

ABSTRACT

Title of Document: EXAMINING POTENTIAL MECHANISMS
FOR INCREASING EMOTIONAL
WILLINGNESS

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Research has demonstrated that women who have experienced a rape are at an increased risk for developing subsequent psychological and behavioral consequences (e.g., mood disturbances, anxiety symptoms, substance abuse). More recently, it has been suggested that an unwillingness to experience negative emotions may contribute to these adverse consequences. One proposed strategy for increasing emotional willingness, and thereby decreasing these psychological and behavioral consequences, is to increase acceptance of one's emotional experiences. This investigation examined whether an experimental manipulation designed to increase emotional acceptance resulted in greater emotional willingness among rape survivors. Participants consisted of 38 women who experienced a rape since the age of 18. Participants were assigned to one of three conditions (acceptance, distraction, time control) and instructed to practice the skills provided during the session and record their experiences for a week. At the end of this week, participants' emotional willingness and ability to engage in functional behaviors when distressed were assessed by a trauma-relevant, distressing behavioral task. Participants also

completed a self-report measure to assess for emotional willingness. Although group conditions did not differ in emotional willingness as assessed by the behavioral task, the acceptance and the time control conditions reported significantly greater increase in emotional willingness as compared to the distraction condition. Furthermore, findings suggested that differences in emotional willingness may be partially mediated by self-report non-reactivity to emotional experiences for the acceptance condition. Time control condition demonstrated decreased ability to engage in a goal-directed behavior when distressed whereas the acceptance and distraction condition did not. Finally, results suggest that distraction skills may be perceived as less tolerable based on greater non-completer rates and lower rated agreement with provided skills as compared to acceptance skills. Implications and future directions are further discussed.

EXAMINING POTENTIAL MECHANISMS FOR INCREASING
EMOTIONAL WILLINGNESS

By

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Dedication

Mom and Dad—This is for you.

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Chapter 1: Introduction

Proposal Overview, Specific Aims, and Study Hypotheses

Women who have experienced a rape are at an increased risk of developing subsequent psychological and behavioral consequences such as mood disturbances, anxiety symptoms, and substance abuse. Recent research has suggested that an unwillingness to experience negative emotions may contribute to these psychological and behavioral consequences of rape. Specifically, the unwillingness to experience these emotions (and subsequent avoidance of these emotions) is thought to increase the likelihood for adverse consequences, either as a direct result of a failed attempt to avoid the emotion (e.g., depression, anxiety) or as an attempt to avoid the emotion *per se* (e.g., through substance use). To increase the willingness to experience these negative emotions (i.e., emotional willingness), and thereby decreasing problematic behaviors and symptoms, researchers have suggested the utility of increasing acceptance of one's emotional experiences. Given that rape survivors are particularly at risk for these negative emotions and problematic behaviors and symptoms, it would be important to examine if acceptance can serve as a strategy for increasing emotional willingness among this population. Therefore, the purpose of this investigation is to examine whether an experimental manipulation designed to increase emotional acceptance results in greater emotional willingness to experience negative emotions among rape survivors (compared to other conditions). To examine this question, women who survived a rape were assigned to one of three conditions (acceptance, distraction, time control) and instructed to practice skills provided during the session for a week (for the acceptance and distraction condition) and monitor and record their

responses to negative emotions (all three conditions). At the second session, participants completed both a self-report questionnaire and a behavioral task designed to assess emotional willingness. For the behavioral task, participants were exposed to a trauma-relevant, distressing video clip, about which they were later quizzed. Following several minutes of exposure to the video clip, participants were provided with the option to terminate the video at any time (although doing so would negatively influence their performance on the quiz). The conditions were compared to examine the extent to which the acceptance condition evidenced greater emotional willingness as indexed by a longer latency to terminate the video and greater emotional willingness as assessed by self-report measure. In addition, in order to examine the extent to which acceptance facilitates functional behaviors during times of distress, the conditions were compared on the accuracy of their answers to the quiz about the video. To provide an equivalent comparison across participants, only questions pertaining to what the participant actually viewed were used to determine accuracy rates.

Primary Aims

To examine between-group differences in emotional willingness. This was examined through a behavioral measure and a self-report questionnaire. It was hypothesized that compared to rape survivors in the distraction or control conditions, rape survivors in the emotional acceptance condition would demonstrate:

1. longer persistence times on a trauma-specific, emotionally distressing, behavioral task

2. greater emotional willingness as indexed by a self-report questionnaire

To examine between-group differences in the ability to engage in goal-directed behaviors (i.e., attending to the content of a film clip) when exposed to emotionally distressing stimuli. It was hypothesized that compared to rape survivors in the distraction or control conditions, rape survivors in the emotional acceptance condition would demonstrate:

1. higher accuracy rates on a quiz pertaining to material presented during a trauma-specific, emotionally distressing, film clip.

Secondary Aim

To examine the role of emotional acceptance (as indexed by self-report measures) as a mechanism of any group differences in emotional willingness.

Prevalence and Demographics of Sexual Assault

Sexual assault represents a serious public health concern in our society and includes a range of acts involving unwanted sexual contact, such as completed or attempted rape, sexual coercion through misuse of authority or menacing verbal pressure, and unwanted fondling or kissing (Koss & Dinero, 1989). Within the literature, the term sexual assault is generally used to represent the broad spectrum of unwanted sexual contact. The term rape refers to one specific form of unwanted sexual experience, typically defined as involving the use of force or threat of force, or an incident when the offender substantially impairs the other person's judgment or

control by administering any drug or intoxicant with the purpose of preventing resistance, to engage in vaginal or anal intercourse, fellatio, or cunnilingus with any amount of penetration (Gidycz, Coble, Latham, & Layman, 1993; Koss & Dinero, 1989) (although not all investigators include acts where the female was unable to give consent; e.g., due to being intoxicated, see Kilpatrick et al., 1985; Kilpatrick, Acierno, Resick, Saunders, & Best, 1997). In this review, the term sexual assault will be used when discussing the broad range of unwanted sexual contact and the term rape will be used in instances involving rape only (as defined above).

Sexual assault continues to occur at high rates in our society with prevalence rates suggesting that approximately 13-38% of women will experience sexual assault at some point in their lifetimes. This range of prevalence rates is due in part to varying sample characteristics, methodologies, and inclusion criteria that have yielded different rates of adult sexual assault. Several studies have examined sexual assault prevalence rates in large community samples. The results of large epidemiologic studies conducted in the Los Angeles area have suggested that 13.5% of women have experienced sexual assault during adulthood (Sorenson, Stein, Siegel, Golding, & Burnam, 1987). Data taken from the National Comorbidity Survey (NCS) reported considerably higher rates of sexual assault, with 34.1% of women endorsing the occurrence of an assault since the age of 14 (Ullman & Brecklin, 2003). Results from a questionnaire study sent to a stratified random sample of the general population reported that 22% of women respondents had experienced unwanted sexual contact as an adult (Elliott, Mok, & Briere, 2004). Related to rape specifically, studies utilizing random digit dialing with subsequent phone interviews reported that

14.5% of the women reported at least one attempted or completed rape (Kilpatrick et al., 1985; Kilpatrick, Veronen, & Best, 1984). In comparison, results based on in-person interviews conducted with a randomly selected sample of women reported higher rates, with 24% of these participants endorsing at least one completed rape and an additional 31% at least one attempted rape (Russell, 1984). Clinical samples have reported rates comparable with results from community samples. Investigations from psychiatric hospital settings have reported that 36.9% of female patients had experienced attempted or completed rape since the age of 17 years (Briere, Woo, McRae, Foltz, & Sitzman, 1997) and, comparably, 38% of women reported some act of sexual abuse since the age of 17 years (Jacobson & Richardson, 1987).

Research indicates that prevalence rates in college samples are comparable to community samples. For example, among a sample of 3,187 women enrolled in universities and colleges across the United States, 15.4% had met criteria for the legal definition of rape and an additional 12.1% had experienced attempted rape since the age of 14 years (Koss, Gidycz, & Wisniewski, 1987). Additionally, 83 per 1,000 women had experienced rape within the previous six months. A later prospective study of 857 university women found that 13.8% retrospectively endorsed a completed rape and 12.5% endorsed an attempted rape since the age of 14 years (Gidycz et al., 1993). During a nine week period following the initial interview, 3.7% of women within the sample experienced completed rape and an additional 3.4% of the sample experienced attempted rape.

Demographic variables such as age, race/ethnicity, and socioeconomic status have been examined as possible risk factors for sexual assault. In comparing risk of

sexual assault across age groups, studies have found that young women are at greatest risk. Concerning completed rapes, rapes involving women aged 18-21 occur most frequently, followed by women 22-24 years old (U.S. Department of Justice, 1997). These two age groups together comprised 35% of all rapes (U.S. Department of Justice, 1997). Results of the 1995 National College Health Risk Behavior Survey (NCHRBS), conducted among a nationally representative sample of undergraduates (40% of whom were above the age of 24), reported that 37% of women endorsing an experience of forced sexual intercourse reported this happening between the ages of 17 and 20 (Brener, McMahon, Warren, & Douglas, 1999), suggesting that this is a critical time period for the occurrence of rape. This period of increased vulnerability also appears to extend to sexual assault in general. Results from the Los Angeles Epidemiologic Catchment Area (ECA) study have indicated that first assaults occur most frequently between the ages of 16 and 20 years and represent 34% of all sexual assaults (Burnam et al., 1988). Taken together, findings from these studies indicate that sexual assault occurs at relatively high rates and is particularly common among young adult women. In contrast to these findings about at-risk age groups, the literature has failed to find consistent evidence that rates of sexual assault differ across race or ethnicity, or socioeconomic status (Brener et al., 1999; Kilpatrick et al., 1997; Sorenson et al., 1987; Wyatt, 1992). Thus, these findings suggest that sexual assault is a relatively common experience, regardless of race or ethnicity, or socioeconomic status, particularly for young women.

Psychological Sequelae of Sexual Assault

Sexual assault has been associated with a variety of negative emotional, physical, and behavioral outcomes representing a wide range of symptoms of psychopathology. Indeed, Wyatt (1992) reported that over 85% of women who experienced attempted or completed rape during adulthood reported negative psychological effects, such as anger, fear, anxiety, depression, and preoccupation with the incident (severity was not assessed). Depressive symptoms following a rape experience are quite common, with studies indicating that, following a rape, 44% of women have reported moderate to severe depressive symptoms (Frank, Turner, & Duffy, 1979) and 75% have reported mild to severe depressive symptoms (Atkeson, Calhoun, Resick, & Ellis, 1982). These symptoms have been endorsed with higher frequency following a rape, compared to prior to the rape (Norris & Feldman-Summers, 1981). Other studies have found that rape survivors evidenced increased disturbances of mood (Kaltman, Krupnick, Stockton, Hooper, & Green, 2005; Kilpatrick, Veronen, & Resick, 1979), greater distress (Elliot et al., 2004; Kaltman et al., 2005; Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992), and higher anxiety (Frank & Anderson, 1987; Kaltman et al., 2005; Rothbaum et al., 1992) than women without a history of rape. Potentially as a response to this greater distress, rape survivors have been more likely to endorse suicidal ideation as compared to those without a history of rape (Briere et al., 1997; Kilpatrick et al., 1985).

In addition to considering symptoms of disorders, research investigations have examined rates of diagnosable disorders. Experiencing a sexual assault has been

suggested to increase a woman's likelihood of developing an initial episode of various psychological disorders by two to four times (Burnam et al., 1988). More specifically, rape survivors are at an increased likelihood to develop depressive disorders (Briere et al., 1997; Burnam et al., 1988; Frank & Anderson, 1987), anxiety disorders (i.e., panic, phobia, obsessive-compulsive, generalized anxiety, and post traumatic stress disorders) (Burnam et al., 1988; Frank & Anderson, 1987; Feuer, Nishith, & Resnick, 2005) than demographically matched women without a history of sexual assault. These elevated rates of psychiatric disorders, particularly anxiety and mood disorders, have been found among women with a history of completed rape even when compared to women who experienced other crimes such as robbery, burglary, and aggravated assault (Boudreaux, Kilpatrick, Resnick, Best, & Saunders, 1998), suggesting that rape may be a particularly traumatic event especially likely to increase the risk for psychological difficulties.

The psychological impact of a rape experience appears to be greatest within the first few months following the incident. Studies have assessed psychological symptoms in longitudinal investigations in rape survivors compared to women without a rape history to better identify the direct consequences of rape and how these unfold over time. Findings indicate that immediately following a rape, women are likely to experience a variety of adverse psychological consequences including elevated fear reactions (Calhoun, Atkeson, & Resick, 1982), depressive symptoms (Atkeson et al., 1982; Kilpatrick et al., 1979), distress levels (Kilpatrick et al., 1979), and anxiety levels (Kilpatrick et al., 1979), including meeting criteria for PTSD (Rothbaum et al., 1992). While some of these symptoms appear to ameliorate

somewhat by four months after the rape (Atkeson et al., 1982; Calhoun et al., 1982; Rothbaum et al., 1992), rape survivors continue to exhibit elevated rates of anxiety and depressive symptomatology (compared to women without a history of rape) for up to several years following the rape (Calhoun et al., 1982; Ellis, Atkeson, & Calhoun, 1981; Kilpatrick, Resick, & Veronen, 1981; Veronen & Kilpatrick, 1980).

In addition to adverse anxiety and mood changes, substance abuse has also been proposed as a consequence of rape. Studies have found that women endorsing a lifetime history of sexual abuse report higher rates of both alcohol and illicit substance abuse than women with no abuse history (Polusny & Follette, 1995). Other studies with women who experienced sexual assault as adults reported that these women are more likely to abuse alcohol or substances (Burnam et al., 1988; Briere et al., 1997), meet criteria for substance abuse (Frank and Anderson, 1987), and seek professional health services for substance use problems (Ullman & Brecklin, 2003) than women without this history. Although these studies demonstrate an association between sexual assault and substance abuse, the cross-sectional nature limits the ability to draw conclusions about directionality. However, findings from a longitudinal investigation suggest that sexual assault is associated with a subsequent increased likelihood of later substance abuse (Kilpatrick et al., 1997). Specifically, Kilpatrick and colleagues (1997) found that after controlling for previous assault history, previous drug use and alcohol abuse, and demographic variables, women who experienced a sexual assault were 2-3 times more likely to begin using drugs or abusing alcohol as compared to those who did not experience an assault. These

longitudinal results help establish that elevated rates of alcohol and substance use may be a consequence of the assault experience.

Although a history of childhood sexual abuse may increase the risk for adulthood victimization (thereby complicating determination of the cause of the observed psychological sequelae of adult victimization), several studies have demonstrated that an adult history of sexual assault is directly associated with current psychological impairment. For example, after controlling for childhood sexual assault, women with a history of adult sexual assault endorsed greater levels of psychological distress than those without an adult sexual assault (Elliott et al., 2004). A prospective investigation with college women found that only adult victimization (as opposed to adolescent or child sexual victimization) was directly related to current adjustment (Gidycz et al., 1993). Moreover, adult sexual assault has been associated with greater self-dysfunction (e.g., maladaptive efforts to regulate affect including substances, disrupted sense of self, disturbances in intimate relations) than child sexual victimization (Messman-Moore, Brown, & Koelsch, 2005). Further, one study failed to find a difference in history of lifetime psychiatric diagnoses between rape victims with a prior sexual assault, compared to rape victims without a prior assault experience (Frank & Anderson, 1987), suggesting that women with a history of prior victimization are not more likely to have a psychiatric disorder than women without a previous history of assault. As further support, college women with a single episode of adult sexual assault evidenced higher rates of diagnosable disorders than women who had experienced child sexual assault only or no assault at all (Kaltman et al., 2005). The results of these studies suggest that the difficulties associated with the

experience of sexual assault in adulthood are not simply the result of the residual consequences of childhood sexual abuse.

The aforementioned studies were conducted using either community or clinical samples. Investigations using college samples have found comparable results. College women who experienced a rape have been found to report higher levels of depressive symptoms than individuals with attempted assault or no history of assault (Harris & Valentiner, 2002), to be more likely to have considered suicide, and to be more likely to have engaged in binge drinking and marijuana use (Brenner et al., 1999) than women who had not been raped. In a prospective study using a sample of college women, women who experienced a sexual assault during college experienced an increase of anxiety and depressive symptoms as compared to women who did not experience an assault during this period (Gidycz et al., 1993). College women reporting a history of a single incident of sexual assault at an average age of 17 years exhibited significantly higher rates of intrusion and avoidance (symptoms of PTSD) and general distress than women without a history of sexual trauma (Kaltman et al., 2005). In addition, 75.8% of these women met criteria at some point in their lifetime for either acute stress disorder, posttraumatic stress disorder, major depressive disorder, or alcohol abuse or dependence. This rate was significantly greater than women who had experienced child sexual assault or women who had not experienced any assault. Together, these studies demonstrate that rape-related psychological consequences are not limited to clinical samples and are found in undergraduate populations.

