of specific and unique measurement tools to assess the type of rape suffered or the

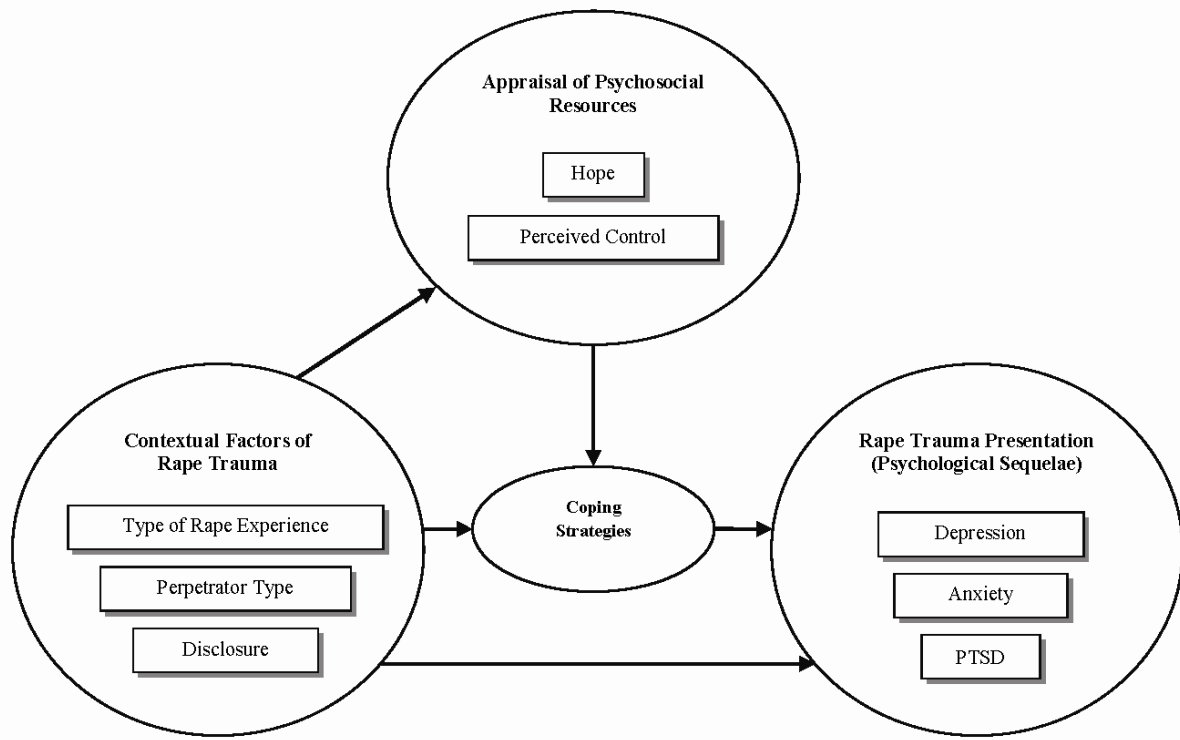
perpetrator/victim relationship. Therefore, these shortcomings in the available literature create many opportunities for research in this area.

Through the literature review, the following were determined as gaps in knowledge regarding the study of in adult female survivors of RT.

1. There is a need to systematically research and recognize the phenomenon of RT (e.g., incidence, prevalence, and financial burden) in adult female survivors of rape.
2. There is a need to conduct studies to clearly describe the types of rape, potential protective factors, perpetrator/victim relationships, disclosure history and follow-up preferences, cultural and contextual factors, and psychological and physical sequelae in adult female survivors of RT.
3. There is a need to conduct the research with appropriate sample sizes based on statistical power analysis to improve internal and external validity of the studies.
4. There is a need to develop sensitive instruments to measure types of RT and perpetrator/victim relationships symptoms in adult female survivors of rape.
5. There is a need to examine the possible risk factors for RT sequelae to guide nurses and other healthcare professionals to identify and manage the psychological and physical sequelae more effectively and efficiently.
6. There is a need to explore effective treatment and management strategies of the psychological sequelae resulting from rape in adult female survivors.

## Theoretical Framework

As depicted below (figure 1), the model that guided this study is composed of contextual factors of RT, appraisal of psychosocial resources, and psychological sequelae. Key concepts are defined in Table 2.



*Figure 1.* Conceptual Framework for RT (Based on Lazarus and Folkman & Burgess)

## Key Concepts

Table 2

### *Key Concepts Related to the Phenomenon*

Key Concepts	Definition	Related to the Phenomenon
Rape	Major disparity exists relative to definitions of rape. There is a federal definition and variations in definitions as defined by each state. This study evaluated definitions of rape in detail.	Rape is an overarching construct upon which this proposal is based.
Type of Rape	Categories for type of rape included: (a) forcible rape, (b) pressured sex, (c) sex stress. (d) multiple types.	Differences in the outcomes of depression, anxiety and PTSD were examined relative to the type of rape experienced, as were the associations among type of rape and hope, coping, and perceived control.
Perpetrator/Victim Relationship	Categories of perpetrator/victim relationship were defined as: 1. Intimate partner 2. Non-intimate known 4. Non-intimate stranger	Differences in the outcomes of depression, anxiety and PTSD were examined relative to the perpetrator/victim relationship, as were the associations among type of rape and hope, coping, and perceived control.
RT Depression	Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration (WHO, 2010).	Depression is cited in the literature as a prominent outcome/sequelae of rape.
RT Anxiety	Anxiety is a normal part of life. However, for some it becomes pathological; interfering with daily activities and sleep. Presenting symptoms often include excessive worry, difficulty concentrating, irritability, and feelings of restlessness (APA, 2000)	Anxiety is cited in the literature as the most common psychological outcome/sequelae of rape.

RT PTSD	<p>Unlike most psychiatric diagnoses, PTSD is defined in relation to a potentially etiologic event (the traumatic "stressor criterion") that is fundamental to its conceptualization. The diagnosis of PTSD thus inherently depends on two separate but confounded processes: exposure to trauma and development of a specific pattern of symptoms that appear following the trauma. There are three categories of symptoms associated with PTSD including intrusive memories, avoidance and numbing, and hyperarousal; with evidence suggesting that avoidance and numbing appear to be the most specific for identification of PTSD (APA, 2000).</p>	<p>PTSD is cited in the literature as a significant outcome/sequelae of rape.</p>
Hope	<p>Hope is a psychosocial construct believed to be integral to healing from trauma. Snyder theorizes that hope is the "master personality" variable affecting the pursuit of all goals targeting mental action and its absence is associated with clinical disorders such as depression (Snyder, 2000). This theory defines hope as affecting two interrelated components of successful agency-- goal-directed determination and pathways (planning to meet goals) (Snyder, 1999).</p>	<p>Literature with other trauma survivors suggests that individuals that are more hopeful, exhibit less depression, anxiety and PTSD.</p>
Coping	<p>Coping can be described as an integral feature of human responses to stressors. Coping styles can be divided into problem-focused (directed toward managing or altering the problem causing distress) and emotion-focused (directed at regulating the emotional response) (Lazarus &amp; Folkman, 1984).</p>	<p>Coping represents a key variable in this study. Situation specific appraisals related to RT can influence coping strategies, which in turn influence psychological and physical outcomes</p>
Perceived Control	<p>Perceived control refers to individuals' beliefs that they can determine their own internal states and behavior, influence their environment, and bring about desired outcomes (Wallston et al., 1987).</p>	<p>Perceived control is cited in the literature as associated with emotional well-being, reduced physiological impact of stressors, enhanced ability to cope with stress, improved performance, less pain, and a greater likelihood of making difficult behavior changes</p>

Disclosure History and Preferences	Delineation of whether the participant has previously disclosed unwanted sexual experience, and if so, to whom; preferences refers to selected method for follow-up data provision (online, telephone, face to face)	The use of disclosure may relate to perceived control, hope, coping, and RT sequelae.
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### **Summary.**

This chapter has presented a comprehensive review of pertinent theory and research literature related to RT. Related constructs of interest were examined and synthesized. Strengths and weaknesses of the state of the science were identified. A Theoretical framework to guide the study was developed and key concepts were defined.

## **CHAPTER III**

### **MEASUREMENT AND METHODOLOGICAL APPROACHES**

The purpose of this section is to describe the methodology used in this dissertation research study of RT to explore, via an anonymous, web-based survey, contextual and possible protective factors that may influence RT outcomes. This section will include research design and assumptions, research setting, sample and sampling plan, data collection methods, and data analysis procedures.

#### **Research Design**

This study utilized a descriptive cross-sectional design. Based upon the literature review presented in chapter 2, the following assumptions regarding RT guided this research:

- Rape is a serious problem across all cultures and societies.
- The cost of RT to both victims and society is great.
- The number of actual victims of rape is unknown, as most rape victims do not disclose the attack.
- Victims of rape experience serious, long-lasting psychological sequelae.
- Type of rape and victim perpetrator relationship may influence psychological sequelae.
- Many factors influence coping subsequent to rape.



- Interventions to assist with coping are necessary and could improve victim outcomes.
- Victims who do not disclose their attack deny themselves access to supportive interventions and the effectiveness of current interventions for those who do disclose are less than optimal.
- Management of the psychological sequelae of rape falls within the realm of nursing science.
- Research is needed to fill gaps in the current state of science if attack disclosure patterns and interventions are to improve.

### **Research Setting**

Participants completed the study via REDCap Survey, a web-based, online survey tool.

### **Study Design**

Eligibility Screening



Survey Administered  
(online via REDCap Survey)



Differences among the groups:

- a. Type of rape with psychosocial and psychological outcomes
- b. Perpetrator/victim relationship with psychosocial and psychological outcomes
- c. Disclosure preferences and follow-up

The research setting was a location of the participant's choice where a computer was available for study completion. This setting was selected because it offered participants the ability to complete study instruments at their convenience, and offered privacy and confidentiality at the time of participation.

## **Sample and Sampling Plan**

### **Nature of Sample and Criteria for Inclusion and Exclusion**

The target population for the purpose of the proposed study was a convenience sample of 243 adult female victims of rape drawn from the population of females aged 18-64 in the United States and internationally. The subjects recruited into the study met the following inclusion criteria: (1) between the ages of 18-64; (2)  $\leq 5$  years since their most recent incident of rape; (3) ability to understand English; (4) no recent report of psychosis; (5) the ability to complete study instruments; and, (6) female gender. Individuals were excluded if they met the following exclusion criteria: (1) most recent incidence of rape happened while participant was  $< 18$  years of age (2) unable to understand the informed consent as evidenced by incorrectly answering three (3) questions designed to determine understanding content of the study. Determination of an incidence of rape for inclusion was screened for using the Sexual Experiences Scale Short Form Victimization (Koss et al., 2007; Koss & Gidycz, 1985).

The rationale for the exclusion criteria were as follows: (1) Individuals who experience child rape lack the ability to give consent for such contact; (2) individuals may present with different symptomatology (e.g., sequelae and coping changes as more time elapses from the most recent occurrence); and (3) mandatory reporting of disclosure of an incidence of child rape is

necessitated which cannot be ensured based on the online format of this research. This study focused on incidence(s) of rape that occurred as an adult. In order to control for the influence of childhood rape, the study excluded patients who reported their most recent incidence of rape occurred when they were < 18 years of age, regardless of whether they are currently within the ages specified by the inclusion criteria. Those who experienced childhood rape may have different physical and emotional responses from individuals who experience rape as an adult; therefore, those responses were likely to be potential confounding variables in the study. Those who were unable to understand the informed consent, as evidenced by incorrectly describing the study when asked to do so in writing in their own words, were also excluded to avoid any confounding effects on the self-reported subjective symptoms.

### **Size of Sample**

A minimum sample size of 100 was proposed for this study. This minimum was based both on achieving sufficient statistical power to detectable conceptually meaningful correlations (as small as .30) with 80% statistical power and a two-tailed alpha of .05, as well as optimizing the chances of achieving sufficient group sizes for the type of RT and perpetrator relationship variables for meaningful comparisons (Cohen, Cohen, West, & Aiken, 2003; Munro, 2005). The obtained sample size was more than double the proposed minimum.

### **Subject Recruitment**

The sample was recruited in a variety of ways. First, recruitment was accomplished using email messages inviting participation in the survey. Emails were sent out through ResearchMatch as part of an opt in list of individuals who had previously given their contact information for that purpose, as well via the clinical trials registry maintained by Vanderbilt University. A description of the study along with a link was provided in the email. This link led

to the dedicated study website, specifically designed to provide comprehensive information on the study, a toll free telephone number to contact a live person if the potential participant so chose, and a link that would provide direct access into the study itself. Responses went directly into the REDCap survey system, designed and maintained by Vanderbilt University. This provided a tracking mechanism for responses, prevented the release of any information and/or data to an outside server, and increased response rates.

Additional methods included: informative advertisements placed on national screening and online support websites, and in domestic violence shelters, rape crisis centers, offices of psychiatrists, and psychotherapists, local emergency room departments, primary care office lobbies, and public venues such as college bulletin boards, grocery stores, bathroom stalls, libraries, social media sites such as Facebook, and police departments. Other techniques included posting informative public service announcements on local radio channels, and direct marketing of the study online to organizations in which the principal investigator is affiliated. Specialist health care providers, home health agencies, church groups, and support groups may also have referred participants to the study based on flyers supplied to their organizations.

Strategies to enhance participant recruitment and retention included ensuring anonymity, with no way to link any participant to any particular response, and the ability to complete the study packet in more than one sitting. These methods have been found to increase retention rates to > 80% (Tansey, Matte, Needham, & Herridge, 2007).

## **Data Collection Methods**

### **Human Subjects' Protection**

Permission to conduct the research study was obtained from the Vanderbilt University Institutional Review Board (IRB). Online informed consent was obtained from all participants prior to enrollment into the study. Protection of subjects was achieved through informed consent, obtained from the subjects prior to administration of questionnaires and initiation of data gathering. A waiver of documentation of consent was sought and authorized to protect the identity of the subjects. This strategy ensured there would be no way to link a name to a particular response. The following specific steps were used to obtain informed consent from the subjects: 1) a detailed written explanation of the study was provided online; 2) potential participants were provided the ability to print a copy of the informed consent online; 3) the researcher gave potential subjects the ability to contact the researcher at a dedicated toll-free telephone number if they had any questions during and/or after their reading/reviewing the informed consent; 4) the researcher answered all the questions the potential subjects asked; and 5) the potential subjects agreed to be in the study and consent was considered valid when the participant opened and decided to fill out the survey.

No one was excluded based on race or ethnicity. Because there was a risk that discussing these issues may have been uncomfortable or painful, provisions were made to make the situation as comfortable as possible. Participants were free to withdraw from the study at any time, for any reason, simply by not completing the online study packet or otherwise communicating with the researcher that they wished to withdraw. Phone numbers of national and local counseling services and rape support organizations, as well as contact information for the

investigator, the investigator's advisor, and the IRB were provided to all participants prior to study commencement, and on every page of the online study so that participants had access to this information at all times during study packet completion. Compliance with study procedures was assured by the researcher and the researcher's advisor through regular weekly communication online via Skype, or via telephone conference. The researcher reported any issues related to the study procedures to the researcher's advisor, e.g., participants' recruitment, data collection, and data entry. The entire process, including contacting subjects, screening them, and obtaining the informed consent and all data collection, was done online in a location of the participants choosing. All files were saved in the REDCap Survey system solely. Access to the data contained within REDCap Survey was accessed via password. All data were coded and filed. A name and other identifiable information was collected only if the participant indicated by self-report that they wished to be included in the research registry for potential follow-up studies. Only the researcher's advisor, the biostatistician, and the researcher had access to the electronic database.

### **Data Collection**

Data was collected via an online survey. A web-based procedure was chosen as it has several benefits. First, the use of a web-based survey has been established as an effective means of obtaining a large sample of rape victims (Littleton, 2007, 2010). Further, the use of an online study allows for elimination of missing data by prompting participants to address non-completed items. Finally, this setting was selected because it offers participants the ability to complete study instruments at their convenience, offers privacy and confidentiality at the time of participation, and affords the participant an opportunity for safe disclosure.

A script was available online as soon as the participant accessed the study link via

REDCap Survey. Potential participants were screened online. Once an exclusion criterion was met, no other information was gathered. If deemed eligible, the subjects were provided with informed consent. After they read and acknowledged understanding by answering three questions covering material contained within the consent, the participant was allowed to proceed to access the study packet online. All information was collected via participant self-report. Participants were allowed to save responses online and return to finish the packet at their convenience. If the participant elected to log off and log back on to complete the study packet, the first screen reiterated the fact that nobody would be able to contact them for any reason. All data collected from participants were kept online.

### **Instruments**

The instruments are listed below based on the following domains: screening for incidence of and type of rape, perpetrator type, RT outcomes (e.g., depression, anxiety, PTSD), Psychosocial Variables (e.g., hope, coping, perceived control), and disclosure history and preference. Information on demographics and culture was also collected. Each instrument is described based on its content and previous use in the literature, and information about reliability and validity.

### **Screening and Type of Rape**

Screening for incidence of rape and type of rape or sexual assault experienced was measured by the Sexual Experiences Survey – Short Form Version (SES-SFV). Sexual Assault was measured by the SES (Koss et al., 2007; Koss & Gidycz, 1985). The SES-SFV is a self-reported 10-item scale that uses a frequency assessment format, developed to ascertain the continuum and number of occurrences of sexual violence from the most severe form (rape) to no victimization. Rape was classified as a positive response to item e on questions 2, 3, or 4.

Pressured sex was classified as positive responses to items c, or d on questions 2, 3, or 4. Since there was no specific measure for sex stress on this instrument, a separate question was asked in addition to those on the instrument. This question asked the participant, “Did your unwanted sexual experience begin with a situation where you initially gave consent, then changed your mind for any reason, verbalizing to the other person/persons involved that you wanted the act to stop (e.g., just decided you no longer wanted to have sex, once sex began it moved beyond your comfort level and you changed your mind)?” The SES is reported to yield an internal consistency (Cronbach's alpha) of 0.74 and test re-test reliability of 93% when administrations are one week apart (Koss & Gidycz, 1985; Koss, Gidycz, & Wisniewski, 1987). This scale was used to screen for rape, as well to determine the type of rape the participant experienced (e.g., forcible rape, pressured sex, sex stress).

### **Perpetrator Type**

The following question was developed by the researcher and her advisor. It was asked to determine the perpetrator/victim relationship: Please choose the answer that best reflects the relationship between you and the perpetrator;

- A. The perpetrator was: a) a current or ex-spouse; b) boyfriend/girlfriend; c) same sex partner;
- B. The perpetrator was someone I knew. The person was: a) a family member (e.g., biological or adopted mother/father, biological or step brother/sister, aunt/uncle, cousin, grandparent); b) someone I knew but was not related to (e.g., friend, neighbor, clergy member, bus driver, teacher, other acquaintance);
- C. The perpetrator was: someone I had never met before.

### **Psychological Outcomes (RT)**

Three instruments were used to assess psychological outcomes after incidence of rape in



the proposed research study.

*Depression: Beck Depression Inventory (BDI-II).* The BDI-II is 21-item self-report instrument intended to assess the existence and severity of symptoms of depression (Beck, Steer, Ball, & Ranieri, 1996). Each item consists of four self-evaluative statements asking respondents to rate their symptoms from the last 2 weeks. There is a four-point scale for each item ranging from 0 to 3. Questions include items on a variety of feelings (e.g., sadness, loss of pleasure, self-dislike, indecisiveness, fatigue). A question focused on suicidal thoughts or wishes is included.

The reliability and validity of BDI-II scores have been demonstrated in a number of studies described by Beck et al. (1996). The BDI-II has a high coefficient alpha, (.80) and its construct validity has been established. The test yields a coefficient alpha of 0.92 for the outpatient population (n = 500) in the sample referred to in the manual. There is no specific delineation as to whether anyone in this sample suffered incidence(s) of RT. In addition, a one-week test-retest correlation of .93 at  $p < .001$  resulted from a study of 26 outpatients who had been referred for depression and took the BDI-II during their first and second therapy sessions. With regard to construct validity, the convergent validity of the BDI-II was assessed by administration of the BDI-1A and the BDI-II to two sub-samples of outpatients (N=191). The order of presentation was counterbalanced and at least one other measure was administered between these two versions of the BDI, yielding a correlation of .93 ( $p < .001$ ) and means of 18.92 (SD = 11.32) and 21.888 (SD = 12.69) the mean BDI-II score being 2.96 points higher than the BDI-1A. Clinical interpretation of scores is accomplished through criterion-referenced procedures utilizing the following ranges: 0-13 - minimal depression; 14-19 - mild depression; 20-28 - moderate depression; and 29-63 - severe depression (Beck et al., 1996). One important aspect of the BDI-II is its ability to be utilized as a diagnostic instrument for depression, and its

verified use in psychiatric populations. This scale was used to diagnose and determine the level of a participant's depression.

*Anxiety: State Trait Anxiety Inventory (STAI-Y).* The State Trait Anxiety Inventory – Y (Spielberger & Gorsuch, 1966) is a 40-item self-report questionnaire. The concepts of state and trait anxiety were first introduced by Cattrell (1966); (Cattell, 1966; Cattell & Scheier, 1961; Cattell, Scheier, & Institute for Personality Ability Testing, 1963) and have been elaborated by Spielberger (Spielberger & Gorsuch, 1966; Spielberger, 1972, 1979; Spielberger, Anton, & Bedell, 1976). In the construction and standardization of Form Y, more than 5,000 subjects were tested. Studies of Form Y's factor structure have yielded clear-cut distinctions between state and trait anxiety. Prior versions S, T and X were modified and used to create the latest version Y. The most recent version differentiates temporary or emotional state anxiety from long-standing personality trait anxiety in adults. The scale is written to be used with adults over 18 who can read at a sixth grade level. The range of scores is 20-80, with higher scores indicative of higher anxiety.

The overall median alpha coefficients for the S-Anxiety and T-Anxiety scales for Form Y in the normative samples are 0.92 and 0.90, respectively, as compared with median alphas of 0.87 for S-Anxiety and 0.89 for T-Anxiety in the normative samples for Form X. Correlations between the Form Y S-Anxiety and T-Anxiety scales for the normative samples were made with working adults, students, and military recruits. The median correlation for these seven samples was 0.65. Persons high in T-Anxiety tend to be higher in S-Anxiety, even in relatively neutral situations. In general, Trait-State Anxiety Theory predicts higher correlations between S-Anxiety and T-Anxiety in social evaluative situations and lower correlations in physical-danger situation (Spielberger & Gorsuch, 1966). The STAI has been used extensively in psychological research

to investigate psychological stress (Brook, 1976; Miller, 1979; Sarason, Johnson, & Siegel, 1978; Shipley, Butt, & Horwitz, 1979). Psychiatric research with the STAI has included investigations of neuroses (Johnstone, Owens, Frith, McPherson, Dowie, Riley, & Gold, 1980; Von Richthofen & Mellor, 1980), depression (Gotlib & Robinson, 1982; Hollon & Kendall, 1980; Mathew, Ho, Khan, Perales, Weinman, & Claghorn, 1982; Rutledge, Linke, Krantz, Johnson, Bittner, Eastwood, et al., 2009; Zaers, Waschke, & Ehlert, 2008), and schizophrenia (Evans & Dinning, 1980; Falloon & Talbot, 1981; Klasik, Janas-Kozik, & Krupka-Matuszczyk, 2006). For the purposes of this study, only trait anxiety was measured. Whereas state anxiety refers to a more short term state, (e.g., response to a more immediate stressor,) trait anxiety attempts to measure a personality characteristic (e.g., the stable tendency to respond with state anxiety as an anticipatory mechanism). Since the study aims to assess anxiety and its respective associations to other sequelae (e.g., depression, PTSD) after incidence of rape within a five year period, it is appropriate to measure only the more long-standing trait oriented form of anxiety.

*PTSD: Posttraumatic Stress Disorder: Posttraumatic Stress Diagnostic Scale (PDS).* The Posttraumatic Stress Diagnostic Scale (Foa, Cashman, Jaycox, & Perry, 1997) is a 49-item instrument that assesses all six DSM-IV™ criteria for PTSD, and is designed to aid in the detection and diagnosis of PTSD. The PDS uses the DSM-IV diagnostic criteria for PTSD and may be administered repeatedly over time to help monitor changes in symptoms. This instrument is designed to be used with adults aged 18-65 and is written at an 8<sup>th</sup> grade reading level. The normative base of this instrument is diverse and thus offers an advantage over other PTSD instruments that have been normed primarily on men suffering from combat-related trauma. Initial norming was done with a group of 248 men and women between the ages of 18 to 65 who had experienced a traumatic event at least one month before they took the test. The diversity of

the sample was represented by individuals in women's shelters, PTSD treatment clinics, VA hospitals and with staff of fire stations and ambulance corps. High internal consistency, good test-retest reliability and good validity have been reported (Foa et al., 1997; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). Another more recent study compared the PDS to the Clinician-Administered PTSD Scale (CAPS) in a sample of 138 women who were victims of domestic violence. Findings confirmed a high rate of PTSD in the sample with both instruments (Griffin, Uhlmansiek, Resick, & Mechanic, 2004).

Respondents initially report the type or types of traumatic events they have experienced, to briefly describe the most traumatic event, to report when it occurred, and to answer questions regarding injury and emotional experiences during the event. Thereafter, the participant rates items assessing posttraumatic difficulties (e.g., intrusive thoughts or nightmares), with responses ranging from 0 (not at all or only one time) to 3 (5 or more times a week/almost always). Finally, the questionnaire assesses, in a yes/no format, whether the trauma interfered with various activities such as work and relationships. The PDS yields a continuous severity score and a dichotomous PTSD diagnosis. In a recent comparison of seven self-report measures of PTSD in a sample of 239 undergraduate psychology students, the PDS demonstrated the best discriminant validity overall (Adkins, Weathers, McDevitt-Murphy, & Daniels, 2008), as well as on performance of optimally efficient cutoff score for predicting a diagnosis of PTSD based on the CAPS.

### **Psychosocial Variables**

*Hope: HHI.* The HHI (Herth, 1992) is a 12-item adapted version of the Herth Hope Scale (Herth, 1992). Items are in Likert format and are divided over three subscales with no two consecutive items from the same subscale. Respondents are asked to rate each item on a 4-point

Likert scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. For analysis, negative items are reverse scored so that higher scores indicate higher levels of hope. The sum of results from both subscales is used as the total hope score. Total scores can range from 12 to 48. The Herth Hope Index was designed to incorporate multidimensional elements of hope as well as a more global, non-time oriented sense of hope, such as hope despite diminished or absent personal relationships, hope as a sense of “being” available and engaging in relationships, and the potential of hope for controlling both emotional and behavioral responses as compared with events and/or experiences. The HHI was based on an original model, which posited that an individual can be hopeful for one thing and at the same time hopeless in relation to another, rather than considering hope and hopelessness as polar opposites on a continuum (Dufault & Martocchio, 1985). Thus, the multidimensionality and process orientation of hope allows a person to be hopeful about something at any given time.

