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Development of an Emotional Pain Interview

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Dissertation submitted to the Eberly College of Arts and Sciences

at West Virginia University

in Partial Fulfillment of Requirements for the Degree of

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Abstract

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This study developed and tested the Emotional Pain Interview (EPI), a semi-structured interview measuring emotional pain, using community dwelling adults with a significant history of emotional pain ($n = 16$; emotional pain group) relative to matched controls reporting a prior significant positive life experience ($n = 16$; positive life experience group). The EPI and a matching positive life event interview were used to assess all participants regarding prior emotionally painful and positive life experiences. Participants completed measures of anxiety sensitivity, depression, and posttraumatic stress disorder. Ratings of emotional responding (i.e., Valence, Arousal, and Control/Dominance) were made for prior emotionally painful and positive life experiences by each participant and two researchers. The emotional pain group had significantly higher PTSD and depression scores than the positive life event group. Ratings of Valence and Control/Dominance differed for both participants and researchers across type of interview. Ratings did not differ, however, between groups for participants' or researchers' ratings of Valence, Arousal, or Control/Dominance. The EPI appears to have utility in the measurement of emotional pain, although it likely would benefit from additional refinement.

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Development of an Emotional Pain Interview

“Pain” often is used symbolically to describe emotional suffering felt in response to aversive personal experiences (e.g., “heartache” or “hurt feelings”). The use of pain terminology in the depiction of responses to adverse experiences, however, is not purely figurative. Grieving the loss of loved ones or the perception of social rejection has been shown to elicit painful reactions in the absence of direct nociception (Eisenberger, Leiberman & Williams, 2003; Najib et al., 2004). Reports of pain caused by emotional suffering often are conveyed in mental health settings, as well as in suicide notes (Mee et al., 2006; Williams, 2007). In fact, the languages of many diverse cultures use connotations of physical pain when referring to hurt feelings (Leary & Springer, 2001; Macdonald & Leary, 2005). This overlap between physical pain and negative emotional experiences, however, is not confined to linguistics, and has been examined under a variety of conceptual frameworks across several psychological disciplines.

History and Background of Emotional Pain

There is a longstanding literature surrounding emotional pain, and the earliest theorizing was conducted from a psychodynamic perspective. Freud theorized that emotional distress was unconsciously transformed into painful physical sensations as a more socially acceptable expression of the underlying emotional suffering (Breuer & Freud, 1957). Thus, chronic physical pain which could not be explained in terms of organic damage, was seen as resulting from unresolved suffering manifesting as emotional pain. Similarly, Engel proposed that emotional distress was responsible for painful experiences lacking a clear etiological basis in physical pathology (Engel, 1959). Engel referred to persistent non-organic pain as “psychogenic pain,” which was seen as a learned protection against emotional conflict which could cause, increase, or prolong pain. Although these conceptual models have not been validated by empirical study, they

expanded on the traditional biomedical model which explained pain as a purely sensory (nociceptive) experience (Asmundson & Wright, 2004). These early models increased interest in the cognitive, emotional, and social factors involved in the experience of pain, particularly pain which is experienced in response to emotionally distressing or traumatic situations (Gamsa, 1994). It appears, however, that many of the more recent emotional pain conceptualizations have focused less on the sensory-discriminative qualities of the emotional pain experience (i.e., intensity, quality, duration, and location), instead concentrating on the affective components and consequences of emotional pain.

Definition of Physical Pain

There is no one standard conceptualization of pain in general, and some definitions emphasize certain characteristics more than others. A well-established definition of pain is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (International Association for the Study of Pain Task Force on Taxonomy, 1994, p. 211). This definition emphasizes the experience of pain in response to both physical or non-physical harm, and the verbal expression of pain using linguistic labels of this harm. The *American Psychological Association Dictionary of Psychology* defines pain as “An unpleasant emotional as well as sensory experience. Pain also may be a feeling of severe distress and suffering resulting from acute anxiety, loss of a loved one, or other psychological factors” (VandenBos, 2007, p. 664). This conceptualization also recognizes both the sensory and emotional aspects of pain, and the role of trauma and distress in the experience of pain.

Physical pain perception begins with an indication of physical sensation through intensity, duration, and location, constituting the sensory-discriminative experience which is communicated without conscious effort by the nociceptive pathways of sense receptors,

peripheral nerves, spinal column, and brain (Price, 1999). In addition to the sensory-discriminative dimension, pain has a distinct affective quality responsible for its motivational-affective properties, which commands attention, disrupts behavior, and may overwhelm one's functioning (Melzack & Katz, 2001). It is important to note that nociceptive stimulation paired with the unpleasantness of the emotional response combine to form the aversive properties of pain (Turk & Flor, 1999). Additionally, a third dimension of pain, the cognitive-evaluative dimension, is responsible for higher-order control over activity in the other domains, such as processing sensory input with respect to previous experiences (Melzack & Katz; Melzack, 1993). Hence, the pain system is composed of separate, but highly interactive components including, pain sensation, pain affect, and an evaluative dimension that accounts for our learned history (Melzack & Katz; Price; Rainville, 2002).

Definition of Emotional Pain

To understand the concept of emotional pain, one of the critical issues is that of a clear definition. There are several different conceptualizations of painful sensations in response to aversive emotional experiences: *psychache* (Shneidman, 1998), *mental pain* (Orbach, 2003), *emotional pain* (Bolger, 1999), and *social pain* (Eisenberger, Leiberman & Williams, 2003; Leary, Springer, Negel, Ansell, & Evans, 1998). These constructs representing this phenomenon are distinguished by reports of pain in response to aversive, frustrating, or traumatic experiences in the absence of direct physical stimulation. In order to simplify the use of the term emotional pain in light of the various names of the aforementioned models, and because of the strong emotional emphasis these models share, emotional pain will be hereafter used as an omnibus term to describe this phenomenon. In order to account for the exploratory nature of the emotional pain literature and to provide an inclusive approach to the composition of emotional pain, a broad definition of

emotional pain will be used. Based on a previous critical review of the emotional pain literature, emotional pain can be defined as a distressing emotional and sensory experience occurring in the absence of direct physical stimuli in response to emotionally unpleasant or traumatic experiences (Weinstein, 2009a). Additionally, because Bolger's (1999) model of emotional pain shares the same name as the omnibus term emotional pain, the model of emotional pain proposed by Bolger will be distinguished from the term's broader use.

The emotional experience of pain is used as a signal of an aversive state that motivates behavior such as avoidance or escape, to attempt to alleviate undesirable sensations and emotional feeling (Macdonald & Leary, 2005). Thus, the motivating experience of chronic or acute pain which pairs noxious stimulation to a pain response is analogous to the unpleasant somatic sensations experienced in response to a traumatic or highly negative situation. The separation of the pain affect and pain sensation components allow for the experience of painful sensations without a direct physical stimulus through the stimulation of the neural components pertaining to pain affect (Rainville, 2002). Traumatic or unpleasant circumstances have been shown to elicit powerful painful feelings in a variety of populations and situations (Bolger, 1999; Eisenberger, Lieberman, & Williams, 2003; Greenberg & Bolger, 2001; Macdonald & Leary, 2005). Thus, feelings of emotional pain can be produced as a result of traumatic and emotionally unpleasant experiences independent of internal physically painful sensations.

There appears to be a lack of consensus on the definition, causes, and consequences of emotional pain. The extant emotional pain models use diverse frameworks, and appear rooted in their respective theoretical orientations. Among the different models of emotional pain there is a differing emphasis on the phenomenological factors such as the particular emotions, cognitions, and the extent that there is an unpleasant sensory experience described using connotations of pain.

There also are multiple opinions regarding the etiological factors of emotional pain, such as negative self attributions or feelings of loss. Additionally, there appears to be a lack of agreement on the outcomes of emotional pain, specifically with respect to the role of suicide, depression, and anxiety.

Neurological Imaging Studies of Emotional Pain

In addition to the theoretical groundwork for emotional pain, there is a substantial body of neuroimaging literature demonstrating a relation between the components of physical pain and the neurological components of emotional pain in the absence of physical stimulation. It has been well established that affective and sensory components of physical pain share similar neural pathways, and interact closely as part of a dynamic neural system (Price, 1999). In the last decade there has been an increasing number of neuroimaging studies demonstrating similar neurological response patterns and overlapping activation between the neural structures involved in the experience of physical pain and emotional states, such as social pain, grief, and empathy for others' pain (Eisenberger & Lieberman, 2004; Eisenberger, Leiberman & Williams, 2003; Gündel, O'Connor, Littrell, Fort, & Lane, 2003; Najib et al., 2004; Singer et al., 2004; Zaki, Ochsner, Hanelin, Wager, & Mackey 2007).

It should be noted, however, that there are no known prior studies that have directly examined the brain pathways involved in emotional pain. Although social pain, grief, and empathy likely are subsets of the larger emotional pain construct, each may represent only a specific range of application, and may not be indicative of specific neural substrates involved in the experience of emotional pain. Thus, the overlapping neural pathways activated during the experience of social pain, grief, and empathy have provided indirect support for the emotional pain construct in the absence of neuroimaging research explicitly targeting emotional pain.

Relation of Emotional Pain to Suicide, Anxiety, and Depression

Suicide. The experience of emotional pain may have implications in the study and prevention of suicide. Attempting to escape aversive feelings of emotional pain has been posited as a proximal predictor of suicidal behavior that mediates effects of other psychological variables relevant to suicide (Baumeister, 1990; Shneidman, 1999; Shneidman, 1998). In fact, suicidal patients frequently express emotional pain to clinicians, and messages connoting emotional pain are regularly found in suicide notes (Mee et al., 2006). Previous attempts to operationalize and identify characteristics of emotional pain have shown modest success in distinguishing between suicidal and non-suicidal individuals (Holden et al., 2001; Orbach et al., 1991). Additionally, individuals with suicidal symptoms have demonstrated higher tolerance for physical pain as compared to non-suicidal individuals (Orbach, Mikulincer, King, Cohen, & Stein, 1997).