The Role of Emotional Avoidance in Rape-related Psychological Consequences

Although the literature reviewed establishes that rape is associated with an increased likelihood of developing a variety of psychological consequences, these consequences do not characterize every woman with a rape history. Research efforts have attempted to identify factors that might increase the likelihood of developing these negative consequences. One construct that has been proposed as a vulnerability to the development of mood, anxiety, and substance use disturbances is experiential avoidance (Follette, Palm, & Hall, 2004; Polusny & Follette, 1995; Walser & Hayes, 2006). Experiential avoidance is defined as “the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioral predispositions) and takes steps to alter the form or frequency of these events and the contexts that occasion them” (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). This is a broad construct incorporating a variety of internal experiences, and encompassing both the unwillingness to experience these internal experiences and efforts to avoid or escape them. One large component of experiential avoidance is emotional unwillingness (i.e., the unwillingness to experience unwanted emotions) which is considered to underlie avoidance and escape behaviors (Breslin, Zack, McMain, 2002).

Many of the consequences of rape may be conceptualized as attempts to avoid or escape unwanted internal experiences, particularly emotions. Behaviors reported by sexual trauma survivors include self-harming behaviors (Briere & Runtz, 1993; Browne & Finkelhor, 1986), dissociation (Anderson, Yassenik, & Ross, 1993; DiTomasso & Ruth), depersonalization, derealization, and detachment (Green &

Lindy, 1994), as well as active avoidance of reminders associated with the trauma event (Green & Lindy, 1994). As discussed previously, rape survivors have also been found to be at a greater risk for substance abuse (which may be used to escape emotions). These behaviors may function to alleviate or avoid intolerable distress (Chapman, Gratz, & Brown, 2006; Cooper, Russell, Skinner, Frone & Mudar, 1992; Foa & Riggs, 1995; Hayes et al., 1996; Linehan, 1993; Polusny & Follette, 1995; Wagner & Linehan, 1998). For example, trauma survivors often report that substance use results in numbing the traumatic memories (Root, 1989), and alcohol has likewise been found to facilitate the ease of distressing internal experiences, and has been reported to be used by alcohol abusers primarily to deal with negative emotional states (Marlatt & Gordon, 1985).

Although attempts to avoid unwanted emotions and internal distress because of an unwillingness to experience them may serve a negatively reinforcing function by initially alleviating this emotional pain (Marcks & Woods, 2005), a growing body of research suggests that these strategies may be associated with adverse consequences. One such consequence of efforts to avoid or suppress internal experiences is a paradoxical increase in the frequency and intensity of these same experiences. Although a comprehensive examination of the literature on the paradoxical consequences of behaviors serving to avoid internal experiences is beyond the scope of this paper, the preponderance of evidence suggests that attempts to avoid internal experiences may, over time, result in a paradoxical increase in these experiences (see Salters-Pedneault, Tull, & Roemer, 2004 for a review). Of particular relevance to rape survivors, one study found that rape-related thoughts were increased

following instructions to suppress these thoughts in rape survivors with PTSD (Shipherd & Beck, 1999).

In addition to this increase of unwanted thoughts and feelings, the unwillingness to experience internal emotions, thoughts, and sensations has been conceptualized to result in psychological difficulties such as depression, anxiety, and posttraumatic stress disorder (Marx & Sloan, 2005; Polusny, Rosenthal, Aban, & Follette, 2004; Salters-Pedneault, Tull, & Roemer, 2004; Tull, Gratz, Salters, & Roemer, 2004; Tull & Roemer, 2003; Wegner & Zanakos, 1994) as well as increased psychiatric distress. A tendency to suppress thoughts has been associated with posttraumatic stress symptom severity (Steil & Ehlers, 2000; Tull et al., 2004), symptom persistence (Mayou, Ehlers, & Bryant, 2002), and PTSD diagnosis (Ehlers, Mayou, & Bryant, 1998). Actively suppressing intrusive thoughts has also been associated with greater distress about those thoughts, in comparison to a condition that was not instructed to suppress these thoughts (Marcks & Woods, 2005). With respect to emotional suppression, a tendency to use emotional avoidance as a coping strategy has been associated with greater general physical and psychological stress symptoms (Plumb, Orsillo, & Luterek, 2004; Wastell, 2002) and greater specific psychopathology (e.g., PTSD) beyond levels of general psychological distress (Plumb et al., 2004; Roemer, Litz, Orsillo, & Wagner, 2001). Attempts to control emotions are thought to lead to increased physiological responses which may further add to the person's distress (Salters-Pedneault et al., 2004). Moreover, although female sexual assault survivors may be more likely to use avoidant coping styles such as wishful thinking and attempted suppression of negative material to try to minimize the painful

emotions associated with the assault experienced (Polusny & Follette, 1995), these coping styles may increase the risk for posttraumatic symptomatology (Valentiner, Foa, Riggs, & Gershuny, 1996).

These findings help explain the ways in which avoidance or suppression of trauma-related internal experiences may increase the risk for the negative psychological consequences associated with rape. In addition, unwillingness to experience emotions may also interfere with engaging in meaningful activities and desired behaviors. That is, an unwillingness to experience negative emotions may necessitate avoidance of behaviors that could result in experiencing those negative emotions. Further, rigid and inflexible efforts to avoid emotions narrow an individual's attention, paradoxically requiring a focus on these unwanted emotions, rather than on external experiences that are meaningful to that individual. Thus, by consistently avoiding unwanted emotions, an individual is exposed to minimal opportunity for pursuing activities that would be fulfilling, and, as such, may end up feeling 'stuck,' and experiencing increased depressive or dysphoric symptoms. Moreover, the attentional resources required to continuously monitor for the presence of unwanted emotions may interfere with the ability to attend to other useful information presented in the environment. In sum, the avoidance of unwanted emotions not only is associated with greater distress, but may serve to decrease behavioral flexibility, interfere with behavior consistent with valued priorities, and limit attentional resources, all of which may result in decreased functionality.

Emotional Acceptance as a Strategy to Increase Emotional Willingness

One strategy proposed to increase the willingness to experience emotions is emotional acceptance. An emotional acceptance approach includes a non-judgmental stance toward one's emotions (Hayes, 1994; Linehan, 1993), and utilizes a present-moment focus to observe emotions as they are without attempting to alter their intensity (Walser & Hayes, 1998). This non-judgmental stance toward emotions has been incorporated into a growing number of acceptance-based therapies, including Dialectical Behavior Therapy (Linehan, 1993), Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999), Mindfulness-Based Cognitive Therapy (Segal, Williams, & Teasdale, 2002), Functional Analytic Psychotherapy (Kohlenberg & Tsai, 1991), Acceptance-Based Emotion Regulation Group Therapy (Gratz & Gunderson, 2006), Acceptance-Based Behavior Therapy for Generalized Anxiety Disorder (Roemer & Orsillo, 2005), and Integrative Behavioral Couple Therapy (Jacobson & Christensen, 1998).

One strategy for facilitating a non-judgmental stance towards unwanted, previously avoided emotions is to provide psychoeducation on the function of emotions (see Greenberg & Safran, 1989). Emotion researchers have concluded that humans are neurologically equipped to experience emotion and related expressive behaviors and are thus, emotions are “hard-wired” and biologically-based (Arnold, 1960; Greenberg & Safran, 1989; Leventhal, 1982). Therefore, emotions are not merely internal experiences, but adaptive action tendencies that convey information relevant to the individual and serve to motivate the individual to act (Greenberg & Safran, 1989). A distinction is also made between primary emotions and secondary

emotions, with primary emotional responses referring to the emotional responses that provide information about the environment (e.g., anger informs an individual that her/his rights have been violated, fear indicates potential danger/threat, etc.), and secondary emotional responses referring to emotional responses to the primary emotions (e.g., feeling angry with oneself for feeling sad; feeling ashamed about feeling angry, etc.). Whereas primary emotions are adaptive, promoting survival, optimal functioning, and effective engagement with one's environment, secondary emotional responses are not adaptive. Instead, secondary responses, influenced by learning history (e.g., messages received from parents, society, etc. about the value of emotions or how emotional situations should be handled), may increase distress and complicate understanding of the primary emotion. This clinical and theoretical literature suggests the potential importance of increasing understanding of the function of emotions and facilitating a non-judgmental stance toward one's internal experience; indeed, an increased understanding of the function of emotions and decreased judgments about these emotions may decrease efforts to avoid or escape emotions and increase emotional willingness.

It is worthwhile to specify the distinction between emotional acceptance as defined above and "emotion focused coping" which has been well studied. Emotion focused coping refers to a broad range of coping strategies designed to regulate the level of emotional distress (Chandler, Kennedy, & Sandhu, 2007) and often is based on a range of designated factors from the Multidimensional Coping Inventory (COPE; Carver, Scheier, & Weintraub, 1989). Research has found that emotion focused coping is often related to poorer mental health outcomes (Diehl, & Prout,

2002; Gil, 2005; Kennedy, Lowe, Grey, & Short, 1995; Kim, Greenberg, Seltzer, & Krauss, 2003). However, given discrepant findings within the emotion focused factors (some of which are inconsistent with the currently proposed emotional acceptance strategies), researchers have proposed use of the terms “approach focused” (e.g., problem-solving, thinking about one’s injury) and “avoidance focused” (e.g., mental disengagement, behavioral disengagement) which may better explain research findings (Chandler et al., 2007; Kennedy & Duff, 2006). Indeed, these proposed conceptualizations are consistent with rationale presented in this study (e.g., approaching painful emotions which may result in increased ability to engage in goal directed behaviors as compared to avoidance strategies). In fact, one study found that within the emotion focused coping factors, acceptance was negatively associated with posttraumatic symptom severity in a sample of firefighters (Dudek & Koniarek, 2003). Therefore, these literatures are not inconsistent with one another and may, in fact, be addressing similar underlying mechanisms.

The Current Study

Theoretical and empirical research has suggested that the avoidance of internal experiences such as emotions is associated with detrimental effects. Therapeutic approaches have incorporated acceptance-based strategies with the idea that these strategies will result in increased emotional willingness and decreased unwillingness/avoidance. However, to date, no studies have specifically examined if emotional acceptance indeed serves to increase emotional willingness.

In light of: (a) evidence indicating that the experience of rape can lead to negative psychological consequences, (b) literature suggesting that many of these consequences can be understood as resulting from the use of strategies to avoid unwanted emotions, and (c) literature suggesting that promoting an understanding of the function of emotions and facilitating a non-judgmental stance toward one's emotions may help to increase emotional willingness and decrease emotional avoidance, this study aims to examine if exposing rape survivors to an emotional acceptance manipulation (vs. two comparison conditions) will lead to greater willingness to experience emotional distress when exposed to an emotionally distressing film clip containing a trauma-specific scene (i.e., a scene of a woman being raped). Thus, this investigation represents an examination of a proposed strategy for increased emotional willingness among rape survivors. This increased willingness is considered to be a critical component of adaptive recovery from traumatic experiences, as this willingness may result in a decreased reliance on maladaptive behaviors and associated decrease in the negative consequences of these behaviors. Therefore, if this emotional acceptance strategy served to increase emotional willingness, this would provide support for the implementation of this strategy in treatment efforts with rape survivors.

Thus, the present study examined if an emotional acceptance manipulation (consisting of psychoeducation on the functionality of emotions, the distinction between primary and secondary emotional responses, and the utility of adopting a non-judgmental stance to one's emotions) resulted in greater emotional willingness (in comparison to a distraction manipulation and time control condition).

The following hypotheses were examined:

1. Compared to rape survivors in the distraction or time control conditions, rape survivors in the emotional acceptance condition will demonstrate greater emotional willingness as indexed by longer persistence times on a trauma-specific, emotionally distressing, behavioral task
2. Rape survivors in the acceptance condition will evidence greater changes in emotional willingness as indexed by a self-report questionnaire than survivors in the distraction or time control conditions.
3. Rape survivors will demonstrate higher accuracy rates on a quiz pertaining to material presented during a trauma-specific, emotionally distressing, film clip than rape survivors in distraction or time control conditions.
4. Self-reported emotional acceptance will account for the relationship between condition and emotional willingness (if found) as indexed by the behavioral task and a self-report measure.

Chapter 2: Methods

Subject Selection

This study consisted of 38 women who experienced a rape during adulthood (i.e., since the age of 18). The study was specific to women who have experienced a rape and not women who have only experienced other forms of sexual assault.

Although survivors of sexual assault also exhibit increased symptoms of psychological disturbances, given the early stage of this avenue of research, it was decided to limit the focus to a specific type of sexual assault to help limit the range of experiences (and subsequent variability) encompassed under the broad term of sexual assault.

Participants were recruited in a variety of avenues. Flyers were posted on the University of Maryland, College Park campus, focusing on areas frequently populated by women (e.g., women's restrooms, sorority houses) as well as general public areas (e.g., classroom buildings, carousel posts). Recruitment efforts also focused on both advanced undergraduate courses through announcements made in classes as well as introductory psychology courses through mass testing pools. Flyers were placed in clinical services targeting sexual assault on campus. In order to reach beyond the local university population, flyers were posted at neighboring university campuses. Finally, to gain access to the larger community population, the study was advertised at clinical services in local counties that provide services to survivors of sexual assault and through a popular community-based website (i.e., Craigslist). Women who responded to the flyers were screened to determine if they met criteria for a rape (defined as an incident involving the use of force or threat of force to engage in

vaginal or anal intercourse, fellatio, or cunnilingus with any amount of penetration, including acts where the female was unable to give consent but was aware of the act) during adulthood. Given evidence that sexual assault during childhood is associated with different risk factors and consequences than rape during adulthood (Jacobson & Richardson, 1987; Sorenson et al., 1987), this study was restricted to women reporting a rape during adulthood.

Women meeting the study's qualification for a rape experience were eligible for the study. Exceptions consisted of participants who were unable to give informed, voluntary, written consent to participate, and women who were blind or deaf. This latter restriction was necessary as the experimental tasks in both sessions of the study required the ability to see and hear in order to participate. One potential participant was not eligible due to this requirement. Women who were eligible for the study were assigned to one of three conditions: acceptance, distraction, or time control.

Session Experimenter Selection and Administration

The initial session, including the skills session component, was conducted by one of four female senior level graduate students. As a design consideration, care was taken to avoid potential experimenter bias with respects to providing content of the skills sessions. Specifically, in order to prevent bias from the primary experimenter (AP), she administered the acceptance condition. The distraction condition was conducted by three graduate students, all of whom had previous training and expertise in administering the skills covered in this skills condition. One of these three graduate students also conducted the acceptance condition (SR). All graduate students

administered the control condition. To ensure that all graduate students were providing the same content for participants across skills sessions, each condition was presented to participants by way of a standardized script containing the condition material. Each of the graduate students was trained to be consistent in presenting the skills conditions. To ensure content adherence within each skills condition, all sessions were taped. Twenty-five percent of sessions of each condition were reviewed by a research assistant to ensure skills session content adherence. No reviewed session deviated from condition standardized content

Procedures

Women who responded to the flyers or announcements were provided with an explanation of the study and screened to determine eligibility. Women who had experienced a rape since their 18th birthday were invited to participate in the study, assigned to a condition, and scheduled for an appointment. All attempts were made to distribute eligible participants across conditions in a pre-established order in order to fill each condition equally. However, due to scheduling challenges of matching participants with pre-determined study experimenters (specific to each condition), the decision was made to schedule the participant with the primary experimenter (AP) who was able to meet with the participant rather than risk losing the participant (by waiting until the designated experimenter and participant could meet). However, unexpectedly, due to the decreased frequency of contacts from interested women later in the study, in the end, this resulted in a disproportionately higher number of

participants in the acceptance condition (n = 18) as compared to the distraction (n = 9) and time control condition (n = 11).

At the initial assessment, participants were greeted at the lab by a graduate level experimenter (one of the four women graduate students) and led to the experimental room which was equipped with a desk and a computer. The experimenter provided the participant with a verbal description of the study (including an explanation of the procedures, confidentiality, limits of confidentiality, and potential risks and benefits), and asked the participant to read and sign the informed consent form. Upon signing the informed consent form, each participant was given a copy of the informed consent form. No woman declined to sign the informed consent form or to participate in the study.

Participants were asked to complete a series of questionnaires (see Measures below). Given the emotionally-laden content of some of the questionnaires, the questionnaires were specifically ordered to limit potential carry-over effects from previous questionnaires and were presented in the same order for each participant. Upon completion of the questionnaires, the experimenter collected the questionnaire packet from the participant. Participants then participated in a computerized behavioral task (see description of the PASAT-C below) which was used to provide a baseline measure of the individuals' willingness to tolerate emotional distress in general.