Content validity was established through review by two panels. Reading level was established at 6<sup>th</sup> grade based on the Flesch Readability Formula. Concurrent criterion related validity was determined by comparing the HHI with the HHS, the Existential Well Being Scale (EWS), and the Nowotny Hope Scale (NHS). The Beck Hopelessness Scale (BHS) was used to determine divergent validity of the HHI. The HHI correlated with the HHS ( $r = 0.92$ ), with the EWS ( $r = 0.84$ ) and with the NHS ( $r = 0.81$ ). Divergent validity was also established as the HHI correlated with the BHS ( $r = -0.73$ ). Construct validity was assessed using maximum likelihood factor analysis. Internal consistency was established at both the initial administration and again two weeks later. Cronbach’s alpha was 0.97 on the HHI. Test-retest reliability was 0.91, showing stability over time. Factor analysis to determine reliability was completed for all three factors as subscales. Alpha coefficients ranged from 0.78 to 0.86.

One-way ANOVA indicated that scores did not differ significantly ( $p > .01$ ) based on gender, educational level, race, and age. Furthermore, no statistically significant differences ( $p > .01$ ) in hope were found based on phase of illness (i.e., acute, chronic, terminal). A few findings in particular have possible implications for research in mental health. The relationship between fatigue and hope was statistically significant in that higher fatigue resulted in lower mean hope scores. Additionally, subjects who were diagnosed with AIDS had statistically significant lower mean hope scores than subjects, with cardiovascular, gastrointestinal, musculoskeletal, neurological, hematological, or respiratory diagnoses. Finally, married subjects were found to have statistically significant higher mean hope scores than subjects who were divorced, separated, widowed, or co-habiting.

Since the Herth Hope Index performed better during a pilot study conducted by this author (Carretta et al., 2011), than either the Miller Hope Scale, or the Snyder Hope Scale, this scale was used in this study. It is important to note that the HHI does incorporate the concepts of agency and pathways in Snyder's Hope Theory, and additional items that may be highly relevant to the population (e.g. Optimism).

*Coping: Brief COPE.* The Brief COPE (Carver, 1997) is comprised of 14 subscales of two (2) items each that assess different coping dimensions including: 1) active coping, 2) planning, 3) using instrumental support, 4) using emotional support, 5) venting, 6) behavioral disengagement, 7) self-distraction, 8) self-blame, 9) positive reframing, 10) humor, 11) denial, 12) acceptance, 13) religion, and 14) substance use. This shorter scale has a total of 28 items and was derived from the original full COPE instrument which is comprised of sixty (60) items. The Brief COPE has the advantage of being built from acknowledged theoretical models: the Transactional Model of Stress and Coping, (Lazarus & Folkman, 1984) and the Behavioral Self-

Regulation Model, (Carver & Scheier, 1981, 1998), and can be used to assess both trait coping (the usual way people cope with stress in everyday life) and state coping (the particular way people cope with a specific stressful situation). Measurement is on a Likert scale ranging from 1 = I didn't do this at all to 4 = I did this a lot, with a one-week "look back" time period as the frame of reference. One cardinal and important difference between the original COPE and the Brief COPE is the addition of a scale relative to self-blame, an important concept when studying RT.

Validation was obtained with a convenience sample of 168 participants recruited from the community who had recently been seriously affected by hurricane Andrew. An effort was made to ensure diversity of ethnicity and socioeconomic status in the sample, resulting in a final sample comprised of the following demographics: 66% female, 40% non-Hispanic Caucasian, 34% African American, 55% Asian and 16% reporting they were of Hispanic descent. Soundness of internal structure was assessed by using two different methods. First, exploratory factor analysis was conducted using an oblique rotation to allow for correlations among the factors; yielding nine factors with eigenvalues greater than 1.0 accounting for 72.4% of the variance in responding. In addition, reliability analyses were performed across three administrations of the instrument to the same sample. All reliabilities met or exceeded  $\alpha$  of 0.50, with all but three exceeding 0.60 (Carver, 1997).

*Perceived Control: Perceived Control Over Stressful Events Questionnaire (PCSE).* The Perceived Control Over Stressful Events questionnaire (PCSE) is a 17-item scale comprised of three subscales; perceived control over past events (5 items), present events (8 items) and future events (4 items), and was designed to replace the previous Rape Attributions Questionnaire (P. Frazier, personal communication, August 24, 2010); (Frazier et al., 2011; Frazier, Steward, et al.,

2004; Frazier, 2003). The scale measures victim's beliefs related to past, present and future control over the rape event by asking how they have felt in the past two weeks (or since the event if it happened less than two weeks ago).

Respondents rated each of the 17-items on a scale of 1 (strongly disagree) to 4 (strongly agree). Examples of questions include: "I could have done something to prevent this event from happening" and "I have control over how I think about the event." In the development of this study, alpha coefficients for all three subscales were  $\geq .79$  for two times of assessment. The initial assessment demonstrated the following alphas: past control = .89, present control = .79, and future control .88; at the second assessment past = .89, present = .86, and future control = .90. The three week test-retest reliability coefficients were: .80 for past control past, 0.59 for present control, and .79 for future control (Frazier et al., 2011).

## **Disclosure**

Questions were created by the principal investigator to determine whether the participant had previously (before answering this survey) disclosed that they had an unwanted sexual experience, to whom they disclosed if they affirmed disclosure, and their preferences for follow-up were posed. The questions relative to prior disclosure were contained in the beginning of the survey and were as follows: 1) Is this the first time you are disclosing that you had an unwanted sexual experience? Yes/No; 2) If you have told one or more people about this incident, whom did you tell? Please check all that apply; 3) If you checked "other" above, please fill in the relationship you have with the person you told about the most recent incident of unwanted sexual contact. Please do not put in a personal name, but only identify your relationship with that person. Branching logic was employed so that participants would only see questions 2 and 3 if they answered "No" to question number 1. The question relative to follow-up preferences was



contained toward the end of the survey and stated: For experiences such as the one I had, I feel more comfortable disclosing the situation: a) online anonymously with no way for anyone to re-contact me; b) online with a way that someone could follow-up with me in the future; c) in person face-to-face; d) on the telephone anonymously with no way for anyone to re-contact me; and, e) on the telephone with a way that someone could follow-up with me in the future.

### **Sample Characteristics**

Information related to demographic and cultural considerations was collected using a measure designed for this purpose. Information included standard data such as age, gender, marital status, race, level of education, presence of and number of children, religious preference, presence and type of health insurance, and income level. Questions related to cultural norms for the participant were also asked including participants' birth county of origin, participants' parents' country of birth origin, participants perceived ethnicity, primary language, and geographic location where the participant now lives (state and/or county). Geographic information was then collapsed into categories delineating five quadrants of the United States, Northeast, Southeast, Midwest, South and West, and one category for international. Information relative to any prior experience of RT, physiological sequelae, current health problem(s), motivation, medications, disclosure history, and follow-up preferences was sought. Table 2 outlines these data resources and data collection methods.

Table 3

*Data Resources and Data Collection Methods*

<b>Concepts Measured</b>	<b>Measurement Variables</b>	<b>Measurement Instruments</b>	<b>Time Needed (in minutes)</b>	<b>Data Collection Methods</b>
Rape	Incidence of Rape	Sexual Experiences Scale (SES-SFV) – no charge for use – see below	1-2	Self-report/interview
	Type of Rape	Sexual Experiences Scale (SES-SFV)– no charge for use plus one additional question created to measure sex stress – 4 items total	included	Self-report
Psychosocial Variables	Hope	Herth Hope Index (HHI) – 12 items - no charge for use	3-5	Subject Self-report
	Perceived Control	Perceived Control Over Stressful Events Questionnaire – 17 items -	4-6	
Coping	Coping	Brief COPE – 28 items – no charge for use	5-8	Self-report
Psychological Outcomes	Depression	Beck Depression Inventory II (BDI-II) 21 –items – charge for use	5-10	Self-report
	Anxiety	State Trait Anxiety Inventory (STAI-Y) – Trait measure only - 20 questions – charge for use	5-6	
	PTSD	Posttraumatic Stress Diagnostic Scale (PDS) – 49 items – charge for use	10-15	
Perpetrator Type	Victim/Offender Relationship	Designed for this study – Nominal level data - 3 items	2-3	Subject Self-report
Participant Characteristics	Demographic Data	Demographic and Background Information Form – 22 items	5	Subject Self-Report
	Previous History of Trauma	Designed for this study – included at end of the demographic form	N/A	Subject Self-Report
Others		Patients Contact Script	3-5	Self-completion/ interview
		Informed Consent	8-10	
Total (Participants Involved)		Total items - 177	51 - 75	

**Credibility, Rigor, and Validity of Design and Methods**

The study ensured rigor through the following mechanisms.

**Internal Validity**

This study utilized a cross-sectional design. Although this limited any possible inference

of causality, it was the most appropriate design given current state of the science, and limited prior research on RT. As is evidenced throughout the literature review, there is a paucity of prior research on RT, including the type of experience, perpetrator/victim relationship, possible protective factors, and disclosure history and preferences. Therefore, making a descriptive analysis would be a critical next step. Thus, this dissertation focused on describing the differences in RT based on type of rape experience, perpetrator/victim relationship, associations with potential protective factors, and assessing perceived safety and viability of an online data collection/disclosure forum based on disclosure history and preferences.

### **External Validity**

No participants were excluded from the study based on race or ethnicity. Since the study targeted only adult female participants, men and children were excluded. Cases in which entire instruments were incomplete were omitted from the final data set. These may have been incomplete because a) The participant began the study, then was disconnected inadvertently due to power or computer failure, or loss of internet connectivity; b) The participant began the survey, then decided for whatever reason they no longer desired to continue; or, c) The participant attempted to use a back button or other means to move between the survey pages that was not supported by their browser. This study, unlike many others, did not focus on a specific segment of the population (e.g., college students), or only those suffering IPV. Thus, recruitment methods for this study supported involving a broader range of women within the 18 to 64 years of age than previous samples studying RT in hopes of enhancing generalizability of the findings. Future studies replicating these results would support generalizing the findings to the target population.

## **Reliability**

The study used many instruments, tested for reliability and validity, and validated for their respective measurement purposes. Cronbach's alpha coefficients were used to assess internal consistency of the instruments. Alpha values for each instrument were similar to those reported in other studies throughout the literature, further demonstrating that there was good internal consistency of all the instruments. Cronbach's alpha for the instruments in this study was as follows: BDI-II (0.95); STAI-Y (Trait) (0.95); HHI (0.90); PCSE: past control (0.82), present control (.85), future control (.77). Cronbach's alpha on the 14 subscales of the Brief COPE ranged from 0.47 (behavioral disengagement) to 0.96 (substance use score). Since the measure of post-traumatic stress resulted in a dichotomous (yes/no) diagnosis, there is no information of this type reported for this measure.

## **Data Management, Analysis and Interpretation**

### **Data Analysis**

All quantitative data was entered directly into the REDCap survey system by participants. After data entry, data validation and data cleaning procedures were used to check for outliers and internal data consistency (Polit & Beck, 2004). Once the data are cleaned in this manner, the quantitative data files were stored in an SPSS data file, available for analysis.

All statistical analysis was completed using SPSS V 19.0. Graphical procedures were used to supplement the presentation of inferential findings from the statistical tests. All of the instruments used in this study are self-report measures. Randomly missing responses to items within assessment tools were handled via protocols specified by the developers of those

measures. Responses with missing data for any of the instruments were omitted from the final analyses for that instrument. Descriptive statistics were used to characterize the sample and examine the distributions of continuous variables for parametric assumptions, including demographic information, psychosocial variables (e.g., hope, coping, perceived control), and psychological outcomes (e.g., depression, anxiety, PTSD). Categorical data (e.g., type of rape, victim/perpetrator relationship) was summarized using frequency distributions. Ordinal data summaries may also include, mean, median and 25<sup>th</sup> – 75<sup>th</sup> inter-quartile ranges representing the middle 50% of the values. Continuous data distributions were initially evaluated visually with histograms and via the Fisher test of skewness. If parametric assumptions were met, those distributions were summarized using means and standard deviations; if not, the distributions were summarized using median and 25<sup>th</sup> -75<sup>th</sup> interquartile ranges. The data were analyzed based on the specifications of each specific aim of the study. For statistical significance an alpha of .05 was used. However, given that the sample size rendered quite small effects statistically significant, for clinical or meaningful significance of the findings, an effect size of .3 (representing a minimal level of 9% shared variance) was used.

## **Aims**

*Aim 1.* To test for differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of rape (forcible, pressured sex, sex stress).

*Research Question 1.* What are the differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of rape (forcible, pressured sex, sex stress)?

*Statistical Analysis Methods:* To answer this question, participants were grouped into one of four (4) reported types of rape (forcible, pressured sex, sex stress, and multiple). Multivariate Analysis of Variance (MANOVA) was used to test for differences in depression and anxiety among the four groups. Chi square Test of Independence was used to test for those same differences among the distributions of post-traumatic stress disorder.

*Aim 2.* To test for differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger).

*Research Question 2.* What are the differences in RT presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger)?

*Statistical Analysis Methods:* Procedures: Participants were grouped into categories by reported perpetrator/victim relationship (intimate, non-intimate known, stranger). Multivariate Analysis of Variance (MANOVA) was used to test for differences in depression and anxiety among the three groups. Chi square Test of Independence was used to test for those same differences among the distributions of post-traumatic stress disorder.

*Aim 3.* To examine possible protective factors of hope, coping, and perceived control on depression, anxiety and PTSD.

*Research Question 3.* What are the relationships among hope, coping, and perceived control and with depression, anxiety, and PTSD?

*Statistical Analysis:* For the initial portion of this aim, intercorrelations among the hope, Brief COPE 14 subscales, and perceived control were generated using Pearson correlations. Some of the coping score distributions were severely skewed. Those distributions were rank

transformed prior to use in these analyses. Intercorrelations among the depression, anxiety, and PTSD values were also generated using Pearson and point bi-serial (PTSD) correlations. Subsequently, univariate correlations were generated between each of the hope, coping, and perceived control scores and the depression, anxiety, and PTSD values. Finally, canonical correlation analysis was used to examine the pattern of relationships among the hope, coping, and perceived control that maximized the association with the pattern of relationships among depression, anxiety and PTSD.

*Aim 4.* To explore the use of anonymous web-based survey as a “safe” data collection/self-disclosure mechanism in adult female rape victims.

*Research Questions 4.* Is the use of an anonymous web-based survey perceived as a “safer” disclosure format than person-to-person?

*Statistical Analysis:* Frequency distributions summarized the number of participants who reported first time disclosure and those who had not. Cross tabulations were constructed to determine the percentages of individuals who affirmed first time disclosure with reporting of follow-up preferences. Chi square Test of Independence was used to test for differences in the distributions of those who admitted to first time disclosure, and those who reported they had previously disclosed the event.

*Research Question 5.* Are there differences in RT presentation/diagnoses (depression, anxiety, PTSD) among women who have and have not disclosed the event?

*Statistical Analysis Methods:* To answer this question, frequency distributions summarized the number of participants who reported first time disclosure versus those who did not. Thereafter, cross tabulations were constructed to determine the percentages of individuals who affirmed first time disclosure with reporting of follow-up preferences. Participants were

then grouped into one of two groups: a) first time disclosure, or b) had previously disclosed.

Multivariate analysis of variance (MANOVA) was used to test for differences in depression and anxiety among the two groups. Chi square test of Independence was used to test for those same differences among the distributions of post-traumatic stress disorder



## **CHAPTER IV**

### **FINDINGS**

This chapter presents the study findings based on statistical analyses. Four primary sections are given. Section one focuses on a description of the study participants. Section two presents the internal consistency statistics for major instruments in the study. Section three addresses the results of data analyses for the four aims and five research questions in the study. Section four facilitates a brief summary of the chapter.

#### **Sample**

A convenience sample of women with a self-reported history of unwanted sexual experience(s) participated in this descriptive study. Each participant completed an online questionnaire. A total of 384 completed the study consent form and at least some portion of the study. Of those, 243 (63%) completed all of the study instruments sufficiently for inclusion in the analysis of the research questions. The demographic characteristics of the study completers versus non-completers are summarized in Table 4. There were no statistically significant differences between the completers and non-completers on any demographic factor.

The final convenience sample of participants included in this study (N = 243) ranged from 18 to 56 years in age with a median age of 27 years (25<sup>th</sup>-75<sup>th</sup> IQR: 23.8/33.3). The sample was primarily Caucasian (n = 218, 90%), with the remaining identifying themselves as African American (n = 18, 7%), or other (n = 6, 3%). The majority of the sample reported being

single/not partnered (n = 185, 76%). Participants lived in all regions of the United States; Northeast (n = 41, 17%), Southeast (n = 18, 8%), Midwest (n = 40, 17%), South (n = 97, 41%), and West (n = 20, 9%) with 9% of the participants reporting living outside the U.S. (n = 20). Although the majority of the sample was well-educated, and reported having at least a Bachelor's (n = 100, 41%), or Master's degree (n = 54, 23%), they were less affluent, with 70% of the sample reporting incomes of \$60,000 or less (range <\$25,000 to >\$100,000). The majority of the sample (n = 171, 71%) reported having no children, or having any religious preference (n = 146, 60%). Those reporting having non- governmental health insurance (POS, PPO, HMO) was slightly higher (n = 143, 59%), than those having insurance that was government subsidized (Medicaid, Medicare, MediCal) (n = 99, 41%). The majority of the sample (96%) denied living with their abuser (n = 232).

Table 4.

*Descriptive Statistical Summaries of Consented Individuals Completing and Not Completing Study Variables – Demographics*

Characteristic	Not Complete (N=141) N(%)	Complete (N=243) N(%)	<u>p-value</u>
<b>Race</b>			.109
Caucasian	91(82.7)	218(90.1)	
African American	16(14.5)	18(7.4)	
Other	3(2.7)	6(2.5)	
<b>Education</b>			.544
12 <sup>th</sup> Grade/GED	12(10.9)	15(6.2)	
Some College –Did Not Graduate	24(21.8)	47(19.4)	
2 Year Degree	10(9.1)	26(10.7)	
4 Year Degree	40(36.4)	100(41.3)	
Graduate Degree	24(21.8)	54(22.3)	
<b>Marital Status</b>			.268
Single/Not Partnered	78(70.9)	185(76.4)	
Married/Partnered	32(29.1)	57(23.6)	

Table 4 continued.

<b>Residence Area</b>			.873
Northeast	18(16.4)	41(17.4)	
Southeast	6(5.5)	18(7.6)	
Midwest	23(20.9)	40(16.9)	
South	45(40.9)	97(41.1)	
West	11(10.0)	20(8.5)	
Outside the U.S.	7(6.4)	20(8.5)	
<b>Children</b>			.327
Yes	38(34.5)	71(29.3)	
No	72(65.5)	171(70.7)	
<b>Health Insurance Type</b>			.872
Governmental (Medicare, Medicaid, etc.)	46(41.8)	99(40.9)	
Non-Governmental	64(58.2)	143(59.1)	
<b>Religious Preference</b>			.442
Roman Catholic	15(13.6)	38(15.7)	
Protestant	18(16.4)	47(19.4)	
Jewish	2(1.8)	7(2.9)	
Muslim	3(2.7)	1(0.4)	
Buddhist	1(0.9)	3(1.2)	
No Preference	71(64.5)	146(60.3)	
<b>Annual Household Income</b>			.385
Less than \$25,000	0(0)	58(24.8)	
\$26,001 - \$40,000	0(0)	60(25.6)	
\$40,001 - \$60,000	1(50.0)	43(18.4)	
\$60,001 - \$80,000	0(0)	13(5.6)	
\$80,001 - \$100,000	0(0)	20(8.5)	
Over \$100,000	1(50.0)	20(8.5)	
Prefer Not To Answer	0(0)	20(8.5)	
<b>Currently Lives with Abuser</b>			.568
Yes	6(6.0)	11(4.5)	
No	94(94.0)	232(95.5)	
<b>Age</b>	<b>Median (IQR)*</b>	<b>Median (IQR)*</b>	
Age (years)	27.00, (23.3,33.8)	27.00, (23.8,33.3)	.924

With the exception of age, Chi-Square Tests of Independence were used to test for differences between the respondent groups. A Mann-Whitney Test was used for that respective test for age.

\*25<sup>th</sup>, 75<sup>th</sup> Inter-Quartile Range representing the middle 50% of the observed values

## Descriptive Statistics and Internal Consistencies of the Measures

Descriptive summaries of the measures of depression, anxiety, and hope are reported in Table 5.

*BDI-II.* Higher scores are indicative of more severe depression. Mean scores on the scale range as follows: 0 – 13 (minimal); 14-19 (mild); 20-28 (moderate); 29-63 (severe). In this study, the BDI-II mean score of participants was 21.53 indicating a moderate level of depression.

*STAI-Y (Trait portion).* Higher scores on the instrument are indicative of more severe anxiety. Scores on this measure range from 20 (low anxiety) to 80 (high anxiety). Based on norming of the instrument in a variety of populations, our sample experienced a mean level of anxiety ( $M = 51.3$ ) that was higher than those found in a sample of general medical/surgical patients with a history of psychiatric complaints ( $n = 34$ ,  $M = 44.6$ ).

*HHI.* Scores of the measure of hope in this study ranged from 19 to 48 ( $M = 35.2$ ) This finding is congruent with results of the initial scale norming in adults with acute, chronic, or terminal illness ( $M = 34.49$ ) These results indicate that participants had a relatively positive level of hopefulness.

*PCSE.* In this study, the actual scores on the three subscales of perceived control over stressful events ranged from: 5 to 20 (past control, possible 5 to 25); 9 to 32 (present control, possible 8 to 40); and, 4 to 16 (future control, 4 to 16), with median scores of 15, 23 and 12 respectively. For each of the three subscales of perceived control, a higher total score represents higher levels of perceived control. Results of this study reveal that participants exhibited a moderate level of perceived control for past, present, and future perceived control.

Cronbach's alpha was a minimum of .7 for all of the study measures, with the exception of some of the Brief COPE subscale scores (see Tables 5 and 6). According to George and

Mallery (2003), internal consistency of  $\geq .7$  is considered acceptable (p. 231) (George & Mallery, 2003).

Table 5.

*Descriptive Statistics and Internal Consistencies of depression, anxiety, hope, and perceived control*

<b>Instrument (# of items)</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>	<b>Cronbach's Alpha</b>
BDI – II (21)	243	21.53	14.05	0	62	.95
STAI-Y(Trait) (20)	243	51.31	13.73	23	79	.95
Herth (HHI) (14)	243	35.28	6.63	19	48	.90
Perceived Control	<b>N</b>	<b>Median</b>	<b>IQR*</b>	<b>Min</b>	<b>Max</b>	
Past (5)	242	15.00	12.0 16.0	5	20	.82
Present (8)	241	23.00	20.0 27.0	9	32	.85
Future (4)	242	12.00	11.0 14.0	4	16	.77

\*25<sup>th</sup>, 75<sup>th</sup> Inter-Quartile Range representing the middle 50% of the observed values

Descriptive summaries of the Brief COPE scores are presented in Table 6. Because several of those score distributions were severely skewed, the median and 25<sup>th</sup> to 75<sup>th</sup> interquartile range (IQR) representing the middle 50% of the scores are reported. Findings from this study indicate that the coping mechanism employed most was the use of self-distraction, and the least used were substance use, humor, and religion. Participants reported using emotional support, self-blame, active coping, and planning a moderate amount.

Some subscales of the Brief COPE demonstrated a lower internal consistency. For example, the subscales for venting, active coping and acceptance are considered questionable relative to internal consistency of the measure; self-distraction was poor, and behavioral disengagement unacceptable. Thus, interpretation of values for these subscales must be made with caution.

Table 6.

*Descriptive Statistics and Internal Consistencies of the 14 subscales of the Brief COPE*

<b>Brief COPE</b>	<b>N</b>	<b>Median</b>	<b>IQR*</b> <b>(25,75)</b>		<b>Min</b>	<b>Max</b>	<b>Cronbach's Alpha</b>
Venting	243	4.0	3.0	5.0	2	8	.62
Use Instrumental Support	243	4.0	2.0	6.0	2	8	.86
Use Emotional Support	243	5.0	3.0	6.0	2	8	.86
Substance Use Score	243	2.0	2.0	4.0	2	8	.96
Self- Distraction	243	6.0	4.0	7.0	2	8	.59
Self-Blame	243	5.0	4.0	7.0	2	8	.78
Religion	243	3.0	2.0	6.0	2	8	.91
Positive Reframing	243	4.0	3.0	6.0	2	8	.71
Planning	243	5.0	3.0	6.0	2	8	.75
Humor	243	2.0	2.0	4.0	2	8	.83
Denial	243	3.0	2.0	4.0	2	8	.77
Active Coping	243	5.0	4.0	7.0	2	8	.65
Acceptance	243	6.0	5.0	7.0	2	8	.62
Behavioral Disengagement	243	4.0	2.0	5.0	2	8	.47

\*25<sup>th</sup>, 75<sup>th</sup> Inter-Quartile Range representing the middle 50% of the observed values

Finally, within the sample of 243 participants, 9 (2.5%) did not complete the PDS measure sufficiently to ensure a valid diagnosis of PTSD. Of the remaining 243 participants, 109 (45%) met the criteria for diagnosis of PTSD; 128 (53%) did not. Within the subsample (N = 109) with a diagnosis of PTSD, 23% (N = 25) had delayed onset, and the majority (N = 107, 98%) had reported chronic symptoms. Over half (52%, N = 57) of the sample with PTSD reported symptoms that fell in the moderate to severe category for severity, and 60% (N = 66) reported a severe level of impairment related functioning.

### **Data Analysis**

The following section will address the results of data analyses for the four aims and five research questions in the study.

#### **Aim 1:**

To test for differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of rape (forcible, pressured sex, sex stress).

#### **Question:**

What are the differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of rape (forcible, pressured sex, sex stress)?

#### **Findings:**

To answer this question, participants were grouped into categories based on the type of rape experienced (forcible, pressured sex, sex stress, multiple). Summaries of the depression and anxiety values (Table 7), as well as prevalence of PTSD for each type of trauma group are

presented (Table 8). There was a statistically significant difference among type of rape trauma groups for depression ( $p = .013$ ), but not for anxiety ( $p = .183$ ). Post-hoc analysis of the overall difference in depression revealed that the multiple rape group ( $p = .010$ ) and the forcible sex group ( $p = .016$ ) had higher levels of depression than did the group experiencing sex stress.

Table 7.