Joiner's interpersonal-psychological theory of suicidal behavior posits that previous exposure to fear and pain leads to habituation, which increases the capability of a person to engage in fearful and pain inducing lethal self-injury (Joiner, 2005; Van Orden, Witte, Gordon, Bender, & Joiner, 2008). In addition, Joiner proposed that the need to be affiliated with and contribute to a social group is essential to individuals' wellbeing and desire to continue living (Joiner, 2005). Perceived burdensomeness and thwarted belongingness were both found to be proximal predictors of suicidal ideation and a risk for suicidal behavior (Van Orden et al., 2008). Thwarted belongingness appears closely related to the social pain construct, which has been linked to the neurological correlates of the motivation of distress behaviors from physical pain (Eisenberger, Jarcho, Lieberman, & Naliboff, 2006; Eisenberger, Leiberman & Williams, 2003). Due to the neurological and phenomenological similarities of physical pain and emotional pain, it could be assumed that much like physical pain, exposure to emotional pain may lead to habituation of the

fear and pain involved in suicidal behavior. Emotional pain could, however, also serve as motivation for the strategy of escape from emotional suffering via suicide. Identifying suicidal risk and developing preventative suicide interventions are important goals that could be advanced by increasing the knowledge base surrounding the experience of emotional pain.

Anxiety and depression. Emotional pain shares common features with symptoms of other aversive psychological and emotional states. Theoretical models of emotional pain have been differentiated from other constructs associated with traumatic experiences and negative changes such as depression, posttraumatic stress disorder (PTSD), and anxiety (Baumeister, 1990; Bolger 1999; Shneidman, 1999). The ability for clinicians to identify emotional pain as separate from, or as a precursor to, other features of emotional distress or the related states of depression, anxiety, and PTSD, could serve an important role in research and prevention of suffering and suicidal behavior. The work of Orbach et al. (2003) is the only known data-driven research to date that distinguished emotional pain from the related states of depression and anxiety. Although there appears to be partial overlap between emotional pain and symptoms of depression, the extant phenomenological self-reported descriptions of emotional pain differ from depression in multiple ways, particularly with the emphasis on painful somatic sensations resulting from aversive or traumatic experiences (Eisenberger, Lieberman, & Williams, 2003; Greenberg & Bolger, 2001; Macdonald & Leary, 2005). The extent that emotional pain can be empirically identified as a distinct experience or a higher order factor for depression and trauma currently is unclear.

Emotional pain is a familiar, but under-studied phenomenon that has potential to increase understanding of reactions to traumatic or other emotionally unpleasant events. Research on

emotional pain recently has captured the attention of researchers from a variety of psychological orientations and disciplines, and has resulted in several conceptual models.

Models of Emotional Pain

Before attempting to operationalize or measure emotional pain, it is necessary to evaluate the components and symptoms that constitute the various models of emotional pain. The four emotional pain models of psychache, mental pain, social pain, and emotional pain were selected because they are the only known conceptualizations fully representing the phenomenon of emotional pain. Within this research there exist a number of important findings, as well as conceptual and methodological limitations that should be addressed (Weinstein & McNeil, 2009).

Psychache. Shneidman's (1998) model of emotional pain is known as psychache, and it emphasizes the distress caused by the experience of pain, especially as a contributing factor of suicidal behavior. Psychache is considered the product of frustration from important unmet psychological needs that are expressed through a variety of negative emotions such as shame, guilt, fear, grief, hopelessness, and anger (Shneidman, 1998). When psychache becomes unbearable, an individual resorts to suicide in order to escape the frustration of unmet needs and emotional perturbation. It appears that feelings of rejection, failure, humiliation, and disorientation are the major themes of the thwarted needs resulting in the negative affective state of psychache, and possibly suicide. Thus, the psychache model of emotional pain can be operationalized by endorsements of rejection, failure, humiliation, and disorientation as well as a measure of negative affect. Baumeister's (1990) theory of suicide is similar to the psychache model by postulating escape as a prevalent motive for suicide, particularly escape from aversive emotional states, although Baumeister emphasizes increased awareness of unfavorable self attributions. Baumeister (1990) posits that suicide often is a result of attempting to end aversive feelings that are caused by

failures and disappointments that are attributed to oneself. Thus, Baumeister considers suicide as an escape from self-disappointment and negativity.

While Shneidman's concept of psychache is intriguing, it appears to have a relatively limited scope and seems to be theoretically, rather than empirically driven. Most of Shneidman's theorizing reportedly is guided by observations and anecdotal reports from his own vast clinical experiences. Shneidman takes a mentalistic stance which focuses on the collection of aversive thoughts and emotional experiences which overlap with or encompass emotional pain, rather than the experience of pain, and the factors involved in the experience of emotional pain, such as the duration, intensity, and descriptors involved in one's pain experience.

Mental pain. The construct of mental pain primarily is distinguished by an abundance of negative emotions and a self deprecating view of oneself, brought on by aversive personal or interpersonal circumstances (Orbach, 2003; Orbach et al., 2003). Mental pain has been characterized as an awareness of negative changes in the self and its functions, accompanied by negative feelings and cognitions (Orbach, 2003; Orbach et al., 2003). Depression, anxiety, and suicidality all have been found to be significantly related to a measure of mental pain (Orbach & Mikulincer Mental Pain Scale; OMMP), but because correlations were moderate, mental pain is considered a distinct entity (Orbach, 2003; Orbach et al., 2003; Orbach et al., 1991). Mental pain is believed to be the result of personal or interpersonal loss, self-disappointment or failure, and inability to attain important goals; it involves an array of private experiences that create negative feelings and an awareness of negative changes of the self (Orbach et al., 2003). Thus, the mental pain model emphasizes the role of negative personal or individual experiences in addition to negative interpersonal experiences (i.e., loss of a significant other, or rejection by others). The

changes in the self and the function of the self are believed to be related to a wide range of negative emotions (Orbach et al., 2003).

Emotional pain. Based on the qualitative analysis of interviews with individuals reporting emotional pain based in grounded theory, Bolger (1999) created a model depicting the experience of emotional pain. Similar to the experience of physical pain, which serves as a warning for the body of aversive or potentially harmful situations, the conceptualization of emotional pain serves to signal harm resulting from a traumatic event or crisis. The aversive properties of emotional pain serve an adaptive function leading to avoidance of potentially harmful circumstances. This avoidance causes emotional pain to become an over-regulated state which needs to be approached and reprocessed in order to “assimilate it into one’s cognitive structures and view of the self” (Greenberg & Bolger, 2001, p. 198). Greenberg and Bolger (2001) believe that central to the avoidance of re-experiencing emotional pain is feelings of a loss of control, which is an intrinsic feature of the experience of pain. Perceptions of loss of control or threat are well known to positively correlate with pain responding (Arntz & Schmidt, 1989; Bruehl & Chung, 2004). Greenberg and Bolger (2001) apply their conceptualization of emotional pain more directly to the experience of physical pain by emphasizing the functionally adaptive similarities experienced in both states involving the learned avoidance of detrimental situations.

Bolger (1999) defined emotional pain as “the awareness of a disruption in the person’s tendency toward maintaining individual wholeness and social unity” (p.357). The heart of this disruption involves a sense of brokenness which entails: a “wounded” feeling, a disconnection from an important relationship, and a loss of self-identity which includes a new awareness of negative features of themselves. These feelings of disconnection involved in “brokenness” emerge through the awareness of a separation or loss of a significant other. By tolerating pain, and

acknowledging negative feelings towards oneself, Bolger's clients reported resolving their emotional pain and improving their interpersonal relationships. The acceptance, re-experience, and re-evaluation of feelings and beliefs developed from the experience of trauma or crisis are involved in resolution. Bolger (1999) and Greenberg and Bolger (2001) took a clinically-oriented stance by providing a plethora of anecdotal reports including a case illustration surrounding treatment and outlining treatment guidelines for patients suffering from emotional pain.

Social pain. Social pain is a phenomenon that may be important in social learning and motivating behaviors to maintain attachments and prevent social separation (Leary, Springer, Negel, Ansell, & Evans, 1998; Macdonald & Leary, 2005). Due to the importance of social attachment in mammals, it has been hypothesized that at some point in our history the neurocognitive correlates of social pain may have evolved onto the physical pain system as a salient mechanism for preventing estrangement (Panksepp, 2003). From an early age, humans learn that social isolation and pain are positively correlated. A child learns that discomfort can be alleviated by contact with caregivers and that the aversive pains of hunger, thirst, and other bodily functions are not relieved until their attachment figure is in contact with them again (Macdonald & Leary, 2005). Thus, the pain that is felt in response to isolation provides a strong learning mechanism. In fact, isolation is so distressing that victims of social ostracism report they would prefer physical violence to ostracism, and report their experiences of isolation have left a permanent impact (Williams, 2000). Social pain has been defined as "the distressing experience arising from the perception of psychological distance from close others or from the social group" (Eisenberger, Jarcho, Lieberman & Naliboff, 2006). Hence, social pain encompasses emotional pain following social rejection or social loss.

Recently there has been an increase in neuroimaging studies supporting the social pain construct, with demonstrations of overlap between the neural structures involved in the experience of physical and social pain (Weinstein, 2009a). The majority of the evidence demonstrating a neurological overlap in physical pain and social pain involves the anterior cingulate cortex (ACC) and anterior insula (AI) activation (Eisenberger, Jarcho, Lieberman & Naliboff, 2006; Eisenberger, Lieberman & Williams, 2003; Panksepp, 2003). The intensification of unpleasant physical stimulation alters activity in the ACC and AI regions which relate to perceived pain intensity, whereas the somatosensory cortices tend to be involved in the sensory domain of pain experience which determine location, duration and intensity (Rainville, 2002). Both the ACC and AI's role of creating emotionally unpleasant neural responses appears to be associated with the learned response of avoiding future causes of emotional pain.

Common Themes of Emotional Pain Conceptualizations

In addition to the idiographic nature of emotional pain, one of the most salient themes across the various conceptualizations is the cognitive framework and lack of behavioral or physiological methodology. A universal aspect across all models of emotional pain is the experience of intense negative emotions. Additionally, all emotional pain models included some aspect of perceived personal loss, abandonment, rejection, and internalized attributions to the etiology of emotional pain. Feelings of self-blame were a specific component of the psychache and mental pain models, but were indirectly related to the emotional pain model. Additionally, loss of control was directly implicated in the mental pain and emotional pain models, but not in the psychache model.

Although the broad construct of emotional pain shares common features of negative emotions, it appears to be more than just a simple combination of negative affect. One feature that

is not present in both the psychache and mental pain conceptualizations of emotional pain is an emphasis on the painful sensations felt in response to aversive experiences, rather than the use of only symbolic or metaphorical depictions of pain. Bolger's model of emotional pain highlights the functional commonalities of emotional and physical pain (i.e., warning and learned avoidance of aversive situations) while the psychache and mental pain models portray more figurative pain descriptions.