Following the PASAT-C, the experimenter began the hour long skills session experimental manipulation. As noted previously, participants were assigned to one of three conditions: acceptance, distraction, and time control. The acceptance condition

consisted of psychoeducation aimed at increasing knowledge and awareness of the function of emotions, increasing a non-judgmental stance toward emotions, and decreasing secondary emotional responses. These strategies were drawn from Emotion-Focused Therapy (Greenberg, 2002), Dialectical Behavior Therapy (Linehan, 1993), and Acceptance-Based Emotion Regulation Group Therapy (Gratz & Gunderson, 2006). In order to provide a strong comparison condition (to which the effects of the acceptance condition could be compared), a distraction condition derived from an empirically supported treatment (Dialectical Behavior Therapy) for individuals with difficulties regulating emotions (Linehan, 1993) was chosen as one of the control groups. The distraction condition included interventions focusing on facilitating attentional control in the midst of distress and aimed at increasing the ability to engage in pleasurable activities when distressed. The final condition was a time control condition, consisting of no active instructions, and focusing instead on generating information about the participant that was not emotionally-laden (e.g., hobbies, places lived, information about school/work) in a semi-structured interview format. This condition served as a more general control group to help determine if any changes in emotional willingness were due to the acceptance manipulation specifically, or to an active manipulation in general. Following the skills session experimental manipulation, the experimenter instructed participants in the acceptance and distraction conditions to practice the skills they learned anytime they experienced a noticeable change in their emotional state (specific to distressing emotions) over the course of the next week (in the hope of increasing the salience of the manipulation). Participants in the control condition were instructed to report how they managed

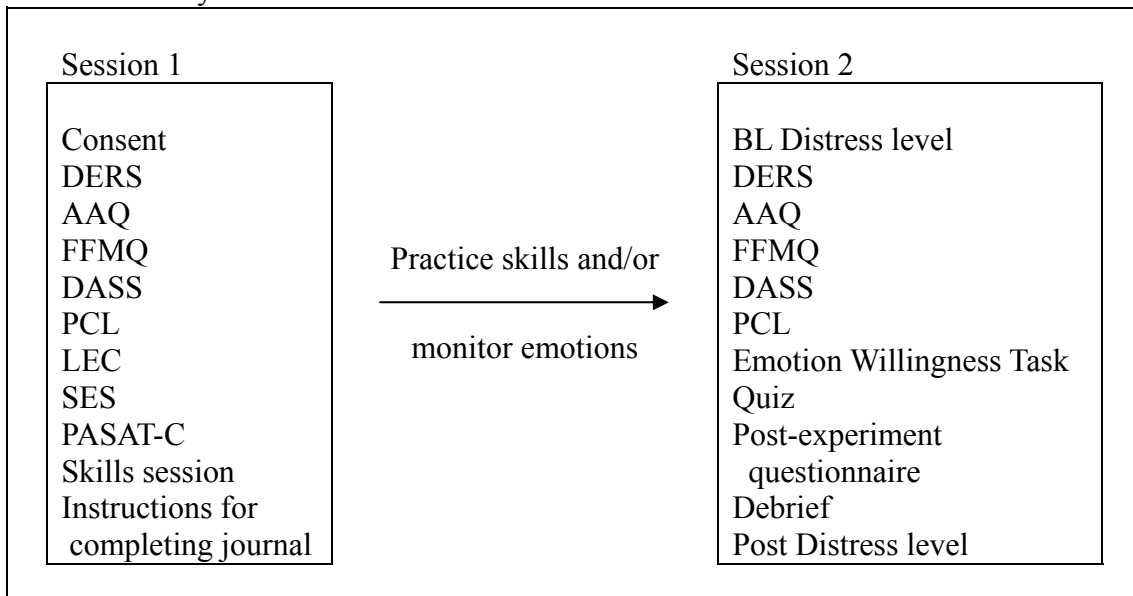
distressing emotions they experienced during the week. Participants were then paid for their participation, and scheduled for the second session. Although one week (i.e., seven days) was the targeted time for the second session, participants who were unable to return in this time frame were scheduled to return as close to one week following the first session as possible. Number of days between session 1 and 2 ranged from six to 16 with an average of 8 days. These procedures for the first session lasted two hours.

To help ensure that participants practiced the skills from their respective conditions, they were asked to maintain an online journal each day between appointments. Individuals used a password given to them by the experimenter to log onto a secure website, where they recorded information relating to the emotions they experienced throughout the day and how they managed those experiences. On this website, participants used their study ID number for identification purposes. Participants were compensated \$20 for perfect daily completion of the online journal. For each day that the online journal was not completed, \$3 was deducted from the total earning potential of \$20.

When participants returned for the second visit, they were greeted by an undergraduate level experimenter who was blind to the participant's condition and conducted the second session in order to limit experimenter bias from the graduate level experimenters. The undergraduate level experimenter verbally reviewed the general procedures for the second session with the participant. To determine a baseline assessment of distress, participants were asked to rate their current distress on a scale of 1 to 10. Next, participants completed the same series of questionnaires they completed

previously (except for the measures on previous trauma experience), to obtain a post-manipulation score on these measures. After the questionnaires were completed, the undergraduate level experimenter provided the participant with instructions for the Emotional Willingness Task (provided in the Measures section), and began the task. Following the completion of the Emotional Willingness Task, participants completed a brief post-task quiz and a post-experiment assessment questionnaire (all described in greater detail in the Measures section). Finally, participants were debriefed fully about the purpose of the study, assessed for level of distress, and provided with information about skills for managing distress and coping with emotions. Referral information was also given to each participant. Participants were paid and thanked for their participation. The second session lasted one hour. To aid in visualization, an overview of study procedures is provided in Table 1.

Table 1: Study Procedures



To manage any potential risks associated with this study, strategies were built into the protocol to ensure that participants were not unduly distressed. Specifically, several formal procedures were built into the protocol to manage and minimize the potential risks. First, a senior level graduate student was available for (although not conducting) all second sessions and completed the debriefing with each participant. During the debriefing, all participants were provided with a handout listing a variety of strategies for managing distress in a healthy manner as well as a handout version of the acceptance rationale. Further, all participants were asked to rate their distress level at the beginning and end of the session. Any time a participant reported an increase in distress of more than 2 points on the scale over the course of the second session, the graduate level experimenter reviewed these strategies for managing distress with the participant until the individual's distress returned to a level comparable to that reported at the beginning of the session. This occurred with 7 of the 38 participants. Second, all participants were offered the opportunity to receive a one hour therapy session where strategies for tolerating distress and coping with negative emotions would be taught. Participants were given the opportunity to participate in this session (if desired) immediately following the experimental session, or at a later date. Only one participant expressed interest in this offer and scheduled a later session to return. However, she did not arrive for the appointment and did not return the experimenter's follow up call.

Measures

Screener

Women who responded to the flyers or announcements were read a standardized description of the study including the population of interest, the purpose of the study, an overview of the study procedures, as well as financial compensation. Women who remained interested in participating were asked a series of questions to determine eligibility for participation in the study. Questions were taken from the Sexual Experiences Survey (SES; Koss et al., 1987), a measure of the occurrence of sexual assault which incorporates behaviorally-oriented, specific questions focusing on various types of sexual assault. Given that many women who have experienced an event that legally qualifies as rape do not identify themselves as rape survivors (Koss, 1988), this strategy was utilized to recruit women who have had an experience consistent with the study's definition of rape (rather than relying on participants' definitions/labels of their experience).

Self report questionnaires

Sexual Experiences Survey (SES; Koss et al., 1987). This 11-item, behaviorally-based measure assesses the occurrence of a sexual assault based on responses to behavioral descriptions, rather than the use of labels such as rape (shown to be associated with lower rates of endorsement). This measure is commonly used to identify survivors of sexual assault and is also used to classify the type of sexual assault experience (e.g., rape, attempted rape, verbally coerced intercourse or sexual contact). This measure has been used extensively over the past 19 years and has been

found to have high construct validity as indicated by respondent-coder agreement (81-94%) for rape experiences (Testa, Vanzile-Tamsen, Livingston, & Koss, 2004). The SES has demonstrated internal consistency ($\alpha = .74$ among women) and high test-retest reliability (93%) over a period of one week (Koss & Gidycz, 1985).

Psychiatric symptoms

The Depression Anxiety Stress Scales (21-item version; DASS; S.H. Lovibond & P.F. Lovibond, 1995). The DASS is a self-report questionnaire designed to differentiate between core symptoms of depression, anxiety, and stress. The DASS has demonstrated adequate test-retest reliability (Brown, Chorpita, Korotitsch, & Barlow, 1997), and there is evidence for its construct and discriminant validity (Antony, Bieling, Cox, Enns, & Swinson 1998; Brown et al., 1997; Lovibond & Lovibond, 1995). There are two versions of the DASS, a 21-item version and a 42-item version. These versions have been found to be consistent (Clara, Cox, & Enns, 2001) and comparable in their ability to distinguish between different diagnostic groups (Antony et al., 1998). The DASS was included in this study to assess for participants' levels of depression, anxiety, and stress symptoms to use as a potential covariate for group differences in these symptoms.

PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). This self-report measure consists of 17 statements corresponding to DSM-IV PTSD symptom clusters (intrusions, avoidance, hyperarousal, and emotional numbing). Participants rate each question according to the extent to which the symptom has bothered them in

the past month using a 5-point Likert scale (1 = *not at all*, 5 = *extremely*). Scores for each item are summed creating an overall severity score. The PCL has been demonstrated to have strong test-retest reliability ($r = .96$) as well as moderate to strong correlations with other PTSD measures (Weathers et al., 1993). This measure was included as a way of co-varying for potential differences in severity of rape-related PTSD symptoms.

Life Events Checklist (LEC; Weathers, Keane, & Davidson, 2001). This 14-item trauma exposure inventory was created to identify exposure to a range of different traumatic events. This inventory was originally designed for the purpose of determining traumatic exposure prior to administering a structured interview for assessing post-traumatic stress disorder (i.e., Clinician Administered PTSD Scale, Weathers et al., 2001) and has been commonly administered independently of the CAPS (Salters-Pedneault, Gentes, & Roemer, 2007; Schnurr et al., 2007). The LEC has been shown to have good psychometric properties (Gray, Litz, Hsu, & Lombardo, 2004) and was included to assess participants' lifetime exposure to specific traumatic events and age of exposure.

Emotional willingness

Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). The AAQ provides a measure of experiential avoidance, or the extent to which an individual attempts to escape or avoid unwanted internal experiences, particularly emotions. A 7-point Likert scale, ranging from 1 (*never true*) to 7 (*always true*), is used to rate responses.

Higher scores indicate greater experiential avoidance. The AAQ has been found to have adequate internal consistency ($\alpha = .70$), as well as adequate convergent and concurrent validity (Hayes et al., 2004). For instance, the AAQ is moderately correlated with measures of related constructs such as cognitive avoidance and avoidant coping, but demonstrates a unique relationship to symptom/outcome measures beyond these other measures (see Hayes et al., 2004). As there is no current measure of emotional willingness, given the considerable overlap between experiential avoidance and emotional unwillingness, this measure will be used as a proxy for emotional willingness (reverse scored).

Acceptance composite

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS is a 36-item, self-report measure assessing emotion dysregulation across six domains: 1) Nonacceptance of emotional responses (NONACCEPTANCE), 2) Difficulties engaging in goal directed behavior (GOALS), 3) Impulse control difficulties (IMPULSE), 4) Lack of emotional awareness (AWARENESS), 5) Limited access to emotion regulation strategies (STRATEGIES), 6) Lack of emotional clarity (CLARITY). Respondents are asked to indicate how often a series of statements apply to them on a 5 point Likert scale, with 1 indicating almost never (0-10% of the time) and 5 indicating almost always (91-100% of the time). The subscale assessing non-acceptance of negative emotions (reverse scored) will be used in the present study to include in a composite variable along with the FFMQ subscales (non-judgmental and non-reactivity subscales) as an indicator of self-reported emotional

acceptance. This subscale has been found to have high internal consistency ($\alpha = .85$), adequate test-retest reliability over a period ranging from 4 to 8 weeks ($\rho_I = .69, p < .01$), and adequate construct and predictive validity (Gratz & Roemer, 2004).

Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The FFMQ is a 39-item measure created through a factor analysis of items from numerous well-established measures of mindfulness and emotional acceptance. This measure includes five subscales that assess (a) non-reactivity to inner experience, (b) observing/noticing/attending to sensations/perceptions/thoughts/feelings, (c) acting with awareness/automatic pilot/concentration/nondistracted, (d) describing/labeling with words, and (e) nonjudging of experience. The subscales pertaining to a non-judgmental stance and non-reactivity to internal experiences will be utilized in this study and added to the non-acceptance DERS subscale to form a composite emotional acceptance variable (in order to examine if emotional acceptance indeed is the mechanism underlying emotional willingness). The non-judgmental subscale and the non-reactivity subscale have been reported to be significantly correlated at $r = .34$. Furthermore, the non-judgmental subscale has been correlated with the DERS at $r = -.52$, whereas the non-reactivity subscale has been correlated with the DERS at $r = -.36$ (Baer et al., 2006). Convergent and divergent validity of the FFMQ has been demonstrated, as well as adequate internal consistency and test-retest reliability (Baer et al., 2006).

Manipulation check for affect during behavioral tasks

Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is a 20-item self-report measure used to assess both positive and negative mood states. The measure is divided into two subscales consisting of positive mood states (PANAS-P; e.g., “excited,” “proud”) and negative mood states (PANAS-N; e.g., “upset,” “ashamed”). Respondents rate their emotions at the time of response on a 5 point Likert scale (1 = very slightly or not at all, 5 = extremely). For the purposes of this study, participants completed the PANAS-N during both the PASAT-C (described below) and the Emotion Willingness Task (described below) to determine if these tasks were effective in increasing negative affect. During each of these tasks this measure was given both prior to beginning each task and at peak intensity (just prior to the final level) for each task. The PANAS is widely used and has good reliability and validity (Mackinnon et al., 1999; Watson et al., 1988).

Daily practice of monitoring emotions and/or use of presented skills

Online Journal Questionnaire. This questionnaire was adapted from a similar questionnaire used by patients in an emotion regulation group treatment outcome study to assess the effectiveness of the emotion regulation strategies they utilized throughout the week (Gratz & Gunderson, 2006). The questionnaire asks participants to describe situations where they felt strong distressing emotions, what specific emotions were experienced, the intensity of the emotion, the regulation strategies used, the effectiveness of these strategies, and the resulting intensity of the emotions.

The questionnaire was posted on a secure website which was accessible by a passcode given by the experimenter. Participants were instructed to complete this questionnaire at the end of each day as a way of encouraging participants to practice the skills that they were taught (for acceptance and distraction conditions) during the manipulation component of the initial session.

Use of skills and perceptions of the study and skills conditions

Post-Experiment Assessment Questionnaire. This questionnaire was given to provide additional information about participants' experience during the study, including: frequency with which skills were practiced during the week, tolerability of skills conditions and the study overall, and use of specific skills during the Emotion Willingness Task. This questionnaire has been used in previous studies involving emotional acceptance (Tull, Jakupcak, & Roemer, 2003; Tull & Roemer, 2007). Questions were presented in Likert scale format (i.e., not at all, a little, somewhat, a lot, very much). Sample questions include: "How much did you feel you learned from the information in the first session", "How much did you agree with any strategies that you may have learned in the first session", and "During the week, how often did you use any strategies that you may have learned in the first session." Other questions related to how distressing the study was perceived to be, willingness to watch the clip again as part of a similar study, as well as specific questions about how the individual responded emotionally during the first and second part of the video (e.g., I tried to reduce the intensity of my feelings, I tried not to show my feelings on my face, I felt like I was outside of my body). From this measure, relevant questions were used to

create a composite variable assessing the amount of acceptance skills that were used (e.g., I let myself feel whatever I was feeling) and amount of distraction skills that were used (e.g., I thought about happier or reassuring things) during the Emotion Willingness Task.

Behavioral Tasks

PASAT-C (Lejuez, Kahler, & Brown, 2003)

The PASAT-C is an empirically-supported measure of “distress tolerance” (i.e., the willingness to experience emotional distress; Linehan, 1993). The PASAT-C is a computer-based task designed to induce mild emotional distress in the form of self-reported anxiety, frustration, and irritability, as well as physiological arousal (Brown, Lejuez, Kahler, & Strong, 2002; Lejuez et al., 2003). During this task, numbers are sequentially flashed on a computer screen, and participants are instructed to add the most recently presented number to the previously presented number before the subsequent number appears on the screen (using the computer mouse to click on the correct answer). As such, this task requires participants to ignore each sum they provide, and instead add the next number to the *previously presented* number (e.g., 4 + 3 [correct response= 7] + 6 [= 9] + 1 [= 7], etc.). As the task is designed to limit the role of mathematical skill in persistence, the presented numbers range only from 0 to 20, with no sum greater than 20. Participants are informed that each correct answer they provide increases their score by one point, whereas providing an incorrect answer (or failing to provide an answer before the next number is presented) does not affect their total score.