*Summaries of Depression and Anxiety*

	<b>Forcible (N=145)</b>	<b>Pressured (N=40)</b>	<b>Stress (N=12)</b>	<b>Multiple (N=46)</b>	<b>F (df = 3,329)</b>	<b>p- value</b>	<b>Eta- squared</b>
	M (SD)	M (SD)	M (SD)	M (SD)			
<b>BDI – II</b>	22.2 (14.2)	20.2 (12.9)	9.6 (10.9)	23.8 (14.1)	3.64	<b>.013</b>	.04
<b>STAI- Y(Trait)</b>	51.9 (13.5)	50.5 (13.1)	43.2 (14.2)	52.3 (14.6)	1.63	.183	.02

Multivariate Analysis of Variance (MANOVA) was used to test for differences in depression and anxiety among the groups. Wilk's Lambda = 0.949,  $F(6,476) = 2.09$ ,  $p = 0.053$

Note: Post Hoc Depression analyses: Sex Stress < Forcible Rape,  $p = 0.016$

There was also a statistically significant difference among the type of rape trauma groups in the rates of PTSD (Likelihood Chi-Square  $p = .044$ ). As displayed in Table 8, within the groups reporting forcible and multiple types of trauma, the distribution of those who did and did not meet the PTSD criteria were very similar. However, within the other types of trauma groups (pressured and sex stress), the rates meeting PTSD criteria were considerably less than the rate not meeting the criteria. Among those with PTSD there were no statistically significant differences among the type of rape groups for delayed onset ( $p = .767$ ), symptom duration ( $p = .758$ ), severity score ( $p = .160$ ), or level of impairment ( $p = .812$ ).



Table 8.

*Summary of PTSD.*

	<b>Forcible (N=141)</b>	<b>Pressured (N=39)</b>	<b>Stress (N=11)</b>	<b>Multiple (N=46)</b>	<b><i>p</i>-value</b>
<b>PDS</b>	N(%)	N(%)	N(%)	N(%)	<b>.044</b>
With PTSD	69(48.9)	13(33.3)	2(18.2)	25(54.3)	
Without PTSD	72(51.1)	26(66.7)	9(81.8)	21(45.7)	

Chi square Test of Independence was used to test for differences among the distributions of post-traumatic stress disorder in the groups.

**Aim 2:**

To test for differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger).

**Question:**

What are the differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger)?

**Findings:**

To answer this question, participants were grouped into categories based on perpetrator/victim relationship. Summaries of the depression and anxiety values (Table 9), as well as prevalence of PTSD for each type of trauma group are presented (Table 10). Findings revealed that perpetrator/victim relationship was not significantly associated with either depression ( $p = .621$ ) or anxiety ( $p = .345$ ). There was also no statistically significant difference among the perpetrator/victim relationship groups in the rates of PTSD (Likelihood Chi-Square = .865). Within the group of participants with PTSD, there was a statistically significant difference

among the perpetrator/victim relationships groups in the rates of delayed onset of PTSD symptoms ( $p = .040$ ). Participants in the intimate partner and stranger groups had higher mean levels of depression ( $M = 22.3$ ) and anxiety ( $M = 52.5/52.4$  respectively) than those who experienced rape by someone considered non-intimate but known to the victims. Participants who met the criteria for PTSD were fairly evenly distributed throughout all three groups; intimate partner 47%, Non-intimate known (44%); stranger (49%). No statistically significant differences were observed in terms of symptom duration ( $p = .235$ ), severity score ( $p = .339$ ), or level of impairment ( $p = .300$ ).

Table 9.

*Summaries of Depression and Anxiety\**.

	<b>Intimate (N=97)</b>	<b>Non- Intimate Known (N=106)</b>	<b>Stranger (N=40)</b>	<b>F (df=2,240)</b>	<b>p-value</b>	<b>Eta- squared</b>
	M(SD)	M(SD)	M(SD)			
<b>BDI – II</b>	22.3(14.0)	21.0(13.6)	22.3(15.4)	0.48	.621	<.01
<b>STAI- Y(Trait)</b>	52.4(13.1)	49.9(13.7)	52.4(15.3)	1.07	.345	.01

Multivariate Analysis of Variance (MANOVA) was used to test for differences in depression and anxiety among the groups. Wilk's Lambda = 0.990,  $F(4,478) = .603$ ,  $p = 0.661$

Table 10.

*Summary of PTSD. Chi square Test of Independence was used to test for those same differences among the distributions of post-traumatic stress disorder.*

	<b>Intimate (N=96)</b>	<b>Non- Intimate Known (N=102)</b>	<b>Stranger (N=39)</b>	<b>p-value</b>
<b>PDS</b>	N(%)	N(%)	N(%)	.865
With PTSD	45(47)	45(44)	19(49)	
Without PTSD	51(53)	57(56)	20(51)	

Chi square Test of Independence was used to test for differences among the distributions of post-traumatic stress disorder in the groups.

**Aim 3:**

To examine possible protective factors of hope, coping, and perceived control on depression, anxiety and PTSD.

**Question:**

What are the relationships among hope, coping, and perceived control, as well as with depression, anxiety, and PTSD?

**Relationships among Hope, Perceived Control, and Coping.**

To answer this question, intercorrelations among the hope, Brief COPE 14 subscales, and perceived control were generated using Pearson correlations. Skewed distributions were then rank transformed prior to use in the analyses. Intercorrelations among the depression, anxiety, and PTSD values were also generated using Pearson and point bi-serial (PTSD) correlations. Subsequently, univariate correlations were generated between each of the hope, coping, and perceived control scores and the depression, anxiety, and PTSD values. Finally, canonical

correlation analysis was used to examine the pattern of relationships among the hope, coping, and perceived control that maximized the association with the pattern of relationships among depression, anxiety and PTSD.

Correlations among the measures of hope, perceived control and coping are presented in Table 11. Hope demonstrated positive statistically significant associations with present perceived control (.66,  $p < .001$ ), and future perceived control (.41,  $p < .001$ ). In addition, the measure of hope was positively associated with 6 of the 14 subscales of the Brief Coping. Positive associations were found between hope and the following six subscales: a) use of instrumental support (.22,  $p = .001$ ); b) use of emotional support (.39,  $p < .001$ ); c) religion (.32,  $p < .001$ ); d) positive reframing (.39,  $p < .001$ ); e) active coping (.28,  $p < .001$ ); and, f) acceptance (.38,  $p < .001$ ). Inverse associations were noted between hope and the following five subscales: a) substance use (-.29,  $p < .001$ ); b) self-distraction (-.17,  $p = .009$ ); c) self-blame (-.50,  $p < .001$ ); d) denial (-.26,  $p < .001$ ); and, e) behavioral disengagement (-.55,  $p < .001$ ). The strongest associations demonstrating at least 10% shared variability were the positive correlations between hope and present and future perceived control, use of emotional support, positive reframing and acceptance; meaningful inverse correlations with hope included self-blame, and behavioral disengagement.

Past perceived control was statistically significantly inversely associated with self-reports of present perceived control (-.18,  $p = .006$ ) and positively with future perceptions (.22,  $p = .001$ ), as well as with 9 of the 14 subscales of the Brief COPE. Positive associations were found between past perceived control and the following two Brief COPE subscales: a) substance use (.18,  $p = .005$ ); and, b) self-blame (.43,  $p < .001$ ). Inverse associations were noted between past perceived control and the following seven subscales: a) venting (-.18,  $p = .007$ ); b) use

instrumental support ( $r = -.15, p = .025$ ); c) religion ( $r = -.19, p = .003$ ); d) positive reframing ( $r = -.15, p = .022$ ); e) planning ( $r = -.18, p = .005$ ); f) active coping ( $r = -.21, p = .001$ ); and, g) acceptance ( $r = -.27, p < .001$ ). Note that all of these associations were small and below the threshold of meaningful association used in this study with the exception of the positive association of the Brief COPE use of self-blame ( $r = .43$ ).

Statistically significant associations of self-reported present perceived control with 10 of the 14 subscales of the Brief COPE were observed. Positive associations were found between present perceived control and the following six subscales: a) use instrumental support ( $r = .16, p = .012$ ); b) use emotional support ( $r = .21, p = .001$ ); c) religion ( $r = .18, p = .006$ ); d) positive reframing ( $r = .31, p < .001$ ); e) active coping ( $r = .25, p < .001$ ); and, f) acceptance ( $r = .43, p < .001$ ). Inverse associations were noted between present perceived control and the following five subscales: a) substance use ( $r = -.29, p < .001$ ); b) self-distraction ( $r = -.19, p = .004$ ); c) self-blame ( $r = -.52, p < .001$ ); d) denial ( $r = -.30, p < .001$ ); and, e) behavioral disengagement ( $r = -.51, p < .001$ ). Again while these associations were statistically significant, given the relatively large sample size, many were below the threshold of meaningful association used in this study with the exceptions of the positive association of present perceived control with acceptance and the inverse associations with self-blame ( $r = -.52$ ) and behavioral disengagement ( $r = -.51$ ).

Finally, self-reports of future perceived control were statistically significantly associated with 6 of the 14 subscales of the Brief COPE. Positive associations were found between future perceived control and the following five subscales: a) use emotional support ( $r = .17, p = .010$ ); c) religion ( $r = .16, p = .016$ ); d) positive reframing ( $r = .13, p = .039$ ); e) active coping ( $r = .18, p = .004$ );

and, f) acceptance (.17,  $p = .008$ ). Inverse associations were noted between future perceived control and behavioral disengagement (-.19,  $p = .003$ ). None of these associations achieved the level of meaningful significance used in this study, however.

Table 11.

*Correlations among Hope, Perceived Control, and Coping*

	Herth Hope	Perceived Control Total Scores		
	Total Score	Past	Present	Future
Herth Hope Index	1 ---	-.07 (.280)	.66 ( <b>&lt;.001</b> )	.41 ( <b>&lt;.001</b> )
Perceived Control				
Past	-.07 (.280)	---	-.18 (.006)	.22 (.001)
Present	.66 ( <b>&lt;.001</b> )	-.18 (.006)	---	.37 ( <b>&lt;.001</b> )
Future	.41 ( <b>&lt;.001</b> )	.22 (.001)	.37 ( <b>&lt;.001</b> )	---
Brief COPE - Venting	.10 (.114)	-.18 (.007)	.08 (.205)	.07 (.279)
Brief COPE - Instrumental Support	.22 (.001)	-.15 (.025)	.16 (.012)	.10 (.111)
Brief COPE - Emotional Support	.39 ( <b>&lt;.001</b> )	-.12 (.056)	.21 (.001)	.17 (.010)
Brief COPE - Substance Use	-.29 ( <b>&lt;.001</b> )	.18 (.005)	-.09 ( <b>&lt;.001</b> )	.02 (.176)
Brief COPE - Self-Distraction	-.17 (.009)	.05 (.462)	-.19 (.004)	-.11 (.102)
Brief COPE - Self-Blame	-.50 ( <b>&lt;.001</b> )	.43 ( <b>&lt;.001</b> )	-.52 ( <b>&lt;.001</b> )	-.08 (.225)
Brief COPE - Religion	.32 ( <b>&lt;.001</b> )	-.19 (.003)	.18 (.006)	.16 (.016)
Brief COPE - Positive Reframing	.39 ( <b>&lt;.001</b> )	-.15 (.022)	.31 ( <b>&lt;.001</b> )	.13 (.039)
Brief COPE - Planning	.09 (.173)	-.18 (.005)	.02 (.810)	.04 (.590)
Brief COPE - Humor	.02 (.753)	.12 (.061)	.03 (.623)	-.02 (.822)
Brief COPE - Denial	-.26 ( <b>&lt;.001</b> )	.12 (.074)	-.30 ( <b>&lt;.001</b> )	-.12 (.067)
Brief COPE - Active Coping	.28 ( <b>&lt;.001</b> )	-.21 (.001)	.25 ( <b>&lt;.001</b> )	.19 (.004)
Brief COPE - Acceptance	.38 ( <b>&lt;.001</b> )	-.27 ( <b>&lt;.001</b> )	.43 ( <b>&lt;.001</b> )	.17 (.008)
Brief COPE - Behavioral Disengagement	-.55 ( <b>&lt;.001</b> )	.08 (.200)	-.51 ( <b>&lt;.001</b> )	-.19 (.003)

Values in the cells:  $r$  ( $p$ -value).

## **Relationships of Hope, Perceived Control, and Coping with Depression, Anxiety, and PTSD**

Bivariate associations of the measures of hope, perceived control, and coping with the outcome measures of depression, anxiety, and PTSD are presented in Table 12. Both hope and present perceived control were inversely statistically significantly associated at 0.33 or above (10% of the shared variance) with all three outcome measures (depression, anxiety, PTSD). The strongest of the associations with increased hope were with lower depression ( $-0.73, p < .001$ ); and, anxiety ( $-0.77, p < .001$ ) values. A similar pattern was observed for the associations of present perceived control and the outcome measures. The strongest of those correlations once again were with depression ( $-0.67, p < .001$ ); and, anxiety ( $-0.70, p < .001$ ). Although past perceived control was statistically significantly positively associated with depression ( $0.13, p = .048$ ), and anxiety ( $0.16, p = .013$ ), and future control was statistically significantly inversely associated with depression ( $-0.32, p < .001$ ), anxiety ( $-0.32, p < .001$ ), and PTSD ( $-0.25, p < .001$ ), none were sufficiently strong for meaningful interpretation in this study.

The strongest associations of the Brief Coping subscales with higher levels of depression were observed for self-blame ( $0.60, p < .001$ ), and behavioral disengagement ( $0.63, p < .001$ ). The strongest inverse associations were observed for use emotional support ( $-0.26, p < .001$ ), and acceptance ( $-0.31, p < .001$ ). Four of those correlations (all in the direction of increasing depression: self-blame, behavioral disengagement, substance use, denial) demonstrated at least 10% shared variability. The strongest positive associations of anxiety were with: a) self-blame ( $0.67, p < .001$ ), and, b) behavioral disengagement ( $0.59, p < .001$ ). The strongest inverse associations of anxiety were with: a) positive reframing ( $-0.26, p < .001$ ), and b) acceptance ( $-0.33, p < .001$ ). Increased use of self-blame, behavioral disengagement, and substance use, and



decreased use of acceptance all shared at least 10% variability with increasing anxiety. Coping demonstrated the fewest (4) statistically significant associations with the measure of PTSD; the strongest being a positive association of self-blame with meeting a clinical diagnostic levels of PTSD (.25,  $p < .001$ ).

Table 12.

*Correlations of Hope, Perceived Control, and Coping with Depression, Anxiety, and PTSD*

	<b>Depression</b>	<b>Anxiety</b>	<b>Meets PTSD Diagnostic Criteria</b>
Herth Hope Index	<b>-.73</b> ( <b>&lt;.001</b> )	<b>-.77</b> ( <b>&lt;.001</b> )	<b>-.38</b> ( <b>&lt;.001</b> )
Perceived Control			
Past	.13 (.048)	.16 (.013)	-.07 (.299)
Present	<b>-.67</b> ( <b>&lt;.001</b> )	<b>-.70</b> ( <b>&lt;.001</b> )	<b>-.33</b> ( <b>&lt;.001</b> )
Future	-.32 (.001)	-.32 (.001)	-.25 (.001)
Brief COPE Venting	.03 (.668)	.01 (.871)	.06 (.384)
Brief COPE Use Instrumental Support	-.15 (.021)	-.10 (.131)	-.02 (.765)
Brief COPE Use Emotional Support	-.26 (.001)	-.24 (.001)	-.10 (.119)
Brief COPE Substance Use	<b>.39</b> ( <b>&lt;.001</b> )	<b>.40</b> ( <b>&lt;.001</b> )	-.16 (.013)
Brief COPE Self-Distraction	.24 (.001)	.31 (.001)	.09 (.167)
Brief COPE Self-Blame	<b>.60</b> ( <b>&lt;.001</b> )	<b>.67</b> ( <b>&lt;.001</b> )	.25 (.001)
Brief COPE Religion	-.16 (.016)	-.16 (.015)	-.07 (.319)
Brief COPE Positive Reframing	-.19 (.004)	-.26 (.001)	-.07 (.324)
Brief COPE Planning	.07 (.292)	.01 (.930)	.07 (.290)
Brief COPE Humor	.02 (.782)	.05 (.436)	.08 (.252)
Brief COPE Denial	<b>.34</b> ( <b>&lt;.001</b> )	.31 (.001)	.22 (.001)
Brief COPE Active Coping	-.14 (.032)	-.17 (.007)	-.08 (.212)
Brief COPE Acceptance	-.31 (.001)	<b>-.33</b> ( <b>&lt;.001</b> )	-.08 (.214)
Brief COPE Behavioral Disengagement	<b>.63</b> ( <b>&lt;.001</b> )	<b>.59</b> ( <b>&lt;.001</b> )	.23 (.001)

Values in the cells:  $r$  ( $p$ -value).

## **Relationships of Patterns among Hope, Coping, and Perceived Control with Patterns among Depression, Anxiety and PTSD**

Evaluation of the assumptions prior to conducting the canonical correlation analysis revealed that within each of the two sets of variables, there were no multicollinearity issues with the variables and there were no multivariate outliers identified at  $p < .001$ . Because complete cases are required for these analyses, the six cases that did not sufficiently complete the PTSD measure sufficiently were not included in this analysis. The first canonical correlation between the two sets of variables was 0.89 (Adjusted  $R=0.88$ ,  $F_{(df=54,656.33)}=9.48$ ,  $p < .001$ ); the second correlation derived was 0.35 (adjusted  $R=0.25$ ,  $F_{(df=34,442.00)}=1.22$ ,  $p = .190$ ), with the last being 0.22 (adjusted  $R=0.10$ ,  $F_{(df=16,222.00)}=0.71$ ,  $p = .782$ ). The first canonical correlation accounted for 95% of the shared variability between the two sets of variables with the second accounting for ~4% more. Therefore, only the initial canonical correlation will be interpreted.

The correlations and standardized canonical coefficients of each of the individual variables with their respective canonical variates are shown in Table 13. With a cutoff correlation of .3, the variables in the psychosocial set that were correlated with the first canonical variate were hope, present and future perceived control, coping via substance use, self-distraction, self-blame, denial, behavioral disengagement, and acceptance. Among the psychological outcome variables, two of the three (depression, anxiety,) correlated with the first canonical variate. The first pair of canonical variates indicates that those with lower levels of hope (-0.88), present perceived control (-0.79), future perceived control (-0.36) and acceptance (-0.36), and increased levels of substance use (0.45), self-distraction (0.34), self-blame (0.76),

denial (0.36), and behavioral disengagement (0.70) are associated with higher levels of depression (0.92) and anxiety (0.99).

Table 13.

*Correlations and Standardized Canonical Coefficients of the Psychosocial and Psychological Outcome Variables and Their Corresponding First Canonical Variate Psychosocial Set*

	First Canonical Variate	
	Correlation	Coefficient
<b>Psychosocial set</b>		
Herth	-0.88	-0.49
PCSE- Past	0.18	-0.03
PCSE – Present	-0.79	-0.22
PCSE – Future	-0.36	-0.04
Coping - Venting	0.02	0.06
Coping – Instrumental Support	-0.13	0.06
Coping – Emotional Support	-0.28	0.02
Coping –Substance Use	0.45	0.12
Coping – Self-Distracton	0.35	0.10
Coping – Self-Blame	0.76	0.31
Coping - Religion	-0.17	0.06
Coping – Positive Reframing	-0.28	-0.02
Coping - Planning	0.04	-0.04
Coping - Humor	0.05	0.01
Coping - Denial	0.36	-0.03
Coping - Active Coping	-0.18	0.04
Coping - Acceptance	-0.36	0.02
Coping – Behavioral Disengagement	0.70	0.13
<b>Psychological Outcomes Set</b>		
Depression	0.92	0.29
Anxiety	0.99	0.74
PTSD	0.19	0.02

**Aim 4:**

To explore the use of an anonymous web-based survey as a preferred “safe” data collection/self-disclosure mechanism in adult female rape victims.

**Question 4:**

Is the use of an anonymous web-based survey perceived as a “safer” disclosure format than person-to-person?

**Findings:**

To answer this question, frequency distributions were run to summarize the number of participants who reported first time disclosure and those who had not. Cross tabulations were constructed to determine the percentages of individuals who affirmed first time disclosure with reporting of follow-up preferences. Chi square Test of Independence was used to test for differences in the distributions of those who admitted to first-time disclosure, and those who reported they had previously disclosed the event.

The demographic characteristics of those citing first-time disclosure and those reporting having disclosed previously are summarized in Table 14. Statistically significant differences between the two groups were observed in ages of the participants and presence of children. A higher proportion of those stating first time disclosure reported having children (n = 24 of 58, 41%) than in the group citing prior disclosure (n = 47 of 137, 34%). Those who admitted to first time disclosure were, on average older than those who cited previously disclosing. While not statistically significant (p=.055), within the group citing first-time disclosure approximately half (n = 30 of 58, 51.7%) reported having some form of governmental subsidized insurance while a considerably smaller respective proportion (n = 69 of 184, 37.5%) was seen in the group citing prior disclosure.

Table 14.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables - Demographics*

<b>Characteristic</b>	<b>First Time Disclosed (N=58) N(%)</b>	<b>Not First Disclosure (N=184) N(%)</b>	<b><i>p</i>-value</b>
<b>Race</b>			.582
Caucasian	51(87.9)	167(90.8)	
African American	6(10.3)	12(6.5)	
Other	1(1.7)	5(2.7)	
<b>Education</b>			.774
12 <sup>th</sup> Grade/GED	5(8.6)	10(5.4)	
Some College –Did Not Graduate	13(22.4)	34(18.5)	
2 Year Degree	7(12.1)	19(10.3)	
4 Year Degree	22(37.9)	78(42.4)	
Graduate Degree	11(19.0)	43(23.4)	
<b>Marital Status</b>			.635
Single/Not Partnered	43(74.1)	142(77.2)	
Married/Partnered	15(25.9)	42(22.8)	
<b>Residence Area</b>			.702
Northeast	7(13.0)	34(18.7)	
Southeast	6(11.1)	12(6.6)	
Midwest	10(18.5)	30(16.5)	
South	24(44.4)	73(40.1)	
West	3(5.6)	17(9.3)	
Outside the U.S.	4(7.4)	16(8.8)	
<b>Children</b>			.021
Yes	24(41.4)	47(25.5)	
No	34(48.6)	137(74.5)	
<b>Health Insurance Type</b>			.055
Governmental (Medicare, Medicaid, etc.)	30(51.7)	69(37.5)	
Non-Governmental	28(48.3)	115(62.5)	
<b>Religious Preference</b>			.218
Roman Catholic	14(24.1)	24(13.0)	
Protestant	11(19.0)	36(19.6)	
Jewish	3(5.2)	4(2.2)	
Muslim	0(0.0)	1(0.5)	
Buddhist	0(0.0)	3(1.6)	
No Preference	30(51.7)	116(63.0)	

Table 14 continued.

<b>Annual Household Income</b>			.553
Less than \$25,000	14(24.1)	44(25.1)	
\$26,001 - \$40,000	12(20.7)	48(27.4)	
\$40,001 - \$60,000	14(24.1)	29(16.6)	
\$60,001 - \$80,000	1(1.7)	12(6.9)	
\$80,001 - \$100,000	6(10.3)	13(7.4)	
Over \$100,000	6(10.3)	14(8.0)	
Prefer Not To Answer	5(8.6)	15(8.6)	
<b>Currently Lives with Abuser</b>			.324
Yes	4(6.9)	7(3.8)	
No	54(93.1)	177(96.2)	
<b>Age</b>	<b>Median (IRQ)</b>	<b>Median (IRQ)</b>	.003
Age (years)	31.5 (23.0,42.3)	27.0 (24.0, 32.0)	

With the exception of age, Chi-Square Tests of Independence were used to test for differences between the respondent groups. A Mann-Whitney Test was used for that respective test for age.

There were no statistically significant differences between the first-time and non-first-time responders in terms of type of unwanted experience, nor for relationship between the perpetrator and victim (Table 15).

Table 15.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing – Type of Unwanted Experience and Perpetrator/Victim Relationship*

Characteristic	First Time Disclosed (N=58) N(%)	Not First Disclosure (N=184) N(%)	<u>p-value</u>
<b>Type of unwanted experience</b>			.186
Forcible Rape	28(48.3)	117(63.6)	
Pressured Sex	11(19.0)	29(15.8)	
Sex Stress	4(6.9)	7(3.8)	
Multiple Types	15(25.9)	31(16.8)	
<b>Perpetrator/Victim relationship</b>			.091
Intimate Partner	26(44.8)	71(38.6)	
Non-Intimate Known	28(48.3)	78(42.4)	
Stranger	4(6.9)	35(19.0)	
Total	58(100)	184(100)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

Finally, there was no statistically significant difference between the responder groups in terms of type of follow-up preferred ( $p = .153$ ). The majority of participants, both those that had previously disclosed ( $n = 123, 70.3\%$ ), and those who admitted to first time disclosure ( $n = 46, 79.3\%$ ) reported they preferred online follow-up to both the face-to-face and telephone options (Table 16).



Table 16.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Disclosure and Follow-up*

<b>Characteristic</b>	<b>First Time Disclosed (N=58) N(%)</b>	<b>Not First Disclosure (N=175) N(%)</b>	<b><i>p</i>-value</b>
<b>Follow-up Preferences</b>			.153
Online	46(79.3)	123(70.3)	
Telephone	6(10.3)	14(8.0)	
Face-To-Face	6(10.3)	38(21.7)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

**Post-Hoc Analysis of Disclosure Groups**

Current use of medication for depression, anxiety and sleep for those who had previously disclosed and those who had not are summarized in Table 17. There were no statistically significant differences in the rates of use of the types of medication between the groups.

Table 17.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Medication Use*

<b>Characteristic</b>	<b>First Time Disclosed (N=58) N(%)</b>	<b>Not First Disclosure (N=184) N(%)</b>	<b><i>p</i>-value</b>
<b>Depression Medication</b>			.571
Yes	16(27.6)	58(31.5)	
No	42(72.4)	126(68.5)	
<b>Anxiety Medication</b>			.574
Yes	13(22.4)	48(26.1)	
No	45(77.6)	136(73.9)	
<b>Sleep Medication</b>			.635
Yes	15(25.9)	42(22.6)	
No	43(74.1)	142(77.2)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

Follow-up with providers for physical and emotional injuries was evaluated for those who had previously disclosed and those who had not (summaries in Table 18). Results indicated that there was a statistically significant difference between the groups in rates of seeking treatment for emotional injuries with both medical providers ( $p = .003$ ), and non-medical therapist/counselors ( $p < .001$ ). In both cases, a higher proportion of those admitting to first time disclosure reported never seeking treatment for emotional injuries from medical provider (52 of 58, 90%) or a therapist/counselor (46 of 58, 79%) than those who had previously disclosed (65% and 42% respectively). The overwhelming majority of those citing first time disclosure ( $n = 46$ , 70.3%), cited they had never seen a non-medical therapist/counselor for emotional injuries, whereas the majority (57.8%) of those citing prior disclosure reported seeing a therapist/counselor more than five times. As expected, given that one group cited no prior disclosure, there was a statistically significant difference in reporting the assault to police.