Measures of Emotional Pain

There have been few attempts to provide an empirically validated measure of emotional pain, and much of the extant research suffers from methodological flaws. Only three assessment tools have been developed to specifically measure the construct of emotional pain: Psychological Pain Assessment Scale (PPAS; Shneidman, 1999), Orbach and Mikulincer Mental Pain Scale (OMMP; Orbach et al., 2003), and semi-structured group therapy interviews conducted by Bolger (1999).

Psychological Pain Assessment Scale. Shneidman (1999) created the PPAS to explore the relationship between psychache and suicide, as well as to create a tool that could serve clinicians in predicting suicidal patients by their heightened level of psychache. The PPAS assesses current and worst ever psychache, negative emotions experienced during psychache, and details of previous suicide attempts. Additionally, the PPAS uses an application of the Thematic Apperception Test (TAT; Murray, 1935) as a projective technique to measure the psychological pain perceived. Ambiguous pictorial stimuli assess individuals' responses in order to explore the components of psychache and the theoretical dimensions of the relationship between psychache and suicide. Shneidman (1999) provides mostly subjective rather than empirical evidence regarding the reliability and validity of the PPAS. Hence, the PPAS appears

to be a work in progress, both trying to explore the phenomenology of psychache and to provide a tool for clinicians to explore patients' suffering and suicide risk. Asking individuals for ratings of their current and worst ever psychache may have some clinical utility in discerning current suicidal risk (Pompili et al., 2008). The PPAS, however, does not appear to demonstrate psychometric properties adequate for current clinical utility. Besides demonstrating questionable construct validity, there does not appear to be any research on the scale's reliability, i.e., internal consistency or test-retest reliability, which are crucial psychometric features. Additionally, the PPAS has additional shortcomings such as the use of unstructured scales requiring individual judgment, and the lengthy nature of administration.

Orbach and Mikulincer Mental Pain Scale. Orbach, Mikulincer, Sirota, and Schectman-Gilboa (2003) developed the OMMP scale from a content analysis of interviews and written narratives from individuals reporting mental pain. Based on their content analysis, it was found that mental pain primarily consists of a perception of negative changes in oneself, feeling abandoned, and negative feelings from a sense of an irreversible loss of oneself or others. Pearson correlations of OMMP scores were moderately related to measures of both depression and anxiety, assessed by the Cognition Checklist (CCL; Taylor, Koch, Woody, & McLean, 1997). These preliminary analyses suggest that mental pain, depression, and anxiety are related but not entirely overlapping, supporting the conception of mental pain as an independent construct.

The model of mental pain appeared to have received empirical support through the use of the OMMP. Connotations of permanent personal and interpersonal loss, and loss of control were particularly notable. These results may implicate the role of social loss, feelings of helplessness, and rigid, catastrophic thinking in the experience of mental pain. A factor analysis of emotional

pain content measured by the OMMP found the emotions involved in the experience of emotional pain included: (a) self-blame, (b) anxiety, (c) depression, (d) hurt from relational devaluation, (e) grief, and (f) anger. Additionally, the cognitions associated with mental pain included: (a) sense of no justice, (b) worthlessness, and (c) continual rumination. The causes of emotional pain were identified as: (a) interpersonal loss or rejection, (b) self-disappointment or failure, and (c) blocking of important goals. Due to its relatively short length (44 items) and psychometric properties, the OMMP seems to have demonstrated clinical utility for the assessment of emotional pain. The OMMP exhibited high internal consistency with a nine factor structure. Cronbach alpha coefficients ranged from .75 to .95 and test-retest reliability coefficients ranged from .79 to .94. Impressive results considering the seeming difficulty involved in measuring internal emotions (e.g., self-estrangement).

The mental pain model and the OMMP have provided support for the notion of mental pain as a distinct experiential entity, as well as its moderate relation to depression and anxiety. The relation to depression and anxiety, however, is still somewhat tentative. Only the CCL was used for assessment, which measures the cognitive symptoms of depression and anxiety, and not any behavioral or physiological features. The non-cognitive features of depression and anxiety, as well as pain and trauma, appear to be a somewhat neglected area as evidenced by the focus on the inner complexity of internal experiences. It also is unclear whether Orbach and colleagues (2003) provided an actual operational definition, or a conceptual definition of emotional pain. It appears that although the mental pain model is promising, full support is inconclusive pending further examination and statistical support.

Analysis of group therapy interviews. Bolger (1999) conducted group therapy interviews with seven adult female clients suffering from emotional pain related to previous

parental abuse. These clients answered open-ended questions about their experiences with emotional pain (e.g., “Have you felt a change in your sense of self?”), which were analyzed through the grounded theory method. This tentative model describes the components involved in the experience of emotional pain, and outlines the phases necessary to therapeutically resolve emotional pain based on Bolger’s clinical experiences. Resolution of emotional pain first involves the phase of “allowing brokenness” which entails tolerating and accepting the unpleasant state of emotional pain through reliving it in a therapeutic context. In the second phase of resolution, “staying with the brokenness,” one’s sense of brokenness is acknowledged, which identifies the source of damage and facilitates the expression of related feelings (e.g., sadness, loss, acceptance).

Although Bolger’s (1999) sample consisted of individuals reporting distress from emotional pain, certain methodological concerns exist, including: (a) the generalizability of the sample (e.g., small sample size, all female, all abused as children), (b) the possibility of measurement bias, through social desirability or asking loaded questions (e.g., asking about their “sense of self”), (c) lack of quantitative data (inconsistent with traditional deductive scientific hypothesis testing), and (d) the use of anecdotal reports rather than empirical evidence to describe treatment outcomes and processes, which created potential for researcher bias. Additionally, while Bolger (1999) and Greenberg and Bolger (2001) provided a definition and a depiction of the experience and treatment of emotional pain, they failed to operationalize the concepts used to explain emotional pain (e.g., sense of self, brokenness). Thus, it appears that it would be quite difficult to reliably assess or measure emotional pain as it is defined and described by Bolger, unless a number of methodological concerns are addressed.

Summary of emotional pain measures. These efforts represent an important stage in the development of approaches to quantify the construct of emotional pain. The OMMP has provided empirical data supporting the construct of emotional pain as an independent phenomenon which is related to cognitive symptoms of depression and anxiety (Orbach et al., 2003). The other attempts designed to measure emotional pain appear to be narrowly focused, and suffer from an overall dearth of rigorous empirical data, especially for normative samples. Many measurement modalities used in the assessment of physical pain, however, appear to use broad-based approaches to measure the multiple dimensions and phenomena closely associated with the experience of pain. Given the likely idiosyncratic nature of emotional pain, it appears that its assessment could greatly benefit from adopting the wide-ranging, multi-dimensional approaches regularly used in the measurement of acute and chronic pain.

Assessment of Pain

Pain can not merely be studied as a physiological phenomenon, and should be considered a psychological experience, with emotional and motivational states playing an integral part of the experience of pain (Price, 2000). Episodes of pain can vary widely in a number of dimensions such as magnitude, location, duration, and quality. The experience of pain can be an easily ignored occurrence, or the most agonizing sensation imaginable. Pain ultimately represents a perceptual process involving conscious awareness, assigned meaning, selective abstraction, and learning (Melzack, 1993). The dynamic nature of pain processing explains the differences in responding among individuals presented with exactly the same nociceptive stimulus. This psychological level of analysis, however, must be unified with biologically based research (e.g., pharmacology, neurology) in order to have a complete understanding of pain. Thus, fitting with the biopsychosocial perspective, it is advantageous to evaluate the cause, nature, and

characteristics, as well as an individual's history prior to the onset of noxious pain stimulation (Asmundson & Wright, 2004).

The multiple dimensions of pain make it a complicated phenomenon to assess or quantify. There are a multitude of pain instruments and indexes used for clinical or research purposes, which are too numerous to review here. Measures most often are theoretically based on a particular model of pain, which serve as a reference for the creation and subsequent refining of the measure (Skevington & Mason, 2004). Thus, a group of variables based on theory are hypothesized to predict responses, and are used to measure experiences with pain by explaining the largest portion of variance of the reactions to pain (Skevington & Mason, 2004).

Semi-structured and structured interviews in the assessment of pain frequently are used to evaluate behavioral and personality factors that affect pain perception, pain behaviors, and functional impairment (Bradley & McKendree-Smith, 2001). Considering the multi-dimensional and subjective properties of pain, the use of open-ended interview methods can help determine how pain has affected an individual's life, and what factors may have influenced the pain. Regardless of the format of a particular interview, the first objective of a behavioral pain interview is typically to acquire a "pain history," including events precipitating the onset of pain, and the course of the pain over time regarding the intensity, frequency, location, and the sensory and affective qualities (Bradley & McKendree-Smith, 2001). Additionally, prior treatment and coping strategies, and responses to these strategies are assessed in order to determine what has worked, and what was unsuccessful.

Depression, Anxiety, and the Experience of Pain

The evaluation of the experience of pain frequently involves an assessment of current functioning, including symptoms of depression or anxiety. It is generally conceded that

psychological distress contributes to the development of chronic pain, and mood disorders tend to enhance pain perception (Gamsa, 1994). Although the diagnostic criteria for major depressive disorder underscore emotional, cognitive, and vegetative symptoms, somatic complaints and painful physical symptoms are closely associated with the experience of depression (American Psychiatric Association, 2000). Depression has been clearly related to enhancement of the experience of pain, and depression has been directly attributed to the level of pain experienced (Dickens et al., 2002). The number of pain symptoms has been found to predict major depressive disorder, with pain having an additive effect, lengthening the duration and increasing the severity of depressive episodes (Greist, Greden, Jefferson, & Trivedi, 2008).

Anxiety symptoms have also been implicated in the development and exacerbation of pain, particularly with respect to the concepts of fear avoidance and anxiety sensitivity. Fear avoidance theory posits that catastrophic thoughts lead to a threatening perception of pain, and subsequent avoidance behaviors brought about by hypervigilance to bodily sensations and fearful beliefs (Linton, Buer, Vlaeyen, & Hellsing, 2000). More than the actual intensity of pain, fear of pain has been suggested to lead to greater disability in chronic pain patients (Crombez, Vlaeyen, Heuts, & Lysens, 1999). Anxiety sensitivity involves catastrophic thinking in response to symptoms of anxiety, and subsequent avoidance of associated stimuli that might provoke these unpleasant symptoms (Greenberg & Burns, 2003). Chronic pain patients with high pain anxiety show fear of anxiety-provoking stimuli in general, rather than just pain-related anxiety-generating stimuli (Greenberg & Burns, 2003). Additionally, patients suffering from chronic pain should be assessed for possible previous physical or sexual abuse. In a study by Haber and Roos (1985), 53% of 151 female patients presenting to a chronic pain center reported a childhood or adult history of physical or sexual abuse. Additionally, abused patients were twice as likely to

have experienced pain without an identifiable cause or precipitating injury (Haber & Roos, 1985).