This version of the PASAT-C consists of four levels, the first three of which have varying latencies between number presentations. Level 1 (low difficulty) begins with a 5-second latency, with each correct answer decreasing the latency by .5 second and each incorrect answer or non-answer increasing the latency by .5 second. The average latency across Level 1 is used as the latency for Level 2 (medium difficulty), and Levels 3 and 4 (high difficulty) utilize a latency that is half the value of the average latency from Level 1. The first level lasts two minutes, the second level lasts two minutes, and the third level (which serves as a prime for the final level) lasts one minute. Following a brief 1-minute rest period to complete the negative affect PANAS ratings presented on the computer screen (see below), the final level begins. The final level has the same latency between number presentations as the third level, but lasts five minutes and includes an option to terminate the task at any time. Specifically, participants are informed that once the final level has begun, they can terminate exposure to the task at any time by clicking a button on the computer screen labeled “Quit Task”; however the amount of money they can make at the end of the session depends upon their performance on the task. (In actuality, all participants receive the maximum payment, see below for further detail.) Willingness to tolerate emotional distress is indexed as latency in seconds to task termination. Moreover, as a manipulation check to ensure that the task actually induced emotional distress, baseline and experimental level task scores on the negative affect PANAS were examined. The experimental assessment occurs following level 3 (in order to prevent differing durations in the final level from influencing the mood ratings).

In support of its construct validity, the PASAT-C has been shown to induce emotional distress in the form of anxiety, anger, frustration, and irritability (e.g., Brown et al., 2002; Lejuez et al., 2003). Moreover, a modified version of the PASAT-C has been found to be strongly correlated with a self-report measure of experiential avoidance among patients with borderline personality disorder ($r = -.76$; Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006). Providing evidence for its convergent validity, unwillingness to experience emotional distress on the PASAT-C is heightened among both individuals with borderline personality disorder (compared to individuals without a personality disorder; Gratz et al., 2006) and smokers without a sustained quit attempt (compared to smokers with at least one sustained quit attempt; Brown et al., 2002). Finally, providing evidence for its predictive validity, the PASAT-C has been found to predict early treatment dropout among substance users (Daughters, Lejuez, Kahler, Strong, & Brown, 2005).

In order to increase motivation to perform well on the tasks, participants were informed that their performance would determine the amount of their reimbursement, with reimbursement for the first session of the study ranging from \$5-\$10. Once participants indicated their understanding of the PASAT-C instructions, the task began. However, at the end of the session, all participants were reimbursed \$10 for their participation, regardless of how well they performed on the task. Additionally, all participants were told that they performed well when given the full amount in order to maintain credibility that payment was based on performance for the second session.

Emotional Willingness Task

This task was designed to provide a measure of an individual's willingness to tolerate trauma-specific emotional distress. As compared with the PASAT-C (which assesses an individual's willingness to tolerate non-specific frustration and anxiety), this task was designed to provide a more adequate assessment of the form of emotional unwillingness most relevant to rape survivors. Specifically, participants were shown a trauma clip from a popular movie (*The Accused*). The full clip lasts 7 minutes and has been used in other research studies with trauma survivors at the University of Massachusetts Boston (Protocol #2001.146 and Salters-Pedneault et al., 2007). The protocol for this task was adapted from other tasks designed to initiate distress that have been used in several studies at University of Maryland (e.g., Computerized Mirror-Tracing Persistence Task, Strong et al. 2003; PASAT-C, Lejuez et al, 2003). More specifically, there are two levels to the task. The first level lasts 2.5 minutes and includes the beginning of the scene prior to the in-depth depiction of the actual rape. In order to obtain a baseline measure of distress, prior to beginning the clip, participants are prompted on the screen to rate affect intensity on a scale between 1 (very slightly or not at all) to 5 (extremely). The last 30 seconds of the first level includes the beginning of the in-depth depiction of the actual rape. This placement was selected based on pilot-tested results of twelve women (including graduate and undergraduate students) who noted the moment in the video clip where they perceived the rape to begin. Consistent with other tasks designed to initiate distress (e.g., Computerized Mirror-Tracing Persistence Task, Strong et al. 2003; PASAT-C, Lejuez et al, 2003), a brief period of exposure to the highest intensity of the task

stimuli is needed to establish that the manipulation increased distress. Following the first level, the movie pauses and participants are prompted on the screen to rate their current affect intensity. Following completion of the affect scales, the second level of the task begins where participants resume watching the clip but have the option to terminate the task as indicated by a “Quit” button at the bottom of the screen. The video clip in the second level lasts up to four and one half minutes, depending on whether or not the participant terminates the task. Prior to beginning the task, the following instructions are read to the participant.

“Before we begin the next task, we would like for you to fill out a ratings scale listing some different emotions. Please indicate your affect level for each of the items. The items are set up with a drop down box beside each item that will allow you to rate your level based on the scale that is listed at the top. This is not timed and I’ll quickly familiarize you with the scales.” Following participant’s completion of baseline affect levels, experimenter continued: *“In this task, you will be asked to view a distressing scene from the movie, The Accused. Your job for this task is to watch and pay attention to the movie. There are two parts to the movie. The first part of the movie will play, and then the movie will pause and you will be asked to rate your level of affect on the same emotions as you just did. Now, this part is timed and while you should have plenty of time, we just want to make you are aware of this fact. Also when the time limit is nearly finished, a box will pop up that just reminds you to check that all items are completed so that we don’t have missing data. This will go away on its own. When the time limit expires, the video clip will resume. The clip involves a trauma scene and parts of it may be difficult to watch. During the second part, you*

have the option to terminate the video at any time you want by pressing the 'Quit' button that will be displayed on the screen. However, although you have the option to quit watching the video before it is over, keep in mind that there is a quiz on the content of the film clip following the video. The amount of the video that you watch will likely influence your ability to perform well on the quiz. Additionally, your performance on the quiz will impact your compensation for the study, so please try and do your best. Following the end of the clip, you will rate your affect just like you did the previous two times. This part will also be timed. Also, please wait for specific instructions from the computer before doing anything. (By this we are referring to adjusting the volume on the computer etc that you may be tempted to do. Please understand that this is part of the experiment and we must be consistent will everyone.) Please continue to watch the screen until it shows the message "The experimenter will be in shortly" Following this, please open the door to let me know that you've completed the clip. So, just to summarize, there isn't a quit option for the first part of the movie, but you can stop during the second part of the movie. Also there will be a quiz on different parts of the film clip when it is over. Finally, the affect scales will move forward on their own, so you don't have to do anything other than answer the items. So please click on the 'Begin video clip' and I will now go into the adjacent room."

As stated in the instructions to participants listed above, participants were informed that their performance determined the amount of their reimbursement in order to increase motivation to perform well on the task. (In actuality, all participants were reimbursed \$25 for their participation, regardless of how well they performed on

the quiz). Once participants indicated their understanding of the task instructions, the experimenter began the task and exited the room. As it was expected that participants would vary in the amount of time they continued with the task, a video of abstract shapes (Gross & Levenson, 1995) was shown on the computer when a participant terminated the task prior to the end of the film clip. This was included to ensure that all participants had the same amount of time between the presentation of the film clip and the presentation of the quiz (described in greater detail below). This clip of abstract shapes was taken from a selection of video clips empirically shown to elicit specific emotions, in this case a neutral emotional state (Gross & Levenson, 1995).

Emotional Willingness Quiz. This quiz was developed as a method for assessing the extent to which the participant attended to information presented during the distressing film clip. Items for the final quiz were piloted prior to beginning the study. Twelve women (graduate and undergraduate students) completed 47 potential quiz questions after watching the full video clip. Questions were selected in order to limit the potential for ceiling or floor effects, to represent the entire length of the video clip, and to vary in both level of difficulty and focus of attention (e.g., concrete questions about tangible stimuli and questions relating to emotions of the characters). In addition to providing participants with a purpose for tolerating distress, this quiz served as a measurement of the participant's ability to engage in goal-directed behavior and attend to details in a functional manner even during times of emotional distress. To examine this, there were two parts within the quiz. The first part consisted of questions based on information presented during the first part of the task prior to

the option to terminate and the second part included questions related to information presented following the option to terminate. When determining the final quiz questions based on the piloted sample, questions were chosen such that the first and second part of the quiz demonstrated comparable accuracy rates. For the study, participants completed the entire quiz; however, quizzes were scored such that participants were only graded based on what they viewed. Questions following the point of termination were not included in the calculation of percentage correct so that accuracy rates were not unduly influenced by quitting the video early.

Data Analysis Plan

First, chi-squared analyses and one-way (acceptance vs. distraction vs. control) analyses of variance (ANOVAs) were conducted to determine the presence of any between-group differences in demographic, clinical, and relevant study variables that may have influenced study outcomes. Manipulation checks were then conducted. Repeated measure (baseline vs. experimental) ANOVAs were conducted with both experimental tasks (PASAT-C, Emotional Willingness Task) to examine if the tasks resulted in increased distress. Between-group differences in frequency of practicing any skills learned during the manipulation were examined with a one-way (acceptance vs. distraction vs. control) ANOVA which served as a manipulation check for use of skills over the week.

To examine if the acceptance manipulation was successful in increasing self-reported acceptance, paired t-tests (pre- vs. post- manipulation) were conducted for each group condition on the three subscales representing aspects of the acceptance

manipulation (acceptance of emotions, non-reactivity to emotional responses, non-judgment of emotional responses) and for the acceptance composite (summed z-scores of these three subscales). One-way (acceptance vs. distraction vs. control) ANOVAs were conducted assessing between-group differences in use of acceptance skills during the Emotional Willingness Task and between-group differences in use of distraction skills during the Emotional Willingness Task. This was to assess if individuals in the acceptance condition utilized acceptance skills and if individuals in the distraction condition utilized distraction skills during the experimental assessment of emotional willingness (i.e., the Emotional Willingness Task).

Between-group differences in emotional willingness (as indexed by latency to termination on the Emotional Willingness Task) were assessed with a one-way (acceptance vs. distraction vs. control) ANCOVA (controlling for baseline distress tolerance and any other variables with between-group differences at baseline). Although the use of a different behavioral task pre-manipulation precludes examination of within group differences in willingness across time, the limitations associated with repeated administration of the Emotional Willingness Task (including practice effects, given the emotionally relevant and distressing nature of the video) were considered to far outweigh the benefits of examining within-group differences in emotional willingness. Between-group differences in post-manipulation scores of self-reported emotional willingness (as assessed by the AAQ) were examined using a one-way ANCOVA (controlling to baseline scores on this variable and any other variables with between-group differences at baseline). Within-group repeated

measures (pre- vs. post-manipulation) ANOVA were also conducted with this measure to assess any changes in self-reported emotional willingness across time.

For group differences found for emotional willingness (as indexed by either latency to termination scores on the experimental Emotional Willingness Task or increased scores on the AAQ self-report questionnaire), a mediational analyses was conducted to determine if differences in acceptance accounted for the differences in willingness to experience emotions. Specifically, an acceptance composite variable was created using subscales of validated measures representing aspects of the acceptance skill session information (i.e., DERS acceptance subscale, FFMQ non-judgment subscale, and FFMQ non-reactivity subscale). Based on recommendations from Baron and Kenny (1986), a series of regression analyses were conducted to test the proposed mediational model. A mediation effect would be found if: (a) group condition significantly predicts increased emotional willingness, (b) group condition significantly predicts the acceptance composite, (c) the acceptance composite significantly predicts emotional willingness, and (d) group condition does not remain a significant predictor of emotional willingness once the acceptance composite is entered into the equation. These same analyses were conducted on individual subscales that improved significantly over the study (i.e., FFMQ non-reactivity) to determine if the subscale accounted for group differences in emotional willingness.

Within-group repeated measures (part 1 vs. part 2 of quiz) ANOVA was conducted to assess any group changes in accuracy of quiz scores from part 1 to part 2 of the quiz. To examine if participants' perceptions differed between the active skills conditions (acceptance vs. distraction skills information), one way ANOVAs

(acceptance vs. distraction) were conducted. In addition, chi-square analyses were utilized to compare group rates of study non-completers.

Standard convention is to adopt a p-value of 0.05 or lower to limit the occurrence of Type I errors, however, given the small sample size of the study, (particularly within two of the three conditions) this value may lead to overly conservative interpretations of this study findings. Therefore, additional considerations will be provided for findings with p-values between 0.05 and 1.0 to allow for the potential for Type II errors. In this way, standard conventions within the literature will be followed while acknowledging that for this sample size this p-value may negatively impact finding interpretations. In addition, to provide an additional measure of variable effects (outside of dichotomous significance classification), effect sizes will be reported throughout the study. Effect sizes for ANOVA and ANCOVA are reported using partial eta-squared values using the following guidelines for effect sizes: small (0.01), medium (0.06), and large (0.14) (Cohen, 1988). The following effect size guidelines will be used for Cramer's phi (for chi-square analyses) and R^2 (for regression analyses): small (0.1), medium (0.3), and large (0.5) (Cohen, 1988).

Chapter 3: Results

Preliminary Analyses

Thirty-eight women completed the study. Racial/ethnic representation of this sample was relatively diverse: 18.4% African-American/Black, 5.2% Asian/Asian-American, 2.6% Hispanic, 15.8% mixed racial identity, 2.6% other racial identity, and 55.3% White. The average age of the sample was 24.58 ($SD = 8.88$, range: 18-61). Reported individual income was reported as follows: 63.2% earning less than \$20,000, 13.2% earning between \$20,000 and \$30,000, 10.5% earning between \$30,000 and \$50,000, and 13.2% earning more than \$50,000. Concerning relationship status, 50.0% reported being involved in a relationship and 50.0% reporting being single. No one identified themselves as having ever been married. Fifty percent of women had had some form of previous mental health treatment and endorsed an average of 11.72 ($SD = 26.18$, range: 0-132) months of treatment. Thirteen percent of women in the sample endorsed experiencing two or three rapes in their lifetime, while 87% endorsed experiencing one rape (range: 1- 3). An average of 4.49 ($SD = 8.23$, range: 0.5- 42) years had passed since the most recent rape experience.

To identify covariates for subsequent analyses, between-group (acceptance vs. distraction vs. time control) comparisons were conducted for (a) demographic variables of age, race, income, (b) baseline levels of relevant psychological constructs including levels of depression and anxiety symptoms, posttraumatic stress symptoms, emotional willingness, general distress tolerance (c) rape-related variables of time since rape occurred, number of rapes experienced, (d) therapy experience including

history of attending therapy, and duration of therapy experience, (e) length of time between session 1 and session 2 of the study, and (f) previous exposure to the video clip used in the Emotion Willingness Task. Of these variables, groups only differed significantly for length of time between session 1 and session 2, $F(2, 35) = 3.28, p = 0.05, \eta_p^2 = 0.16$ (see Table 2). Pairwise-comparisons revealed that individuals in the acceptance condition ($M = 7.28, SD = 1.02$) had significantly fewer days between session 1 and session 2 as compared to distraction condition ($M = 9.89, SD = 3.92$), $p = 0.02$. There were no group differences between distraction condition and time control condition ($M = 9.00, SD = 3.29$), $p = 0.46$ or acceptance condition and time control condition, $p = 0.10$. As time between sessions varied across conditions, it was included as a covariate in subsequent analyses.

Table 2: Means, Chi-square Results, and ANOVA Results for Potential Covariate Variables

Variable	Acceptance n = 18	Distraction n = 9	Time Control n = 11	χ^2	<i>p</i>	ϕ
Race/Ethnicity				.68	.71	.13
Asian	n = 0	n = 1	n = 1			
Black	n = 3	n = 1	n = 3			
Hispanic	n = 1	n = 0	n = 0			
Mixed	n = 3	n = 2	n = 1			
Other	n = 0	n = 1	n = 0			
White	n = 11	n = 4	n = 6			
Previous therapy	Yes = 10	Yes = 4	Yes = 5	.42	.81	.11
Previous video exposure	Yes = 5	Yes = 3	Yes = 5	.95	.62	.16
	Mean (<i>SD</i>)	Mean (<i>SD</i>)	Mean (<i>SD</i>)	<i>F</i>	<i>p</i>	η_p^2
Age	24.17 (5.80)	27.67 (15.84)	22.73 (4.56)	.79	.46	.04
Income	2.11 (1.49)	2.00 (1.41)	2.18 (1.52)	.25	.78	.01
DASS-anxiety	6.72 (5.05)	3.56 (3.36)	4.27 (4.03)	1.92	.16	.10
DASS-depression	7.61 (1.11)	6.56 (1.56)	4.27 (1.41)	1.74	.19	.09
DASS-stress	11.22 (1.23)	7.67 (1.74)	9.09 (1.57)	1.53	.23	.08
PCL	49.14 (17.01)	39.00 (8.70)	39.09 (15.96)	2.09	.14	.11
AAQ	37.83 (8.60)	37.33 (6.14)	36.45 (12.00)	.08	.93	.00
PASAT-C	400.50	335.89	333.09	1.44	.25	.08
Quit time (s)	(82.73)	(131.36)	(158.34)			
Yrs since rape	3.28 (3.87)	8.50 (15.43)	3.18 (3.97)	1.44	.25	.08
# of lifetime rapes	1.22 (0.55)	1.22 (0.67)	1.09 (0.30)	0.25	.78	.01
Months of therapy	6.14 (12.77)	21.89 (45.72)	12.55 (20.87)	1.10	.34	.06
Days btwn sessions	7.28 (1.02)	9.89 (3.92)	9.00 (3.29)	3.28	.05*	.16

* *p* < .05

Manipulation checks

Behavioral tasks

To determine if completing both the PASAT-C and the Emotion Willingness Task induced feelings of distress, ratings of emotion valence were compared to determine if level of participants' rated emotions increased as a result of the task (see Table 3 for mean values). Repeated measures ANOVA (baseline vs. experimental) results from the PASAT-C revealed that the task served to increase negative affect, $F(1, 35) = 10.29, p < 0.01, \eta_p^2 = 0.23$. There was no significant interaction between time and skills condition (see Table 4).