Table 18.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Rape Resource Utilization*

<b>Characteristic</b>	<b>First Time Disclosed (N=58) N(%)</b>	<b>Not First Disclosure (N=184) N(%)</b>	<b><i>p</i>-value</b>
<b>Medical Practitioner for PHYSICAL Injuries</b>			.055
Never	53(91.4)	138(75.0)	
Once or twice	4(6.9)	38(20.7)	
Three to five times	1(1.7)	4(2.2)	
More than five times	0(0.0)	4(2.2)	
Total	58(100)	184(100)	
<b>Medical Practitioner for EMOTIONAL Injuries</b>			.003
Never	52(89.7)	119(64.7)	
Once or twice	2(3.4)	24(13.0)	
Three to five times	2(3.4)	12(6.5)	
More than five times	2(3.4)	29(15.8)	
Total	58(100)	184(100)	
<b>NON-Medical Therapist/Counselor for EMOTIONAL Injuries</b>			<.001
Never	46(79.3)	78(42.4)	
Once or twice	5(8.6)	21(11.4)	
Three to five times	4(6.9)	12(6.5)	
More than five times	3(5.2)	73(57.8)	
Total	58(100)	184(100)	
<b>Lawyer for Injuries</b>			.218
Never	56(96.6)	160(87.0)	
Once or twice	1(1.7)	9(4.9)	
Three to five times	0(0.0)	5(2.7)	
More than five times	1(1.7)	10(5.4)	
Total	58(100)	184(100)	
<b>Called Police</b>			.009
Yes	5(8.6)	45(24.5)	
No	53(91.4)	139(75.5)	
Total	58(100)	184(100)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

The difference in the rates of feeling good about oneself between the groups was not statistically significant (45% vs. 54%), yet there were statistically significant differences in the reported belief that the abuse was their fault with 63.8% of those reporting first-time disclosure believing the abuse was their fault versus 39.1% of those with prior disclosure (Table 19).

Table 19.

*Descriptive Statistical Summaries of Consented Individuals First Time Disclosing and Not First Time Disclosing Study Variables – Blame*

<b>Characteristic</b>	<b>First Time Disclosed (N=58) N(%)</b>	<b>Not First Disclosure (N=184) N(%)</b>	<b><i>p</i>-value</b>
<b>Feels Good About Self</b>			.206
Yes	26(44.8)	100(54.3)	
No	32(55.2)	84(45.7)	
<b>Feels Abuse Was Their Fault</b>			<b>.001</b>
Yes	37(63.8)	72(39.1)	
No	21(36.2)	112(60.9)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

**Question 5:**

Are there differences in rape trauma presentation/diagnoses (depression, anxiety, PTSD) among women who have and have not disclosed the event?

**Findings:**

To answer this question, frequency distributions summarized the number of participants who reported first time disclosure versus those who did not. Thereafter, cross tabulations were constructed to determine the percentages of individuals who affirmed first time disclosure with reporting of follow-up preferences. Participants were then grouped into one of two groups: a)

first time disclosure, or b) had previously disclosed. Multivariate analysis of variance (MANOVA) was used to test for differences in depression and anxiety among the two groups. Chi square test of Independence was used to test for those same differences among the distributions of post-traumatic stress disorder.

Descriptive summaries of the two groups is presented in Table 20. There were no statistically significant differences between the groups in terms of depression ( $p = .466$ ), or anxiety ( $p = .465$ ), or PTSD ( $p = .481$ ) (Table 20).

Table 20.

*Differences between groups for Disclosure Follow-up Preferences and Outcomes (Depression and Anxiety).*

	<b>First Time Disclosed (N=58) M(SD)</b>	<b>Not First Disclosure (N=184) M(SD)</b>	<b>F (df=1,240)</b>	<b>p-value</b>	<b>Eta- squared</b>
<b>BDI – II</b>	22.7(15.0)	21.1(13.8)	0.53	.466	<.01
<b>STAI-Y(Trait)</b>	52.4(12.3)	50.9(14.1)	0.54	.465	<.01

*Multiple Analysis of Variance (MANOVA) was used to test for differences in depression and anxiety among the groups. Wilk's Lambda = 0.998,  $F(1,240) = 0.286$ ,  $p = 0.751$*

In addition, there were similar proportions of those who met the criteria for a diagnosis of PTSD within each of the groups.

Table 21.

*Summaries for Disclosure and PTSD.*

	<b>First Time Disclosed (N=58)</b>	<b>Not First Disclosure (N=179)</b>	<b><i>p</i>-value</b>
<b>PDS</b>	N(%)	N(%)	.481
With PTSD	29(50)	80(45)	
Without PTSD	29(50)	99(55)	

Chi-Square Tests of Independence were used to test for differences between the disclosure groups.

## **CHAPTER V**

### **DISCUSSION**

This chapter presents a summary and discussion of the study findings in the following five sections:

(a) sample characteristics, (b) aims, (c) study strengths and limitations, (d) implications, and (e) recommendations for future research.

#### **Sample Characteristics**

This study recruited adult women with a self-reported history of unwanted sexual experience(s) within the past five years. A total of 63% (n = 243) of those accessing the study were included in the final sample. The characteristics of the sample in this study were similar to those of previous reported studies with a few unique differences. The mean age for completers in this study was 30.11 years, similar to the studies by (Valentiner et al., 1996) and (Meadows et al., 2005) but higher than most other previous studies specific to rape and sexual abuse (Borja et al., 2006; Bownes et al., 1991b; Brown et al., 2009; Clum et al., 2000). The exceptions were the study by Basile and colleagues (2004), in which multiple forms of abuse were examined relative to intimate partners and PTSD only (mean age 39.6), and Bengtsson-Topps & Tops (2007) in which overall abuse in females seeking psychiatric services was examined (mean age 39). The majority of participants in this study were single or not partnered (76%), and Caucasian (90%). This finding is consistent with the latest 2010 ACS demographic and housing estimates set forth by the U.S. Census Bureau 2010, related to race (current population 50.8% female, 74.2%

Caucasian), as well as previous studies in this populations (Clum et al., 2000; Fairbrother & Rachman, 2006), and similar to marital status, with slightly more than 50% of the U.S. female population (50.5%) reporting they are single (Amstadter et al., 2008; U.S. Census Bureau, 2010). Unlike the majority of studies on rape to date, this study recruited participants throughout the United States (91%), as well as abroad (9%) to analyze in the same study. Participants lived in all regions of the United States; Northeast (n = 41, 17%), Southeast (n = 18, 8%), Midwest (n = 40, 17%), South (n = 97, 41%), and West (n = 20, 9%) with 9% of the participants reporting living outside the U.S. (n = 20).

Although the majority of the sample was well educated, and reported having at least a Bachelor's (n = 100, 41%), or Master's degree (n = 54, 23%), they were less affluent, with 70% of the sample reporting incomes of \$60,000 or less (range <\$25,000 to >\$100,000). These findings are similar to the study by (Stein et al., 2004), but higher than the percentages reported in the current U.S. Census data, (17.7% with a Bachelor's degree; 10.4% with a graduate degree). Thus, the participants in this study appear to be more highly educated those in the general population, as well as in other studies (Meadows et al., 2005). This study evaluated income using slightly different cutoffs than those found in the U.S. Census report, however, income data appears to be proportionally equivalent, with 50% of participants in the 2010 U.S. Census reporting incomes of  $\leq$  \$50,000/year. Mean income figures reported in the current study were similar to those of other studies (Amstadter et al., 2008; Masho & Ahmed, 2007) Any distinct variability is likely because many studies in this population have been done with college students (Clum et al., 2000), who on average, earn less than those who are older, and/or working full time.



The majority of the sample in this study ( $n = 171$ , 71%) reported having no children, which is consistent with current U.S. population estimates, that 33.1% of households currently have one or more persons under age 18 in the household. There were slightly more participants in this study who reported having non- governmental health insurance (POS, PPO, HMO) ( $n = 143$ , 59%), than those having insurance that was government subsidized (Medicaid, Medicare, MediCal) ( $n = 99$ , 41%). Although the trend is similar, participants in the current study were more equally distributed in relation to the type of coverage than individuals in the general population (65.8% with private coverage, 29.7% with government subsidized insurance). This finding is probably due to the  $\leq 65$  years old inclusion criteria.

## **Aims**

### **Aim 1.**

To test for differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of rape (forcible, pressured sex, sex stress).

This was the first reported study that attempted to examine whether differences existed relative to rape trauma presentation/diagnoses (depression, anxiety, PTSD) based on the type of rape experienced, a model conceived by Burgess and Holmstrom (1974). The study identified that although anxiety was not statistically significantly different among the groups experiencing the different types of rape ( $p = .183$ ), both depression ( $p = .013$ ), and PTSD ( $p = .044$ ) were. Those who experienced sex stress had less depression and PTSD than the other groups; however, the small sample size for the sex stress sub group makes it difficult to interpret these findings.

This pattern is consistent with findings from the only study identified that attempted rape category classification related to outcomes by Zinzow et al. (2010) which found that all three categories examined (forcible rape, incapacitated rape, drug or alcohol intoxication) were associated with increased risk of PTSD and depression. Findings from this current study relative to overall depression and PTSD are consistent with findings from other studies that attempted to study co-morbid sequelae in rape victims (Lipsky et al., 2005; O'Campo et al., 2006; Stein et al., 2004). However, since anxiety and PTSD are in some ways related, it is somewhat surprising that there was no difference related to trait anxiety between the groups. Since this study only measured trait anxiety, and the study only measured experiences within the past five years, it is possible that participants in this study either do not suffer from a more long standing generalized overall anxiety, or that there were historical differences relative to the nature and number of events that could be characterized as traumatic prior to the rape event-- a concept beyond the scope of this study. These findings do however, agree with a study by (Stein & Kennedy, 2001) examining comorbid depression and PTSD in female victims of interpersonal violence. That study reported that PTSD and depression were found to be the most common disorders, and that generalized anxiety (lifetime) was the least common.

Of interest was the finding from the post-hoc analysis related to overall difference in depression. Both the forcible rape and multiple rape groups experienced higher levels of depression than those in the group experiencing sex stress. This finding is not unexpected, as those who experience sex stress initially gave their consent for the sexual interaction, and then changed their minds. Since there was an initial willingness on the part of the victim for the contact, it is realistic to expect that the contact would be less upsetting overall, than for those who had never given consent to the interaction.

Finally, additional analyses from the measure of PTSD found no significant differences among the groups relative to delayed onset, symptom duration, or severity of PTSD symptoms. These findings agree with those by (Borja et al., 2006) who found PTSD to be significantly associated only with the number of assaults. However it should be noted that the Borja et al. study only examined acquaintance assault, and these findings differ with findings by (Ullman, Filipas, et al., 2007), who found that delayed disclosure was related to more severe PTSD symptoms. The authors of the Ullman study acknowledge that this finding may be due to the overall issue of disclosure or other risk factors for PTSD (e.g. social support). The current study findings support that PTSD in those groups found to have sufferers resulting from one or more incidents of rape is a significant issue requiring intervention, and that issues specifically related to disclosure and PTSD warrant further exploration. In summary, type of rape is an important consideration when assessing victims of rape as, those reporting incidents of forcible or multiple rape experience depression and PTSD with greater severity.

## **Aim 2.**

To test for differences in rape trauma presentation/diagnoses (depression, anxiety, and PTSD) among groups of women who have experienced different types of perpetrator/victim relationship (intimate partner, non-intimate known, stranger).

Although prior studies have reported on the perpetrator type in an attempt to quantify the prevalence of each type of victimization, and provide comparisons related to demographics, this is the first known study that has attempted to provide a group differences analysis based on RT outcomes (depression, anxiety, PTSD). This study classified the perpetrator/victim relationship into three discrete categories (intimate partner, non-intimate known, stranger). This categorization of an intimate partner as a current or former spouse or partner is consistent with the study by Logan et al. (2007), but different that those by Bownes et al. (1991b), Pazzani

(2007) who included an ex-boyfriend or same sex partner in the “non-intimate known” category, and the study by Plichta & Falik (2001) who included relatives and friends in the intimate category. I argue that an ex-boyfriend and/or same sex ex-partner are people with whom one has had an intimate relationship, and therefore, I question the validity of the categorization of intimate and non-intimate relationships in several other studies. Similarly, although we agree that a spouse or partner belongs in the intimate partner category, relatives and/or casual friends do not belong comingled within that classification. Thus, those results may be confounded.

Analysis of the perpetrator/victim relationship relative to outcomes revealed no statistically significant differences among the groups (intimate partner, non-intimate known, stranger) related to psychological outcomes (depression, anxiety, or PTSD). Since this is the first known study that has attempted to examine the perpetrator/victim relationship related to a diagnosis of depression and anxiety, no comparison can be made. This study does, however, agree with findings by (Ullman, Filipas, et al., 2007), who found that perpetrator/victim relationship was not a significant correlate of PTSD, but disagrees with findings by (Masho & Ahmed, 2007), who found that prior knowledge of the offender was associated with PTSD. However, it should be noted that in the study by Masho & Ahmed, the construct of perpetrator/victim relationship was not delineated other than to ask participants if they had prior knowledge of the offender. Therefore, differences in findings due to categorizations used have contributed to the general lack of knowledge related to the association of these relationships with depression and anxiety, and the disparity in findings for PTSD.

There were a few specific interesting findings related to PTSD. First, the presence of delayed onset of symptoms was the only statistically significant variable in the post hoc analysis of PTSD. Of the 25% of those with PTSD found to have delayed onset of symptoms, those who

had been raped by a person considered to be a non-intimate known to the victim comprised more than twice that of either those raped by intimate partners, or strangers. This finding suggests that being raped by someone that is known, but with whom you had no intentional intimate relationship, results in a delayed response to the traumatic event, whereby the participant took time to assimilate what happened before they began to be symptomatic. Second, of those diagnosed as positive for PTSD in this study, > 98% possess chronic as opposed to acute symptoms, and more than 95% were raped by a non-intimate known to them. These findings suggest that those raped by a non-intimate known may be at greater risk for delayed symptoms that will linger for a longer period of time. By contrast, findings from this study reveal that participants raped by an intimate partner demonstrated more severe symptoms and level of impairment. No studies could be identified that sought to measure this PTSD construct specifically in survivors of rape; thus, no comparison can be made in the population of rape survivors.

The fact that the current study did not find differences among the groups related to RT suggests that the nature of relationship between the perpetrator and the victim is not, in itself, the sole reason why symptoms are present or absent. Since almost equal percentages of depression, anxiety and PTSD were found among all three groups, the perpetrator/victim relationship should not necessarily be considered as a marker, in itself, or reason to separate or alter treatment for any of the negative psychological sequelae.

### **Aim 3.**

To examine the relationships among hope, coping and perceived control, as well as with depression, anxiety and PTSD.

### **Relationships of Hope and Perceived Control with Coping.**

Findings from the current study demonstrate that of the possible inter correlations among these protective factors, hope was the most highly inter-correlated. This finding demonstrates that perhaps the most integral value related to remediation or protection from stressors, and to more positive and effective coping may be hope. Since this is the first known study to examine hope specifically in rape survivors, no direct comparisons can be made. However, findings in the current study are similar to those of (Meadows et al., 2005), in which hope was found to uniquely distinguish suicide attempters from non-suicide attempters in women who experienced intimate partner violence.

There was a strong inter-correlation between hope and present perceived control (.66,  $p < .001$ ), and a moderate correlation between hope and future perceived control (.41,  $p < .001$ ). This finding is congruent with Snyder's Model of Hope, as perceived control can be viewed as similar to what Snyder describes as the Agency—an individual's determination that goals can be achieved. This concept is also reflected in the conceptual framework developed for this study. In the model, hope and perceived control are interrelated components that may indirectly (through coping), or directly affect the psychological sequelae. Although this study did not test the model, the constructs were found to be correlated. Thus, the model holds value for future testing.

In the present study, hope was positively statistically significantly associated with all but the past perceived control, planning, humor, and venting subscales of the Brief COPE, and with many of the positive coping mechanisms (e.g. positive reframing, acceptance, active coping) identified in the literature as necessary to recover from incidence of abuse and assault. For example, findings from this study are supported by the premise of hope theory (Snyder, 2002;

Snyder, 2000; Snyder et al., 1991). The more hope an individual possesses, the better the individual is able to envision and undertake adaptive coping strategies when faced with significant life stress (Horton & Wallander, 2001). The findings are also consistent with intervention studies examining hope and coping related to psychotherapy (Irving et al., 2004), and theory testing studies, in which hope was found to have significant influence on secondary appraisal and coping (Chang & DiSimone, 2001). In the current study, other than the relationship between hope and present perceived control, the most significant positive associations relative to hope and coping were found with positive reframing (.39,  $p < .001$ ), use emotional support (.39,  $p < .001$ ), and acceptance (.38,  $p < .001$ ), and the most significant inverse associations were found with self-blame (-.50,  $p < .001$ ), and behavioral disengagement (-.55,  $p < .001$ ). This finding agrees with studies by (Najdowski & Ullman, 2009) and (Calvete, Corral, & Estevez, 2008). Unfortunately, no studies were identified that explored all possible variables contained as part of the Brief COPE, so a thorough comprehensive comparison cannot be made. However, the concepts of self-blame and behavioral disengagement emerged as important variables related to coping for all three outcomes, and thus warrant exploration in greater detail.

Although past perceived control was statistically significantly associated with 9 of the 14 subscales of the Brief Cope, present control with 10 of the 14 subscales, and future control with 6 of the 14 subscales, only the: a) positive association between past perceived control and self-blame (.43,  $p < .001$ ), and inverse association between present perceived control and self-blame (-.52,  $p < .001$ ); b) positive association between present perceived control and acceptance (.43,  $p < .001$ ); and c) inverse association between present perceived control and behavioral disengagement (-.51,  $p < .001$ ) demonstrated meaningful associations. Only the finding relative

to past perceived control and self-blame agrees with findings by Drs. Ullman and Frazier. However, findings from this study, differ from Frazier et al. (2011) in that future perceived control was inversely statistically significantly associated with outcomes (depression, anxiety and PTSD). One possible explanation is that different outcome measures were used by Frazier et al. (2011), than were used in this study. Alternatively, college students and known victims of rape may differ on type of stressors, or other confounding factors. Since the most significant findings surround self-blame, acceptance, and behavioral disengagement, they support the overall premise of perceived control as delineated by (Wallston et al., 1987) citing that those with a high sense of perceived control are more engaged in active problem solving; a tendency this sample did not seem to embrace. Thus, this finding indicates that perceived control as an overall concept, not only specific to recovery, is also relevant and important, but to a somewhat lesser degree than hope related to coping, and should continue to be evaluated in future studies with this population.

### **Relationships of Hope, Perceived Control and Coping with Depression, Anxiety, and PTSD.**

This study was the first of its kind known to examine whether hope, coping, and perceived control were associated with depression, anxiety, and PTSD in rape survivors. As we reported in the findings, both hope and present perceived control were inversely statistically significantly associated at 0.33 or above (10% of the shared variance) with all three outcome measure (depression, anxiety, PTSD). Hope was statistically significantly strongly inversely associated with depression and anxiety, and moderately with PTSD. These findings are supported by qualitative findings by Marden & Rice, (1995), and Symes, (2000), that hope was



necessary to recover from abuse, quantitative analyses by Meadows et al. (2005) who found that hope was one of only two protective factors that uniquely distinguished suicide non-attempters from attempters, and findings from my previous pilot study, which substantiated a statistically significant association between hope and anxiety in an outpatient psychiatric population (Carretta et al., 2011).

Past perceived control was minimally associated with depression and anxiety; while future control was moderately associated with depression, anxiety and PTSD. Present control was strongly associated with all three outcomes. These findings agree with those in studies by Ajzen (2002), Wallston (1997), Wallston et al. (1987), Ballash et al. (2006), Donovan & Hartenbach (2005), Evangelista et al. (2004), Moser et al. (2009), and Thuen & Rise (2006). It is important to note, however that these studies were not specific to a population of rape survivors, and further, did not differentiate between past, present and future perceived control. Findings in this study also agree with those specific to rape and PTSD of Najdowski & Ullman, 2009, and Ullman et al., (2007). In this study, previously reported findings indicate that perceived control was associated to a lesser degree with PTSD, than with depression and anxiety.

The 14 subscales of the Brief COPE had the fewest statistically significant associations with the measure of PTSD. In this present study, self-blame, self-distraction, denial, and behavioral disengagement were found to have statistically significant positive associations with PTSD. This pattern agrees with findings by (Calvete et al., 2008) and (Najdowski & Ullman, 2009). Interestingly, positive reframing, active coping and acceptance were not significantly associated. This finding is counter to that found by Fairbrother & Rachman, (2007), in which victims' appraisal of the assault was strongly and positively related to PTSD (.65,  $p < .001$ ). This may be due to the fact that in the Fairbrother study, participants were administered an in-depth

personal interview, then also administered the PTSD diagnostic interview (the Clinician Administered PTSD Scale (the CAPS); both involving interaction between the interviewer. The finding in the present study does, however agree with studies by Bentosch et al., (2000), Krause et al., (2008), and Arias & Pape (1999), in which avoidant coping was found to be significantly related to PTSD. Further, substance use was significantly inversely associated with PTSD--an unexpected finding albeit the small effect size (-0.16).

Depression was statistically significantly associated with 11 of the 14 subscales of the Brief Cope, and anxiety was statistically significantly associated with 10 of the 14 subscales of the Brief Cope. Only two studies; one by (Taft et al., 2007), and the other by (Frazier, 2003) were identified that had previously examined coping and depression relative to some type of relationship abuse. This study agreed with these findings that coping was significantly associated with depression relative to sexual abuse. Moreover, (Calvete et al., 2008) found that symptoms of distress (anxiety and depression) were positively predicted by disengagement coping, as did (Taft et al., 2007), who found that disengagement coping increased the risk for development of mental health problems. Both of these findings are in agreement with the present study. This study also agrees with findings in the study by (Frazier, 2003), where self-blame was identified as significantly associated with more distress. Since this was the first study to measure coping in a population of rape survivors relative to anxiety, no congruent comparisons can be made. Further, since this is the only study that has attempted to measure all 14 coping subscales related to depression, anxiety and PTSD, no comparisons can be made beyond those already mentioned. Finally, this study found that past control associations with hope, coping, and outcomes tend to be in the opposite direction of present and future control. Frazier suggests a reason for this—focus on past control involves reliving events that now cannot be changed, and could evoke self-

blame, whereas present and future control deal with ones feeling that they can control an event at present and in the future.

### **Relationships of Patterns among Hope, Perceived Control, Coping with Patterns among Depression, Anxiety, and PTSD**

This is the first known study to examine the patterns among hope, coping, and perceived control with depression, anxiety and PTSD. Results of the canonical analysis revealed that lower levels of hope, present perceived control, and decreased use of acceptance coping, along with an increased tendency toward substance use for coping, higher propensity for self-blame, higher levels of behavioral disengagement, as well as a tendency to use denial and self-distraction for coping was associated with higher levels of depression and trait anxiety. The strongest of the loadings on the first canonical variate on the side of hope, coping, and perceived control were those for hope, present perceived control, use of self-blame and behavioral disengagement as coping styles. Essentially, the loadings on the first canonical variate on the side of depression, anxiety and coping replicate the strong inter-relationship of depression and anxiety. These findings are congruent with the bivariate associations and suggest perhaps a clustering of psychological and coping phenomena (lower hope and present perceived control with an increased use of self-blame and behavioral disengagement) are more likely to be associated with a clustering of higher levels of psychopathology characterized by elevated levels of both depression and anxiety. In other words, women who are rape survivors who are less hopeful, possess lower present perceived control, and cope by using behavioral disengagement, through substance abuse, denial, self-distraction, and by blaming themselves for the abuse, are more depressed and anxious. These findings agree with the overall premise of hope related to negative

psychological sequelae from both clinical (Irving et al., 2004; Meadows et al., 2005) and theoretical (Snyder, 2000), perspectives, and further, that self-blame results in more severe psychological pathology from both clinical (Frazier, 2003; Koss, Figuerdo, & Prince, 2002; Najdowski & Ullman, 2009), and theoretical perspectives (Campbell et al., 2009). Our findings agree with those by Frazier et al. 2011, in that present control was much more strongly related to event specific distress in this sample, (their unwanted sexual experience) than either past or future control (Frazier et al., 2011). However, they disagree with findings by the same authors related to present control being the only form of control that is inversely associated with outcomes. In this study, future control was also statistically significantly inversely associated with outcomes, suggesting that the presence of perceived present and/or future control is related to less depression, anxiety and PTSD.

Further, these findings agree with other studies that have found associations between decreased levels of perceived control and depression, anxiety and PTSD (Benight & Bandura, 2004; Dutton, 2009; Jaycox et al., 2002; Kilpatrick et al., 2003; Tjaden & Thoennes, 1998; Ullman, Filipas, et al., 2007). The findings in this study support those by (Ajzen, 2002; Wallston, 1997; Wallston et al., 1987), who found that those who possess a high sense of perceived control are more likely to engage in active problem solving. In our sample, perceived control was moderate for past, present and future perceived control, and the participants engaged in higher levels of self-blame, behavioral disengagement and denial, and lower levels of acceptance coping. This may be explained by the fact that although participants may have resolved that they cannot change events from the past, and have a positive outlook for their ability to control future events, their belief in their present ability to be in control is lower.

In addition, these findings support that self-blame as a meta construct, coupled with a decrease in overall hopefulness, probably contributes to increased psychopathology, and may contribute to longer term suffering. Based on these findings, it is critical to examine hope and self-blame in victims of rape, when victims first present with a complaint of rape; whether to a medical or psychotherapy venue. Interventions should not only focus on treatment for the RT, but moreover, consider ways to increase hopefulness, and decrease self-blame in sufferers.

#### **Aim 4, Question 4.**

To explore the use of an anonymous web-based survey as a preferred “safe” data collection/self-disclosure mechanism in adult female rape survivors.

Koss (1994) posited that interviewer effects and other factors such as others overhearing a conversation may be responsible for victims’ unwillingness to disclose. Based on poor disclosure rates, this study attempted to determine if an anonymous web based survey would be perceived as a “safer” disclosure mechanism. Of the participants who reported that this was the first time they had ever disclosed their abuse ( $n = 58, 36.7\%$ ),  $79.3\%$  ( $n = 46$ ) reported that they preferred contact to be online. Of interest is the finding that an overwhelming majority of participants in both groups cited that online follow-up was preferred to either telephone or face-to-face contact. Since this is the first study that has ever examined this phenomenon specifically, no cohesive comparisons can be made. Interestingly, there was a statistically significant difference found between disclosure and contacting the police ( $p = .009$ ), with only  $24.5\%$  ( $n = 45$ ) of those citing prior disclosure admitting to reporting the event to police. This finding agrees with previous percentages of reporting (19-47%); with results of this study being closer to the 19% suggested by Tjaden & Thoennes (2006), than the 47% reported by Catalano et al., (2009).