Opiates and the Experience of Pain

There is a well documented overlap between acute and chronic pain and symptoms of psychological distress. Primary care patients endorsing pain symptoms are roughly two to ten times more likely to screen positively for panic disorder, generalized anxiety disorder, or major depressive disorder (Means-Christensen et al., 2008). Opioid use has been a longstanding treatment to regulate acute and chronic pain, but opioids are also known to mediate the pleasurable and motivating aspects of natural reinforcers, and moderate emotional state (Narayanan et al., 2004). In addition to their use for analgesia, opioids are known for their mood elevating properties, and were widely used in the treatment of depression before they were replaced by other treatments with less potential for abuse and physical dependence in the 1950's (Bodkin et al., 1995). However, opioid use may still have utility in the pharmacological management of depression, as it has recently been shown to be successful in the treatment of treatment-resistant major depression (Bodkin et al., 1995). Depressive and anxiety disorders have been found to be strongly associated with regular use of prescribed opioids, independent of the effects of functional impairment due to pain (Sullivan, Edlund, Steffick, & Unutzer, 2005). Additionally, high levels of psychological distress have been closely related to use of prescribed opioids (Sullivan et al., 2005).

There also is a large animal literature regarding the role of opioids in the regulation of social distress, in response to isolation and separation. The neuro-anatomical underpinnings of separation-distress appear closely related to the opioid-sensitive pain regulation systems of the brain (Panksepp, 2005). Administration of small doses of morphine has been shown to reduce

cries of distress from rat pups isolated from their mother (Carden, Hernandez, & Hofer, 1996). Additionally, administration of Naltrexone (an opioid antagonist) has been shown to reverse the reduction of separation distress related cries by isolated rat pups (Carden et al., 1996).

The ACC is known to have a high density of opioid receptors, and is considered part of the neural circuitry involved in the analgesic effects of opioid pharmacotherapy (Treede, 2006). The opioid neuroendocrine system likely affects the neural substrates of both the physical and emotional pain systems (Panksepp, 2005; MacDonald & Leary, 2005; Sullivan et al., 2005). There is a clear association between psychological pathology and the overuse of opioids, with mental health disorders being significant risk factors for opioid abuse and dependence among veterans (Edlund, Steffick, Hudson, Harris, & Sullivan, 2007). The finding that veterans with mental illness are more likely to abuse opioid medications suggests the possibility of self-medication of symptoms of anxiety, depression, and emotional pain in response to combat trauma. Thus, opioids may be used to regulate the response to experiences of distressing, painful experiences. It is likely then, that the neuroendocrine activation of the ACC by opioids may mediate the aversive effects of emotional pain. Thus, it appears that an evaluation of individuals reporting traumatic, distressing, or emotional painful experiences should include possible opiate use.

Statement of the Problem

Although previous attempts to assess experiences of emotional pain have provided some information, these efforts were somewhat limited by methodological constraints and narrow theoretical bases. The theoretical underpinnings of the psychache, mental pain, emotional pain, and social pain models should serve to orient the formation of a measure of emotional pain.

In addition to the nebulous theoretical focus on affective and cognitive processes of the emotional pain models, there is a need for more discrete empirical data surrounding the causes, consequences, time-course, and somatic sensations associated with the experience of emotional pain.

First, it appears that an integration of the past findings on the experience of emotional pain and the methodology for the assessment of acute and chronic pain through use of structured interviews could improve the quality and scope of potential information about emotional pain. Collecting behavioral emotional pain data should correspond with the evaluation of acute and chronic pain by constructing a history of events precipitating the onset of pain, and the temporal course of the intensity, frequency, location, duration, and the sensory and affective qualities over time. Although Bolger's (1999) study found several commonalities in the visceral and spatial descriptors used to describe emotional pain, these reports were highly variable and should be further investigated to better determine how emotional pain typically is experienced. Additionally, prior treatment, coping strategies, and responses to these strategies should be assessed at various points after the onset of emotional pain. Due to the high comorbidity of psychological disorders and chronic pain (Sullivan, 2001), the assessment of symptoms of mental disorders in those presenting with both physical and emotional pain is necessary. In addition, evaluation of present affective functioning should be conducted to replicate the moderate correlation found between emotional pain and both depression and anxiety, which would also increase confidence in the concept of emotional pain as an exclusive experiential entity (Orbach et al., 2003). It currently is unclear whether emotional pain is strictly an independent experiential entity or whether emotional pain is subsumed by, antecedent to, or is a

higher order factor of related aversive states, such as depression or trauma (Weinstein, 2009a; Weinstein, 2009b; Weinstein & McNeil, 2009).

Second, the task of assessing the validity of a measure of emotional pain is difficult because of the exploratory nature of the literature. Due to the tentative state of the literature, reports of emotional pain can not be checked against established symptom or diagnostic criterion. Despite the previous efforts to metricize emotional pain, there is a need for a measurement methodology that will help to quantify this phenomenon while allowing a broad based exploration of it. Thus, a semi-structured interview with open-ended questions would seem to be the logical next step in the evolution of understanding emotional pain. A semi-structured interview can be used to obtain specific quantitative and phenomenological information as an inductive approach to examine the emotional pain construct, as has been used to elucidate the phenomenon of dental fear (Vrana, McNeil, & McGlynn, 1986). The use of a semi-structured interview will help ensure that participants being interviewed provide sufficient detail in explaining their experiences, and understand the construct being measured. It is especially important making certain that participants clearly differentiate experiences of emotional pain from acute or chronic because of possible confusion (Weinstein, 2009b).

Third, in the extant literature, little is known regarding the temporal course of emotional pain. There is a lack of temporal details concerning emotionally painful events which would allow linear relationships to be examined. There is an absence of empirical evidence on the duration of emotional pain, and the time-frame surrounding the onset of emotional pain symptoms following a distressing or traumatic life event. Comparatively, criteria for a diagnosis of PTSD specify that the symptom duration must be over one month, with onset typically within the first 3 months of a traumatic event (American Psychiatric Association, 2000). Thus, the onset

date of reported emotional pain symptoms should be noted to establish the duration and temporal course of emotional pain.

Fourth, pain most frequently is measured in terms of intensity, which typically is determined by communication regarding one's experience. Individuals frequently are required to average their pain across time and situations by quantifying their pain on a Likert-type scale of 0 to 10, with 10 representing severe pain or the worst pain imaginable. Although pain intensity is the most salient dimension of the experience of pain, intensity does not reflect physical or psychological disruptions in functioning (Turk & Melzack, 2001). Because functional impairment can not always be accurately inferred or predicted by intensity, self report of pain symptoms and behaviors have been shown to provide valid measures of functional status (Turk & Melzack). Intensity and duration of traumatic events are important variables affecting the probability of developing PTSD (American Psychiatric Association, 2000). It has been well established that pain produces negative emotional states of varying intensity (Robinson & Riley, 1999). Emotional pain has been shown to involve painful sensations and aversive emotional feelings in response to traumatic stimuli (Bolger, 1999; Eisenberger, Lieberman, & Williams, 2003; Greenberg & Bolger, 2001; Macdonald & Leary, 2005). The intensity of distressing events and report of pain symptoms and behaviors should be assessed to provide insight into the causal factors of emotional pain.

Finally, it appears necessary to study emotional pain in a sample representing the general population in order to reduce effects of bias or false generalization. The content of individuals' experiences with emotional pain is likely be affected by socio-cultural demographic variables, and the issues associated with these characteristics (e.g., factors related to developmental stage, such as chronic illness in older adults). A previous effort to explore emotional pain and its

relation to other affective and sensory states demonstrated possible age effects in a sample of college students, with grandparents' deaths or the breakup of relationships with a boyfriend or girlfriend accounting for almost half of the reported causal events of emotional pain (Weinstein & McNeil, 2009). There were 250 undergraduates in the study by Weinstein and McNeil who were randomly assigned to one of five groups in which they wrote a personal account about an emotionally painful, physically painful, traumatic, depressing, or joyful situation. Participants reporting emotional pain reported significantly higher: (a) negative affect ratings, as measured by the Positive and Negative Affect Schedule (Watson & Clark, 1988); (b) ratings of affective descriptions of pain, overall pain evaluation, and pain intensity as measured by the Short-Form McGill Pain Questionnaire (Melzack, 1987); and (c) ratings of trauma-related thoughts and beliefs as measured by the Posttraumatic Cognitions Inventory (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999) than individuals reporting a joyful experience. The relatively young age of the sample ($M = 20.0$ years, $SD = 2.7$), however, may have prevented examination of the full breadth of situations representative of emotional pain. Therefore, the use of community based recruitment methods would allow for a continuation of the examination of the construct of emotional pain using a more diverse sample which is likely to be more representative of the general population.

The results of the aforementioned studies substantiate the importance of emotional pain as a construct. Although there are a number of methods to assess the related states of acute or chronic pain, depression, trauma, and anxiety, there are few measurements that explicitly target emotional pain. Consequently, a crucial need in this area is the development of a measurement strategy for emotional pain. The present study is designed to systematically develop and refine

an interview to assess the experience of emotional pain using both inductive and deductive methods to allow for further exploration of the emotional pain construct.

Hypotheses

The current study of emotional pain has four major hypotheses. First, it is predicted that the expert panel of judges will come to an adequate agreement on the majority of Emotional Pain Interview (EPI) items. Modifications are expected to occur, but not substantively alter the current structure of the EPI. The mean content validity ratio across initial test items is expected to be above the 0.75 value, as indicative of overall test content validity (Lawshe, 1975).

Second, it is predicted that participants recruited to relate the experience of emotional pain will be significantly different from those recruited to speak about the experience of a positive life event, with the former group having an increased self-report of depression, anxiety sensitivity, and PTSD symptoms as measured by the BDI-II, ASI-3, and PCL, respectively, as later described.

Third, it is predicted that there will be significant differences on the EPI and the Positive Life Event Interview (PLEI), as a measure of discriminant validity between the emotional pain and positive life event groups for interviewers' ratings of emotional responding on the three dimensions of valence, arousal, and Control/Dominance. It is expected that emotional responding scores on the EPI for participants in the emotional pain group will have lower ratings of valence, higher arousal, and higher ratings of feeling controlled compared to emotional responding scores on the EPI for the positive life event group. Additionally, emotional responding scores on the EPI are projected to be lower on ratings of valence, higher on ratings of arousal, and higher on ratings of feeling controlled in comparison with emotional responding scores on the PLEI for both groups.