For the Emotional Willingness Task, repeated measures ANOVA (baseline vs. experimental) results also revealed that the task increased negative affect, $F(1, 31) = 23.56, p < 0.01, \eta_p^2 = 0.43$. Findings indicated no significant interaction between time and skills condition (see Table 4). As an additional indicator of the task's effect of increasing distress, 73.7% reported the study as somewhat or more distressing (rating of 3 or above on a 5 point Likert scale).

Table 3: PANAS- NA Scores for Behavioral Tasks of Emotional Willingness

	Acceptance Mean (<i>SD</i>)	Distraction Mean (<i>SD</i>)	Time Control Mean (<i>SD</i>)
<i>PASAT-C</i>			
Baseline	18.33 (6.93)	16.67 (9.33)	14.18 (4.14)
Experimental	21.33 (8.96)	18.89 (7.98)	20.00 (10.13)
<i>EWT</i>			
Baseline	22.24 (5.72)	22.00 (6.42)	21.82 (4.05)
Experimental	30.35 (8.98)	29.33 (10.39)	29.76 (8.92)

Table 4: Repeated Measures ANOVAs for Behavioral Tasks for Emotional Willingness

Variable	df	<i>F</i>	<i>p</i>	η_p^2
<i>PASAT-C</i>				
Time (T)	1	10.29	.00**	.23
Group Condition (G)	2	.54	.59	.03
T x G interaction	2	.84	.44	.05
Within group error	35			
<i>EWT</i>				
Time (T)	1	23.56	.00**	.43
Group Condition (G)	2	.07	.94	.00
T x G interaction	2	.04	.96	.00
Within group error	31			

* $p < .05$; ** $p < .01$

Use of skills across conditions

Groups were compared to determine if between-group differences existed relating to frequency of use of skills learned from session 1 to session 2. One way (acceptance vs. distraction vs. time control) ANOVA revealed a significant omnibus test, $F(2, 34) = 7.76, p < 0.01, \eta_p^2 = 0.31$, with pairwise comparisons with Bonferroni adjustments revealing that participants in acceptance and distraction conditions reported greater use of skills during the week as compared to participants in time control condition ($p < .01$ and $p = .05$, respectively). Acceptance and distraction did not differ in how often learned skills were practiced ($p = 1.00$).

To examine if the acceptance manipulation was effective in increasing self-reported emotional acceptance (measured by the composite variable which included: the acceptance subscale from the DERS, the non-reactivity subscale from the FFMQ,

and the non-judgmental subscale from the FFMQ) in the acceptance group and not the two control groups, paired sample t-tests (pre- vs. post- manipulation) were conducted for the composite acceptance variable, as well as each of the subscales comprising the composite variable (refer to Table 5). No statistically significant differences were found for the acceptance composite for any of the three groups (acceptance, distraction, or time control). Although acceptance participants did report significantly higher scores on the FFMQ non-reactivity subscale following the manipulation $t(17) = -2.11, p = 0.05$, no statistically significant differences were found for the acceptance condition for the DERS acceptance scale $t(17) = -0.53, p = 0.61$, or the FFMQ non-judgmental scale $t(17) = 1.06, p = 0.30$. None of the subscales changed significantly for either the distraction condition or the time control condition (refer to Table 5).

Table 5: Means and t-tests of Subscales Representing Acceptance Composite

Variable	Session 1 Mean (SD)	Session 2 Mean (SD)	df	<i>t</i>	<i>p</i>
<i>DERS acceptance</i>					
Acceptance	20.89 (6.77)	21.44 (5.58)	17	-0.53	.61
Distraction	22.56 (7.23)	23.00 (7.12)	8	-0.27	.79
Time control	21.64 (5.94)	23.45 (5.87)	10	-1.52	.16
<i>FFMQ non-judgment</i>					
Acceptance	22.56 (7.29)	24.22 (9.21)	17	-1.06	.30
Distraction	29.00 (7.53)	29.67 (7.91)	8	-0.40	.70
Time control	26.09 (7.50)	26.73 (8.91)	10	-0.57	.58
<i>FFMQ non- reactivity</i>					
Acceptance	17.72 (4.74)	20.39 (5.75)	17	-2.11	.05*
Distraction	19.00 (3.54)	18.56 (3.58)	8	0.54	.73
Time control	20.00 (5.20)	20.91 (4.68)	10	-1.22	.25
<i>Acceptance composite (z-scored)</i>					
Acceptance	-0.63 (2.43)	-0.33 (2.71)	17	-0.62	.54
Distraction	0.74 (2.25)	0.18 (2.32)	8	1.19	.27
Time control	0.43 (2.70)	0.40 (2.48)	10	0.13	.90

* $p < .05$

For all subscales, higher values indicate higher levels of variable (more desirable)

To provide an assessment of whether or not participants utilized acceptance or distraction skills during the Emotion Willingness Task, questions were taken from the Post-Experiment Assessment questionnaire to create a composite variable of use of acceptance strategies and use of distraction strategies (see Table 6). This was done for both levels of the task (the baseline level and the experimental level). One way (acceptance vs. distraction vs. time control) ANOVA results indicated that groups did not differ with respects to amount of acceptance strategies used during level 1, $F(2, 35) = 0.30, p = 0.74, \eta_p^2 = 0.02$, or level 2, $F(2, 35) = 0.21, p = 0.81, \eta_p^2 = 0.01$, of the task. In addition, groups did not differ with respects to amount of distraction

strategies used for either level 1, $F(2, 35) = 0.18, p = 0.84, \eta_p^2 = 0.01$, or level 2, $F(2, 35) = 0.63, p = 0.54, \eta_p^2 = 0.04$ (see Table 7).

Table 6: Questions for Skills Used Composite during Emotional Willingness Task

Acceptance skills

I let myself feel whatever I was feeling.

I felt bad about the emotional response I was having. (*r*)

I tried to reduce the intensity of my feelings. (*r*)

I tried to “space out” or “numb” in order to feel less pain. (*r*)

Distraction skills

I tried to feel differently about the film.

I tried to think differently in order to change my emotions about the film.

I thought about happier or reassuring things.

(*r*) reverse scored

Table 7: ANOVAs for Use of Skills During Emotional Willingness Task

Variable	df	<i>F</i>	<i>p</i>	η_p^2
<i>Use of acceptance skills</i>				
Part 1 of task	2, 35	.30	.74	.02
Part 2 of task	2, 35	.21	.81	.01
<i>Use of distraction skills</i>				
Part 1 of task	2, 35	.18	.84	.01
Part 2 of task	2, 35	.63	.54	.04

* $p < .05$; ** $p < .01$

Primary Analyses

Emotional willingness across groups

One question central to this study was whether group differences existed in willingness to experience emotional distress following the manipulation. This question was assessed both through a behavioral task (the Emotional Willingness

Task) and by self-report (the AAQ; Hayes et al., 2004). To address this question for the Emotional Willingness Task, a one-way (acceptance vs. distraction vs. control) ANCOVA controlling for number of days between sessions, and baseline levels of willingness to experience general emotional distress (as assessed by the PASAT-C) was conducted to compare between-group differences in latency to termination of the video. Unexpectedly, of the 38 participants, only two (5.26%) quit the video prior to the end of the task. Therefore, no significant between-group differences were found in emotional willingness specific to visually presented rape-related distressing material $F(2, 33) = 0.46, p = 0.64, \eta_p^2 = 0.03$ (see Table 8). In addition, groups did not differ in willingness to watch the video clip again ($\chi^2 = 1.46, p = 0.48, \phi = 0.20$) with 77.8% of acceptance participants willing to watch the clip again, 55.6% of distraction, and 72.7% of time control.

However, one-way ANCOVA (controlling for number of days between session 1 and 2 and baseline levels of emotional willingness) results of self-reported willingness to experience emotional distress (assessed by the AAQ) did reveal significant between-group differences, $F(2, 33) = 5.87, p = 0.01, \eta_p^2 = 0.26$ (see Table 8). Pairwise comparisons with Bonferroni adjustments revealed that individuals in both the acceptance group and the time control group reported greater emotional willingness as compared to the distraction condition ($p = 0.01$ and $p = 0.03$, respectively). Acceptance group and time control group did not differ in self-reported emotional willingness ($p = 1.00$).

Further, a repeated measures (pre- vs. post-manipulation) ANCOVA controlling for days between session 1 and 2 revealed a significant group by time

interaction for self-reported emotional willingness $F(2, 34) = 5.97, p = 0.01, \eta_p^2 = 0.26$ (see Table 9). Follow-up t-tests revealed that whereas both the acceptance and time control conditions reported an improvement in emotional willingness over the course of the study [$t(17) = 4.35, p < 0.01$ and $t(10) = 2.61, p = 0.03$, respectively], the distraction condition did not, $t(8) = -0.59, p = 0.57$.

Table 8: ANCOVAs of Emotional Willingness Measures

Variable	df	<i>F</i>	<i>p</i>	η_p^2
<i>EWT—behavioral measure</i>				
PASAT-C	1	.44	.51	.01
Days between sessions	1	.01	.92	.00
Group condition	2	.46	.64	.03
Within group error	33			
<i>AAQ—self-report measure</i>				
Baseline AAQ	1	161.48	.00	.83
Days between sessions	1	3.66	.07	.10
Group condition	2	5.87	.01**	.26
Within group error	33			

* $p < .05$; ** $p < .01$

Table 9: Repeated Measures ANCOVA for Self-Report Emotional Willingness across Conditions

	df	<i>F</i>	<i>p</i>	η_p^2
Group Condition (G)	2	.27	.76	.02
AAQ (A)	1	1.10	.30	.03
Days between sessions x AAQ	1	4.01	.05	.11
G x A	1	5.97	.01**	.26
Error	34			

* $p < .05$; ** $p < .01$

Quiz accuracy across groups

To determine if groups differed in the ability to engage in goal-directed behavior and attend to details in a functional manner during times of emotional distress, accuracy scores on the Emotional Willingness Quiz were examined (see Table 10 for accuracy means). Overall, participants performed well and exhibited an average accuracy of 73.7%. The quiz was divided into two parts consistent with the levels of the Emotion Willingness Task. Part 1 assessed material of the video up until the option to quit the task, and part 2 assessed material of the video clip during the final level of the task where participants had the option to quit the task. Repeated measures ANOVA results revealed a main effect of quiz accuracy, $F(1, 35) = 4.81, p = 0.04, \eta_p^2 = 0.12$, with participants decreasing in accuracy during the second part of the quiz. The interaction of condition and quiz accuracy was not significant $F(2, 35) = 1.44, p = 0.25, \eta_p^2 = 0.08$. However, results show a medium effect size suggesting that power limitations may have adversely impacted the potential to find existing group differences (see Table 11).

Table 10: Accuracy Means of Part 1 and Part 2 Quiz Scores Across Conditions

Condition	Part 1	Part 2
	Mean (<i>SD</i>)	Mean (<i>SD</i>)
Acceptance	.76 (.08)	.75 (.11)
Distraction	.71 (.15)	.67 (.14)
Time control	.80 (.10)	.71 (.12)

Table 11: Repeated Measures ANOVA for Quiz Score Accuracy across Conditions

	df	<i>F</i>	<i>p</i>	η_p^2
Quiz Part (P)	1	4.80	.04*	.12
Group Condition (G)	2	1.57	.22	.08
P x G	2	1.44	.25	.08
Error	35			

* $p < .05$

To further elucidate what changes may be contributing to accuracy scores for each condition, t-tests were conducted with each condition group. Results indicated that accuracy scores for both the acceptance condition, $t(17) = 0.22$, $p = 0.83$, and the distraction condition, $t(8) = 1.10$, $p = 0.30$, did not change significantly. However, the time control condition accuracy scores did decrease significantly, $t(10) = 2.35$, $p = 0.04$. Based on these findings, this suggests that the decreased accuracy findings previously discussed were driven by the decrease in time control condition accuracy.

To address the potential that groups may differ with respects to accuracy on more trauma-specific aspects of the video (as compared to questions relating to parts of the video less emotionally salient), questions relating directly to the rape itself (which were expected to be more emotionally distressing) were compiled and accuracy scores across group conditions compared. Of the accuracy scores relating to the seven questions deemed more emotionally distressing (e.g., “how many men raped the woman” vs. “what color is the waitress’ shirt”), one way (acceptance vs. distraction vs. time control) ANOVA results indicated that groups did not differ with respects to accuracy on these questions, $F(2, 33) = 2.01$, $p = 0.15$, $\eta_p^2 = 0.11$.

Mediational Analyses

A secondary aim of the study was to determine if changes in emotional acceptance accounted for group differences in emotional willingness (as indexed by the behavioral task and the AAQ self-report questionnaire). As there were no group differences in the emotional willingness behavioral task (Emotional Willingness Task), no analyses were conducted for the behavioral task. To examine this question for self-reported emotional willingness, a composite variable was created using subscales consistent with the components of the acceptance skills condition manipulation (i.e., acceptance subscale from the DERS, non-judgment subscale from the FFMQ, and non-reactivity subscale from the FFMQ). Correlations were significant between all subscales, ranging from .38 to .85 (see Table 12). Internal consistency of the composite variable was good ($\alpha = .78$).

Table 12: Means, Standard Deviations, and Correlations Among Acceptance Composite Subscales

Measure	Mean	SD	Measure		
			1	2	3
1. DERS: Acceptance subscale	22.39	5.95	1.00	.38*	.85**
2. FFMQ: Non-reactivity subscale	20.11	4.97	----	1.00	.42**
3. FFMQ: Non-judgment subscale	26.24	8.88	----	----	1.00

* $p < .05$; ** $p < .01$

Given that the means of both the acceptance condition and the time control condition improved in self-reported emotional willingness but the distraction condition did not, the distraction condition was chosen as the reference group in dummy coding group conditions for the regression analyses. A series of hierarchical

regression analyses were conducted to examine if changes in self-reported acceptance would account for group differences in emotional willingness. The first step of the mediational analyses examining the effects of acceptance and time control conditions (vs. distraction) on emotional willingness revealed that both acceptance ($\beta = -0.66, p < .01$) and time control ($\beta = -0.52, p < .01$) significantly predicted changes in emotional willingness, $F\Delta(3, 34) = 4.28, p = .01, R^2\Delta = .27$. With regard to the relationship between condition and changes in the acceptance composite, the overall step examining effects of acceptance and time control (vs. distraction) on the acceptance composite was not significant, $F\Delta(3, 34) = 0.76, p = 0.53, R^2\Delta = .06$. In addition, neither the acceptance condition ($\beta = .28, p = .22$) nor the time control condition ($\beta = .16, p = .45$) were individually associated with changes in self-reported acceptance. The change in acceptance predicted change in emotional willingness, $F\Delta(1, 36) = 9.12, \beta = -.45, p < .01, R^2\Delta = .20$. However, given that condition did not predict changes in the acceptance composite, changes in the acceptance composite did not mediate group differences in emotional willingness.

Mediational analyses were also conducted for the non-reactivity subscale of the FFMQ (the only subscale of the acceptance composite variable to change significantly for any of the three conditions). As mentioned above, both acceptance ($\beta = -0.66, p < .01$) and time control ($\beta = -0.52, p < .01$) significantly predicting changes in emotional willingness, $F\Delta(3, 34) = 4.28, p = .01, R^2\Delta = .27$. With regard to the relationship between condition and changes in non-reactivity, although the overall step examining effects of acceptance and time control conditions (vs. distraction) on non-reactivity was not significant, the acceptance condition was significantly

associated with changes in non-reactivity, ($\beta = .49, p < .03$). Time control was not a significant predictor, ($\beta = .25, p = .22$). Non-reactivity predicted emotional willingness, $F(1, 36) = 12.98, \beta = -.52, p < .01, R^2\Delta = .27$. To determine if changes in level of non-reactivity mediated the relationship between group condition and emotional willingness, a hierarchical regression analysis was conducted with group condition (acceptance and time control variables vs. distraction condition) and days between session 1 and 2 entered into the first step of the equation, and non-reactivity residualized scores entered into the second step (see Table 13). Non-reactivity predicted emotional willingness when controlling for group condition and the covariate of days between session 1 and 2, $F(1, 33) = 6.69, \beta = -.38, p = .01, R^2\Delta = .12$. However, the acceptance group condition remained significant (thus not supporting mediation), ($\beta = -.47, p = .02$) and computation of the Goodman (I) equation failed to indicate the presence of an indirect effect of group condition on emotional willingness through its effect on non-reactivity, ($z = -1.79, p = .07$). However, given the small sample size, this result should be interpreted with caution and suggests a potential trend towards significance. Therefore, although non-reactivity did not formally serve to mediate group differences in emotional willingness, a larger sample size would be helpful in confirming this finding.