The presence of children and age were the only demographic variables with which there was a statistically significant difference between those who had previously disclosed and those who reported that this study was their first time ever disclosing a rape event. Those who admitted to first time disclosure were older than those who cited they had previously disclosed. This finding may be due in part to the higher incidence of intimate partner assaults, and lower stranger assaults experienced by those citing first-time disclosure. This finding coincides with studies by other researchers (Clay-Warner & McMahon-Howard, 2009; Seifert et al., 2009), who found that intimate partner assaults are less likely to be reported, but the finding is in disagreement with findings by (Bachman, 1993) and (Baumer et al., 2003) who found no differences in reporting based on victim-offender relationship, (Feldhaus et al., 2000) who found that reporting is more likely in stranger assaults, and (Tjaden et al., 2000) who reported that more women assaulted by intimate partners self-report injuries. Differences related to the presence of children may be due to the fact that the majority of this sample reported being single ( $n = 185$ , 76%), with 40% having experienced assault by an intimate partner. Since no other identified study attempted to measure this concept as integral to disclosure, no cohesive comparisons can be made.

The current study found that 21% ( $N = 51$ ) of participants reported they had sought treatment from a medical provider for an emotional injury, and 49%, ( $n = 118$ ) from a non-medical counselor or therapist. This pattern is similar to findings by (Amstadter et al., 2008), who reported that 38% sought treatment from a medical professional, and 54% from a mental health specialist. Studies by Hazlewood & Burgess (2009) and Schnurr & Green (2004) reported that 33% of women who reported they had been raped received counseling from a mental health professional—lower than the current study or the other studies who examined this phenomenon.

Interestingly, although Smith et al. (2005) reported that visits to providers to obtain prescriptions for anti-depressants rose dramatically between 1995-1996 from 13.8 visits to 35.5 visits, and Plichta & Falik (2001) cite a significant relationship between sexual violence against women by an intimate partner and taking medication for depression and anxiety, findings in this study related to survivors of rape indicated that only 30% (n = 74) admitted to taking anti-depressant medication. Furthermore, 61 (25%) reported taking medication for anxiety, and 57 (24%) for sleep. These findings could be due to the lack of any treatment for emotional injuries reported by the participants in this sample, as well as lack of inclusion of all types' of possible perpetrator/victim relationships. These findings are especially important in light of other findings in this study that 116 (48%) report that they do not feel good about themselves since their most recent abuse incident, and 109 (45%) said they feel the most recent incident of abuse was their fault. This pattern is consistent with other studies specific to rape, citing self-blame as significantly related to psychological distress (Frazier, 2003; Koss et al., 2002; Najdowski & Ullman, 2009).

Neither type of unwanted experience, the relationship between the perpetrator and victim, nor follow-up preferences once disclosure was made were statistically significantly associated with disclosure in this study. This finding is important as it indicates that the decision to disclose is not necessarily based on such contextual factors, but may be related to the vehicle in which the participant can initially disclose the abuse. Further, use of medications for depression, anxiety or sleep, were not significant factors related to disclosure. Since no prior studies were identified that examined use of medication for psychological sequelae, no cohesive comparisons can be made.

Values for treatment seeking approached statistical significance for those who sought treatment for physical injuries ( $p = .055$ ). The finding that only 8% (n = 5) of the total

participants admitting to first time disclosure sought treatment for medical injuries, versus 25% (n = 46) of those citing first time disclosure, may be due to fear that seeking treatment would result in some form of disclosure that injuries were due to abuse, that could result in a) further incidence of abuse (e.g. perpetrator becomes aware that victim is disclosing), or b) result in re-traumatization based on having to recount the story over and over again (e.g. to multiple medical practitioners, law enforcement) in agreement with findings by other researchers (Campbell et al., 2001; Ledray, 1998).

A significant difference was found for those who sought treatment for emotional injuries with both medical providers ( $p = .003$ ), and non-medical therapist/counselors ( $p < .001$ ) between those who reported first time disclosure and those who had not. This finding is consistent as those who reported first time disclosure in this study would probably not have sought previous treatment, unless they did so under a false pretense. Further, these findings echo those of Kilpatrick et al., (1992) citing failure to disclose as probably resulting in inadequate treatment.

In this study, we found almost identical rates of those reporting crimes perpetrated by an intimate partner (n = 97) and non-intimate known (n = 106). There were significantly less reported incidents by a stranger in this sample (n = 40). This finding agrees with most prior studies (Basile et al., 2007; Johnson et al., 2008; Littleton, 2007, 2010; Plichta & Falik, 2001; Tjaden & Thoennes, 2006), but disagrees with findings by other researchers (Frazier, 2003; Resick et al., 1988), where about half of participants were found to have been raped by a stranger.

Interestingly, although feeling good about oneself since the most recent assault was not significant relative to disclosure, believing that the abuse was their fault was significant. This finding could be attributed to the fact that those who have previously disclosed may have sought



professional treatment and thus, may have worked toward resolution of self-blame. Further, the finding related to feeling good about oneself must be considered in light of the following: a) almost half of the participants in both disclosure categories reported still feeling poor about themselves, irrespective of disclosure; b) > 79% of those who reported first time disclosure, and > 64% of those citing prior disclosure reported they had never sought any type of treatment; and c) .72 % of those who denied prior disclosure, and > 68% of those admitting prior disclosure denied taking any medication for depression, anxiety, or sleep issues. This pattern indicates that these findings must be considered in light of the fact that irrespective of disclosure, victims of rape do not readily seek treatment for psychological or symptom remediation. Findings from this study support that lack of treatment, medication, and/or psychotherapy to pursue resolution of these negative feelings, may promote continued self-blame for the abuse, and participants' lack of positive feelings about themselves overall. More cohesive attempts at facilitating disclosure and pursuit of treatment are thus critically important toward pursuit of psychological well-being in rape survivors.

#### **Aim 4, Question 5.**

Are there differences in rape trauma presentation/diagnoses (depression, anxiety, PTSD) among women who have and have not disclosed the event?

#### **Findings:**

This is the first published study to evaluate whether differences in rape trauma exist relative to prior disclosure of the event. Results of this study revealed no statistically significant difference between first time disclosure and those having previously disclosed with depression ( $p = .466$ ) anxiety ( $p = .465$ ), or PTSD ( $p = .481$ ). Since this is the first study to evaluate disclosure related to specific psychological outcomes, no comparisons can be made. Both groups were

found to have depression and anxiety at moderate levels. Percentages of those with and without PTSD in both the disclosure and non-disclosure groups (within each group) were almost identical. The lack of significant differences between the disclosure groups, suggests that RT is present irrespective of disclosure, and that disclosure in itself is not cathartic to the point that rape survivors experience symptom remission.

### **Study Strengths and Limitations**

#### **Strengths**

This dissertation study is unique in that it constitutes the first known study conducted solely online that sought to identify differences among RT presentation/diagnoses, possible protective factors, and disclosure history and preferred disclosure methods among groups of women who experienced one or more incidents of rape.

Relative to study strengths, this was the first study to examine differences in RT outcomes relative to the type of rape experienced. Although delineation of forcible rape, pressured sex, and sex stress was conceived by Burgess et al over 30 years ago, until this study, it had never been examined. Findings from this study not only found that differences related to type of rape and RT outcomes exist, but also identified that a fourth category (multiple rape type) was necessary in order to fully examine the construct of rape type. For example, mean scores for both depression and anxiety were higher in those reporting either a forcible or multiple rape experience than those experiencing solely sex stress. Percentages of those diagnosed with PTSD were also higher for those having experienced either forcible or multiple rape type versus sex stress. These findings also validate that sex stress as a concept is important when considering

victims of rape, as some participants may experience sex stress related to type of rape (e.g. oral), and forcible rape in another (e.g. vaginal intercourse). Thus, it is plausible that sex stress plays a role in the multiple rape categories.

These findings illuminated the need for nurses to consider the type of rape experienced when working with rape victims, and further, provided baseline knowledge related to possible treatment and referral considerations.

Second, this study illuminated differences in RT outcomes (depression, anxiety, PTSD) based on the perpetrator/victim relationship (e.g. higher mean scores for depression and anxiety, and higher percentages of those diagnosed with PTSD were found for those reporting intimate partner or stranger rape, than those from a non-intimate known). Although no significant differences were found based on the relationship between the perpetrator and victim, this was the first study that attempted to look at depression and anxiety with regard to the perpetrator/victim relationship.

Third, this is the first study to examine the concept of hope in rape victims. Findings from this study have illuminated the significance of hope to both present and future perceived control and coping, as well as demonstrated that it (hope) is the most integral of the possible protective factors related to RT outcomes. Findings from this study can be utilized by nurses at all levels who may come into contact with victims of rape. Pursuit of interventions designed to foster increased hope and thus facilitate more effective coping, and decrease RT sequelae is warranted.

Fourth, this was the first known study that was conducted solely online anonymously in this population. This approach may have enabled larger numbers of rape survivors to participate without fear of disclosing their identity or possible retribution related to the disclosure.

Fifth, this was the first study to explore whether an online anonymous forum was perceived as a safer disclosure mechanism, and/or preferred for follow-up. The study found that 24% of participants in this survey admitted this was their first disclosure, with 79% of those citing first-time disclosure, and 70% who had previously disclosed preferring the online venue. Based on these findings, online formats provide the potential for increased disclosure and new options for treatment in the population of rape survivors.

Sixth, the sample obtained for this study was two and a half times that which was needed in order to ensure validity of this correlational study. Further, participants came from areas representative of the entire United States, enhancing the external validity of the findings.

Seventh, this study was the first to construct definitive questions to measure the constructs of the perpetrator/victim relationship and sex stress. Other than these questions, all scales used in the study had demonstrated reliability and validity. The PCSE is a relatively new measure, and was developed for use specifically with victims of trauma. The outcome measures (depression, anxiety, PTSD) were all diagnostic based on DSM-IV-TR criteria, meaning that definitive diagnoses could be made based on participants responses to the items.

### **Limitations**

There are several limitations in the study. (1) External Validity (generalizability). The sample did not use random sampling and was comprised of a convenience sample of adult participants who self-reported one or more incidents of rape within the past five years. This approach limits generalizability of the study to those participants who were aware of the study based on the limited recruitment mechanisms employed decided to participate, and the findings cannot necessarily be generalized to survivors of other possible traumatic experiences. Furthermore, although there appeared to be no differences between the group of completers and

non-completers related to race, marital status, education, income, area of residence, presence and type of insurance, presence of children, religious preference, whether or not the victim currently lived with the abuser, or age, it is possible that other unidentified characteristics influenced group differences. (2) Internal Validity. The main threat to the internal validity of this study was the cross-sectional design. This design does not allow for establishment of a time dimension, and therefore no causal inferences can be made. Although the study was able to establish linkages between the possible risk and protective factors, statements related to establishment of causality cannot be made. In other words, the study could not establish whether a participants' level of hopefulness or coping were different than those in place before the rape occurred, or whether the rape caused the current depression, anxiety and/or PTSD. (3) The instruments used in this study were not necessarily specific to rape and thus may have more limited ability to assess certain symptoms or outcomes specific to an experience of rape such as fear of sexual contact. Another example exists related to the measure of PTSD. Although this measure mentions the concept of rape as one possible traumatic experience, it cannot be determined by virtue of the questionnaire if the diagnosis of PTSD is solely or most significantly related to the rape experience. Furthermore, the measure of PTSD was distinctly different than the measures of depression and anxiety in that the measure of PTSD did not measure the continuum of symptoms. It is likely that more and stronger associations would have been found if the measure had allowed for measurement on a continuum. (4) Additionally the reliability of the Brief COPE Disengagement Subscale was only .47. Although significant associations were noted using the scale, questions as to the usefulness as a 2 item subscale are raised by its performance in this study. It is possible that wording of the items may be less than desirable for use in studies that include victims of rape. Thus any interpretations relative to this construct must be made with caution. (5) Due to the

small number of participants in the sex stress group, findings in this category should be interpreted with caution. (6) Due to practical constraints, there are other possible protective factors that may be important to examine. (7) Other possible confounding factors exist. For example, the study only examined participants who self-reported that their most recent rape experience occurred within the past five years. Since many participants reported that they had multiple rape incidents, and no interviews were conducted, it is unknown if this incident was actually the one participants referred to when answering the questionnaires. Furthermore, there were no controls put in place for those who had more than one incident of rape, or for those who may have experienced other traumatic events. Thus, unknown confounding factors may impact study findings.

Despite these limitations, the present study contributes unique knowledge relative to survivors of rape with respect to a) relationships between the type of abuse and RT; b) perpetrator/victim relationship relative to RT; c) illuminated the importance of hope, perceived control and coping as key potential protective factors in rape victims; and d) shed light on the integral aspect of disclosure, including victim preferences for initial disclosure and follow-up.

### **Implications**

Several critical findings were generated from this study. First, findings from this study suggest that the type of rape experience may be significantly associated with both depression and PTSD. Thus, further examination of the type of rape experienced is warranted, particularly with a greater number of victims reporting sex stress. Since nurses are often the first line of contact for victims of rape, they have the unique ability to recognize indicators of possible rape

incidents, and thus, can act as advocates for these victims. Collection of information relative to the specifics surrounding the rape may facilitate more cohesive and comprehensive analysis of these contextual factors soon after the incident happens, and facilitate initiation of more effective treatment.

Second, findings from this study clearly demonstrated the need for interventions focused on hope and present perceived control. Larger, longitudinal studies are needed to evaluate the possible cause and effect relationships, and further, to assess whether the protective factors examined in this study can be utilized in interventions designed to mediate symptoms. Additionally, investigation of separate aspects of perceived control (e.g. relationships of the control over recovery or present oriented control) with outcomes is warranted.

Third, this study established associations between hope and present perceived control with coping relative to RT (depression, anxiety, PTSD) in rape victims. Findings from this study support that potentially modifiable factors such as hope, present perceived control, and coping may be considered as integral and important to working with victims of rape, and further, that increased focus on more adaptive coping strategies is warranted. Findings from this study further validated that self-blame and behavioral disengagement represent the coping mechanisms most used by rape victims, and further, that these coping strategies correlated with negative outcomes. Thus, development of interventions specifically aimed at reducing self-blame, and behavioral disengagement could be helpful.

Finally, this study was the first to examine the disclosure and follow up preferences of rape victims related to disclosure. Although findings related to differences in first time versus prior disclosure groups in terms of type of rape, perpetrator/victim relationship, or follow-up preferences were not statistically significant, the sheer percentage of participants who admitted

to first time disclosure in this anonymous online forum validates the viability of this vehicle for both initial disclosure and follow-up in rape victims. The strong preference for online follow-up suggests that web-based interventions could also be considered, and that further research is warranted.

### **Recommendations for Future Research**

The study findings can be used to guide future research through the following aspects. In this study the majority of the study participants were Caucasian, and all of the participants experiences were within the past five years. Future studies should attempt to obtain a more racially diverse sample, and include experiences over the course of one's lifetime with controlling for time since the most recent experience.

Given the number of positive protective factors that were found to be statistically significantly associated with both depression and anxiety, a more thorough and detailed exploration into whether hope may act as a mediator of RT outcomes is warranted. Furthermore, the significance of hope and present perceived control relative to the outcomes suggests the need for greater focus on these factors, including the development of interventions specifically aimed at increasing these modifiable factors is warranted. Intervention studies aimed at increasing hope and present perceived control and positive coping strategies are warranted. Further, the type of rape was found to be significantly associated with both depression and PTSD. This finding suggests that longitudinal studies are necessary to identify causal relationships among contextual rape factors, possible protective factors, and RT outcomes. For example, if self-blame and avoidant coping are substantiated by future longitudinal studies as causative of negative outcomes in this population, these negative coping mechanisms could be routinely addressed in therapy with rape victims.



Since this study validated the online anonymous survey as a viable disclosure and follow up mechanism for rape victims, further research with rape victims utilizing this vehicle is warranted. Exploration of online disclosure and follow-up preferences in a larger and more diverse sample is indicated. Given the large number of individuals impacted by RT, there is a pronounced need for more effective reporting, referral, and treatment strategies; further, development and testing of online disclosure and nurse driven therapeutic intervention modalities are indicated based on findings from this study.

The sequelae associated with RT are clearly significant issues warranting further investigation. Findings from this study clearly support hope, and perceived control as integral to coping, and significant constructs associated with outcomes in the population of rape victims. Furthermore, findings related to the use of self-blame for coping, and the association between type of rape experienced and levels of RT pathology presents opportunities for therapeutic interaction with victims. This study offers the first research findings in which disclosure history and follow-up preferences were measured in an online anonymous format. The finding that 24% of the current sample stated that this study was their first disclosure is a critical finding—and opens the door for more potential victims to disclose their abuse and potentially seek treatment. Furthermore, the finding that approximately 80% of those citing first time disclosure, and > 70% of those who previously disclosed preferred the online format for follow-up is noteworthy. This finding supports the potential for web-based online intervention studies as vehicles for disclosure and imparting educational information.

Findings from this study will serve as the basis for future studies with all genders, and for longitudinal research in this population. Longitudinal research will facilitate prediction of outcomes over time, which could have critical clinical implications. This information could

contribute to clinicians' ability to identify trauma victims in the greatest need of assistance, and guide more effective intervention approaches aimed at addressing the psychological and psychosocial sequelae associated with RT syndrome.

Nurses are in a prime position to affect significant contributions relative to identification and treatment effectiveness in rape victims. Furthering of knowledge identified in the proposed studies could facilitate generation of new information that could affect a decrease in RT symptoms, thus providing a better overall quality of life.

## APPENDIX A: ELIGIBILITY SCREENING

Please report your gender:

- Male
- Female
- Other

I have experienced some form of unwanted sexual experience IN THE PAST 5 YEARS.

- True
- False

I was at least 18 years of age at the time my most recent unwanted sexual contact occurred. Age 18 refers to your life starting on the day of your 18<sup>th</sup> birthday and going forward.

- True
- False

I have not, to the best of my knowledge, experienced any episode(s) of psychosis in the past year.

- True
- False

Examples of psychosis include: a) seeing things that others cannot see when you are in their presence; b) hearing voices that are only speaking to you and not to anyone else around you, or voices that you claim to hear but others in your presence do not hear; c) believing that you have powers or abilities that others do not have, for example, the ability to fly without use of a plane; d) beliefs that you are being sent special messages through the television or via other electronic means, or that you are being followed by police or the FBI with no realistic reason to believe such things.

## APPENDIX B: SES-SFV (MODIFIED) TO INCLUDE QUESTION FOR SEX STRESS

Someone had oral sex with me or made me have oral sex with them without my consent by:

- Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
- Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
- Taking advantage of me when I was too drunk or out of it to stop what was happening.
- Threatening to physically harm me or someone close to me.
- Using force, for example, holding me down with] their body weight, pinning my arms, or having a weapon.
- None of the above. You just decided you no longer wanted to have sex, or, once sex began it moved beyond your comfort level and you changed your mind.
- I did not have any unwanted sexual experience of this kind.

A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:

- Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
- Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
- Taking advantage of me when I was too drunk or out of it to stop what was happening.
- Threatening to physically harm me or someone close to me.
- Using force, for example, holding me down with] their body weight, pinning my arms, or having a weapon.
- None of the above. You just decided you no longer wanted to have sex, or, once sex began it moved beyond your comfort level and you changed your mind.
- I did not have any unwanted sexual experience of this kind.

A man put his penis into my butt, or someone inserted fingers or objects without my consent by:

- Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
- Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
- Taking advantage of me when I was too drunk or out of it to stop what was happening.
- Threatening to physically harm me or someone close to me.
- Using force, for example, holding me down with] their body weight, pinning my arms, or having a weapon.
- None of the above. You just decided you no longer wanted to have sex, or, once sex began it moved beyond your comfort level and you changed your mind.
- I did not have any unwanted sexual experience of this kind.

## APPENDIX C: PERPETRATOR/VICTIM RELATIONSHIP QUESTIONNAIRE

The person with whom I experienced the most recent incident of unwanted sexual contact is:

- A current or ex-spouse
- Boyfriend/girlfriend
- Same sex partner
- A family member (e.g. biological or adopted mother/father, biological or step brother/sister, aunt/uncle, cousin, grandparent)
- Someone I knew but was not related to (e.g. friend, neighbor, clergy member, bus driver, teacher, other acquaintance)
- Someone I had never met before.

**APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE**

Today's Date \_\_\_\_\_

Please report your age as of your most recent birthday \_\_\_\_\_

Please report the age at which the unwanted sexual contact occurred. If you have experienced more than one incident of unwanted sexual contact, please report the age you were during the most recent occurrence. \_\_\_\_\_

Please report your race

- Caucasian
- African American
- Asian
- Pacific Islander
- Native American

Are you of Hispanic descent?       Yes  No

In what country were you born? \_\_\_\_\_

In what country was your mother born? \_\_\_\_\_

In what country was your father born? \_\_\_\_\_

What is your primary language (the language you speak most often) \_\_\_\_\_

In what state/country do you currently reside?

- |                             |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <input type="checkbox"/> AL | <input type="checkbox"/> IN | <input type="checkbox"/> NE | <input type="checkbox"/> SC |
| <input type="checkbox"/> AK | <input type="checkbox"/> IA | <input type="checkbox"/> NV | <input type="checkbox"/> SD |
| <input type="checkbox"/> AZ | <input type="checkbox"/> KS | <input type="checkbox"/> NH | <input type="checkbox"/> TN |
| <input type="checkbox"/> AR | <input type="checkbox"/> KY | <input type="checkbox"/> NJ | <input type="checkbox"/> TX |
| <input type="checkbox"/> CA | <input type="checkbox"/> LA | <input type="checkbox"/> NM | <input type="checkbox"/> UT |
| <input type="checkbox"/> CO | <input type="checkbox"/> ME | <input type="checkbox"/> NY | <input type="checkbox"/> VT |
| <input type="checkbox"/> CT | <input type="checkbox"/> MD | <input type="checkbox"/> NC | <input type="checkbox"/> VA |
| <input type="checkbox"/> DE | <input type="checkbox"/> MA | <input type="checkbox"/> ND | <input type="checkbox"/> WA |
| <input type="checkbox"/> FL | <input type="checkbox"/> MI | <input type="checkbox"/> OH | <input type="checkbox"/> WV |
| <input type="checkbox"/> GA | <input type="checkbox"/> MN | <input type="checkbox"/> OK | <input type="checkbox"/> WI |
| <input type="checkbox"/> HI | <input type="checkbox"/> MS | <input type="checkbox"/> OR | <input type="checkbox"/> WY |
| <input type="checkbox"/> ID | <input type="checkbox"/> MO | <input type="checkbox"/> PA |                             |
| <input type="checkbox"/> IL | <input type="checkbox"/> MT | <input type="checkbox"/> RI |                             |

I currently reside outside the U.S. If you currently live outside of the U.S., in what country are you living? \_\_\_\_\_

Please report the highest level of education your

- 8th grade
- Completed 12th grade/GED
- Some college but did not graduate
- 2 year college degree (AA, AS, AAS)
- 4 year college degree (BS, BA)
- Graduate degree (MS, MA, MPH, PhD)

Please report your marital status

- Single (never married)
- Married
- Living with partner (not married)
- Separated (legally married)
- Divorced
- Widowed

Do you have child(ren)?

- Yes
- No

If you do have children, how many? \_\_\_\_\_

Please indicate your religious preference, if any

- Roman Catholic
- Protestant
- Jewish
- Episcopal
- Church of Jesus Christ of Latter Day Saints
- Muslim
- Hindu
- Buddhism
- Non-Denominational
- I am not religious/have no preference



What is your total household income from any adults in the house that contribute to it?

- Less than \$25,000
- \$26,000 - \$40,000
- \$40,000 - \$60,000
- \$60,000 - \$80,000
- \$80,000 - \$100,000
- Over \$100,000
- Prefer not to answer

## APPENDIX E: MEDICAL STATUS/CLINICAL INFORMATION QUESTIONNAIRE

Do you currently have health insurance that is not considered part of a government plan? A government plan is meant to include government-subsidized insurance (i.e., Medicare, Medicaid, MediCal, etc.) NOTE: If you WORK for the government and have insurance as an employee you would check NO to this question.

Yes  No

If you do have insurance that is not part of a government plan (i.e. Medicare, Medicaid, Medical etc.) what type of plan is it?

- Preferred Provider Organizations (PPO)
- Point of Service Plan (POS)
- Health Maintenance Organization Plan (HMO)
- Other
- Don't know

The following questions will ask about your use of medications.

Do you currently take any medication prescribed by a health professional for depression?

Yes  No

Do you currently take any medication prescribed by a health professional for anxiety?

Yes  No

Do you currently take any medication prescribed by a health professional for problems related to sleep?

Yes  No

Please check all that apply related to medical problems that you have been diagnosed with by a medical practitioner

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> High Blood Pressure | <input type="checkbox"/> IBS/IBD/GI difficulties | emphysema)                               |
| <input type="checkbox"/> Diabetes Type I     | <input type="checkbox"/> High Cholesterol        | <input type="checkbox"/> Coronary Artery |
| <input type="checkbox"/> Diabetes Type II    | <input type="checkbox"/> Hepatitis C             | Disease                                  |
| <input type="checkbox"/> Cancer              | <input type="checkbox"/> HIV/AIDS                | <input type="checkbox"/> Other           |
| <input type="checkbox"/> GERD                | <input type="checkbox"/> Glaucoma                | <input type="checkbox"/> None            |
| <input type="checkbox"/> Cervical warts      | <input type="checkbox"/> Heart Disease           |  |
| <input type="checkbox"/> Arthritis           | <input type="checkbox"/> Lung Disease (such as   |  |

I see a medical practitioner for PHYSICAL injuries sustained from my most recent assault

- Never
- Once or twice
- Three to five times
- More than five times

I see a medical practitioner for EMOTIONAL injuries sustained from my most recent assault

- Never
- Once or twice
- Three to five times
- More than five times

I see a non-medical therapist/counselor for EMOTIONAL injuries sustained from my most recent assault

- Never
- Once or twice
- Three to five times
- More than five times

I see a lawyer related to injuries sustained from my most recent assault

- Never
- Once or twice
- Three to five times
- More than five times

During or after my most recent assault, I called the police

- Yes  No

I currently live with the abuser

- Yes  No

I feel good about myself since the most recent assault

- Yes  No

I feel that the most recent abuse was my fault

- Yes  No

## APPENDIX F: DISCLOSURE AND FOLLOW-UP PREFERENCES

Is this the first time you are disclosing that you had an unwanted sexual experience?

- Yes
- No

If you have told one or more people about this incident, whom did you tell? Please check all that apply.

- A family member
- A friend
- A coworker
- Clergy
- Police
- Medical Professional
- Other

If you checked "other" above, please fill in the relationship you have with the person you told about the most recent incident of unwanted sexual contact. Please do not put in a personal name, but only identify your relationship with that person.

---

For experiences such as the one I had, I feel more comfortable disclosing the situation

- Online anonymously with no way for anyone to re-contact me
- Online with a way that someone could follow-up with me in the future
- In person, face-to-face
- On the telephone anonymously with no way for anyone to re-contact me
- On the telephone with a way that someone could follow-up with me in the future

**APPENDIX G: HERTH HOPE INDEX**

Study No. \_\_\_\_\_

**HERTH HOPE INDEX**

Listed below are a number of statements. Read each statement and place an [X] in the box that describes how much you agree with that statement right now.