Fourth, as a measure of the reliability of the interviews, it is predicted that the two interviewers' inter-rater reliability ratings of the first and second ratings of the interviews will be above 0.80, as assessed by Intra-class Correlation Coefficients.

Method

Participants

Using the research of Leary and Springer (1998), Weinstein and McNeil (2009), Orbach et al. (2003), and calculations outlined by Keppel and Wickens (2004), an effect size of $\omega^2 \approx 0.4$ was estimated for the current study for a sample size of 32 participants. Participants were recruited from local newspaper advertisements, fliers placed around the community, internet advertisements, and word of mouth. The present study involved 33 community dwelling participants, with only 32 participants having usable data (e.g., 16 reporting experiencing a significant emotionally painful experience and 16 reporting a significant positive life event). 16 participants remained in each group after matching the emotional pain and positive life event groups for demographic criteria of age (within five years), sex, and socioeconomic status. All participants were interviewed regarding their prior experiences of both positive life experiences and emotional pain experiences.

Within the emotional pain group, there were 10 females and 6 males, all of whom identified themselves as Caucasian. They ranged in age from 19 to 67 years ($M = 49.8$, $SD = 15.48$). The marital status of participants consisted of 37.5 % ($n = 6$) being single (and never married), 31.25% ($n = 5$) being separated, divorced, or widowed, 18.75% ($n = 3$) being married or living with their current partner, and 12.5% ($n = 2$) had a partner outside of the home. The positive life event group also had 10 females and 6 males, and all participants identified themselves as Caucasian. They ranged in age from 18 to 70 years ($M = 50.7$, $SD = 14.79$). The

marital status of participants consisted of 56.25% ($n = 9$) being married or living with their current partner, 25.0% ($n = 4$) being divorced, and 18.75 % ($n = 3$) being single (and never married). Demographic characteristics are displayed in Table 1. Pre-established exclusion criteria were used to screen participants, which are displayed in Table 2. After the completion of the data collection, all participants were thanked, debriefed, and provided both with a list of mental health resources and \$50.00. (See Appendix A for a copy of the payment record form and Appendix B for a copy of the list of mental health resources).

Measures

Beck Depression Inventory–II. The Beck Depression Inventory-II (BDI-II) consists of 21 items measuring the severity of depression (Steer, Clark, & Beck, 1999). The BDI-II is composed of items relating to depressive symptoms such as hopelessness, irritability, guilt, fatigue, weight loss, and lack of interest in sex. The BDI-II shows high internal consistency ($\alpha = .92$) and high convergent validity as is demonstrated by Pearson Correlations between the BDI-II and the Depression scale of the SCL-90-R ($r = .89$) (Steer, Clark, & Beck). The BDI-II is not displayed in the appendices due to its copyrighted status.

Anxiety Sensitivity Index. The Anxiety Sensitivity Index (ASI) consists of 16 statements associated with anxiety sensitivity. Participants rated their agreement with the items on a 5-point scale (Reiss, Peterson, Gursky, & McNally, 1986). The ASI measures fear of fear as well as anxiety proneness or tendency to interpret anxiety as negative. The ASI demonstrated adequate test-retest reliability ($r = .71$) across three years (Maller & Reiss, 1992), and has been shown to discriminate between clients with anxiety disorders and college students. Additionally, the ASI has been found to possess strong internal consistency ($\alpha = .88$) (Peterson & Heilbronner, 1987). See Appendix C for a copy of the ASI.

PTSD Checklist. The PTSD Checklist (PCL; Weathers, Litz, Huska, & Keane, 1994) is a 17-item self-report measure of the severity of PTSD symptoms using the diagnostic criteria B, C, and D for PTSD, of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR*; American Psychiatric Association, 2000). The PCL is divided into three subscales of Re-experiencing, Avoidance, and Hyperarousal. Participants rate symptoms experienced over the previous month on a Likert-type scale from 1 (*not at all*) to 5 (*extremely*), indicating the degree to which they were bothered by a particular symptom. Convergent validity is high for the PCL, with a 0.93 correlation with the Clinician Administered PTSD Scale (Blanchard, Jones-Alexander, Buckley & Forneris, 1996). Additionally, as a measure of discriminant validity, the correlations between the PCL and scores of the Mississippi Scale for PTSD (MS-C) and the Impact of Event Scale (IES) PTSD measures were significantly higher than correlations between the PCL and scores on the SCL-90-R ($p < .05$) and CES-D, $p < .001$ (Ruggiero, Del Ben, Scotti, & Rabalais, 2003). The PCL demonstrates high test–retest reliability, with an α of .92 for immediate re-testers, an α of .88 for participants with 1-week retest intervals, and an α of .68 for participants with 2-week retest intervals ($p < .001$) (Ruggiero, Del Ben, Scotti, & Rabalais, 2003). See Appendix D for a copy of the PCL.

Hollingshead's Measure of Socioeconomic Status. The Hollingshead's measure of socioeconomic status (The Hollingshead) is a measure of socioeconomic status (SES) with four factors consisting of education, occupation, marital status, and sex. Information is combined from each of the four factors, and a SES score is estimated through values established for each criterion which are multiplied by a factor weight (Hollingshead, 1975). The factor's scores then are summed for a total SES score. The total score can range from 8 to 66, with higher scores representing higher the socioeconomic status. Previous research has demonstrated high

classification agreement ($r = .81$ to $.88$) and inter-rater reliability ($r = .86$ to $.91$) between the Hollingshead and other SES measures, such as the Nakao and Treas scale, or the Blishen, Carroll, and Moore scale (Cirino et al., 2002).

Emotional Pain Interview. The Emotional Pain Interview (EPI) is a 13 question structured interview to assess the phenomenological details associated with the experience of emotional pain, as well as the intensity, temporal qualities, antecedents, and consequences of emotional pain. Participants are asked open-ended and closed-ended questions regarding their emotionally painful experience. Additionally, interviewers provide ratings of the three dimensions of valence, arousal, and control (anchored by: happy-unhappy, excited-calm, and in control-controlled, respectively) expressed by participants in the interview using a 0-20 point continuous scale. The content of the EPI is based on findings from Orbach and colleagues (2003), Weinstein and McNeil, Leary and colleagues (1998), as well as the semi-structured interview methodology for the measurement of physical pain outlined by Skevington and Mason (2004). See Appendix E for a copy of the EPI.

Positive Life Event Interview. The Positive Life Event Interview (PLEI) is a 13 question structured interview to assess the phenomenological details associated with a positive life event, as well as the intensity, temporal qualities, antecedents, and consequences of the positive life event. Participants are asked open-ended and closed-ended questions regarding their positive life event. Additionally, interviewers provide ratings of the three dimensions of valence, arousal, and control (anchored by: *happy-unhappy*, *excited-calm*, and *in control-controlled*, respectively) expressed by participants in the interview using a 0-20 point continuous scale. This interview was based on the EPI, and was intended to assess a positive life event in the same

manner as the EPI assesses emotional pain to facilitate direct comparison of the content of the EPI and the PLEI. See Appendix F for a copy of the PLEI.

Emotional Pain Interview for ratings by expert judges. The relevance of Emotional Pain Interview items was rated by an expert panel of 8 judges (licensed psychologists with doctorates), which were measured by content validity ratios. The initial version of the EPI was altered to provide spaces for judges' content validity ratios for the relevance of each item, and to allow spaces for judges to provide comments or suggestions regarding the utility of the interview. See Appendix G for a copy of the Emotional Pain Interview for ratings by expert judges.

Analysis of emotional responding. The three dimensions of Valence, Arousal, and Control/Dominance are used to rate emotional reactions to various stimuli, based on the methodology originally developed by Osgood, Suci, and Tannenbaum, (1957), and further advanced by Mehrabian and Russell (1974) and Lang (1980). The three dimensional scales are: Valence (*happy-unhappy*), Arousal (*excited-calm*), and Control/Dominance (*in control-out of control*). These three dimensions have been used to assess self-report of underlying dimensions of emotional responding associated with affective reactions to a wide variety of stimuli (Bradley & Lang, 1994; Lang, 1980). Lang (1980) reports that these scales produce results highly correlated ($r = .94$ for Valence and Arousal, $r = .66$ for Control/Dominance) with those obtained through use of other scales designed to measure the same affective dimensions. The three dimensions of Valence, arousal, and Control/Dominance have been used to reliably and efficiently assess reports of affective responses to painful and anxiety provoking stimuli in previous research (e.g., Bradley & Lang, 1994; Kyle, McNeil, Weinstein & Mark, 2009; Leen-Feldner, Zvolensky & Feldner, 2004; McNeil, Vrana, Melamed, Cuthbert, & Lang, 1993).

Procedure

Interview development phase. After the initial generation of a pool of items and response format for the interview, an expert panel of eight judges evaluated and modified the individual items and overall structure of the Emotional Pain Interview based on the criteria outlined by DeVellis (2003). These eight judges were chosen based on their expertise in phenomena related to the study of emotional pain (e.g., academics and mental health care professionals who work with acute and chronic pain, anxiety, depression, PTSD, and suicide). A definition and brief description of emotional pain was provided to the expert judges along with the Emotional Pain Interview (Weinstein & McNeil, 2009). Each judge rated the relevance of the items with respect to measuring emotional pain as it has been defined, in terms of if the items are *essential*, *useful but not essential*, or *not necessary* for the proposed interview, as per Lawshe (1975). Based on the method for evaluating agreement among raters outlined by Lawshe, a content validity ratio (CVR) was assessed for each item, with any item not meeting the 0.75 cutoff considered for modification or deletion (Lawshe, 1975). After rating and editing, a revised version of the EPI was created for use in the current study. Modifications made to the structure of the EPI also were reflected in the PLEI in order to provide a degree of symmetry between the two interviews.

The panel of expert judges was useful to enhance the validity and utility of the emotional pain interview and several items were identified that were refined on the basis of judges' recommendations. Numerous changes were made to the language and order of the items, and three changes were made to the structure of the interview. Specifically, an item assessing the temporal characteristics of the emotionally painful event was merged with an item measuring the duration of the experience of emotional pain. Similarly, an item assessing emotional and

cognitive reactions to the emotionally painful event was combined with an item assessing perceptions of fairness, personal responsibility, and potentially changed worldview associated with the emotionally painful event. Additionally, an item measuring changes in social relationships was split into two separate items assessing relationships with those involved in the emotionally painful event, and potential changes in social relationships in general. Thus, the initial interview was changed from 11 items to 10 items for use in the data collection stage.