Table 13: Hierarchical Regression Analyses Examining the Mediating Role of Non-reactivity in the Relationship Between Group Condition and Emotional Willingness

<i>N</i> = 38	β	ΔR^2	ΔF	<i>p</i>
<i>Step 1</i>		.27	4.28	.01**
Time condition	-.52			
Acceptance condition	-.66			
Days between sessions	-.31			
<i>Step 2</i>		.12	6.69	.01**
Time condition	-.42			
Acceptance condition	-.47			
Days between sessions	-.18			
Non-reactivity	-.38			

* $p < .05$; ** $p < .01$

Post Hoc Analyses Examining Differences between Acceptance and Distraction

To compare the tolerability of the two active skills conditions (acceptance and distraction), participants completed questions assessing their reactions to their skills condition. Groups did not differ with respect to how much participants felt they learned from the first session, $F(1, 24) = 1.69, p = 0.21, \eta_p^2 = 0.07$, how useful the presented strategies were, $F(1, 24) = 1.66, p = 0.21, \eta_p^2 = 0.07$, and how often participants anticipated using the strategies following the study, $F(1, 24) = 2.47, p = 0.13, \eta_p^2 = 0.09$. However, groups did differ with respect to level of agreement with the material presented, with acceptance participants ($M = 4.06, SD = 0.56$) reporting greater agreement than distraction participants ($M = 2.89, SD = 0.78$), $F(1, 24) = 19.67, p = 0.00, \eta_p^2 = 0.45$ (see Table 14).

As an additional assessment of tolerability of the skills conditions, rates of participants who did not return for the second session were compared. Forty-two women entered the study, and four did not return for the second session. All of these

women were in the distraction condition. Chi-square analysis revealed this to be a significant group difference in rate of non-completion ($\chi^2 = 9.86, p = 0.01, \phi = 0.49$).

Table 14: Means and Comparisons of Tolerability of Presented Skills Information

	Acceptance Mean (<i>SD</i>)	Distraction Mean (<i>SD</i>)	<i>F</i> (1,24)	<i>p</i>	η_p^2
Amount learned from presented information	3.76 (.97)	3.22 (1.09)	1.69	.21	.07
Usefulness of presented skills	3.82 (.81)	3.33 (1.12)	1.66	.21	.07
Predicted amount strategies used after study	3.91 (.91)	3.33 (.87)	2.47	.13	.09
Agreement with presented skill information	4.06 (.56)	2.89 (.78)	19.67	.00	.45

* $p < .05$; ** $p < .01$

Analyses Excluding Participants with Age Outliers

As described previously, the study consisted primarily of young adult women with 76.3% of participants between the ages of 18 and 24. However, there were two women above the age of 40 (aged 49 and 61) who were both in the distraction condition. As the age difference between these women and the remaining participants may contribute to differential impact on study variables (e.g., less exposure to acceptance-based rationale prior to study participation, greater time since the rape occurred), analyses were conducted without these two women to determine if findings differed. Of all of the analyses, only two findings differed as a result of not including these two women in the analyses. Specifically, one way (acceptance vs. distraction vs. time control) ANOVA revealed significant between-group differences in frequency of use of skills learned from session 1 to session 2, $F(2, 32) = 7.45, p < 0.01, \eta_p^2 = 0.32$,

such that participants in the acceptance condition reported greater use of skills during the week as compared to time control ($p < .01$), but distraction and time control conditions did not differ in reported use of skills ($p = .15$). This is in contrast to findings with all participants where both acceptance and distraction conditions endorsed greater use of skills as compared to time control. In the current analyses, distraction condition also did not differ from acceptance condition ($p = .82$). Therefore, these results suggest that participants in the distraction condition were not practicing skills when distressed significantly more than the level reported by the time control participants (who were not provided with specific skills to practice), but did not differ significantly from the amount of practice by participants in the acceptance condition.

Secondly, mediational analyses revealed that non-reactivity partially mediated the relationship between group condition and emotional willingness for the acceptance condition. More specifically, both acceptance ($\beta = -0.85, p < .01$) and time control ($\beta = -0.68, p < .01$) significantly predicting changes in emotional willingness, $F\Delta(3, 32) = 6.51, p < .01, R^2\Delta = .38$. With regard to the relationship between condition and changes in non-reactivity, although the overall step examining effects of acceptance and time control conditions (vs. distraction) on non-reactivity was not significant, the acceptance condition was significantly associated with changes in non-reactivity, ($\beta = .53, p = .03$). Time control was not a significant predictor, ($\beta = .29, p = .20$). Non-reactivity predicted emotional willingness, $F\Delta(1, 34) = 12.42, \beta = -.52, p < .01, R^2\Delta = .27$. To determine if changes in level of non-reactivity mediated the relationship between group condition and emotional willingness, a hierarchical

regression analysis was conducted with group condition (acceptance and time control variables vs. distraction condition) and days between session 1 and 2 entered into the first step of the equation, and non-reactivity residualized scores entered into the second step (see Table 15). Non-reactivity predicted emotional willingness when controlling for group condition and the covariate of days between session 1 and 2, $F(1, 31) = 5.89$, $\beta = -.35$, $p = .02$, $R^2 \Delta = .12$. Although the acceptance group condition remained significant (thus not supporting full mediation), ($\beta = -.67$, $p < .01$), computation of the Goodman (I) equation indicated the presence of an indirect effect of acceptance condition on emotional willingness through its effect on non-reactivity, ($z = -1.94$, $p = .05$). Therefore, non-reactivity served to partially mediate group differences in emotional willingness. These results are consistent with the full sample results which evidenced a trend ($p = .07$) towards this finding, but meet the more stringent criteria of $p = .05$ to determine significance.

Table 15: Hierarchical Regression Analyses Examining the Mediating Role of Non-reactivity Between Group Condition and Emotional Willingness without Age Outliers

<i>N</i> = 36	β	ΔR^2	ΔF	<i>p</i>
<i>Step 1</i>		.38	6.51	.00**
Time condition	-.68			
Acceptance condition	-.85			
Days between sessions	-.39			
<i>Step 2</i>		.10	5.89	.02*
Time condition	-.58			
Acceptance condition	-.67			
Days between sessions	-.27			
Non-reactivity	-.35			

* $p < .05$; ** $p < .01$

Chapter 4: Discussion

Previous research has demonstrated that women with a sexual assault history are more likely to experience increased psychiatric symptoms and psychopathology and increased avoidance of unwanted internal experiences (e.g., unwanted thoughts, bodily sensations, memories, emotions). To address the unwillingness to experience emotions (in particular) which is considered to underlie this avoidance behavior, emotional acceptance has been proposed as a strategy for increasing emotional willingness. Although several empirically supported treatments incorporate acceptance-based strategies, to date, no studies have examined acceptance as a specific strategy for increasing emotional willingness. The current study sought to examine if acceptance strategies would result in increased emotional willingness in a sample of female rape survivors as compared to two control groups.

This question was examined through a novel behavioral task designed to specifically elicit trauma-specific relevant distressing emotions, as well as through a self-report measure. In addition, this study examined if participation in the acceptance condition (vs. the other two conditions) would result in a greater ability to engage in goal-directed behaviors during a period of increased emotional distress. Largely, results were not consistent with hypotheses; however, the present findings raise some interesting considerations. Each of the findings will be discussed further, followed by limitations and future directions.

Behavioral Task of Emotional Willingness

Contrary to hypotheses, groups were not found to differ in the willingness to experience rape-related emotional distress as measured by the behavioral task. In fact, a ceiling effect was exhibited with only two participants (5.26%) of 38 opting to quit the task (and thereby escape their distress) prior to the end of the video. This ceiling effect suggests that this task may not provide an adequate assessment of the willingness to experience emotional distress among this population. This assessment of willingness to experience emotional distress was designed to be consistent with other behavioral tasks which have demonstrated variability in latency to terminate the tasks, including the PASAT-C (Brown et al., 2002; Daughters, Lejuez, Bornoalova, Kahler, Strong, & Brown, 2005;; Gratz et al., 2006) and the Mirror Tracing Persistence Task (Brandon et al., 2003; Daughters, Lejuez, Kahler, et al., 2005). Collectively, these studies have included a range of participant populations, including smokers, substance users, and individuals with borderline personality disorder. Although these studies have effectively demonstrated the utility of these behavioral assessments with these populations, no studies to date have focused on rape survivors or used a population-specific version of the task. To address this unstudied area, the Emotional Willingness Task was designed to serve as a population-specific behavioral measure of willingness to experience emotional distress. Given the variability demonstrated with the tasks of general emotional distress, it was anticipated that a task involving a specific stressor relevant to an individual's personal history (i.e., a sexual assault) would increase distress and provide a more useful assessment of participants' willingness to tolerate emotional distress.

As the purpose of the Emotion Willingness Task is to assess willingness to experience distress, it was necessary that the task induces some level of distress. Findings support that the task was effective at increasing levels of negative emotions. One potential consideration for why participants generally did not discontinue the task is that the level of negative emotions experienced during the video task, while significantly higher than baseline levels, may not have been clinically meaningful. However, negative emotions were rated to be of moderate severity or higher, and were rated to be significantly more intense for the Emotional Willingness Task as compared to the PASAT-C. This is particularly noteworthy as a higher number of participants quit the PASAT-C task than quit the Emotional Willingness Task (seven vs. two which was not statistically significant). Therefore, as the distress manipulation did serve to increase negative emotions, it is unlikely that a lack of emotional distress accounts for participants not quitting the task.

The task manipulation appears to have been effective in increasing negative emotions which suggests that other variables contributed to women's persistence on the task. One hypothesis is that the monetary incentive for watching the video in its entirety was more rewarding than the negative emotional impact of observing the video. Participants were told that their scores on the quiz following the video (thus requiring them to view the video) would determine the amount of money they received for the study. Although this incentive was presented to provide a rationale for watching the video (and enduring distress in general), it may have been more salient than anticipated. However, this same rationale (performance impacting reimbursement) was provided for the PASAT-C, which resulted in greater numbers of

participants opting to discontinue the task prior to completion. So, this may not account for the findings.

As another consideration, other factors beyond willingness to experience distress may have influenced participants' behavior during the task. Although the findings from this study do not specifically address this question, feedback from participants' responses during the video offer some indication of other factors influencing the decision to quit. Specifically, of the women who disclosed not having quit the task, the most common explanation was a desire to observe the ending to learn what happened to the woman who was raped (particularly, to learn if she escaped). Within the trauma literature, many authors have noted the tendency for trauma survivors to re-enact traumatic moments (Chu, 1991; Herman, 1992; Levy, 1998). This tendency to relive traumatic experiences from the past has been termed "reenactments" (Herman, 1992). Reenactments have been hypothesized to occur for several reasons, including: (a) as an attempt to "achieve mastery" over a previous trauma experience, (b) as a way to integrate and work through the negative emotions surrounding the original trauma, and (c) as a way to appropriately accommodate trauma experiences to form a new worldview that incorporates the trauma (Chu, 1992; Levy, 1998; Payne, Joseph, & Tudway, 2007). Reenactments have been described as having an almost "compulsive" quality (Herman, 1992). These processes may account for why women generally continued to watch the task despite feeling emotionally distressed. Ironically, if these reenactment processes were contributing to women observing the video in its entirety, participants may actually have experienced less emotional distress by continuing to watch the video (thereby serving a function

specific to the reenactment) than would be felt by terminating the video task. Related to this idea, the Emotional Willingness Task involved a scene from a movie, whereas, the PASAT-C consisted of rapidly presented serial arithmetic problems that did not have an anticipated, foreseeable ending. It is possible that women likely anticipated that the Emotional Willingness Task would have an ending (following the conclusion of the trauma scene) and this may have enabled them to further persist on the task as compared to the PASAT-C where it was less clear when this ending would occur. Furthermore, if women were responding to reenactment processes (e.g., need for closure, way to integrate information to form a revised worldview), then presenting an ending in the video task may have been less emotionally distressing than if no ending was presented. Given these considerations, this task may not be assessing the presence of group differences in emotional willingness, but rather tapping into some other process related to the women's trauma experiences.

Relationship between Skills Manipulations and Self-Report Emotional Willingness

In addition to examining a behavioral measurement of emotional willingness, a self-report measure of emotional willingness was also utilized. This was done to provide multiple ways of assessing the construct of emotional willingness and to help provide initial construct validity in the event that the behavioral task had evidenced significant findings. Unlike results pertaining to the behavioral task, some significant differences emerged with the self-report measure of emotional willingness. Specifically, participants in the acceptance condition reported higher levels of emotional willingness than those in the distraction condition (controlling for baseline

levels of self-reported emotional willingness and days between study sessions). Relevant to the interpretation of this difference, participants in the time control condition also reported greater emotional willingness than participants in the distraction condition. In addition, participants in both the acceptance and the time control condition evidenced an increase in emotional willingness across sessions, whereas participants in the distraction condition did not.

Two explanations may account for these findings. One possibility is that instead of the acceptance skills leading to increased emotional willingness, the distraction skills actually led to decreased emotional willingness. Increased scores for the acceptance and time control conditions could be due to a test-retest effect rather than an increase in emotional willingness. Considerations supporting this explanation include: (a) there was no expectation of an increase in emotional willingness due to the time control condition (as no skills were taught), (b) the acceptance scores did not differ from time control, and (c) as scores for the distraction condition did not change (as the two other conditions did), distraction skills may actually have a deleterious effect on emotional willingness (and this impact was mitigated by the retest effect). Although this explanation may account for these findings, in previous research this measure (AAQ) has failed to show increased scores following 14 weeks of treatment as usual (Gratz & Gunderson, 2006).

Another possible explanation is that both the acceptance condition and the time control condition resulted in increased emotional willingness, whereas the distraction condition did not. Given that the time control condition was intended to serve as a true control, no skills were provided during the skills manipulation.

However, to control for time and effort across groups, participants in the time control were instructed to notice and record when they experienced negative emotions, how they managed these emotions throughout the course of the week, and the change in intensity level of the emotional experience. By instructing participants to engage in these monitoring behaviors, this condition likely (and inadvertently) introduced an active treatment component (thus failing to serve as a true time control). The act of increasing one's awareness of emotional experience and monitoring these experiences is a ubiquitous treatment component across therapies focusing on emotion regulation (e.g., Acceptance-Based Behavior Therapy for Generalized Anxiety Disorder, Roemer & Orsillo, 2005; Dialectical Behavior Therapy, Linehan, 1993; Emotion Regulation Group Treatment, Gratz & Gunderson, 2006; Emotion Regulation Therapy, Mennin, 2006). Although this strategy is included in emotion regulation therapies, each of these treatments consists of multiple strategies and, to date, no dismantling studies have examined which components account for therapeutic effects. Therefore, monitoring one's emotional responses may have served as an active treatment component (rather than the intended control function) and effectively increased participants' willingness to experience these emotions. Indeed, awareness of one's emotional experience is considered to be an important aspect of emotional functioning (Gratz & Roemer, 2004) and may also be useful in increasing emotional willingness. Following from this rationale, both the acceptance and the time control conditions may have resulted in increased emotional willingness (rather than this finding being an artifact of re-test effects).

As stated, both acceptance and time control conditions evidenced increased emotional willingness to a comparable degree. One proposed explanation to account for these findings is that the skills in the acceptance manipulation (consisting of psychoeducation about the functionality of emotions, the distinction between primary and secondary emotional responses, and the utility of adopting a non-judgmental stance to one's emotions) served to increase emotional willingness for the acceptance condition, and the observing and monitoring of emotional responses served to increase emotional willingness in the time control condition. However, it is important to note that the distraction condition also involved attending to and recording emotional responses throughout the week and, therefore, any variability attributable to this skill would also be applicable to the distraction condition. Thus, the skills provided in this condition, designed to facilitate attentional control in the midst of distress and to increase the ability to engage in pleasurable activities when feeling distressed, may not help increase emotional willingness and may, in fact, detract from this willingness. This has important implications for treatments that incorporate both acceptance and distraction strategies, as the latter may inadvertently (depending on how these strategies are taught) interfere with the goal of increasing emotional willingness.

Mediational analyses indicated that self-reported changes in acceptance (as measured here) did not account for the group differences in self-reported emotional willingness when comparing the acceptance and time control conditions versus the distraction condition. The non-reactivity subscale (changes in which were related to the acceptance condition) evidenced a trend towards partially mediating the

relationship between acceptance condition and changes in emotional willingness when considering the full sample. However, when age outliers were removed, this trend was significant, thus supporting the idea that non-reactivity accounted for part of the relationship between condition and emotional willingness. As this relationship was not fully mediated by non-reactivity, this indicates that another variable (not accounted for in this study) also accounts for group condition changes in emotional willingness. This may include, but is not limited to, processes which may have also resulted in increased emotional willingness for the time control group (e.g., increased emotional clarity or attention).