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1. I have a positive outlook toward life.				
2. I have short and/or long range goals.				
3. I feel all alone.				
4. I can see possibilities in the midst of difficulties.				
5. I have a faith that gives me comfort.				
6. I feel scared about my future.				
7. I can recall happy/joyful times.				
8. I have deep inner strength.				
9. I am able to give and receive caring/love.				
10. I have a sense of direction.				
11. I believe that each day has potential.				
12. I feel my life has value and worth.				

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1999 items 2 & 4 reworded

## APPENDIX H: BRIEF COPE

### Brief COPE

These items deal with ways you've been coping with stressful situations in your life. There are many ways to try to deal with problems, and we would like to know how you prefer to deal with problems in your life, particularly fatigue or other MS-related problems. Each item says something about a particular way of coping. We want to know to what extent you've been doing what the item says--how much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Try to rate each item separately in your mind from the others. There are no “right” or “wrong” answers, so choose the most accurate answer for YOU—not what you think other people would say or do.

		1 = I usually <u>don't do this at all</u>		2 = I usually do this <u>a little bit</u>		3 = I usually do this <u>a medium amount</u>		4 = I usually do this <u>a lot</u>
1. I've been turning to work or other activities to take my mind off things.	1		2		3		4	
2. I've been concentrating my efforts on doing something about the situation I'm in.	1		2		3		4	
3. I've been saying to myself "this isn't real."	1		2		3		4	
4. I've been using alcohol or other drugs to make myself feel better.	1		2		3		4	
5. I've been getting emotional support from others.	1		2		3		4	
6. I've been giving up trying to deal with it.	1		2		3		4	
7. I've been taking action to try to make the situation better.	1		2		3		4	
8. I've been refusing to believe that it has happened.	1		2		3		4	
9. I've been saying things to let my unpleasant feelings escape.	1		2		3		4	
10. I've been getting help and advice from other people.	1		2		3		4	
11. I've been using alcohol or other drugs to help me get through it.	1		2		3		4	
12. I've been trying to see it in a different light, to make it seem more positive.	1		2		3		4	
13. I've been criticizing myself.	1		2		3		4	
14. I've been trying to come up with a strategy about what to do.	1		2		3		4	

1 = I usually **don't do this at all**  
3 = I usually do this **a medium amount**

2 = I usually do this **a little bit**  
4 = I usually do this **a lot**

15. I've been getting comfort and understanding from someone.	1	2	3	4
16. I've been giving up the attempt to cope.	1	2	3	4
17. I've been looking for something good in what is happening.	1	2	3	4
18. I've been making jokes about it.	1	2	3	4
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20. I've been accepting the reality of the fact that it has happened.	1	2	3	4
21. I've been expressing my negative feelings.	1	2	3	4
22. I've been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
23. I've been trying to get advice or help from other people about what to do.	1	2	3	4
24. I've been learning to live with it.	1	2	3	4
25. I've been thinking hard about what steps to take.	1	2	3	4
26. I've been blaming myself for things that happened.	1	2	3	4
27. I've been praying or meditating.	1	2	3	4
28. I've been making fun of the situation.	1	2	3	4

## APPENDIX I: PERCEIVED CONTROL OVER STRESS EVENTS SCALE

### Perceived Control Over Stressful Events

Using the following scale, please answer these questions with regard to the event you described above that happened directly to you. Please respond with regard to how you have felt in the PAST 2 WEEKS (or since the event, if it was less than 2 weeks ago).

- | <b>1</b>                     | <b>2</b>                     | <b>3</b>                  | <b>4</b>                  |
|------------------------------|------------------------------|---------------------------|---------------------------|
| <b>strongly<br/>disagree</b> | <b>disagree<br/>somewhat</b> | <b>agree<br/>somewhat</b> | <b>strongly<br/>agree</b> |
- \_\_\_ 1. I could have done something to prevent this event from happening.
- \_\_\_ 2. There isn't much I can do to help myself feel better about the event. R
- \_\_\_ 3. How I deal with this event now is under my control.
- \_\_\_ 4. There is nothing I could have done to prevent this event from occurring. R
- \_\_\_ 5. I don't have much control over my emotional reactions to the event. R
- \_\_\_ 6. I can do things to make sure I will not experience a similar event in the future.
- \_\_\_ 7. When I am upset about the event, I can find a way to feel better.
- \_\_\_ 8. This event happened because of something I did or didn't do.
- \_\_\_ 9. I have control over my day-to-day reactions to this event.
- \_\_\_ 10. There is nothing I can do to prevent a similar event from happening again. R
- \_\_\_ 11. There isn't much I can do to keep the event from affecting me. R
- \_\_\_ 12. I didn't have any control over the event occurring. R
- \_\_\_ 13. I have control over how I think about the event.
- \_\_\_ 14. I have no control over whether a similar event happens to me again. R
- \_\_\_ 15. I couldn't have prevented it. R
- \_\_\_ 16. My reaction to the event is not under my control. R
- \_\_\_ 17. There are things I can do to reduce the risk that a similar event will happen again.



## APPENDIX J: BECK DEPRESSION INVENTORY - II



### Beck Depression Inventory

**Baseline**

V 0477

CRTN: \_\_\_\_\_ CRF number: \_\_\_\_\_

Page 14

patient initials: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_ Marital Status: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Occupation: \_\_\_\_\_ Education: \_\_\_\_\_

**Instructions:** This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

<p><b>1. Sadness</b></p> <p>0 I do not feel sad.</p> <p>1 I feel sad much of the time.</p> <p>2 I am sad all the time.</p> <p>3 I am so sad or unhappy that I can't stand it.</p> <p><b>2. Pessimism</b></p> <p>0 I am not discouraged about my future.</p> <p>1 I feel more discouraged about my future than I used to be.</p> <p>2 I do not expect things to work out for me.</p> <p>3 I feel my future is hopeless and will only get worse.</p> <p><b>3. Past Failure</b></p> <p>0 I do not feel like a failure.</p> <p>1 I have failed more than I should have.</p> <p>2 As I look back, I see a lot of failures.</p> <p>3 I feel I am a total failure as a person.</p> <p><b>4. Loss of Pleasure</b></p> <p>0 I get as much pleasure as I ever did from the things I enjoy.</p> <p>1 I don't enjoy things as much as I used to.</p> <p>2 I get very little pleasure from the things I used to enjoy.</p> <p>3 I can't get any pleasure from the things I used to enjoy.</p> <p><b>5. Guilty Feelings</b></p> <p>0 I don't feel particularly guilty.</p> <p>1 I feel guilty over many things I have done or should have done.</p> <p>2 I feel quite guilty most of the time.</p> <p>3 I feel guilty all of the time.</p>	<p><b>6. Punishment Feelings</b></p> <p>0 I don't feel I am being punished.</p> <p>1 I feel I may be punished.</p> <p>2 I expect to be punished.</p> <p>3 I feel I am being punished.</p> <p><b>7. Self-Dislike</b></p> <p>0 I feel the same about myself as ever.</p> <p>1 I have lost confidence in myself.</p> <p>2 I am disappointed in myself.</p> <p>3 I dislike myself.</p> <p><b>8. Self-Criticalness</b></p> <p>0 I don't criticize or blame myself more than usual.</p> <p>1 I am more critical of myself than I used to be.</p> <p>2 I criticize myself for all of my faults.</p> <p>3 I blame myself for everything bad that happens.</p> <p><b>9. Suicidal Thoughts or Wishes</b></p> <p>0 I don't have any thoughts of killing myself.</p> <p>1 I have thoughts of killing myself, but I would not carry them out.</p> <p>2 I would like to kill myself.</p> <p>3 I would kill myself if I had the chance.</p> <p><b>10. Crying</b></p> <p>0 I don't cry anymore than I used to.</p> <p>1 I cry more than I used to.</p> <p>2 I cry over every little thing.</p> <p>3 I feel like crying, but I can't.</p>
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Subtotal Page 1

**Continued on Back**

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<p><b>11. Agitation</b></p> <p>0 I am no more restless or wound up than usual.</p> <p>1 I feel more restless or wound up than usual.</p> <p>2 I am so restless or agitated that it's hard to stay still.</p> <p>3 I am so restless or agitated that I have to keep moving or doing something.</p> <p><b>12. Loss of Interest</b></p> <p>0 I have not lost interest in other people or activities.</p> <p>1 I am less interested in other people or things than before.</p> <p>2 I have lost most of my interest in other people or things.</p> <p>3 It's hard to get interested in anything.</p> <p><b>13. Indecisiveness</b></p> <p>0 I make decisions about as well as ever.</p> <p>1 I find it more difficult to make decisions than usual.</p> <p>2 I have much greater difficulty in making decisions than I used to.</p> <p>3 I have trouble making any decisions.</p> <p><b>14. Worthlessness</b></p> <p>0 I do not feel I am worthless.</p> <p>1 I don't consider myself as worthwhile and useful as I used to.</p> <p>2 I feel more worthless as compared to other people.</p> <p>3 I feel utterly worthless.</p> <p><b>15. Loss of Energy</b></p> <p>0 I have as much energy as ever.</p> <p>1 I have less energy than I used to have.</p> <p>2 I don't have enough energy to do very much.</p> <p>3 I don't have enough energy to do anything.</p> <p><b>16. Changes in Sleeping Pattern</b></p> <p>0 I have not experienced any change in my sleeping pattern.</p> <hr/> <p>1a I sleep somewhat more than usual.</p> <hr/> <p>1b I sleep somewhat less than usual.</p> <hr/> <p>2a I sleep a lot more than usual.</p> <hr/> <p>2b I sleep a lot less than usual.</p> <hr/> <p>3a I sleep most of the day.</p> <hr/> <p>3b I wake up 1-2 hours early and can't get back to sleep.</p>	<p><b>17. Irritability</b></p> <p>0 I am no more irritable than usual.</p> <p>1 I am more irritable than usual.</p> <p>2 I am much more irritable than usual.</p> <p>3 I am irritable all the time.</p> <p><b>18. Changes in Appetite</b></p> <p>0 I have not experienced any change in my appetite.</p> <hr/> <p>1a My appetite is somewhat less than usual.</p> <hr/> <p>1b My appetite is somewhat greater than usual.</p> <hr/> <p>2a My appetite is much less than before.</p> <hr/> <p>2b My appetite is much greater than usual.</p> <hr/> <p>3a I have no appetite at all.</p> <hr/> <p>3b I crave food all the time.</p> <p><b>19. Concentration Difficulty</b></p> <p>0 I can concentrate as well as ever.</p> <p>1 I can't concentrate as well as usual.</p> <p>2 It's hard to keep my mind on anything for very long.</p> <p>3 I find I can't concentrate on anything.</p> <p><b>20. Tiredness or Fatigue</b></p> <p>0 I am no more tired or fatigued than usual.</p> <p>1 I get more tired or fatigued more easily than usual.</p> <p>2 I am too tired or fatigued to do a lot of the things I used to do.</p> <p>3 I am too tired or fatigued to do most of the things I used to do.</p> <p><b>21. Loss of Interest in Sex</b></p> <p>0 I have not noticed any recent change in my interest in sex.</p> <p>1 I am less interested in sex than I used to be.</p> <p>2 I am much less interested in sex now.</p> <p>3 I have lost interest in sex completely.</p>
--	---

3 4 5 6 7 8 9 10 11 12 A B C D E

Subtotal Page 2

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Subtotal Page 1

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Total Score

NR15645

**APPENDIX K: STATE-TRAIT ANXIETY INVENTORY FOR ADULTS**

**SELF-EVALUATION QUESTIONNAIRE STAI Form Y-2**

Name \_\_\_\_\_  
Date \_\_\_\_\_

ALMOST NEVER  
SOMETIMES  
OFTEN  
ALMOST ALWAYS

**DIRECTIONS**

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel.

- 1. I feel pleasant..... 1234
- 2. I feel nervous and restless..... 1234
- 3. I feel satisfied with myself..... 1234
- 4. I wish I could be as happy as others seem to be ..... 1234
- 5. I feel like a failure..... 1234
- 6. I feel rested..... 1234
- 7. I am "calm, cool, and collected"..... 1234
- 8. I feel that difficulties are piling up so that I cannot overcome them ..... 1234
- 9. I worry too much over something that really doesn't matter..... 1234
- 10. I am happy..... 1234
- 11. I have disturbing thoughts..... 1234
- 12. I lack self-confidence..... 1234
- 13. I feel secure..... 1234
- 14. I make decisions easily ..... 1234
- 15. I feel inadequate..... 1234
- 16. I am content..... 1234
- 17. Some unimportant thought runs through my mind and bothers me..... 1234
- 18. I take disappointments so keenly that I can't put them out of my mind ..... 1234
- 19. I am a steady person..... 1234
- 20. I get in a state of tension or turmoil as I think over my recent concerns and interests..... 1234

## APPENDIX L: POSTTRAUMATIC STRESS DIAGNOSTIC SCALE

### PDS

#### Part 1

Many People have lived through or witnessed a very stressful and traumatic event at some point in their lives. Below is a list of traumatic events. Put a checkmark in the box next to ALL of the events that have happened to you or that you have witnessed.

- (1)  Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident)
- (2)  Natural disaster (for example, tornado, hurricane, flood, or major earthquake)
- (3)  Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
- (4)  Non-sexual assault by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
- (5)  Sexual assault by a family member or someone you know (for example, rape or attempted rape)
- (6)  Sexual assault by a stranger (for example, rape or attempted rape)
- (7)  Military combat or war zone
- (8)  Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breasts)
- (9)  Imprisonment (for example, prison inmate, prisoner of war, hostage)
- (10)  Torture
- (11)  Life-threatening illness
- (12)  Other traumatic event

(13) If you marked item 12, specify the traumatic event below.

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IF YOU MARKED ANY OF THE ITEMS ABOVE, CONTINUE. IF NOT, STOP HERE.

**Part 2**

(14) If you marked more than one traumatic event in Part 1, put a checkmark in the box below next to the event *that bothers you the most*. If you marked only one traumatic event in Part 1, mark the same one below.

- Accident
- Disaster
- Non-sexual assault by family or someone you know
- Non-sexual assault by a stranger
- Sexual assault by family or someone you know
- Sexual assault by a stranger
- Combat
- Sexual contact under 18 with someone 5 or more years older
- Imprisonment
- Torture
- Life-threatening illness
- Other

In the lines below, briefly describe the traumatic event you marked above.

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Below are several questions about the traumatic event you just described above.

(15) How long ago did the traumatic event happen?

(circle ONE)

- 1 Less than 1 month
- 2 1 to 3 months
- 3 3 to 6 months
- 4 6 months to 3 years
- 5 3 to 5 years
- 6 More than 5 years

For the following questions, circle Y for Yes or N for No.

During this traumatic event:

- (16) Y N Were you physically injured?
- (17) Y N Was someone else physically injured?
- (18) Y N Did you think that your life was in danger?
- (19) Y N Did you think that someone else's life was in danger?
- (20) Y N Did you feel helpless?
- (21) Y N Did you feel terrified?

### Part 3

Below is a list of problems that people sometimes have after experiencing a traumatic event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE PAST MONTH. Rate each problem with respect to the traumatic event you described in Item 14.

- 0 Not at all or only one time
- 1 Once a week or less/once in a while
- 2 2 to 4 times a week/half the time
- 3 5 or more times a week/almost always

- (22) 0 1 2 3 Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to
- (23) 0 1 2 3 Having bad dreams or nightmares about the traumatic event
- (24) 0 1 2 3 Reliving the traumatic event, acting or feeling as if it was happening again

- (25) 0 1 2 3 Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc.)
- (26) 0 1 2 3 Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)
- 
- (27) 0 1 2 3 Trying not to think about, talk about, or have feelings about the traumatic event
- (28) 0 1 2 3 Trying to avoid activities, people, or places that remind you of the traumatic event
- (29) 0 1 2 3 Not being able to remember an important part of the traumatic event
- (30) 0 1 2 3 Having much less interest or participating much less often in important activities
- (31) 0 1 2 3 Feeling distant or cut off from people around you
- (32) 0 1 2 3 Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)
- (33) 0 1 2 3 Feeling as if your future plans or hopes will not come true (for example, you will not have a career, marriage, children, or a long life)
- (34) 0 1 2 3 Having trouble falling or staying asleep
- (35) 0 1 2 3 Feeling irritable or having fits of anger
- (36) 0 1 2 3 Having trouble concentrating (for example, drifting in and out of conversation, losing track of a story on television, forgetting what you read)

- (37) 0 1 2 3 Being overly alert (for example, checking to see who is around you, being uncomfortable with your back to a door, etc.)
- (38) 0 1 2 3 Being jumpy or easily startled (for example, when someone walks up behind you)
- 

(39) How long have you been experiencing the problems that you reported above? (circle ONE)

- 1 Less than 1 month
- 2 1 to 3 months
- 3 More than 3 months

(40) How long after the traumatic event did these problems begin? (circle ONE)

- 1 Less than 6 months
- 2 6 or more months

#### Part 4

Indicate below if the problems you rate in Part 3 have interfered with any of the following areas of your life DURING THE PAST MONTH. Circle Y for Yes and N for No.

- (41) Y N Work
- (42) Y N Household chores and duties
- (43) Y N Relationships with friends
- (44) Y N Fun and leisure activities
- (45) Y N Schoolwork
- (46) Y N Relationships with your family
- (47) Y N Sex life
- (48) Y N General satisfaction with life
- (49) Y N Overall level of functioning in all areas of your life



## APPENDIX M: CARRETTA MOTIVATION SCALE

Please respond to the following question by answering how you feel **MOST** of the time.  
Most of the time means more than 20 of out of 30 days in a month.

1 I have dreams I plan to make a reality

- Strongly Disagree
- Somewhat Disagree
- Somewhat Agree
- Strongly Agree

2 I plan each day before it comes

- Strongly Disagree
- Somewhat Disagree
- Somewhat Agree
- Strongly Agree

3 I don't feel I can better myself

- Strongly Disagree
- Somewhat Disagree
- Somewhat Agree
- Strongly Agree

4 Life is exciting

- Strongly Disagree
- Somewhat Disagree
- Somewhat Agree
- Strongly Agree

5 I have goals

- Strongly Disagree

		<input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
6	I don't embrace thinking about tomorrow	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
7	If I died today I feel my life has been worthwhile	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
8	My life is empty	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
9	I desire to make the most of each day	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
10	My existence is without purpose	<input type="radio"/> Strongly Disagree

		<input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
11	I am in control of my life	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
12	Given a task or project, I like to take charge	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
13	Very few things excite me	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
14	I believe I am free to pursue my dreams	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
15	I have much I am passionate about	<input type="radio"/> Strongly Disagree

		<input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
16	I am a doer	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
17	Success is important to me	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
18	I would rather sleep than face the day	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree
19	I am committed to my own personal development	<input type="radio"/> Strongly Disagree <input type="radio"/> Somewhat Disagree <input type="radio"/> Somewhat Agree <input type="radio"/> Strongly Agree

## APPENDIX N: RESEARCH REGISTRY

In addition to this study, we are compiling a research registry of people who would like to be contacted for potential future studies. If you are interested in being a part of this registry, you may enter your information in the space provided after you have read the informed consent document that follows.

For the purpose of the registry, we will include information including your name, date of birth, gender, and email address, and will advise you of potential studies in the future. You may elect to do this after you have read the informed consent document that follows. Filling out the information that follows the consent document will serve as your consent to be a part of the registry.

If you do not wish to participate in the registry, please go to the last question on the survey, and click to submit the survey once you have filled in your answer.

Please provide the following information here:

1. Name \_\_\_\_\_
2. Gender \_\_\_\_\_
3. Date of Birth \_\_\_\_\_
4. Email address \_\_\_\_\_

Have you ever been the victim at ANY AGE of unwanted sexual contact?

- Yes  
 No

## References

- Adkins, J. W., Weathers, F. W., McDevitt-Murphy, M., & Daniels, J. B. (2008). Psychometric properties of seven self-report measures of posttraumatic stress disorder in college students with mixed civilian trauma exposure. *Journal of Anxiety Disorders, 22*(8), 1393-1402. doi: 10.1016/j.janxdis.2008.02.002
- Ahuja, M. K., & Carley, K. M. (1998). Network structure in virtual organizations. *Journal of Computer Mediated Communication, 3*(4), 741-757.
- Ajzen, I. (2002). Perceived behavioral control, self efficacy, locus of control, and the theory of planned behavior<sup>1</sup>. *Journal of Applied Social Psychology, 32*(4), 665-683.
- Ali, P. A., & Gavino, M. I. (2008). Violence against women in Pakistan: A framework for analysis. *Journal Of Pakistan Medical Association, 58*(4), 198-203.
- Ali, P. A., Israr, S. M., Ali, B. S., & Janjua, N. Z. (2009). Association of various reproductive rights, domestic violence, and marital rape with depression among Pakistani women. *BMC Psychiatry, 9*, 77. doi: 10.1186/1471-244X-9-77
- Amstadter, A. B., McCauley, J. L., Ruggiero, K. J., Resnick, H. S., & Kilpatrick, D. G. (2008). Service utilization and help seeking in a national sample of female rape victims. *Psychiatric Services, 59*(12), 1450-1457. doi: 10.1176/appi.ps.59.12.1450
- APA. (2000). *Diagnostic criteria from the DSM-IV-TR*. Arlington, VA: APA.
- Arias, I., & Pape, K. T. (1999). Psychological abuse: Implications for adjustment and commitment to leave violent partners. *Violence and Victims, 14*(1), 55-67.
- Atkeson, B. M., Calhoun, K. S., Resick, P. A., & Ellis, E. M. (1982). Victims of rape: Repeated assessment of depressive symptoms. *Journal of Consulting and Clinical Psychology, 50*(1), 96-102.

- Avegno, J., Mills, T. J., & Mills, L. D. (2009). Sexual assault victims in the emergency department: Analysis by demographic and event characteristics. *The Journal of Emergency Medicine*, 37(3), 328-334. doi: 10.1016/j.jemermed.2007.10.025
- Babiyak, M. A., Snyder, C.R., & Yoshinobu, L. (1993). Psychometric properties of the hope scale: A confirmatory factor analysis. *Journal of Research in Personality*, 27, 154-159.
- Bachman, R. (1993). Predicting the reporting of rape victimizations: Have rape reforms made a difference? *Criminal Justice & Behavior*, 20(3), 254-270.
- Ballash, N. G., Pemble, M. K., Usui, W. M., Buckley, A. F., & Woodruff-Borden, J. (2006). Family functioning, perceived control, and anxiety: A mediational model. *Journal of Anxiety Disorders*, 20(4), 486-497.
- Basile, K. C., Arias, I., Desai, S., & Thompson, M. P. (2004). The differential association of intimate partner physical, sexual, psychological, and stalking violence and posttraumatic stress symptoms in a nationally representative sample of women. *Journal of Traumatic Stress*, 17(5), 413-421. doi: 10.1023/B:JOTS.0000048954.50232.d8
- Basile, K. C., Chen, J., Black, M. C., & Saltzman, L. E. (2007). Prevalence and characteristics of sexual violence victimization among U.S. Adults, 2001-2003. *Violence and Victims*, 22(4), 437-448.
- Baumer, E. P., Felson, R. B., & Messner, S. F. (2003). Changes in police notification for rape, 1973-2000. *Criminology*, 41(3), 841-872.
- Beck, A. T., Steer, R. A., Ball, R., & Ranieri, W. (1996). Comparison of beck depression inventories -ia and -II in psychiatric outpatients. *Journal of Personality Assessment*, 67(3), 588-597.
- Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism:

- The hopelessness scale. *Journal of Consulting and Clinical Psychology*, 42(6), 861-865.
- Bell, M. E., Cattaneo, L. B., Goodman, L. A., & Dutton, M. A. (2008). Assessing the risk for future psychological abuse: Predicting the accuracy of battered women's predictions. *Journal of Family Violence*, 23, 69-80.
- Bell, M. E., Goodman, L. A., & Dutton, M. A. (2007). The dynamics of staying and leaving: Implications for battered women's emotional well-being and experiences of violence at the end of a year. *Journal of Family Violence*, 22, 413-428.
- Bengtsson-Tops, A., & Tops, D. (2007). Self-reported consequences and needs for support associated with abuse in female users of psychiatric care. *International Journal of Mental Health Nursing*, 16(1), 35-43. doi: 10.1111/j.1447-0349.2006.00442.x
- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior Research and Therapy*, 42(10), 1129-1148. 10.1016/j.brat.2003.08.008S0005796703002304
- Bennice, J. A., Resick, P. A., Mechanic, M., & Astin, M. (2003). The relative effects of intimate partner physical and sexual violence on post-traumatic stress disorder symptomatology. *Violence and Victims*, 18(1), 87-94.
- Benetsch, E. G., Brailey, K., Vasterling, J. J., Uddo, M., Constans, J. I., & Sutker, P. B. (2000). War zone stress, personal and environmental resources, and PTSD symptoms in Gulf War veterans: A longitudinal perspective. *Journal of Abnormal Psychology*, 109(2), 205-213.
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of a Clinician-Administered PTSD scale. *Journal of Traumatic Stress*, 8(1), 75-90.



- Block, A. P. (1990). Rape trauma syndrome as scientific expert testimony. *Archives of Sexual Behavior, 19*(4), 309-323. doi: 10.1007/bf01541926
- Bonomi, A. E., Anderson, M. L., Reid, R. J., Rivara, F. P., Carrell, D., & Thompson, R. S. (2009). Medical and psychosocial diagnoses in women with a history of intimate partner violence. *Archives of Internal Medicine, 169*(18), 1692-1697. doi: 10.1001/archinternmed.2009.292
- Bonomi, A. E., Anderson, M. L., Rivara, F. P., & Thompson, R. S. (2009). Health care utilization and costs associated with physical and nonphysical-only intimate partner violence. *Health Services Research, 44*(3), 1052-1067. doi: 10.1111/j.1475-6773.2009.00955.x
- Borja, S. E., Callahan, J. L., & Long, P. J. (2006). Positive and negative adjustment and social support of sexual assault survivors. *Journal of Traumatic Stress, 19*(6), 905-914. doi: 10.1002/jts.20169
- Bownes, I. T., O'Gorman, E. C., & Sayers, A. (1991a). Assault characteristics and posttraumatic stress disorder in rape victims. *Acta Psychiatrica Scandinavica, 83*(1), 27-30.
- Bownes, I. T., O'Gorman, E. C., & Sayers, A. (1991b). Rape--a comparison of stranger and acquaintance assaults. *Medicine, Science and the Law, 31*(2), 102-109.
- Breslau, N., Chilcoat, H. D., Kessler, R. C., & Davis, G. C. (1999). Previous exposure to trauma and PTSD effects of subsequent trauma: Results from the Detroit Area Survey of Trauma. *American Journal of Psychiatry, 156*(6), 902-907.
- Breslau, N., Kessler, R. C., Chilcoat, H. D., Schultz, L. R., Davis, G. C., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry, 55*(7), 626-632.

- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68*(5), 748.
- Brofenbrenner, U. (1979). *The ecology of human development: Experimenta by nature and design*. Cambridge, MA: Harvard University Press.
- Brook, R. M. (1976). Psychological evaluation stress on adolescents. *Journal of Clinical Psychology, 32*(3), 565-567.
- Brown, A. L., Testa, M., & Messman-Moore, T. L. (2009). Psychological consequences of sexual victimization resulting from force, incapacitation, or verbal coercion. *Violence Against Women, 15*(8), 898-919. doi:10.1177/1077801209335491
- Brownmiller, S. (1975). *Against our will : Men, women, and rape*. New York: Simon and Schuster.
- Burckhardt, C., & Bjelle, A. (1996). Perceived control: A comparison of women with fibromyalgia, rheumatoid arthritis, and systemic lupus erythematosus using a Swedish version of the Rheumatology Attitudes Index. *Scandinavian Journal of Rheumatology, 25*(5), 300-306.
- Burgess, A., & Holmstrom, L. (1979). Adaptive strategies and recovery from rape. *American Journal of Psychiatry, 136*(10), 1278-1282.
- Burgess, A. W., & Holmstrom, L. L. (1974a). Crisis and counseling requests of rape victims. *Nursing Research, 23*(3), 196-202.
- Burgess, A. W., & Holmstrom, L. L. (1974b). Rape trauma syndrome. *American Journal of Psychiatry, 131*(9), 981-986.
- Burgess, A. W., & Holmstrom, L. L. (1985). Rape trauma syndrome and post traumatic stress

- response. *Rape and sexual assault: a research handbook*. New York: Garland Publishing, 46-60.
- Calvete, E., Corral, S., & Estevez, A. (2008). Coping as a mediator and moderator between intimate partner violence and symptoms of anxiety and depression. [Research Support, Non-U.S. Gov't]. *Violence Against Women*, 14(8), 886-904. doi: 10.1177/1077801208320907
- Campbell, J. C., Kub, J., Belknap, R. A., & Templin, T. (1997). Predictors of depression in battered women. *Violence Against Women*, 3, 271-293.
- Campbell, J. C., & Soeken, K. L. (1999). Women's responses to battering: A test of the model. *Research in Nursing and Health*. 22(1), 49-58. doi: 10.1002/(SICI)1098-240X(199902)22:1<49::AID-NUR6>3.0.CO;2-F
- Campbell, J. C., Webster, D., Koziol-McLain, J., Block, C., Campbell, D., Curry, M. A., . . . Laughon, K. (2003). Risk factors for femicide in abusive relationships: Results from a multisite case control study. *American Journal of Public Health*, 93(7), 1089-1097.
- Campbell, R., Ahrens, C. E., Self, T., Wasco, S. M., & Barnes, H. E. (2001). Social reactions to rape victims: Healing and hurtful effects on psychological and physical health outcomes. *Violence and Victims*, 16(3), 287-302.
- Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence & Abuse*, 10(3), 225-246.
- Campbell, R., Patterson, D., & Lichty, L. F. (2005). The effectiveness of sexual assault nurse examiner (sane) programs: A review of psychological, medical, legal, and community outcomes. *Trauma Violence Abuse*, 6(4), 313-329. doi: 10.1177/1524838005280328
- Carretta, C. M., Ridner, S. H., & Dietrich, M. S. (2011). Associations between hope and

- hopelessness with anxiety in outpatient psychiatry. *Journal of the American Psychiatric Nurses Association*. Manuscript submitted for publication.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International Journal of Behavioral Medicine, 4*(1), 92-100. doi: 10.1207/s15327558ijbm0401\_6
- Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., Robinson, D. S., . . . Clark, K. C. (1993). How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology, 65*(2), 375-390.
- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer-Verlag.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- Carver, C. S., & Scheier, M. F. (1999). Stress, coping, and self-regulatory processes.
- Cascardi, M., O'Leary, K. D., Lawrence, E. E., & Schlee, K. A. (1995). Characteristics of women physically abused by their spouses and who seek treatment regarding marital conflict. *Journal of Consulting and Clinical Psychology, 63*(4), 616-623.
- Castro, R., Casique, I., & Brindis, C. D. (2008). Empowerment and physical violence throughout women's reproductive life in Mexico. *Violence Against Women, 14*(6), 655-677. doi: 10.1177/1077801208319102
- Catalano, S., Smith, E., Snyder, H., & Rand, M. (2009). *Female victims of violence*. Bureau of Justice Statistics. Washington, D. C.: National Institute of Justice.
- Cattell, R. B. (1966). Anxiety and motivation: Theory and crucial experiments. *Anxiety and*

*behavior, 1, 23-62.*

Cattell, R. B., & Scheier, I. H. (1961). The meaning and measurement of neuroticism and anxiety.

Cattell, R. B., Scheier, I. H., & Institute for Personality Ability Testing. (1963). *Handbook for the Ipat Anxiety Scale Questionnaire (self analysis form): A brief, valid, and non-stressful questionnaire scale, measuring anxiety level in adults and young adults down to 14 or 15 years of age*: Champaign, IL. Institute for Personality and Ability Testing.

CDC. (2003). *Costs of intimate partner violence against women in the United States*. Atlanta: Centers for Disease Control and Prevention: National Center for Injury Prevention and Control.

Centers for Disease Control and Treatment (CDC). (2006). Sexually transmitted diseases: Treatment guidelines. Retrieved June 10, 2010, from <http://www.cdc.gov/std/treatment/2006/sexual-assault.htm>

Chan, K. L. (2009). Sexual violence against women and children in Chinese societies. *Trauma, Violence & Abuse, 10*(1), 69-85.

Chang, E. C., & DiSimone, S. L. (2001). The influence of hope on appraisals, coping and dysphoria: A test of hope theory. *Journal of Social and Clinical Psychology, 20*, 117-129.

Chen, L. P., Murad, M. H., Paras, M. L., Colbenson, K. M., Sattler, A. L., Goranson, E. N., . . . Zirakzadeh, A. (2010). Sexual abuse and lifetime diagnosis of psychiatric disorders: Systematic review and meta-analysis. *Mayo Clinic Proceedings, 85*(7), 618-629. doi: 10.4065/mcp.2009.0583

Chrisler, J. C., & Ferguson, S. (2006). Violence against women as a public health issue. *Annals*

- of the New York Academy of Sciences, 1087, 235-249. doi: 10.1196/annals.1385.009*
- Clark, A. (2006). *Scandal: The sexual politics of the british constitution*. Princeton, NJ. Princeton University Press.
- Clay-Warner, J., & McMahon-Howard, J. (2009). Rape reporting: "Classic rape" and the behavior of law. *Violence and Victims, 24*(6), 723-743.
- Cloitre, M., Tardiff, K., Marzuk, P. M., Leon, A. C., & Portera, L. (1996). Childhood abuse and subsequent sexual assault among female inpatients. *Journal of Traumatic Stress, 9*(3), 473-482.
- Cloutier, S., Martin, S. L., & Poole, C. (2002). Sexual assault among North carolina women: Prevalence and health risk factors. *Journal of Epidemiology and Community Health, 56*(4), 265-271.
- Clum, G. A., Calhoun, K. S., & Kimerling, R. (2000). Associations among symptoms of depression and posttraumatic stress disorder and self-reported health in sexually assaulted women. *Journal of Nervous and Mental Disorders, 188*(10), 671-678.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Coker, A. L., Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L., & Davis, K. E. (2002). Social support protects against the negative effects of partner violence on mental health. *Journal of Women's Health & Gender Based Medicine, 11*(5), 465-476. doi: 10.1089/15246090260137644
- Conoscenti, L. M., & McNally, R. J. (2006). Health complaints in acknowledged and unacknowledged rape victims. *Journal of Anxiety Disorders, 20*(3), 372-379.

- Covic, T., Tyson, G., Spencer, D., & Howe, G. (2006). Depression in rheumatoid arthritis patients: Demographic, clinical, and psychological predictors. *Journal of Psychosomatic Research, 60*(5), 469-476. doi: 10.1016/j.jpsychores.2005.09.011
- D'Cruze, S. (1993). Approaching the history of rape and sexual violence: Notes towards research. *Women's History Review, 1*(3), 377-397.
- Darves-Bornoz, J. M. (1997). Rape-related psychotraumatic syndromes. *European Journal of Obstetrics, Gynecology, and Reproductive Biology, 71*, 59-65.
- de Vaus, D. (2001). *Research design in social research*. Thousand Oaks, CA: Sage Publications Ltd.
- Derhammer, F., Lucente, V., Reed, J. F., 3rd, & Young, M. J. (2000). Using a sane interdisciplinary approach to care of sexual assault victims. *The Joint Commission Journal on Quality Improvement, 26*(8), 488-496.
- Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine, 13*(03), 595-605.
- Doerfler, L. A., Paraskos, J. A., & Piniarski, L. (2005). Relationship of quality of life and perceived control with posttraumatic stress disorder symptoms 3 to 6 months after myocardial infarction. *Journal of Cardiopulmonary Rehabilitation and Prevention, 25*(3), 166.
- Donovan, H., & Hartenbach, E., Method, M. W. (2005). Patient-provider communication and perceived control for women experiencing multiple symptoms associated with ovarian cancer. *Gynecologic Oncology, 99*(2), 404-411.
- Dufault, K., & Martocchio, B. C. (1985). Hope: Its spheres and dimensions. *Nursing Clinics of North America, 20*(2), 379-391.

- Dunmore, E., Clark, D. M., & Ehlers, A. (2001). A prospective investigation of the role of cognitive factors in persistent posttraumatic stress disorder (PTSD) after physical or sexual assault. *Behaviour Research and Therapy*, *39*(9), 1063-1084.
- Dutton, M. A. (2009). Pathways linking intimate partner violence and posttraumatic disorder. *Trauma, Violence & Abuse*, *10*(3), 211-224. doi: 10.1177/1524838009334451
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, *38*(4), 319-345.
- Ellis, E. M. (1983). A review of empirical rape research: Victims reactions and response to treatment. *Clinical Psychology Review*, *3*, 473-490.
- Ellis, E. M., Atkeson, B. M., & Calhoun, K. S. (1981). An assessment of long-term reaction to rape. *Journal of Abnormal Psychology*, *90*(3), 263-266.
- Ellsberg, M., Caldera, T., Herrera, A., Winkvist, A., & Kullgren, G. (1999). Domestic violence and emotional distress among Nicaraguan women. *American Psychologist*, *54*, 30-36.
- Ellsberg, M., Jansen, H. A., Heise, L., Watts, C. H., & Garcia-Moreno, C. (2008). Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: An observational study. *Lancet*, *371*(9619), 1165-1172. doi: 10.1016/S0140-6736(08)60522-X
- Emergency Nurses Association. (2006). Emergency nurses association position statement: Intimate partner and family violence, maltreatment and neglect: Emergency Nurses Association.
- Evangelista, L. S., Moser, D., Dracup, K., Doering, L., & Kobashigawa, J. (2004). Functional status and perceived control influence quality of life in female heart transplant recipients. *The Journal of Heart and Lung Transplantation*, *23*(3), 360-367.



- Evans, R. G., & Dinning, W. D. (1980). A validation study of forms A and B of the Whitaker Index of Schizophrenic Thinking. *Journal of Personality Assessment*, 44(4), 416-419.
- Fahmy, H. H., & Adb El-Rahman, S. I. (2008). Determinants and health consequences of domestic violence among women in reproductive age at Zagazig District, Egypt. *The Journal of the Egyptian Public Health Association*, 83(1-2), 87-106.
- Fairbrother, N., & Rachman, S. (2006). PTSD in victims of sexual assault: Test of a major component of the ehlers-clark theory. *Journal of Behavior Therapy and Experimental Psychiatry*, 37(2), 74-93. doi: 10.1016/j.jbtep.2004.08.004
- Falloon, I. R., & Talbot, R. E. (1981). Persistent auditory hallucinations: Coping mechanisms and implications for management. *Psychological Medicine*, 11(2), 329-339.
- Fanslow, J., & Robinson, E. (2004). Violence against women in New Zealand: Prevalence and health consequences. *New Zealand Medical Journal*, 117(1206), U1173.
- Faravelli, C., Giugni, A., Salvatori, S., & Ricca, V. (2004). Psychopathology after rape. *American Journal of Psychiatry*, 161(8), 1483-1485. doi: 10.1176/appi.ajp.161.8.1483  
161/8/1483
- Farran, C. J., Herth, K. A., & Popovich, J. M. (1995). *Hope and hopelessness: Critical clinical constructs*. Thousand Oaks: Sage Publications.
- Feldhaus, K. M. (2002). A 21st-century challenge: Improving the care of the sexual assault victim. *Annals of Emergency Medicine*, 39(6), 653-655. doi:10.1067/mem.2002.124448
- Feldhaus, K. M., Houry, D., & Kaminsky, R. (2000). Lifetime sexual assault prevalence rates and reporting practices in an emergency department population. *Annals of Emergency Medicine*, 36(1), 23-27. doi: 10.1067/mem.2000.107660
- Felson, R. B., & Paré, P. P. (2005). The reporting of domestic violence and sexual assault by

- nonstrangers to the police. *Journal of Marriage and Family*, 67(3), 597-610. doi:  
10.1111/j.1741-3737.2005.00156.x
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse and Neglect*, 32(6), 607-619.
- Fergusson, D. M., Swain-Campbell, N. R., & Horwood, L. J. (2002). Deviant peer affiliations, crime and substance use: A fixed effects regression analysis. *Journal of Abnormal Child Psychology*, 30(4), 419-430.
- Fergusson, D. M., Woodward, L. J., & Horwood, L. J. (2000). Risk factors and life processes associated with the onset of suicidal behaviour during adolescence and early adulthood. *Psychological Medicine*, 30(01), 23-39.
- Fikree, F. F., & Bhatti, L. I. (1999). Domestic violence and health of Pakistani women. *International Journal of Gynaecology and Obstetrics*, 65(2), 195-201. doi:  
10.1016/S0020-7292(99)00035-1
- Finkelhor, D., & Yllo, K. (1985). *Licence to rape: Sexual abuse of wives*. New York: The Free Press.
- Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Reporting sexual victimization to the police and others. *Criminal Justice and Behavior*, 30(1), 6-38. doi:  
10.1177/0093854802239161
- Flaherty, L. M., Pearce, K. J., & Rubin, R. B. (1998). Internet and face to face communication: Not functional alternatives. *Communication Quarterly*, 46(3), 250-268.
- Flanagin, A. J., & Metzger, M. J. (2001). Internet use in the contemporary media environment. *Human Communication Research*, 27(1), 153-181.

- Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-report measure of posttraumatic stress disorder: The posttraumatic stress diagnostic scale. *Psychological Assessment, 9*, 445-451.
- Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The Post-Traumatic Cognition Inventory (PTCI): Development and validation. *Psychological Assessment, 11*, 303-314.
- Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology, 59*(5), 715-723. doi: 10.1037/0022-006X.59.5.715
- Foa, E. B., Zoellner, L. A., & Feeny, N. C. (2006). An evaluation of three brief programs for facilitating recovery after assault. *Journal of Traumatic Stress, 19*(1), 29-43.
- Folkman, S., & Lazarus, R. S. (1988). The relationship between coping and emotion: Implications for theory and research. *Social Science and Medicine, 26*(3), 309-317.
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology, 50*(3), 571-579.
- Frank, E., & Anderson, B. P. (1987). Psychiatric disorders in rape victims: Past history and current symptomatology. *Comprehensive Psychiatry, 28*(1), 77-82.
- Frank, E., & Stewart, B. D. (1984). Depressive symptoms in rape victims: A revisit. *Journal of Affective Disorders, 7*(1), 77-85. doi: 10.1016/0165-0327(84)90067-3
- Frank, E., Turner, S. M., & Duffy, B. (1979). Depressive symptoms in rape victims. *Journal of Affective Disorders, 1*(4), 269-277. doi: 10.1016/0165-0327(79)90013-2

- Frazier, P., & Borgida, E. (1985). Rape trauma syndrome evidence in court. *American Psychologist*, 40(9), 984-993.
- Frazier, P., Keenan, N., Anders, S., Perera, S., Shallcross, S., & Hintz, S. (2011). Perceived past, present, and future control and adjustment to stressful life events. *Journal of Personality and Social Psychology*, 100(4), 749-765. doi: 10.1037/a0022405
- Frazier, P., Steward, J., & Mortensen, H. (2004). Perceived control and adjustment to trauma: A comparison across events. *Journal of Social and Clinical Psychology*, 23(3), 303-324. doi: 10.1521/jscp.23.3.303.35452
- Frazier, P., Tashiro, T., Berman, M., Steger, M., & Long, J. (2004). Correlates of levels and patterns of positive life changes following sexual assault. *Journal of Consulting and Clinical Psychology*, 72(1), 19-30.
- Frazier, P. A. (2003). Perceived control and distress following sexual assault: A longitudinal test of a new model. *Journal of Personal Social Psychology*, 84(6), 1257-1269.
- George, D., & Mallery, P. (2003). *SPSS for windows step by step: A simple guide and reference* (11.0 update, 4th ed.). Boston: Allyn & Bacon.
- Girardin, B. (2005). The sexual assault nurse examiner: A win-win solution. *Topics in Emergency Medicine*, 27(2), 124-131.
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, 14, 99-132.
- Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, 59(2), 93-104.
- Gotlib, I. H., & Robinson, L. A. (1982). Responses to depressed individuals: Discrepancies

- between self-report and observer-rated behavior. *Journal of Abnormal Psychology*, 91(4), 231-240.
- Griffin, M. G., Uhlmansiek, M. H., Resick, P. A., & Mechanic, M. B. (2004). Comparison of the posttraumatic stress disorder scale versus the clinician-administered posttraumatic stress disorder scale in domestic violence survivors. *Journal of Traumatic Stress*, 17(6), 497-503. doi: 10.1007/s10960-004-5798-4
- Hasson-Ohayon, I., Walsh, S., Roe, D., Kravetz, S., & Weiser, M. (2006). Personal and interpersonal perceived control and the quality of life of persons with severe mental illness. *The Journal of Nervous and Mental Disease*, 194(7), 538-542.
- Hazelwood, R. R., & Burgess, A. W. (Eds.). (2009). *Practical aspects of rape investigation: A multidisciplinary approach* (4th ed.). Boca Raton, FL: CRC Press.
- Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., & Kilpatrick, D. G. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of Consulting Clinical Psychology*, 76(4), 633-647. doi: 10.1037/0022-006X.76.4.633
- Heise, L. L., Ellsberg, M., & Gottemoeller, M. (1999). Ending violence against women. *International Journal of Gynaecology and Obstetrics: The Official organ of the International Federation of Gynaecology and Obstetrics*. 78(Suppl 1), S5-14.
- Heise, L. L., Pitanguy, J., & Germaine, A. (1994). Violence against women [the hidden health burden]. Washington, DC: The World Bank.
- Herth, K. (1992). Abbreviated instrument to measure hope: Development and psychometric evaluation. [Research Support, Non-U.S. Gov't]. *Journal of Advanced Nursing*, 17(10), 1251-1259.

- Hien, P. T. (2008). Sexual coercion within marriage in Quang Tri, Vietnam. *Culture, Health & Sexuality, 10 Suppl*, S177-187. doi: 10.1080/13691050701790893
- Hilden, M., Schei, B., & Sidenius, K. (2005). Genitoanal injury in adult female victims of sexual assault. *Forensic Science International, 154*(2-3), 200-205. doi: 10.1016/j.forsciint.2004.10.010
- Hobman, E. V., Bordia, P., Irmer, B., & Chang, A. (2002). The expression of conflict in computer-mediated and face-to-face groups. *Small Group Research, 33*(4), 439-465.
- Hollingshead, A. B., McGrath, J. E., & O'Connor, K. M. (1993). Group task performance and communication technology. *Small Group Research, 24*(3), 307-312.
- Hollon, S. D., & Kendall, P. C. (1980). Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. *Cognitive Therapy and Research, 4*, 383-395.
- Holloway, M., & Swan, A. (1993). A & E management of sexual assault. *Nursing Standard, 7*(45), 31-35.
- Horton, T. V., & Wallander, J. L. (2001). Hope and social support as resilience factors against psychological distress of mothers who care for children with chronic physical conditions. *Rehabilitation Psychology, 46*, 382-389.
- Irving, L. M., Snyder, C. R., Cheavens, J., Gravel, L., Hanke, J., Hilberg, P., & Nelson, N. (2004). The relationships between hope and outcomes at the pretreatment, beginning, and later phases of psychotherapy. *Journal of Psychotherapy Integration, 14*(4), 419-443.
- Irving, L. M., Telfer, L., & Blake, D. D. (1997). Hope, coping, and social support in combat-related posttraumatic stress disorder. *Journal of Traumatic Stress, 10*(3), 465-479.
- Jackson, N. A. (2007). *Encyclopedia of domestic violence*. New York, NY: Taylor & Francis Group.

- Jaycox, L. H., Zoellner, L., & Foa, E. B. (2002). Cognitive-behavior therapy for PTSD in rape survivors. *Journal of Clinical Psychology, 58*(8), 891-906. doi: 10.1002/jclp.10065
- Joel, L. (2009). *Advanced practice nursing: Essentials of role development* (2nd ed.). Philadelphia, PA: F.A. Davis.
- Johnson, D. M., Zlotnick, C., & Perez, S. (2008). The relative contribution of abuse severity and PTSD severity on the psychiatric and social morbidity of battered women in shelters. *Behavior Therapy, 39*(3), 232-241. doi: 10.1016/j.beth.2007.08.003
- Johnstone, E. C., Owens, D. G., Frith, C. D., McPherson, K., Dowie, C., Riley, G., & Gold, A. (1980). Neurotic illness and its response to anxiolytic and antidepressant treatment. *Psychological Medicine, 10*(2), 321-328.
- Jones, A. S., Dienemann, J., Schollenberger, J., Kub, J., O'Campo, P., Gielen, A. C., & Campbell, J. C. (2006). Long-term costs of intimate partner violence in a sample of female hmo enrollees. *Womens Health Issues, 16*(5), 252-261. doi: 10.1016/j.whi.2006.06.007
- Jones, J. S., Wynn, B. N., Kroeze, B., Dunnuck, C., & Rossman, L. (2004). Comparison of sexual assaults by strangers versus known assailants in a community-based population. *The American Journal of Emergency Medicine, 22*(6), 454-459. doi: 10.1016/j.ajem.2004.07.020
- Jones, L., Hughes, M., & Unterstaller, U. (2001). Post-traumatic stress disorder (PTSD) in victims of domestic violence. *Trauma, Violence, & Abuse, 2*(2), 99-119. doi: 10.1177/1524838001002002001
- Jordan, C. E., Campbell, R., & Follingstad, D. (2010). Violence and women's mental health: The impact of physical, sexual, and psychological aggression. *Annual Review of Clinical*

- Psychology*, 6, 607-628.
- Karmen, A. (2009). *Crime victims : An introduction to victimology* (7th ed.). Belmont, CA: Wadsworth.
- Katz, J. E., Rice, R. E., & Aspden, P. (2001). The Internet, 1995-2000. *American Behavioral Scientist*, 45(3), 405-419.
- Kearns, M. C., Edwards, K. M., Calhoun, K. S., & Gidycz, C. A. (2010). Disclosure of sexual victimization: The effects of Pennebaker's emotional disclosure paradigm on physical and psychological distress. *Journal of Trauma & Dissociation*, 11(2), 193-209.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62(6), 593-602.
- Kidd, L., Hubbard, G., O'Carroll, R., & Kearney, N. (2009). Perceived control and involvement in self care in patients with colorectal cancer. *Journal of Clinical Nursing*, 18(16), 2292-2300.
- Kilpatrick, D., & Veronen, L. (1984). Treatment for rape-related problems: Crisis intervention is not enough. *Crisis intervention*, 165-185.
- Kilpatrick, D. G., Edmunds, C. N., & Seymour, A. (1992). Rape in America: A report to the nation. Arlington, VA: National Victim Center.
- Kilpatrick, D. G., Resick, P. A., & Veronen, L. J. (1981). Effects of a rape experience: A longitudinal study. *Journal of Social Issues*, 37(4), 105-122. doi: 10.1111/j.1540-4560.1981.tb01073.x
- Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and



- comorbidity: Results from the national survey of adolescents. *Journal of Consulting Clinical Psychology*, 71(4), 692-700.
- Kimerling, R., Rellini, A., Kelly, V., Judson, P. L., & Learman, L. A. (2002). Gender differences in victim and crime characteristics of sexual assaults. *Journal of Interpersonal Violence*, 17(5), 526-532. doi: 10.1177/0886260502017005003
- Klasik, A., Janas-Kozik, M., & Krupka-Matuszczyk, I. (2006). Influence of anxiety on cognitive functions' disturbances in adolescents and young adults diagnosed with paranoid schizophrenia. *Przegląd Lekarski*, 63 Suppl 1, 35-43.
- Koss, M. P. (Ed.). (1994). *The negative impact of crime victimization on women's health and medical use*. Thousand Oaks, CA: Sage.
- Koss, M. P., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., . . . White, J. (2007). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization *Psychology of Women Quarterly*. 33, 357-370.
- Koss, M. P., Figuerdo, A. J., & Prince, R. J. (2002). Mediator of rape's mental, physical, and social health impact: Teast of four models in cross-sectional data. *Journal of Consulting and Clinical Psychology*, 70, 926-941.
- Koss, M. P., & Gidycz, C. A. (1985). Sexual experiences survey: Reliability and validity. *Journal of Consulting Clinical Psychology*, 53(3), 422-423.
- Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting Clinical Psychology*, 55(2), 162-170.
- Krakow, B., Melendrez, D., Johnston, L., Warner, T. D., Clark, J. O., Pacheco, M., . . . Schrader, R. (2002). Sleep-disordered breathing, psychiatric distress, and quality of life impairment

- in sexual assault survivors. *Journal of Nervous and Mental Disorders*, 190(7), 442-452.  
doi: 10.1097/01.NMD.0000022444.23912.D2
- Krause, E. D., Kaltman, S., Goodman, L., & Dutton, M. A. (2006). Role of distinct PTSD symptoms in intimate partner reabuse: A prospective study. *Journal of Traumatic Stress*, 19(4), 507-516. doi: 10.1002/jts.20136
- Krause, E. D., Kaltman, S., Goodman, L. A., & Dutton, M. A. (2008). Avoidant coping and PTSD symptoms related to domestic violence exposure: A longitudinal study. *Journal of Traumatic Stress*, 21(1), 83-90. doi: 10.1002/jts.20288
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *Lancet*, 360(9339), 1083-1088. doi: 10.1016/S0140-6736(02)11133-0
- Lawrence, S., Chau, M., Lennon, M. C., Columbia University, & National Center for Children in Poverty. (2004). *Depression, substance abuse, and domestic violence: Little is known about co-occurrence and combined effects on low-income families*: National Center for Children in Poverty.
- Lawson, V., Bundy, C., Belcher, J., & Harvey, J. (2010). Mediation by illness perceptions of the effect of personality and health threat communication on coping with the diagnosis of diabetes. *British Journal Of Health Psychology*, 15(3), 623-642.
- Lazarus, R. S. (2000). Toward better research on stress and coping.
- Lazarus, R. S. (2006). *Stress and emotion: A new synthesis*. New York: Springer Publishing Company.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.
- Ledray, L. E. (1998). *Sexual Assault Nurse Examiner: Development and operation guide*. (NCJ

- 170609). Washington, D.C.: Office of Victims of Crimes.
- Ling, J. M., Mike, L. A., Rubin, J., Abraham, P., Howe, A., Patka, J., & Vigliotti, D. (2005). Documentation of pharmacist interventions in the emergency department. *American Journal of Health-System Pharmacy*, 62(17), 1793-1797. doi: 10.2146/ajhp040588
- Lipsky, S., Field, C. A., Caetano, R., & Larkin, G. L. (2005). Posttraumatic stress disorder symptomatology and comorbid depressive symptoms among abused women referred from emergency department care. *Violence and Victims*, 20(6), 645-659.
- Littleton, H. L. (2007). An evaluation of the coping patterns of rape victims: Integration with a schema-based information processing model. *Violence Against Women*, 13(8), 789-801.
- Littleton, H. L. (2010). The impact of social support and negative disclosure reactions on sexual assault victims: A cross-sectional and longitudinal investigation. *Journal of Trauma & Dissociation : The Official Journal of The International Society for the Study of Dissociation (ISSD)*, 11(2), 210-227.
- Logan, T. K., Cole, J., & Capillo, A. (2007). Sexual Assault Nurse Examiner program characteristics, barriers, and lessons learned. *Journal of Forensic Nursing*, 3(1), 24-34. doi: 10.1111/j.1939-3938.2007.tb00089.x
- Machlin, S. R. (2006). Expenses for a hospital emergency room visit, 2003. Statistical brief #111. Rockville, MD: Agency for Healthcare Research and Quality.
- Magnussen, L., Shoultz, J., Hansen, K., Sapolu, M., & Samifua, M. (2008). Intimate partner violence: Perceptions of samoan women. *Journal of Community Health*, 33(6), 389-394. doi: 10.1007/s10900-008-9110-z
- Marden, M. O., & Rice, M. J. (1995). The use of hope as a coping mechanism in abused women. *Journal of Holistic Nursing*, 13(1), 70-82.