Data collection phase. The current investigation was conducted as part of a larger study in tandem with a master's thesis (Vargovich, 2011) examining acute nociception in individuals reporting an emotionally painful situation relative to both matched controls reporting a positive life experience, and a previous sample of chronic pain patients (Sorrell, 2000). Due to the use of the same patient population for both investigations, a description of both studies' procedures is necessary for illustrative purposes.

A brief telephone screening was initially conducted to determine eligibility, collect demographic information, and schedule an appointment. At the appointment participants were given information about their rights as participants for both investigations, and were informed that they could discontinue either study at any time and refuse to answer any question(s) without penalty. After the consent process, demographic information was collected and both the Emotional Pain Interview and the Positive Life Event Interview were conducted. Next, three self-report measures of psychological functioning were administered (e.g., PCL, ASI, BDI-II), followed by an acute pain task. Finally, a debriefing session was conducted to explain the purpose of both of the studies, and provide both a list of local mental health services and \$50.00 compensation. Additionally, information regarding reactions to emotional pain and grief as

outlined by Shear (2003) was available for participants if it was deemed necessary. Participation in both studies lasted approximately 120 to 180 minutes.

Participant recruitment. The sample of participants was recruited from the community through newspaper advertisements (e.g., Dominion Post), online advertising (e.g., WVU-Hospital intranet, eNews), and word of mouth. It is important to note that separate advertisements were used to recruit for the emotional pain and positive life event groups, and whether participants responded to an advertisement to discuss an emotionally painful situation or an advertisement to discuss a positive life experience served as the basis for their status of Emotional Pain group or Joyful group membership, respectively. Examples of these advertisements can be found in Appendix H and I. During the study, a local newspaper unexpectedly ran an article on the project and provided contact information for study participation. Participants recruited through the newspaper article were asked whether they had more intense emotional pain experiences or positive life experience to determine which group they would be placed in.

Telephone screening. A telephone screening lasting approximately 15-30 minutes was conducted to schedule appointments and determine eligibility for participation (See Table 1 for eligibility criteria). Participants were also given an explanation of the tasks, potential risks, and benefits involved in the study before enrollment. Basic demographic information was also collected during the screening process, including gender, age, marital status, pregnancy status, employment status, current occupation, level of education, and socioeconomic status (via the Hollingshead measure of socioeconomic status; Hollingshead, 1975). Participants were instructed to refrain from taking analgesics (e.g., ibuprofen), at least six hours prior to participation. All participants were asked to select an emotionally painful and positive life event

that occurred at least one year prior to participation. Details about the compensation for time spent were not disclosed until the end of the screening process to minimize coercion or monetary enticement. See Appendix J for a copy of the Telephone Screening Form.

Demographics and history. After the consent process, the following demographic information was collected: education level, race or ethnicity, age, current relationship status, current job status, current occupation, annual household income, mental health treatment history, current medication use, and history of medical conditions. See Appendix K for a copy of the Demographic Information Form. Two recording devices (i.e., video camera and digital recorder) were used during the demographic and subsequent interview portions of the study.

Emotional Pain and Positive Life Event interviews. Participants were administered the EPI and PLI interviews, with the interview corresponding to the participants' group administered first (e.g., participants in the Emotional Pain group were administered the EPI first). A single interviewer independently administered and completed both the EPI and PLEI with each participant, and a second independent rater also completed the emotional responding scales of Valence, arousal, and Control/Dominance for each participant by viewing a video recording of both interviews. The two structured interviews separately assessed details of participants' experiences with emotional pain and positive life experiences through semi-structured closed-ended and open-ended questions. The length of both interviews ranged from 36 to 124 minutes.

Interviewer training. Prior to data collection, didactic instruction and review of the EPI and PLEI was conducted with all interviewers (2 doctoral students in clinical psychology and 1 licensed clinical psychologist with a doctorate). This review was followed by practice sessions, using undergraduate research assistants as confederates reporting emotionally painful and positive life events. Based on the methods outlined by Vrana, McNeil, and McGlynn (1986),

interviewers observed and provided feedback regarding performance to the other interviewer both during and at the conclusion of practice sessions. Each interviewer and an independent rater (a doctoral student in clinical psychology) also viewed (or participated in) at least two filmed mock EPI and PLEI interviews and provided independent ratings on the emotional responding scales of Valence, arousal, and Control/Dominance, followed by the provision of individual feedback regarding correspondence of ratings with other raters. Each interviewer and an independent rater completed one final test interview and made ratings of emotional responding. The Valence, arousal, and Control/Dominance ratings from the interviewer and independent rater were compared to insure that they each fell within 4 points of each other on the 0-20 scale. All interviewers' ratings corresponded within these limits.

Administration of self-report measures. After the interviews, participants were asked to complete the ASI, PCL, and BDI-II. These measures were utilized to determine participants' anxiety sensitivity, PTSD, and depressive symptoms, respectively, and to investigate potential group differences in these areas. The catastrophic interpretation characteristic of anxiety sensitivity is similar to both the catastrophizing theorized to help maintain emotional pain (Orbach et al., 2003), as well as the anxiety and fear avoidance implicated in the maintenance of chronic pain, disability, and PTSD (Asmundson, Coons, Taylor & Katz, 2002; Skevington & Mason, 2004). Additionally, both anxiety and depression have been found to significantly correlate with the experience of emotional pain, and symptoms of anxiety and depression are known to moderate the experience of pain (Orbach, 2003; Price, 1999; VandenBos, 2007). Hence, the ASI-3, BDI-II, and the PCL were used to measure functioning among participants on major affective areas related to the experience of pain.

Algometer task. The algometer task followed the interviews and self-report measures. The algometer is a finger pressure pain induction implement to measure pain threshold and tolerance. A male and female researcher were each present for the algometer task in order to counterbalance sex and control for gender expectancies. Each participant experienced two levels of pressure pain (i.e., high and low) and two levels of induced fear (i.e., high and low). The algometer is described here since it was used as part of a separate study (Vargovich, 2011) that was conducted in tandem with the current study.

Debriefing. Following the algometer task, all participants were debriefed concerning the purpose of both studies. Participants were given a list of local psychological referrals, and both psychoeducational information and guided discussion about common reactions to emotional pain and grief were available regarding distress and grief that are commonly experienced by individuals after an emotionally painful event (Shear, Frank, Houck, & Reynolds, 2005). The grief treatment protocol was available for participants in the event that their description of a prior emotionally painful event caused them acute distress or agitation. Fortunately, this protocol was not deemed necessary for any of the participants and was not utilized. Individuals expressing interest in treatment were referred appropriately. Following completion, participants were thanked and provided with \$50.00 compensation. See Appendices L and M for copies of the psychoeducational grief information and guided discussion on grief, respectively.

Analysis of emotional responding. Affective judgments by the interviewers were used to rate the underlying dimensions of emotional responding described by participants as part of both interviews. The three dimensions of Valence, arousal, and Control/Dominance were independently quantified by a trained interviewer (that conducted the interview in person) and an independent rater (that viewed a recording of the interviews), who each rated the content of the

participants' interviews using three continuous 21-point scales. Ratings by the interviewer were masked from the secondary rater of the interview to ensure their ratings were not influenced by the original interviewer's scorings. These ratings reflected the content of the most intense experience described by participants in the EPI and PLEI interviews, and not participants' affective presentation at the time of the interview.

Results

Data Reduction and Management

A total of 82 individuals were matched to the group criteria (i.e., age, sex, and socioeconomic status) and were included in the subsequent screening process, out of 112 people who initially called to take part in the study. Of the 82 potential participants, 26 did not return follow-up calls and 9 were found to be ineligible to participate. The reasons for the nine participants' ineligibility were: inability to be matched ($n = 3$), psychotic symptoms ($n = 2$), current pregnancy ($n = 1$), fibromyalgia ($n = 1$), significant chronic pain ($n = 1$), and peripheral nerve problems affecting sensation in both hands ($n = 1$). Additionally, one participant was reportedly lacking a significant positive life event to discuss. Of the remaining 46 potential participants, 43 scheduled appointments, and 33 attended their appointments. Due to experimenter error, a total of 32 participants were included in the analyses ($n = 16$ emotional pain participants; $n = 16$ positive life event participants).

Demographics and Background Characteristics

The mean age of the sample was 50.2 years ($SD = 13.3$). Participants across groups did not differ significantly in age ($F [1, 31] = .29, p = .86$). There were 20 females (62.5%) and 12 males (37.5%); the number of males and females was equal across groups. There were no ethnic/racial differences among the groups as all participants were Caucasian ($N = 32, 100\%$).

Across the sample, the average socioeconomic status (SES) based on the Hollingshead measure of SES was 48.0 ($SD = 10.6$) out of a possible range of 8 to 66. Participants did not differ across groups in terms of SES, ($F [1, 31] = 3.05, p = .09$). See Table 1 for means and standard deviations for demographic characteristics.

Further analyses were conducted to investigate possible group differences in terms of acute and chronic pain experiences currently and in the past, current use of medications, current relational status, education level, occupation status, and current and past mental health care. Analyses between the emotional pain group and the positive life event group showed that there were no significant group differences in participants' report of currently experiencing chronic pain (yes = 9 of 32), $\chi^2 (1, n = 31) = .15, p = .69$, experiencing chronic pain in the past (yes = 11 of 32), $\chi^2 (1, n = 31) = 1.24, p = .26$, currently experiencing acute pain (yes = 2 of 32), $\chi^2 (1, n = 31) = .36, p = .54$, or experiencing acute pain in the past (yes = 28 of 32), $\chi^2 (1, n = 31) = .00, p = 1.0$. There were no significant differences between the emotional pain and positive life event groups on current use of medications (yes = 24 of 32), $\chi^2 (1, n = 31) = .67, p = .41$. Additionally, there were no significant differences between the groups on use of psychotropic medications (yes = 10 of 32), $\chi^2 (1, n = 31) = 0.0, p = 1.0$, whether they were antidepressant medications (yes = 9 of 32), $\chi^2 (1, n = 31) = .16, p = .69$, or anxiolytic medications (yes = 3 of 32), $\chi^2 (1, n = 31) = .37, p = .54$. No one in the sample reported current use of opiates. There were no significant group differences in the participants' report of current mental health care (yes = 4 of 32), $\chi^2 (1, n = 31) = 1.14, p = .28$, or previous counseling, (yes = 17 of 32), $\chi^2 (1, n = 31) = .13, p = .72$. There were no significant group differences in terms of current relationship status, $\chi^2 (1, n = 31) = 9.67, p = .09$. See Table 3 for classifications of relationship status, by group. There also were no significant differences between the emotional pain and positive life event group's education

level, $\chi^2(1, n = 31) = 6.36, p = .38$, or current occupational status, $\chi^2(1, n = 31) = 5.53, p = .48$.