Ability to Engage in Goal-Directed Behaviors when Emotionally Distressed

Another purpose of the study was to determine if groups differed in the ability to engage in goal-directed behaviors when distressed after practicing new skills over the course of a week. To determine if participants were actively using the skills that they had learned while they were watching the video, composite variables of self-reported ‘acceptance strategies’ (e.g., I let myself feel whatever I was feeling) and ‘distraction strategies’ (e.g., I thought about happier or reassuring things) that participants reported engaging in during the video to manage distress were compared across groups. Groups did not differ in regards to strategies used for either set of skills. Therefore, participants in acceptance and distraction conditions may not have been actively utilizing the skills specific to their skills condition, thereby limiting the ability to examine this hypothesis. Keeping in mind this caveat, participants performed well overall and obtained good accuracy scores ($M = 73.7\%$). In

comparing performance across groups, group condition evidenced an effect of decreased quiz accuracy scores for the second part of the quiz (relating to the second, more distressing, component of the video), compared to the first part of the quiz. This was likely due to decreased accuracy in the time control condition, which was the only condition group to change significantly (when examined individually). This suggests that acceptance and distraction skills may be more helpful in engaging in goal-directed behaviors when distressed as compared to the time control condition.

Findings suggest that participants did not utilize learned skills while watching the video. As mentioned above, findings indicate that the Emotional Willingness Task was moderately distressing. Like any newly learned skill, practicing these strategies may have been more difficult during times of increased emotional distress as compared to a period of baseline distress (e.g., when completing questionnaires). Indeed, in support of this idea, clinical practice often encourages the use of new skills during periods of minimal distress to build success and experience in order to prepare for use during periods of higher distress. While experiencing moderate levels of heightened distress, participants may have relied on pre-existing ways of managing emotions rather than implementing the new skills learned in the context of the study (Levy, 1998). Further, although previous research has found significant effects of more brief manipulations presented just prior to an assessment (Campbell-Sills, Barlow, Brown, Hofmann, 2006; Eifert & Heffner, 2003; Levitt, Brown, Orsillo, & Barlow, 2004), this manipulation was more extensive and was followed by a week of practice prior to the assessment of its consequences in real-time. By presenting a manipulation temporally proximal to an assessment, previous studies may have

maximized the impact of the manipulation as it would be forefront in the attention of the participants. In comparison, due to the time distance between presentation of the skills and the behavioral assessment, participants may not have utilized the new skills and instead responded using well-established emotion management strategies. Thus, it may be helpful to explicitly instruct participants to behave in accordance with newly learned material until new ways of responding have been mastered more fully.

Post-hoc Analyses of Manipulation Tolerability

The two active skills conditions were compared to determine if the groups differed in level of tolerability. Findings indicated that the distraction condition did not differ significantly from the acceptance condition in regard to the amount of information learned, degree of usefulness of the information, or how often participants expected to use what they learned following the completion of the study. Although not statistically significant, results from these comparisons yielded medium effect sizes. Specifically, amount of information learned during skills session ($\eta_p^2 = 0.07$), usefulness of presented skills ($\eta_p^2 = 0.07$), and anticipated use of strategies following the study ($\eta_p^2 = 0.09$) all were in favor of the acceptance condition. Further investigation with a larger sample size would be warranted to determine if individuals perceive acceptance techniques to be significantly more tolerable as compared to distraction techniques. Participants in the distraction condition were significantly less likely to complete the study and also reported significantly lower rates of agreement with the presented information as compared to participants in the acceptance condition. Agreement with presented treatment rationale (Addis & Jacobson, 1996;

Addis & Jacobson, 2000; Colins & Hyer, 1986; Fennel & Teasdale, 1987; Morrison & Shapiro, 1987) and treatment completion rate (Davis & Addis, 2002; Schwartz, Mulvey, & Woods, 1997; Wallace & Weeks, 2004) are both predictive of positive treatment outcome. Therefore, although the current skills sessions are not the equivalent of mental health research, the higher agreement level and greater completion rates of the acceptance condition provide some indication that this information may be useful in positive treatment outcome with female rape survivors.

Limitations and Future Directions

It is important to consider the results of the study within the context of the study's limitations. Of note, the study sample size is lower than the proposed 60 participants. To recruit for the study a variety of strategies were implemented. Flyers were placed throughout the University of Maryland campus on a weekly basis. Connections were made with university services focusing on mental health treatment and sexual assault (Victims Advocate, Counseling Center, University Health Center). Flyers were regularly placed in these service areas and student volunteers to the centers were informed about the study and encouraged to tell women who might be appropriate. Introductory psychology classes were targeted through mass testing procedures. Upper level classes historically more likely to be attended by women (e.g., classes in nursing, education, sociology, psychology, and English majors) were identified. These classes were visited each semester and participants were informed of the study and invited to participate. Campus sororities were also contacted and these sororities agreed to place flyers within the sorority houses. Flyers were also placed at

several local universities, as well as local eateries and coffee shops. Rape crisis centers in three counties (PG, Howard, and Montgomery) and Washington D.C. were informed of the study and agreed to place flyers within the centers. Finally, weekly postings were placed on Craigslist describing the study. Of these strategies, the postings on Craigslist and the flyers placed on University of Maryland campus (in general areas rather than clinical or trauma-focused areas such as the Victims Advocate or Counseling Center) were most effective in generating interest from potential participants. None of the women who were screened identified any of the rape centers, any of the adjacent universities, or any of the coffee shops or eateries as the location for where they learned of the study. Despite all recruiting efforts focused on ensuring sizable condition sample sizes, we were unable to achieve the expected number of participants. This appeared to be due to fewer numbers of contacts from potential participants than anticipated, callers who did not qualify, and most notably, ambivalence in women who did qualify (e.g., failure to return phone calls, multiple no-shows prior to attending session 1, women opting to not participate after qualifying due to fear of eliciting painful memories).

As a caveat, it would have been informative to have a greater knowledge as to the specific reasons for why women did not participate (e.g., rates of those who called in but did not return the experimenter's calls, rates of those who called but did not qualify, rates of those who qualified but did not attend the first session). However, due to reasons of confidentiality, information pertaining to these women (who were not participants) was destroyed (e.g., screeners were shredded, contact information deleted). Speaking generally, there was considerable attrition at each step of the

recruitment process. For example, many recruitment flyer tabs were removed but many fewer phone calls. Of those who contacted the experimenter, many did not return the experiment's call (despite multiple messages left). Of those who completed the screener, many did not qualify (e.g., experienced a sexual assault that did not meet the definition of rape used by the study). Of those who did qualify, many did not attend the first session (e.g., explicitly canceling, failing to attend session 1 and not calling to cancel or responding to follow-up calls placed by the experimenter). Finally, of the women that completed the study, several did not arrive for the originally scheduled session 2 and required either: (a) several contacts to reschedule, or (b) multiple rescheduled appointments before completing session 2. Because of this low sample size, many of the statistical analyses were not sufficiently powered. Low power can result in not obtaining significant findings even when group differences exist. Therefore, results should be interpreted with caution. It would be useful to replicate the study with a larger sample size.

Due to the small sample size, it is particularly worthwhile to consider effect sizes obtained in the presented analyses. For this study, results evidencing large effect sizes (e.g., partial eta-squared of 0.14 or larger), were also statistically significant. Other results were not statistically significant, but were found to have medium effect sizes (e.g., partial eta-squared between 0.06 and 0.14). This was particularly relevant for comparisons between acceptance and distraction skills in rated tolerability. These medium effect sizes may indicate clinically relevant differences which may require sufficient study power in order to detect the presence of any group differences. Other analyses indicated a small effect size (e.g., partial eta squared between 0.10 and 0.60).

ANCOVA results of the Emotion Willingness Task suggested that with a small effect size of group condition ($\eta_p^2=0.03$), more participants likely would not have led to significant findings. The unequal cell numbers represents another potential limitation. However, analyses were conducted using a Type III control (viewed as a conservative approach) in order to limit the potential negative impact of unequal cell sizes.

Additionally, due to the small sample size, it is particularly important to remember that these results may be unique to this sample and, due to the small sample size and sample make-up, may not generalize to the larger population of rape survivors. These women were generally high functioning and were either attending university or held full-time positions. Half of the participants had a history of outpatient mental health treatment. As another consideration, these women may represent a minority of rape survivors in that these women were willing to participate in the study despite the reminder this participation would likely serve to their traumatic experience. As described in detail above, there was considerable attrition in the numbers of women expressing some interest in the study (e.g., as assessed by observation of number of recruitment tabs regularly removed) to those who completed the study. This provides some indication that the women who actually completed the study were not representative of all rape survivors as the women who were study completers likely possess qualities that facilitated completion of the study (e.g., greater resilience, lower levels of psychiatric symptoms). In addition, several women attributed their interest in participating to a desire to increase knowledge of relevant findings to aid in improved treatment efforts for this population (i.e., a desire to “help out other women who have had this experience”). These considerations

should be included in interpreting the results of this study. Future research should include larger study samples that consist of participants presenting with a wider range of life functioning that may better represent the population of rape survivors.

Time since the rape occurred ranged widely across participants which may have had an impact on participants' responses to the Emotion Willingness Task. Although rape is associated with elevated psychiatric symptoms for years following the experience (Calhoun et al., 1982; Kilpatrick et al., 1981), these symptoms are most severe within the first several months following the incident (Atkeson et al., 1982; Calhoun et al., 1982; Rothbaum et al., 1992). Given the range of time since the rape occurred across participants and the greater length of time since the rape occurred, the participants' responses may have differed than if participants had more recently been exposed to the traumatic event

This study was investigating potential changes in emotional willingness. As there currently is no self-report measure of emotional willingness, a measure of experiential avoidance was used as a proxy. As stated previously, experiential avoidance refers to both the unwillingness to remain in contact with unwanted internal experiences (e.g., emotions, thoughts, bodily sensations) and the steps taken to alter the experience of these events. Due to this construct overlap, this measure of experiential avoidance was expected to serve as an acceptable assessment of emotional willingness. However, experiential avoidance (as defined above) encompasses processes that are not accounted for by emotional willingness. Because of this, it would be important to determine if these acceptance strategies would result in improved scores on a measure specific to emotional willingness.

The findings of this study contribute to the literature in several ways. Three groups were examined with a particular interest in comparing acceptance skills with distraction skills derived from an empirically supported treatment for individuals with emotion regulation difficulties. Acceptance participants did indeed report higher levels of emotion willingness as compared to distraction participants and also reported increased emotional willingness after practicing these skills over the course of a week. In addition, changes in emotional acceptance (specific to non-reactivity of negative emotions) were suggested to partially account for improvements in emotional willingness only for individuals who received the acceptance manipulation. Several empirically supported treatments integrate treatment components aimed at increasing acceptance. While the construct of acceptance has been incorporated into various treatments, this represents one of the first attempts to examine whether specific strategies designed to increase emotional acceptance lead to an increase in emotional willingness (as compared to the examination of an entire therapy, which generally includes additional skills and strategies not focused on acceptance).

Unexpectedly, participants in the time control condition also reported higher levels of emotional willingness than those in the distraction condition as well as increased scores of emotional willingness (compared to the initial session). As mentioned previously, the increase in emotional willingness for the time condition may be due to the task of monitoring one's emotions throughout the week (requiring a focus on the present and attention to one's emotional experience) and noting the change in intensity related to one's emotional response. As emotion regulation therapies often incorporate this daily monitoring into treatment, future studies might

seek to isolate and compare these approaches (accepting emotional responses vs. simply observing and monitoring emotional responses) to determine (a) if observing and monitoring emotions alone results in increased emotional willingness, (b) if acceptance vs. observing and monitoring emotions differ in ability to increase emotional willingness or influence therapeutic benefit, and (c) to compare potential underlying mechanisms of the two approaches. While the distraction condition also involved monitoring and recording emotional experiences, the act of shifting attentional control and focusing on engaging in pleasurable activities may have adversely impacted any potential benefit of simply attending to and monitoring the emotional experience.

Although time control condition demonstrated increased emotional willingness, participants in this condition performed more poorly on the second part of the quiz whereas this did not occur for participants in either the acceptance condition or the distraction condition. This suggests that there may be some benefit to the strategies presented in the acceptance and distraction conditions that may have mitigated against the decline in accuracy scores that occurred in the time control condition. In addition to comparing acceptance skills vs. monitoring emotions with regards to impact on emotional willingness, future studies should further examine if these conditions differ in ability to engage in goal-directed behaviors when distressed. If acceptance skills are found to better facilitate these behaviors, this may provide greater support for their use (rather than focusing exclusively on monitoring of emotions).

Behavioral experimental tasks are increasingly viewed as important assessment measures in order to move beyond the limitations associated with self-report measures. This study attempted to create a behavioral assessment of emotional willingness specific to trauma-relevant stimuli. This assessment did not prove to be a valid measure of emotional willingness; however, it is perhaps more interesting that the task, which appeared to be adequately distressing, evidenced a ceiling effect with few people quitting the task. One potential factor contributing to this ceiling effect may be that the task activated another process characteristic of this population (e.g., desire to experience a successful outcome in a similar situation, tendency to engage in trauma reenactments). In considering these concerns, it might be more useful to use a task that assesses willingness to experience general emotional distress (rather than distress specific to past trauma history) which may limit the influence of additional variables (e.g., reenactment) that are trauma-specific. Another consideration would be to present a trauma-specific video task that did not have a foreseeable ending (e.g., a series of trauma-specific excerpts from different movies rather than one extended scene) and did not provide a conclusion. This would likely limit any influence if women were responding to a need to see the outcome of the video task or anticipating that the video would end at some point (i.e., at the end of the scene). These strategies may then result in greater variability as compared to the present behavioral task. Other future studies might explore these potential processes underlying the ceiling effect evidenced by this behavioral task. This may provide greater understanding as to internal processes or motivating factors (e.g., rumination behaviors related to event, desire to witness a successful outcome) for women as they complete the task. One

way of attempting to identify what processes may have contributed to women generally not quitting the task would be to assess distress levels throughout completion of the task. By then examining the distress level at the moment of quitting relative to level of distress at other points in the task, this may help elucidate the role of distress level in persistence on the task by determining if distress is associated with persistence or quitting when completing the task.

Findings from this study suggest that acceptance strategies may be more tolerable than distraction strategies, as evidenced by higher study completion rates and greater agreement with presented information for the acceptance participants. As such, findings speak to the possible benefits of incorporating acceptance (vs. distraction) strategies into treatments for women rape survivors.

As a final suggestion, future efforts should further explore the distinction between experiential avoidance and emotional willingness. While these constructs are conceptualized to have considerable overlap, there is benefit in exploring the ways in which these constructs do and do not differ. In addition, in the case that they cannot be used interchangeably, it would be important to have a self-report measure that assesses emotional willingness.

Despite limitations, this study adds to the literature on strategies for increasing emotional acceptance in rape survivors. Participants in both the acceptance and time control condition evidenced increased emotional willingness. While this suggests the utility of use of acceptance strategies for rape survivors, additional research should further examine the underlying mechanisms accounting for the change in emotional willingness. Based on the findings of this study, the skill of not reacting negatively to

one's emotional experience appears to represent one fruitful avenue of investigation. In addition, the process of actively monitoring and recording one's emotional responses may lead to increased emotional willingness as is suggested by findings from the time control condition. This hypothesis requires further investigation. If supported, future efforts should examine if acceptance and monitoring of emotions contribute independently to increased emotional willingness or differ in level of impact of this variable. Additionally, it would be important to know if acceptance strategies are better tolerated by rape survivors and implications that this may have for treatment outcome.

Appendices

SES

Event	Has this happened to you?	
1. Have you ever been fondled, kissed, or touched sexually when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?	Y	N
2. Have you ever been fondled, kissed, or touched sexually when you didn't want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you?	Y	N
3. Have you ever been fondled, kissed, or touched sexually when you didn't want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Y	N
4. Have you given in to sexual intercourse when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?	Y	N
5. Have you had sexual intercourse when you didn't want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you?	Y	N
6. Have you had a man attempt to insert his penis (but intercourse did not occur) when you didn't want him to by threatening or using some degree of force (twisting your arm, holding you down, etc.)?	Y	N
7. Have you ever had a man attempt to insert his penis (but intercourse did not occur) when you didn't want him to by getting you intoxicated on alcohol or drugs without your knowledge or consent?	Y	N
8. Have you had sexual intercourse when you didn't want to because a man made you intoxicated by giving you alcohol or drugs without your knowledge or consent?	Y	N
9. Have you been in a situation in which you were incapacitated due to alcohol or drugs (that is, passed out or unaware of what was happening) and were not able to prevent unwanted sexual intercourse from taking place?	Y	N
10. Have you had sexual intercourse when you didn't want to		

because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Y	N
11. Have you had sex acts (anal or oral intercourse or penetration by objects other than the penis) when you didn't want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Y	N

DASS

INSTRUCTIONS: Please read each statement and choose the number which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

- 0 = Did not apply to me at all
- 1 = Applied to me to some degree, or some of the time
- 2 = Applied to me to a considerable degree, or a good part of the time
- 3 = Applied to me very much, or most of the time

-
- _____ 1. I found it hard to wind down.
 - _____ 2. I was aware of dryness in my mouth.
 - _____ 3. I couldn't seem to experience any positive feeling at all.
 - _____ 4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
 - _____ 5. I found it difficult to work up the initiative to do things.
 - _____ 6. I tended to over-react to situations.
 - _____ 7. I experienced trembling (e.g., in the hands).
 - _____ 8. I felt that I was using a lot of nervous energy.
 - _____ 9. I was worried about situations in which I might panic and make a fool of myself.
 - _____ 10. I felt that I had nothing to look forward to.
 - _____ 11. I found myself getting agitated.