- Margolin, G., & Gordis, E. B. (2000). The effects of family and community violence on children. *Annual Review of Psychology, 51*(1), 445-479.
- Martin, S. L., Young, S. K., Billings, D. L., & Bross, C. C. (2007). Health care-based interventions for women who have experienced sexual violence: A review of the literature. *Trauma, Violence & Abuse, 8*(1), 3-18. doi: 10.1177/1524838006296746
- Masho, S. W., & Ahmed, G. (2007). Age at sexual assault and posttraumatic stress disorder among women: Prevalence, correlates, and implications for prevention. *Journal of Womens Health, 16*(2), 262-271. doi: 10.1089/jwh.2006.M076
- Masho, S. W., Odor, R. K., & Adera, T. (2005). Sexual assault in virginia: A population-based study. *Women's Health Issues, 15*(4), 157-166. doi: 10.1016/j.whi.2005.04.001
- Mathew, R. J., Ho, B. T., Khan, M. M., Perales, C., Weinman, M. L., & Claghorn, J. L. (1982). True and pseudo cholinesterases in depression. *American Journal of Psychiatry, 139*(1), 125-127.
- Mayou, R., Bryant, B., & Ehlers, A. (2001). Prediction of psychological outcomes one year after a motor vehicle accident. *American Journal of Psychiatry, 158*(8), 1231-1238.
- McGregor, M. J., Du Mont, J., & Myhr, T. L. (2002). Sexual assault forensic medical examination: Is evidence related to successful prosecution? *Annals of Emergency Medicine, 39*(6), 639-647. doi: 10.1067/mem.2002.123694
- Meadows, L. A., Kaslow, N. J., Thompson, M. P., & Jurkovic, G. J. (2005). Protective factors against suicide attempt risk among African American women experiencing intimate partner violence. *American Journal of Community Psychology, 36*(1-2), 109-121. doi: 10.1007/s10464-005-6236-3
- Messman-Moore, T. L., & Long, P. J. (2000). Child sexual abuse and revictimization in the form

- of adult sexual abuse, adult physical abuse, and adult psychological maltreatment. *Journal of Interpersonal Violence*, 15(5), 489-502. doi: 10.1177/088626000015005003
- Miller, J. F., & Powers, M. J. (1988). Development of an instrument to measure hope. *Nursing Research*, 37(1), 6-10.
- Miller, S. M. (1979). Coping with impending stress: Psychophysiological and cognitive correlates of choice. *Psychophysiology*, 16(6), 572-581.
- Miller, T., Cohen, M., & Wierseman, B. (1996). Victims costs & consequences: A new look. Washington, D.C.: National Institute of Justice.
- Moser, D. K., Riegel, B., McKinley, S., Doering, L. V., Meischke, H., Heo, S., . . . Dracup, K. (2009). The control attitudes scale-revised: Psychometric evaluation in three groups of patients with cardiac illness. *Nursing Research*, 58(1), 42-51. doi: 10.1097/NNR.0b013e3181900ca000006199-200901000-00006
- Munro, B. (2005). *Statistical methods for health care research* (5th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Najdowski, C. J., & Ullman, S. E. (2009). PTSD symptoms and self-rated recovery among adult sexual assault survivors: The effects of traumatic life events and psychosocial variables *Psychology of Women Quarterly*, 33(1), 43-53. doi: 10.1111/j.1471-6402.2008.01473.x
- Neville, H. A., & Heppner, M. J. (1999). Contextualizing rape: Reviewing sequelae and proposing a culturally inclusive ecological model of sexual assault recovery. *Applied and Preventive Psychology*, 8(1), 41-62. doi: 10.1016/s0962-1849(99)80010-9
- North, C. S., Suris, A. M., Davis, M., & Smith, R. P. (2009). Toward validation of the diagnosis of posttraumatic stress disorder. *American Journal of Psychiatry*, 166(1), 34-41.
- O'Brien, C. (1996). Sexual Assault Nurse Examiner (SANE) program coordinator. *Journal Of*

- Emergency Nursing*, 22(6), 532-533.
- O'Campo, P., Kub, J., Woods, A., Garza, M., Jones, S., Gielen, A., . . . Campbell, J. (2006). Depression, PTSD, and comorbidity related intimate partner violence in civilian and military women. *Brief Treatment and Crisis Intervention*, 6(2), 99-110.
- Pazzani, L. M. (2007). The factors affecting sexual assaults committed by strangers and acquaintances. *Violence Against Women*, 13(7), 717-749. doi: 10.1177/1077801207302699
- Perez, S., & Johnson, D. M. (2008). PTSD compromises battered women's future safety. *Journal of Interpersonal Violence*, 23(5), 635-651. doi: 10.1177/0886260507313528
- Pertl, M., Hevey, D., Thomas, K., Craig, A., Ní Chuinneagáin, S., & Maher, L. (2010). Differential effects of self-efficacy and perceived control on intention to perform skin cancer-related health behaviours. *Health Education Research*, 25(5), 769-779. doi: 10.1093/her/cyq031
- Peters, J. J. (1975). Social, legal, and psychological effects of rape on the victim. *Pennsylvania Medicine*, 78(2), 34-42.
- Peterson, C. (2000). The future of optimism. *American Psychologist*, 55(1), 44-55.
- Pico-Alfonso, M. A., Garcia-Linares, M. I., Celda-Navarro, N., Blasco-Ros, C., Echeburua, E., & Martinez, M. (2006). The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: Depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of Women's Health*, 15(5), 599-611. doi: 10.1089/jwh.2006.15.599
- Plichta, S. B., & Falik, M. (2001). Prevalence of violence and its implications for women's health. *Womens Health Issues*, 11(3), 244-258.

- Polit, D. F., & Beck, C. T. (2004). *Nursing research: Principles and methods* (7th ed.). Philadelphia, PA: Lippincott Williams and Wilkins.
- Popenoe, D., & Whitehead, R. D. (2005). The state of our unions *National Marriage Project*. Piscataway, NJ: Rutgers University.
- Price, L., Maddocks, A., Davies, S., & Griffiths, L. (2002). Somatic and psychological problems in a cohort of sexually abused boys: A six year follow up case-control study. *Archives of Disease in Childhood*, *86*(3), 164-167.
- Ranchor, A. V., Wardle, J., Steptoe, A., Henselmans, I., Ormel, J., & Sanderman, R. (2010). The adaptive role of perceived control before and after cancer diagnosis: A prospective study. *Social Science & Medicine*, *70*(11), 1825-1831. doi: 10.1016/j.socscimed.2009.10.069
- Rauch, S. A. M., & Foa, E. B. (2007). Chapter 5: Post-traumatic stress disorder. D. J. Nutt & J. C. Ballenger (Eds.), *Anxiety disorders*. Oxford, UK: Blackwell Science, Ltd.  
doi: 10.1002/9780470986844.ch5
- Reeves, C., & O'Leary-Kelly, A. M. (2007). The effects and costs of intimate partner violence for work organizations. *Journal of Interpersonal Violence*, *22*(3), 327-344. doi: 10.1177/0886260506295382
- Resick, P. A., Jordan, C. G., Girelli, S. A., Hutter, C. K., & Marhoefer-Dvorak, S. (1988). A comparative outcome study of behavioral group therapy for sexual assault victims. *Behavior Therapy*, *19*(3), 385-401.
- Resick, P. A., & Schnicke, M. K. (1993). *Cognitive processing therapy for rape victims: A treatment manual* (Vol. 4): New York: Sage Publications, Inc.
- Resnick, B., Bellg, A. J., Borrelli, B., Defrancesco, C., Breger, R., Hecht, J., . . . Czajkowski, S. (2005). Examples of implementation and evaluation of treatment fidelity in the bcc

- studies: Where we are and where we need to go. *Annals of Behavioral Medicine*, 29 Suppl, 46-54. doi: 10.1207/s15324796abm2902s\_8
- Riggs, N., Houry, D., Long, G., Markovchick, V., & Feldhaus, K. M. (2000). Analysis of 1,076 cases of sexual assault. *Annals of Emergency Medicine*, 35(4), 358-362. doi: 10.1016/s0196-0644(00)70054-0
- Rivara, F. P., Anderson, M. L., Fishman, P., Bonomi, A. E., Reid, R. J., Carrell, D., & Thompson, R. S. (2007). Healthcare utilization and costs for women with a history of intimate partner violence. *American Journal of Preventive Medicine*, 32(2), 89-96. doi: 10.1016/j.amepre.2006.10.001
- Roberts, G. L., Williams, G. M., Lawrence, J. M., & Raphael, B. (1998). How does domestic violence affect women's mental health? *Womens Health*, 28(1), 117-129.
- Rothbaum, B. O., Astin, M. C., & Marsteller, F. (2005). Prolonged exposure versus Eye Movement Desensitization And Reprocessing (EMDR) for PTSD rape victims. *Journal of Traumatic Stress*, 18(6), 607-616.
- Roy-Byrne, P. P., Russo, J., Michelson, E., Zatzick, D., Pitman, R. K., & Berliner, L. (2004). Risk factors and outcome in ambulatory assault victims presenting to the acute emergency department setting: Implications for secondary prevention studies in PTSD. *Depression and Anxiety*, 19(2), 77-84. doi: 10.1002/da.10132
- Rutledge, T., Linke, S. E., Krantz, D. S., Johnson, B. D., Bittner, V., Eastwood, J. A., . . . Bairey Merz, C. N. (2009). Comorbid depression and anxiety symptoms as predictors of cardiovascular events: Results from the NHLBI-sponsored Women's Ischemia Syndrome Evaluation (Wise) Study. *Psychosomatic Medicine*. doi: 10.1097/PSY.0b013e3181bd6062



- Salomon, A., Bassuk, S. S., & Huntington, N. (2002). The relationship between intimate partner violence and the use of addictive substances in poor and homeless single mothers. *Violence Against Women, 8*, 785-815.
- Samelius, L., Wijma, B., Wingren, G., & Wijma, K. (2010). Lifetime history of abuse, suffering and psychological health. *Nordic Journal of Psychiatry, 64*(4), 227-232. doi: 10.3109/08039480903478680
- Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: Development of the life experiences survey. *Journal of Consulting and Clinical Psychology, 46*(5), 932-946.
- Sarkar, N. N. (2008). The impact of intimate partner violence on women's reproductive health and pregnancy outcome. *Journal of Obstetrics and Gynaecology, 28*(3), 266-271. doi: 10.1080/01443610802042415
- Saunders, B. E., Arata, C. M., & Kilpatrick, D. G. (1990). Development of a crime-related post-traumatic stress disorder scale for women within the symptom checklist-90-revised. *Journal of Traumatic Stress, 3*(3), 439-448. doi: 10.1007/bf00974783
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*(3), 219-235.
- Schnurr, P. P., & Green, B. L. (Eds.). (2004). *Trauma and health: Physical health consequences of exposure to extreme stress*. Washington, D.C.: American Psychological Association.
- Schrank, B., Stanghellini, G., & Slade, M. (2008). Hope in psychiatry: A review of the literature. *Acta Psychiatrica Scandinavica, 118*(6), 421-433. doi: 10.1111/j.1600-0447.2008.01271.x
- Seifert, D., Lambe, A., Anders, S., Pueschel, K., & Heinemann, A. (2009). Quantitative analysis

- of victim demographics and injury characteristics at a metropolitan medico-legal center. *Forensic Science International*, 188(1-3), 46-51. doi: 10.1016/j.forsciint.2009.03.011
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. *American Psychologist*, 55(1), 5-14.
- Shiple, R. H., Butt, J. H., & Horwitz, E. A. (1979). Preparation to reexperience a stressful medical examination: Effect of repetitious videotape exposure and coping style. *Journal of Consulting and Clinical Psychology*, 47(3), 485-492.
- Smith, D. K., Grohskopf, L. A., Black, R. J., Auerbach, J. D., Veronese, F., Struble, K. A., . . . Greenberg, A. E. (2005). Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other nonoccupational exposure to HIV in the United States: Recommendations from the U.S. Department of health and human services. *Morbidity and Mortality Weekly Report - Recommendations and Reports* 2005/01/22. Retrieved RR-2, 54, from [http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list\\_uids=15660015](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15660015)
- Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York: Free Press
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13(4), 249-275.
- Snyder, C. R. (Ed.). (2000). *A new model of hope*. New York: Academic Press.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., . . . Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60(4), 570-

585.

Snyder, C. R., Michael, S.T., & Cheavens, J.S. (Ed.). (1999). *Hoping*. New York: Oxford University Press.

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State hope scale. *Journal of Personality and Social Psychology*, 70(2), 321-335.

Spataro, J., Mullen, P. E., Burgess, P. M., Wells, D. L., & Moss, S. A. (2004). Impact of child sexual abuse on mental health: Prospective study in males and females. *The British Journal of Psychiatry*, 184(5), 416-420.

Spielberger, C., & Gorsuch, R. (1966). The development of the state-trait anxiety inventory. *CD Spielberger & RL Gorsuch, Mediating processes in verbal conditioning. Final report to the National Institutes of Health, US Public Health Service on Grants MH-7229, MH-7446, and HD-947.*

Spielberger, C. D. (1972). *Anxiety: Current trends in theory and research: I*. Oxford: Oxford Academic Press.

Spielberger, C. D. (1979). *Understanding stress and anxiety*. New York: Harper & Row Nova Iorque.

Spielberger, C. D., Anton, W. D., & Bedell, J. (1976). The nature and treatment of test anxiety. Emotions and anxiety: New concepts, methods, and applications. M. Zuckerman & C. D. Spielberger (Eds.), *Emotions and anxiety: New concepts, methods, and applications*. Oxford: Oxford Academic Press.

Starks, P. T., & Blackie, C. A. (2000). The relationship between serial monogamy and rape in the United States (1960-1995). *Proceedings. Biological Sciences/The Royal Society*,

- 267(1449), 1259-1263. doi: 10.1098/rspb.2000.1136
- Stein, M. B., & Kennedy, C. (2001). Major depressive and post-traumatic stress disorder comorbidity in female victims of intimate partner violence. *Journal of Affective Disorders, 66*(2-3), 133-138. doi: 10.1016/S0165-0327(00)00301-3
- Stein, M. B., Lang, A. J., Laffaye, C., Satz, L. E., Lenox, R. J., & Dresselhaus, T. R. (2004). Relationship of sexual assault history to somatic symptoms and health anxiety in women. *General Hospital Psychiatry, 26*(3), 178-183. doi: 10.1016/j.genhosppsy.2003.11.003
- Stermac, L. E., & Stirpe, T. S. (2002). Efficacy of a 2-year-old sexual assault nurse examiner program in a Canadian hospital. *Journal of Emergency Nursing, 28*(1), 18-23. doi: 10.1067/men.2002.119975 |
- Stotland, E. (1969). *The psychology of hope*. San Francisco: Jossey-Bass.
- Straight, J. D., & Heaton, P. C. (2007). Emergency department care for victims of sexual offense. *American Journal of Health-System Pharmacy, 64*(17), 1845-1850. doi: 10.2146/ajhp060346
- Sugar, N. F., Fine, D. N., & Eckert, L. O. (2004). Physical injury after sexual assault: Findings of a large case series. *American Journal of Obstetrics and Gynecology, 190*(1), 71-76. doi: 10.1016/s0002-9378(03)00912-8
- Sullivan, J., & Beech, A. (Eds.). (2003). *Are collectors of child abuse images a risk to children?* England, UK: The New Police Bookshop.
- Suris, A., Lind, L., Kashner, T. M., Borman, P. D., & Petty, F. (2004). Sexual assault in women veterans: An examination of PTSD risk, health care utilization, and cost of care. *Psychosomatic Medicine, 66*(5), 749-756. doi: 10.1097/01.psy.0000138117.58559.7b
- Sutherland, C., Bybee, D., & Sullivan, C. (1998). The long-term effects of battering on women's

- health. *Womens Health*, 4(1), 41-70.
- Sutherland, S., & Scherl, D. J. (1970). Patterns of response among rape victims. *American Journal of Orthopsychiatry*, 40(3), 503-511. doi: 10.1111/j.1939-0025.1970.tb00708.x
- Symes, L. (2000). Arriving at readiness to recover emotionally after sexual assault. *Archives of Psychiatric Nursing*, 14(1), 30-38.
- Taft, C. T., Resick, P. A., Panuzio, J., Vogt, D. S., & Mechanic, M. B. (2007). Coping among victims of relationship abuse: A longitudinal examination. *Violence and Victims*, 22(4), 408-418.
- Tansey, C. M., Matte, A. L., Needham, D., & Herridge, M. S. (2007). Review of retention strategies in longitudinal studies and application to follow-up of icu survivors. *Intensive Care Medicine*, 33(12), 2051-2057. doi: 10.1007/s00134-007-0817-6
- Thompson, S. C., & Schlehofer, M. M. (2008). The many sides of control motivation. *Handbook of motivation science*, New York: The Galford Press.
- Thuen, F., & Rise, J. (2006). Psychological adaptation after marital disruption: The effects of optimism and perceived control. *Scandinavian Journal of Psychology*, 47(2), 121-128. doi: 10.1111/j.1467-9450.2006.00499.x
- Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*.
- Tjaden, J., & Thoennes, N. (1999). Prevalence, incidence, and consequences of intimate partner violence against women: Findings from the National Violence Against Women Survey. Atlanta: Centers for Disease Control and Prevention.
- Tjaden, P., & Thoennes, N. (1998). Full report of the prevalence, incidence, and consequences of

- violence against women: Findings from the National Violence Against Women Survey. Washington, D. C.: U.S. Department of Justice.
- Tjaden, P., & Thoennes, N. (2006). Extent, nature and consequences of rape victimization: Findings from the national violence against women survey. Washington: DC: U.S. Department of Justice.
- Tjaden, P., Thoennes, N., & Allison, C. J. (2000). Comparing stalking victimization from legal and victim perspectives. *Violence and Victims, 15*(1), 7-22.
- Tollett, J. H., & Thomas, S. P. (1995). A theory-based nursing intervention to instill hope in homeless veterans. *Advances in Nursing Science, 18*(2), 76-90.
- Trochim, D., & Donnelly, J. P. (2007). *The research methods knowledge base*. Mason, OH: Atomic Dog Publishing.
- U. S. Department of Justice. (2011). Uniform crime reports 2010, 2011, from <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/preliminary-annual-ucr-jan-dec-2010/data-tables/table-3>
- U.S. Census Bureau, P. D. (2010). Table 2. Annual estimates of the resident population by sex and age for the United States, April 1, 2000 to July 1, 2009 (sc-est2009-02-34). Retrieved August 6, 2010, from [http://factfinder.census.gov/servlet/DTable?\\_bm=y&-geo\\_id=01000US&-ds\\_name=PEP\\_2009\\_EST&-\\_lang=en&-redoLog=false&-mt\\_name=PEP\\_2009\\_EST\\_G2009\\_T008\\_2009&-format=&-CONTEXT=dt](http://factfinder.census.gov/servlet/DTable?_bm=y&-geo_id=01000US&-ds_name=PEP_2009_EST&-_lang=en&-redoLog=false&-mt_name=PEP_2009_EST_G2009_T008_2009&-format=&-CONTEXT=dt)
- U.S. Department of Justice Office of Justice Programs. (2008). 2008 National Crime Victimization Study.
- Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2007). Psychosocial correlates of PTSD symptom severity in sexual assault survivors. *Journal of Traumatic*

*Stress*, 20(5), 821-831. doi: 10.1002/jts.20290

Ullman, S. E., Townsend, S. M., Filipas, H. H., & Starzynski, L. L. (2007). Structural models of the relations of assault severity, social support, avoidance coping, self blame, and PTSD among sexual assault survivors. *Psychology of Women Quarterly*, 31(1), 23-37.

United Nations Children's Fund (UNICEF) Innocenti Research Center. (2000). Violence against women and girls. *Innocenti Digest*(6), 2-10.

Upchurch, D. M., & Kusunoki, Y. (2004). Associations between forced sex, sexual and protective practices, and sexually transmitted diseases among a national sample of adolescent girls. *Women's Health Issues*, 14(3), 75-84. doi: 10.1016/j.whi.2004.03.006

Valentiner, D. P., Foa, E., Riggs, D. S., & Gershuny, B. S. (1996). Coping strategies and posttraumatic stress disorder in female victims of sexual and nonsexual assault. *Journal of Abnormal Psychology*, 105(3), 455-458.

van Middendorp, H., Geenen, R., Sorbi, M., Hox, J., Vingerhoets, A., van Doornen, L., & Bijlsma, J. (2005). Styles of emotion regulation and their associations with perceived health in patients with rheumatoid arthritis. *Annals of Behavioral Medicine*, 30(1), 44-53. doi: 10.1207/s15324796abm3001\_6

Vandemark, L. M., & Mueller, M. (2008). Mental health after sexual violence: The role of behavioral and demographic risk factors. *Nursing Research*, 57(3), 175-181. 10.1097/01.NNR.0000319498.44499.5300006199-200805000-00008

Vickerman, K. A., & Margolin, G. (2009). Rape treatment outcome research: Empirical findings and state of the literature. *Clinical Psychology Review*, 29(5), 431-448. doi: 10.1016/j.cpr.2009.04.004

- Vieweg, W. V., Julius, D. A., Fernandez, A., Tassone, D. M., Narla, S. N., & Pandurangi, A. K. (2006). Posttraumatic stress disorder in male military veterans with comorbid overweight and Obesity: Psychotropic, Antihypertensive, And Metabolic Medications. *The Primary Care Companion To The Journal Of Clinical Psychiatry*, 8(1), 25-31.
- Vollman, M. W., LaMontagne, L. L., & Wallston, K. A. (2009). Existential well-being predicts perceived control in adults with heart failure. *Applied Nursing Research*, 22(3), 198-203.
- Von Richthofen, C. L., & Mellor, C. S. (1980). Electrosleep therapy: A controlled study of its effects in anxiety neurosis. *Canadian Journal of Psychiatry*, 25(3), 213-219.
- Wallston, K. A. (1997). Perceived control and health behaviour. In A. Baum (Ed.), *Cambridge handbook of psychology, health, and medicine* (pp. 151–154). Cambridge: Cambridge University Press.
- Wallston, K. A., Wallston, B. S., Smith, S., & Dobbins, C. (1987). Perceived control and health. *Current Psychological Research*, 6, 5-25.
- Weaver, T. L., & Clum, G. A. (1995). Psychological distress associated with interpersonal violence: A meta-analysis. *Clinical Psychology Review*, 15, 115-140.
- Weaver, T. L., & Clum, G. A. (1996). Interpersonal violence: Expanding the search for long-term sequelae within a sample of battered women. *Journal of Traumatic Stress*, 9(4), 783-803.
- Winfield, I., George, L. K., Swartz, M., & Blazer, D. G. (1990). Sexual assault and psychiatric disorders among a community sample of women. *American Journal of Psychiatry*, 147(3), 335-341.
- Workowski, K. A., & Berman, S. M. (2006). Sexually transmitted diseases treatment guidelines, 2006. *Morbidity and Mortality Weekly Report - Recommendations and Reports*, 55(RR-



11), 1-94.

World Health Organization. (2005). WHO mult-country study on women's health and domestic violence against women: Summary report of initial results on prevalence, health outcomes, and women's responses. Geneva: World Health Organization.

World Health Organization. (2010). Depression: What is depression. Retrieved July 3, 2010, from [http://www.who.int/mental\\_health/management/depression/definition/en/](http://www.who.int/mental_health/management/depression/definition/en/)

Wright, K. (2000). Computer-mediated social support, older adults, and coping. *Journal of Communication, 50*(3), 100-118. doi: 10.1111/j.1460-2466.2000.tb02855.x

Wright, K. B. (2004). On-line relational maintenance strategies and perceptions of partners within exclusively internet-based and primarily internet-based relationships. *Communication Studies, 55*(2), 239-253.

Wright, K. B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), 00. doi: 10.1111/j.1083-6101.2005.tb00259.x

Yalom, I. D. (1995). *The theory and practice of group psychotherapy*. Washington: American Psychiatric Press.

Zaers, S., Waschke, M., & Ehlert, U. (2008). Depressive symptoms and symptoms of post-traumatic stress disorder in women after childbirth. *Journal of Psychosomatic Obstetrics and Gynaecology, 29*(1), 61-71. doi: 10.1080/01674820701804324

Zinzow, H. M., Resnick, H. S., McCauley, J. L., Amstadter, A. B., Ruggiero, K. J., & Kilpatrick, D. G. (2010). The role of rape tactics in risk for posttraumatic stress disorder and major depression: Results from a national sample of college women. *Depression and Anxiety,*

27(8), 708-715. doi: 10.1002/da.20719

Zlotnick, C., Johnson, D. M., & Kohn, R. (2006). Intimate partner violence and long-term psychosocial functioning in a national sample of American women. *Journal of Interpersonal Violence, 21*(2), 262-275. doi: 10.1177/0886260505282564