During the interview, participants were asked to identify any additional notable positive life events or emotional pain events in their life. Analyses revealed no significant differences between the groups for either additional emotional pain events, $t(31) = 1.86, p = .18$, or additional positive life events, $t(31) = 2.175, p = .15$. See Table 3 for means and standard deviations.

Hypotheses

Hypothesis 1: Validity of interview items. Agreement by the expert panel of judges on the relevance of Emotional Pain Interview items was measured by content validity ratios (CVR). Judges rated whether each item was (1) *essential*, (2) *useful but not essential*, or (3) *not necessary* for the proposed interview. Experts' ratings of relevance for items assessing emotional pain were scored using the content validity formula produced by Lawshe (1975), where the $CVR = (n_e - N/2)/(N/2)$, with “ n_e ” representing the number of expert judges indicating an *essential* item, and “ N ” representing the total number of expert judges. This formula gives values ranging from +1 to -1, with positive values indicating that at least half of the expert judges rated the item as *essential* and higher scores representing a greater degree of content validity. Out of the initial 12 items, two items were combined and one item was divided into two separate items for the final version of the EPI. The mean CVR across items was 0.31, which was below the threshold of 0.75, suggesting concurrence by the eight members of the expert judges might reasonably have occurred through chance (Lawshe, 1975). Thus, the first hypothesis was not supported. The mean CVR across items indicated the majority of EPI items were rated as *essential*, however, which supports the overall content validity of the interview. See Table 4 for content validity ratios for EPI items.

Hypothesis 2: Depression, anxiety sensitivity, and PTSD symptoms differences

between groups. Hypothesis 2 was partially supported in that there were significant differences between the emotional pain and positive life event groups for depression and PTSD symptoms, but not anxiety sensitivity (measured by the BDI-II, PCL, and ASI, respectively). Potential differences among groups were assessed by *t*-tests. Regarding scores of depression, BDI-II scores were significantly higher for the emotional pain group than the positive life experience group ($t [1,31] = 2.13, p = .04$). Additionally, the emotional pain group had significantly higher PTSD scores on the PCL than the positive life experience group ($t [1,31] = 2.31, p = .03$). The mean scores for the emotional pain group were significantly higher than positive life event group for depression symptoms and PTSD symptoms. The emotional pain group also had significantly higher scores than the positive life event group on the Re-experiencing subscale ($t [1,31] = 2.69, p = .01$), the Avoidance subscale ($t [1,31] = 2.49, p = .02$), and the Hyperarousal subscale ($t [1,31] = 2.40, p = .02$) of the PCL. There was no significant difference between the two groups for anxiety sensitivity as measured by the ASI ($t [1,31] = 0.39, p = .70$). See Table 5 for ASI, PCL, and BDI-II means and standard deviations.

Hypothesis 3: Participants' ratings of emotional responding between and within groups.

Participants' ratings of emotional responding. A 2 X 2 mixed factorial design was employed and three 2 X 2 (group [emotional pain, positive life event] x interview type [EPI, PLEI]) one way analyses of variance (ANOVAs) were conducted to determine differences between and within both groups regarding participants' ratings of emotional responding. Hypothesis 3 was partially supported, with significant main effects found for the type of interview, providing a measure of discriminant validity between the emotional pain and positive

life event interviews. Participants had significantly more negative affective ratings of Valence and feeling out of control on the EPI in comparison with scores on the PLEI, regardless of group affiliation. Ratings of Arousal were not significantly different between EPI and PLEI interviews. Table 6 presents the mean squares, F values, and p values for 2 X 2 ANOVAs for participants, independent raters, and interviewers. Table 7 presents the means and standard deviations for the participant ratings of emotional responding of both groups.

There were no significant main effects between the groups, however, with participants in the emotional pain group not reporting significantly different ratings of Valence, Arousal, or Control/Dominance compared to the positive life event group for either the EPI or PLEI. Additionally, there were no significant interactions from the 2 X 2 ANOVAs regarding participants' ratings of emotional responding. Table 8 presents the means and standard deviations for the participant ratings of emotional responding of both groups.

Interviewers and independent rater ratings of emotional responding. Differences between and within groups regarding the interviewers' and independent rater's ratings of Valence, Arousal, and Control/Dominance were conducted via 2 X 2 ANOVAs. Significant main effects were found within the groups, with both interviewers' and the independent rater having significantly higher ratings of Valence and feeling out of control on the EPI in comparison with scores on the PLEI regardless of group affiliation. The ratings of the independent rater for Arousal were significantly higher for the PLEI interviews, but not for the interviewers. There were no significant interactions from the 2 X 2 ANOVAs regarding the interviewers' and independent rater's ratings of emotional responding. Table 9 presents the means and standard deviations for the interviewers' and independent rater's ratings of emotional responding.

There were no significant main effects between the groups, with both interviewers' and

independent rater's ratings of participants' situations (from the EPI and PLEI) in the emotional pain group not significantly differing from the positive life event group for Valence, Arousal, or Control/Dominance. Table 10 presents the means and standard deviations for interviewers' and independent rater's ratings of emotional responding for both groups.

Hypothesis 4: Reliability of interviews. Intraclass correlation coefficients (ICC's) were calculated to assess the reliability of the initial interview ratings and subsequent ratings of the recorded interviews scored by the independent rater for both the EPI and PLEI. The interviewers' and independent rater's inter-rater reliability on the EPI had an ICC of $r = .73$ for their ratings of Valence; an ICC of $r = .54$ for their ratings of arousal; and an ICC of $r = .59$ for their ratings of Control/Dominance. The inter-rater reliability ratings of emotional responding on the PLEI had an ICC of $r = .72$ for their ratings of Valence; an ICC of $r = .52$ for their ratings of arousal; and an ICC of $r = .56$ for their ratings of Control/Dominance. Thus, the fourth hypothesis was not supported in that inter-rater reliability ratings of the interviewers' and independent rater's were not above 0.80, as assessed by ICCs. Table 11 presents the means and standard deviations for the interviewers' and independent rater's ratings of emotional responding for the EPI and PLEI.

Exploratory Data Analyses

Reliability of interviews by group. The reliability of both the EPI and PLEI interviewers' and independent rater's ratings for emotional responding was assessed between groups, using intraclass correlation coefficients. For the emotional pain group, the inter-rater reliability ratings of emotional responding on the content of the EPI had an ICC of $r = .81$ for their ratings of Valence, an ICC of $r = .65$ for their ratings of arousal, and an ICC of $r = .70$ for their ratings of Control/Dominance. The inter-rater reliability ratings of emotional responding on

the PLEI had an ICC of $r = .69$ for their ratings of Valence, an ICC of $r = .43$ for their ratings of arousal, and an ICC of $r = .31$ for their ratings of Control/Dominance.

For the positive life experience group, the interviewers' and independent rater's inter-rater reliability ratings of emotional responding on the EPI had an ICC of $r = .63$ for their ratings of Valence, an ICC of $r = .62$ for their ratings of arousal, and an ICC of $r = .30$ for their ratings of Control/Dominance. The inter-rater reliability ratings of emotional responding on the PLEI had an ICC of $r = .76$ for their ratings of Valence, an ICC of $r = .61$ for their ratings of arousal, and an ICC of $r = .62$ for their ratings of Control/Dominance. Table 11 presents the means and standard deviations for the interviewers' and independent rater's ratings of emotional responding for the EPI and PLEI by group membership.

Categorization of situations. Content analysis was also used to categorize the content of the situation participants described in the interviews. Each interview was summarized and classified into categories reflecting the type of situation involved in the participants' reported event. The analytical strategy was modeled on the low inference interpretation and representation of qualitative data in everyday language conducted by Bergh, Jakobsson, and Sjostrom (2007). The data were analyzed using the following process:

1. Summarization of the content of each interview into categories.
2. Modification of categories during the course of analysis.
3. Coding of all units of content, and organization of categories.
4. Calculating frequencies and percentages of categories

All steps were carried out by the independent rater subsequent to rating each interview. Participants described a variety of situations in each groups. There were 12 different categories that participants were classified into in each group. For the emotional pain interviews, death of a

family member was the most common event participants reported, with 9 participants (28%), followed by divorce ($n = 6$, 19%), and death of a close friend ($n = 6$, 19%). Table 12 presents the categorical content of emotionally painful events. For the positive life event interviews, childbirth was the most common ($n = 10$, 31%), followed by weddings ($n = 5$, 16%) and religious events ($n = 4$, 13%). Table 13 presents the content of positive life events.

Length of interviews by group. The length of both interviews were calculated, and significant differences were found via t -tests between groups ($t [1,31] = 2.65, p = .01$) for the EPI but not the PLEI group ($t [1,31] = -0.11, p = .92$). The average length of the EPI for the emotional pain group was 49.9 minutes ($SD = 20.2$ minutes), and the average length was 33.7 minutes ($SD = 13.8$ minutes) for the positive life experience group. The average length of the PLEI was 26.7 minutes ($SD = 8.0$ minutes) for the emotional pain group, and 27.1 minutes ($SD = 12.8$ minutes) for the positive life experience group.

Elapsed time since emotionally painful event. The date of participants' reported emotionally painful event was calculated, and no significant differences were found via t -tests between either group for how long ago the events occurred, $t (31) = .09, p = .76$. On average, emotionally painful events occurred 11.7 years ago ($SD = 12.0$) for the emotional pain group and 13.1 years ago ($SD = 14.8$) for the positive life event group.

Ratings of emotional pain intensity between groups, by gender, and by length of time since the event. Participants' and the independent rater's ratings of the intensity of reported emotionally painful events were compared between groups, and a difference just missing the standard level of reliability ($F [1,31] = 4.13, p = .056$) was found for the positive life event group, with participants reporting higher emotional pain intensity ($M = 94.1, SD = 8.6$) than the independent rater's ($M = 76, SD = 7.8$) ratings. There were no significant differences between

participants ($M = 86$, $SD = 28.7$) and the independent rater's ($M = 81.4$, $SD = 7.2$) ratings of emotional pain intensity ($F [1,31] = 1.17$, $p = .29$) for participants in the emotional pain group.