- _____ 12. I found it difficult to relax.
- _____ 13. I felt down-hearted and blue.
- _____ 14. I was intolerant of anything that kept me from getting on with what I was doing.
- _____ 15. I felt I was close to panic.
- _____ 16. I was unable to become enthusiastic about anything.
- _____ 17. I felt I wasn't worth much as a person.
- _____ 18. I felt that I was rather touchy.
- _____ 19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).
- _____ 20. I felt scared without any good reason.
- _____ 21. I felt that life was meaningless.

PCL-C

Instructions: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

	<i>Not at all</i>	<i>A little bit</i>	<i>Moderately</i>	<i>Quite a bit</i>	<i>Extremely</i>
1. Repeated, disturbing <i>memories, thoughts, or images</i> of a stressful experience from the past?	1	2	3	4	5
2. Repeated, disturbing <i>dreams</i> of a stressful experience from the past?	1	2	3	4	5
3. Suddenly <i>acting or feeling</i> as if a stressful experience from the past <i>were happening again</i> (as if you were reliving it)?	1	2	3	4	5
4. Feeling <i>very upset</i> when <i>something reminded you</i> of a stressful experience from the past?	1	2	3	4	5

5. Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, sweating) when <i>something reminded you</i> of a stressful experience from the past?	1	2	3	4	5
6. Avoiding <i>thinking about or talking about</i> a stressful experience from the past or avoiding <i>having feelings</i> related to it?	1	2	3	4	5
7. Avoiding <i>activities or situations</i> because <i>they reminded you</i> of a stressful experience from the past?	1	2	3	4	5
8. Trouble <i>remembering important parts</i> of a stressful experience from the past?	1	2	3	4	5
9. <i>Loss of interest</i> in activities that you used to enjoy?	1	2	3	4	5
10. Feeling <i>distant or cut off</i> from other people?	1	2	3	4	5
11. Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your <i>future</i> somehow will be <i>cut short</i> ?	1	2	3	4	5
13. Trouble <i>falling or staying asleep</i> ?	1	2	3	4	5
14. Feeling <i>irritable</i> or having <i>angry outbursts</i> ?	1	2	3	4	5
15. Having <i>difficulty concentrating</i> ?	1	2	3	4	5
16. Being “ <i>superalert</i> ” or watchful or on guard?	1	2	3	4	5
17. Feeling <i>jumpy</i> or easily startled?	1	2	3	4	5

LIFE EVENTS CHECKLIST

Listed below are a number of difficult or stressful things that sometimes happen to people. For each event indicate if (a) it *happened to you* personally, and if so, (b) how old you were when it happened. If it has happened more than once, please list each age at which it happened.

Be sure to consider your *entire life* (growing up as well as adulthood) as you go through the list of events.

<i>Event</i>	<i>Happened to me</i>	<i>Age(s)</i>
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)		
2. Fire or explosion		
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)		
4. Serious accident at work, home, or during recreational activity		
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)		
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)		
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)		
8. Rape (forced oral, anal or vaginal penetration)		
9. Other unwanted or uncomfortable sexual experience		
10. Combat or exposure to a war-zone (in the military or as a civilian)		
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)		
12. Life-threatening illness or injury		
13. Severe human suffering		
14. Any other very stressful event or experience (please identify): _____		

If you answered that at least one the above events happened to you, which was the **MOST** traumatic thing to have happened to you? Fill in the number of the question (e.g., #6 if a physical assault was the most traumatic experience in your life).

At the time of this event, did you experience fear, helplessness, or horror? (circle one)
YES NO

AAQ

Below you will find a list of statements. Please rate the truth of each statement as it applies to you.

Use the following scale to make your choice.

1-----2-----3-----4-----5-----6-----7
never very seldom seldom sometimes frequently almost always always
true true true true true true true

- _____ 1. I am able to take action on a problem even if I am uncertain what is the right thing to do.
- _____ 2. When I feel depressed or anxious, I am unable to take care of my responsibilities.
- _____ 3. I rarely worry about getting my anxieties, worries, and feelings under control.
- _____ 4. I'm not afraid of my feelings.
- _____ 5. When I compare myself to other people, it seems that most of them are handling their lives better than I do.
- _____ 6. Anxiety is bad.
- _____ 7. If I could magically remove all the painful experiences I've had in my life, I would do so.
- _____ 8. I often catch myself daydreaming about things I've done and what I would do differently next time.
- _____ 9. When I evaluate something negatively, I usually recognize that this is just a reaction, not an objective fact.

DERS

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item:

1-----	2-----	3-----	4-----	5-----
almost never (0-10%)	sometimes (11-35%)	about half the time (36-65%)	most of the time (66-90%)	almost always (91-100%)

- _____ 1) I am clear about my feelings.
- _____ 2) I pay attention to how I feel.
- _____ 3) I experience my emotions as overwhelming and out of control.
- _____ 4) I have no idea how I am feeling.
- _____ 5) I have difficulty making sense out of my feelings.
- _____ 6) I am attentive to my feelings.
- _____ 7) I know exactly how I am feeling.
- _____ 8) I care about what I am feeling.
- _____ 9) I am confused about how I feel.
- _____ 10) When I'm upset, I acknowledge my emotions.
- _____ 11) When I'm upset, I become angry with myself for feeling that way.
- _____ 12) When I'm upset, I become embarrassed for feeling that way.
- _____ 13) When I'm upset, I have difficulty getting work done.
- _____ 14) When I'm upset, I become out of control.
- _____ 15) When I'm upset, I believe that I will remain that way for a long time.
- _____ 16) When I'm upset, I believe that I'll end up feeling very depressed.
- _____ 17) When I'm upset, I believe that my feelings are valid and important.
- _____ 18) When I'm upset, I have difficulty focusing on other things.
- _____ 19) When I'm upset, I feel out of control.
- _____ 20) When I'm upset, I can still get things done.
- _____ 21) When I'm upset, I feel ashamed with myself for feeling that way.
- _____ 22) When I'm upset, I know that I can find a way to eventually feel better.

- _____ 23) When I'm upset, I feel like I am weak.
- _____ 24) When I'm upset, I feel like I can remain in control of my behaviors.
- _____ 25) When I'm upset, I feel guilty for feeling that way.
- _____ 26) When I'm upset, I have difficulty concentrating.
- _____ 27) When I'm upset, I have difficulty controlling my behaviors.
- _____ 28) When I'm upset, I believe that there is nothing I can do to make myself feel better.
- _____ 29) When I'm upset, I become irritated with myself for feeling that way.
- _____ 30) When I'm upset, I start to feel very bad about myself.
- _____ 31) When I'm upset, I believe that wallowing in it is all I can do.
- _____ 32) When I'm upset, I lose control over my behaviors.
- _____ 33) When I'm upset, I have difficulty thinking about anything else.
- _____ 34) When I'm upset, I take time to figure out what I'm really feeling.
- _____ 35) When I'm upset, it takes me a long time to feel better.
- _____ 36) When I'm upset, my emotions feel overwhelming.

FFMQ

Rate each item based upon the extent to which it is true of your experience. Please use the following scale:

1 ----- 2 ----- 3 ----- 4 ----- 5
Never or very rarely true **Almost always or always true**

- _____ 1. I perceive my feelings and emotions without having to react to them.
- _____ 2. When I'm walking, I deliberately notice the sensations of my body moving.
- _____ 3. I find it difficult to stay focused on what's happening in the present.
- _____ 4. I'm good at finding the words to describe my feelings.
- _____ 5. I criticize myself for having irrational or inappropriate emotions.

- _____ 6. I watch my feelings without getting lost in them.
- _____ 7. When I take a shower or bath, I stay alert to the sensations of water on my body.
- _____ 8. It seems I am “running on automatic” without much awareness of what I’m doing.
- _____ 9. I can easily put my beliefs, opinions, and expectations into words.
- _____ 10. I tell myself that I shouldn’t be feeling the way I’m feeling.
- _____ 11. In difficult situations, I can pause without immediately reacting.
- _____ 12. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____ 13. I rush through activities without being really attentive to them.
- _____ 14. It’s hard for me to find the words to describe what I’m thinking.
- _____ 15. I believe some of my thoughts are abnormal or bad and I shouldn’t think that way.
- _____ 16. Usually when I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 17. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 18. I do jobs or tasks automatically, without being aware of what I’m doing.
- _____ 19. I have trouble thinking of the right words to express how I feel about things.
- _____ 20. I make judgments about whether my thoughts are good or bad.
- _____ 21. Usually when I have distressing thoughts or images I feel calm soon after.
- _____ 22. I pay attention to sounds, such as clocks ticking, birds chirping, and cars passing.
- _____ 23. I find myself doing things without paying attention.
- _____ 24. I tell myself I shouldn’t be thinking the way I’m thinking.
- _____ 25. When I have a sensation in my body, it’s hard for me to describe it because I can’t find the right words.

- _____ 26. Usually when I have distressing thoughts or images I “step back” and am aware of the thought or image without getting taken over by it.
- _____ 27. I notice the smells and aromas of things.
- _____ 28. When I do things, my mind wanders off and I’m easily distracted.
- _____ 29. Even when I’m feeling terribly upset, I can find a way to put it into words.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn’t feel them.
- _____ 31. Usually when I have distressing thoughts or images I just notice them and let them go.
- _____ 32. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
- _____ 33. I don’t pay attention to what I’m doing because I’m daydreaming, worrying, or otherwise distracted.
- _____ 34. My natural tendency is to put my experiences into words.
- _____ 35. I disapprove of myself when I have irrational ideas.
- _____ 36. I pay attention to how my emotions affect my thoughts and behavior.
- _____ 37. I am easily distracted.
- _____ 38. I can usually describe how I feel at the moment in considerable detail.
- _____ 39. Usually when I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____ irritable

_____ distressed

_____ ashamed

_____ upset

_____ nervous

_____ guilty

_____ scared

_____ hostile

_____ jittery

_____ afraid

Online Journal Questionnaire

Please fill this out at the end of each day. Please include all instances where you experienced a distressing emotion.

Describe situations during the day where you felt a strong emotion.	What emotions did you experience in response to the situation?	Intensity of the emotions (0 to 100)	What did you do to manage these emotions?	Did these strategies seem to help (i.e., how effective were they)?	Intensity of the emotion (0 to 100)

Post-Experiment Assessment

PART I

We would like for you to tell us a little about what your experience was like pertaining to the FIRST SESSION OF THE STUDY.

1. How much did you feel you learned from the information in the first session?

None A little Somewhat A lot Very much

2. How much did you agree with any strategies you learned in the first session?

None A little Somewhat A lot Very much

3. Throughout the course of the week, how often did you use any strategies that you may have learned during the first session?

None A little Somewhat A lot Very much

4. How useful were these strategies?

None A little Somewhat A lot Very much

5. How much do you anticipate using these strategies after the study is completed?

None A little Somewhat A lot Very much

PART II

We would like for you to tell us a little about what your experience was like during the PREVIOUS PART OF THE STUDY.

1. What was it like going through the study? Did you have any thoughts about what the study was about?

2. Overall, how distressing was the study?

Not at all A little Somewhat A lot Extremely

The following questions pertain to the SECOND part of the film clip (when you were allowed to stop viewing):

5. Would you be willing to watch the film clip again as part of a similar study?

YES

NO

6. Please describe your reactions to the second film clip. What emotions did you experience during the second film clip?

7. What did you do, if anything at all, to manage your emotions and reactions to the film clip. Please list specific strategies you might have used (e.g., thinking about something else, etc.)

8. Are these strategies something you usually use when you experience similar emotions?

The following questions pertain to the FIRST, shorter film clip (where you were not able to stop viewing the clip):

9. Please describe your reactions to the first film clip. What emotions did you experience during the second film clip?

10. What did you do, if anything at all, to manage your emotions and reactions to the film clip. Please list specific strategies you might have used (e.g., thinking about something else, etc.)

11. Are these strategies something you usually use when you experience similar emotions?

Please indicate how much you engaged in each of the following during the SECOND film clip.

12. I let myself feel whatever I was feeling.

Not at all A little Somewhat A lot Very much

13. I tried to not feel distressed.

Not at all A little Somewhat A lot Very much

14. I felt bad about the emotional response I was having.

Not at all A little Somewhat A lot Very much

15. I tried to reduce the intensity of my feelings.

Not at all A little Somewhat A lot Very much

16. I tried to feel differently about the film.

Not at all A little Somewhat A lot Very much

17. I tried to think differently in order to change my emotions about the film.

Not at all A little Somewhat A lot Very much

18. I tried to not show my feelings on my face.

Not at all A little Somewhat A lot Very much

19. I tried to “space out” or “numb” in order to feel less pain.

Not at all A little Somewhat A lot Very much

20. I automatically “spaced out” or felt “numb”.

Not at all A little Somewhat A lot Very much

21. I thought about happier or reassuring things.

Not at all A little Somewhat A lot Very much

22. I felt like I was outside my body.

Not at all A little Somewhat A lot Very much

23. I felt like things happening around me were not real.

Not at all A little Somewhat A lot Very much

24. I felt like my feelings were muted, or absent, although I did not try to make them that way.

Not at all A little Somewhat A lot Very much

25. I tried to see the events in a different way in order to feel differently.

Not at all A little Somewhat A lot Very much

26. How hard was it to follow the instructions you were given during the second film clip?

Not at all A little Somewhat A lot Very much

27. How much did the instructions you were given influence your experience during the second clip?

Not at all A little Somewhat A lot Very much

Explain: _____

Please indicate how much you engaged in each of the following during the FIRST film clip.

28. I let myself feel whatever I was feeling.

Not at all A little Somewhat A lot Very much

29. I tried to not feel distressed.

	Not at all	A little	Somewhat	A lot	Very much
30. I felt bad about the emotional response I was having.					
	Not at all	A little	Somewhat	A lot	Very much
31. I tried to reduce the intensity of my feelings.					
	Not at all	A little	Somewhat	A lot	Very much
32. I tried to feel differently about the film.					
	Not at all	A little	Somewhat	A lot	Very much
33. I tried to think differently in order to change my emotions about the film.					
	Not at all	A little	Somewhat	A lot	Very much
34. I tried to not show my feelings on my face.					
	Not at all	A little	Somewhat	A lot	Very much
35. I tried to “space out” or “numb” in order to feel less pain.					
	Not at all	A little	Somewhat	A lot	Very much
36. I automatically “spaced out” or felt “numb”.					
	Not at all	A little	Somewhat	A lot	Very much
37. I thought about happier or reassuring things.					
	Not at all	A little	Somewhat	A lot	Very much
38. I felt like I was outside my body.					
	Not at all	A little	Somewhat	A lot	Very much
39. I felt like things happening around me were not real.					
	Not at all	A little	Somewhat	A lot	Very much
40. I felt like my feelings were muted, or absent, although I did not try to make them that way.					
	Not at all	A little	Somewhat	A lot	Very much

41. I tried to see the events in a different way in order to feel differently.

Not at all A little Somewhat A lot Very much

42. Had you seen the film clip before? **YES** **NO**

43. If yes, did that influence your experience of the clip? **YES** **NO**

Explain: _____

44. Did any of your personal experiences affect your reactions to the film clip?

YES

NO

45. If yes, in what way? _____

Emotion Willingness Quiz

Please complete the following questions based on the information that you saw during the movie clip. If you do not know the answer to question, please write "DK" for "don't know".

1. Who puts money into the juke box? (circle one) Male Female

2. Why does the woman start dancing (i.e., what does she say before dancing)?_

3. What was the color of the woman's shirt? _____

4. Approximately how long is the woman's hair? _____

5. At what type of establishment did the scene take place? _____
6. Why does the woman in the green shirt leave the room? _____
7. What feeling does the woman in the green shirt seem to have when she leaves the room? (Multiple adjectives are acceptable for this response.)

8. What sport is showing on the television screen? _____
9. What was the color of hair of the man that the woman was dancing with?
(Please choose one from the options:
a) blonde b) auburn c) brown d) black
10. Why does the woman say that she needs to go? _____
11. How does the woman end up sitting on the pinball machine? _____

12. How does the man get others to help him? _____
13. What does the woman see from her perspective? _____
14. How does the woman's underwear come off? _____
15. What were the other men who were watching doing during the rape? _____

16. What is the hair color of the man standing on a table in the background?
(Please choose one from the options:
a) blonde b) light brown c) brown d) dark brown
17. What falls down and breaks? _____
18. Where does it fall from? _____
19. What is the second man who rapes the woman wearing? _____

20. What were some of the things that the men said? _____

21. Approximately how many men are in the room? _____
22. What leads to the guy in the yellow shirt deciding to rape the woman? _____

23. What is the name of the guy in the yellow shirt? _____
24. How do the other men respond when the second man gets pulled off the woman, what do they do? _____
25. How many men appeared to disapprove of what was happening to her? _____
26. What does the waitress do? _____
27. What color is the waitress's shirt? _____
28. How many men raped the woman? _____
29. How does the woman get the man off of her? _____
30. How does the woman leave the establishment? _____
-

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