The independent rater's intensity ratings of participants' reported events also were compared between participants' gender for both emotionally painful events (male $M = 78.3$, $SD = 7.6$; female $M = 79$, $SD = 8.3$) and positive life events (male $M = 82.6$, $SD = 6.3$; female $M = 77.3$, $SD = 11.5$), with neither emotionally painful events ($F [1,31] = 0.44$, $p = .84$) or positive life events ($F [1,31] = 2.17$, $p = .15$) being significant different by gender. Similarly, participants' ratings of emotionally painful events (male $M = 91.0$, $SD = 19.6$; female $M = 89.5$, $SD = 22.7$) and positive life events (male $M = 96.8$, $SD = 4.0$; female $M = 94.2$, $SD = 7.3$) did not differ significantly for either emotionally painful events ($F [1,31] = 0.36$, $p = .85$) or positive life events ($F [1,31] = 1.32$, $p = .26$) based on participants' gender.

The independent rater's ratings of the intensity of emotionally painful events was correlated with how long ago participants' events took place using Pearson correlations. The length of time since participants' events had a small but non-significant negative correlation with the intensity ratings for those events ($r = -.25$, $p = .17$),

Correlations of participants', interviewers', and the independent rater's emotional responding ratings. Participants' ratings of emotional responding were compared with both interviewers' and independent rater's emotional responding ratings using Pearson correlations. Participants' corresponding ratings of emotional responding ratings correlated strongly (at the $p < 0.01$ level) with all of the interviewers' ratings (i.e., the interviewers who conducted the in-vivo interviews) for the EPI (Valence $r = .73$, Arousal $r = .70$, Control/Dominance $r = .67$) and the PLEI (Valence $r = .67$, Arousal $r = .65$, Control/Dominance $r = .55$). The ratings of the independent rater were significantly correlated for the PLEI (Valence $r = .50$, Arousal $r = .63$,

Control/Dominance $r = .49$), but had weaker correlations with participants on the EPI (Valence $r = .42$, Arousal $r = .21$, Control/Dominance $r = .10$), with only Valence reaching significance at the $p < 0.05$ level. See Table 14 for Pearson correlations of participants', interviewers', and the independent rater's emotional responding ratings.

Secondary content validity ratio analysis. Given the high number of items judges rated as *essential* or *useful but not essential*, a secondary analysis was conducted with different scoring criteria to reflect the tentative nature of the emotional pain construct, and the aim of the current study to use both inductive and deductive approaches. The original CVR formula created by Lawshe (1975) is $CVR = (n_e - N/2)/(N/2)$, with “ n_e ” representing the number of expert judges indicating an *essential* item, and “ N ” representing the total number of expert judges. The criteria for the CVR formula was adjusted for the secondary CVR analysis to be less rigorous, so that “ n_e ” represents the number of expert judges indicating either *essential* (1) and *useful but not essential* (2) items, meaning that judges scores of either 1 or 2 represents a relevant item. Using this calculation method, the mean CVR across items was 0.85, which was above the threshold of 0.75.

Discussion

The primary goals of this study were to systematically examine the construct of emotional pain using both inductive and deductive methods, and to create a viable method for assessing the experience of emotional pain. Empirical data concerning the consequences, temporal course, intensity, and affective functioning connected with the experience of emotional pain may improve the quality and scope of the theoretical basis of emotional pain. To achieve these goals, 32 community dwelling participants were interviewed regarding prior emotionally painful and positive life experiences, and were assessed using the ASI, PCL, and BDI-II.

Because of concerns that the results of previous research may have been developmentally constrained, importance was placed on obtaining a community sample.

Major findings

1. Use of content validity ratios to measure the agreement of the eight members of the expert judge panel concerning the relevance of EPI items in the primary analysis demonstrated that consensus on ratings of the mean score of essentialness across items was not above the level of chance. Thus, the validity of the EPI items as a whole were not initially substantiated, even though the mean content validity ratios across items indicated the majority of EPI items were rated as *essential*.

The less stringent secondary analysis of the content validity ratio found that the CVR across items was above the accepted threshold, and suggested both high content validity for the EPI and that concurrence by the expert judges was not due to chance. Although, the mean CVR from the secondary analysis better fit the needs of the present study, the more stringent original CVR analysis resulting in a mean CVR of 0.31 will be used for this study since it is a more generally accepted test. It should be pointed out that the use of content validity ratios to reject items does not preclude the use of items to be retained in the final form of the test, particularly given the exploratory, semi-structured nature of the study.

The secondary analysis using the revised CVR formula appears better suited for the needs of the current study. The original CVR formula appears to be designed to use for questionnaires assessing an established construct through the use of a large number of items. The original CVR seems less useful for the development of an interview measuring a construct lacking a universal definition with a relatively small number of

open-ended items and the potential for complex and unanticipated answers, in comparison with a questionnaire with numerous items measuring a phenomenon with better established construct validity. The use of content validity ratios may be more helpful in informing which items to retain in future verbal report instruments assessing emotional pain.

Future use of content validity ratios in determining the content validity of the EPI would benefit from a much higher total number of expert judges, because the threshold of 0.75 to rule out chance concurrence of essential ratings by a panel of eight raters is almost unobtainable given the stringent nature of the content validity ratio formula. It appears that use of content validity ratios in determining the content validity of a measure with a high likelihood of multiple ratings of “*useful but not essential*” would necessitate at least 15 to 20 judges in order to obtain a mean CVR above the minimum threshold value. For example, if one of eight judges rates an item as “*useful but not essential (2)*,” then the other seven judges must rate the item as “*essential (1)*” to achieve a content validity ratio of 0.75. Thus, if one or more out of eight expert judge rates an item as “*useful but not essential*,” then that item does not meet the 0.75 content validity ratio criterion when only eight judges are used, according to Lawshe’s (1975) metric the item should be considered for modification or deletion. The rationale for using eight raters in the present study was that the threshold of 0.75 was far lower than the thresholds for a lesser number of judges (i.e., use of 7 judges required a minimum threshold of .99) and not much different from the thresholds of subsequent numbers of judges (i.e., use of 10 judges required a minimum threshold of .62, Lawshe, 1975).

Additionally, because an effort was made to solicit the judgment of qualified experts regarding a lengthy interview measuring a nascent construct that may be relatively unfamiliar to the majority of psychologists, a strategy of quality over quantity was undertaken in the selection and quantity of expert judges. It was also apparent that the use of content validity ratios to identify items for exclusion would not override clinical judgment for the use of items to be retained in the final form of the test. It seems that content validity ratios may be most useful in establishing a final form of an instrument, rather the initial form of an instrument measuring a relatively underexplored concept, such as emotional pain.

2. The emotional pain group had significantly higher scores on both the PCL and BDI-II compared to positive life event participants, which is indicative of higher PTSD and depression symptoms, respectively. Using established cutoff scores, three participants met criteria for PTSD, one participant met criteria for depression, and one participant met criteria for both current depression and PTSD in the emotional pain group, while no participants in the positive life event group met cutoff scores for PTSD or depression (Ruggiero, Del Ben, Scotti, & Rabalais, 2003; Steer, Clark, & Beck, 1999). There was no difference, however, on ASI scores between the two groups. Higher PCL, BDI-II, and ASI scores initially were expected among those recruited to report emotional pain, given the close association between emotional pain and symptoms of pain, anxiety, depression, and PTSD (Baumeister, 1990; Bolger, 1999; Orbach, 2003; Shneidman, 1999). It was generally expected that participants recruited to report an experience of emotional pain would have a more intense emotionally painful experience and an increased risk of adverse psychosocial consequences compared to someone recruited to discuss a pleasant

life situation, and who was asked to discuss an emotionally painful situation as an afterthought.

The lack of difference between groups in ASI scores was unexpected, but may be explained by some of the differences between anxiety sensitivity and both depression and PTSD. Anxiety sensitivity represents the fear of anxiety and anxiety-related sensations, and is primarily related to panic psychopathology, other anxiety disorders, and an exacerbation of somatic symptoms such as acute and chronic pain (McNally, 2002). Anxiety sensitivity generally is considered an aversive phenomenon, but its close relation to the fear of unpleasant physiological stimuli and panic reactions are not a central tenant of the emotional pain experience. In a prior study by Weinstein and McNeil (2009), it was found that ASI scores were lower for those reporting emotional pain than participants reporting any other prior experience, including positive life experiences. It appears that anxiety sensitivity may be better associated with anxiety and acute and chronic pain rather than the experience of emotional pain, which has been closely related to negative affect and trauma-related thoughts and beliefs (Weinstein & McNeil). The catastrophic thinking central to anxiety sensitivity often leads to avoidance of stimuli that might provoke unpleasant symptoms (Greenberg & Burns, 2003). Selection effects may have inadvertently influenced the recruitment process, in that participants experiencing emotional pain with high anxiety sensitivity scores may have avoided re-experiencing unpleasant events by taking part in an interview explicitly designed to elicit details of those experiences. This speculative notion of avoidance due to catastrophic thinking on the part of those with high anxiety sensitivity may have played a role in the unexpectedly low ASI scores, as well as the possible ambivalence of potential participants who

expressed initial interest in the study but never followed through with participation.

Emotional pain has been closely linked to cognitive features of depression (Orbach et al., 2003), undifferentiated negative affect (Macdonald & Leary, 2005), and thus may be better connected to the trauma-related cognitive responses of PTSD and negative thoughts and appraisals about oneself and the environment related to depression (Beck et al., 2004).

3. There were no significant differences between the emotional pain and positive life experience groups for participants', interviewers', or the independent rater's ratings of their emotional responding for both the EPI and PLEI. This finding suggests that recruitment methods differentiating the two participant groups did not have a significant impact on the intensity of reported emotionally painful experiences. Thus, those people who responded to advertisements to describe emotionally painful experiences did not have more intense ratings of emotional responding than those who were recruited to discuss positive life events.

As expected, participants had significantly lower ratings of Valence and feeling controlled for an emotionally painful situation in comparison with a positive life event. Participants' Arousal ratings were not significantly different between groups, and the Arousal ratings were only significantly different between the EPI and PLEI for the interviewer's ratings, and not the independent rater's. Previous expectations were that emotionally painful experiences would be associated with the highest Arousal ratings, while participants' self-report suggests Arousal levels are only marginally different for intense emotional pain experiences compared to intense pleasurable experiences. Participants were explicitly informed that Arousal can be either positive or negative,

however, which may have led them to view their experiences with Arousal as more neutral experiences.

4. The scores of interviewers' correspondence of emotional responding ratings had high reliability for ratings of Valence for emotionally painful and positive life experiences. Intraclass correlation coefficients ranged from .73 to .54 for the emotional pain group, and .72 to .52 for the positive life experience group. The fourth hypothesis, however, was not supported, in that the two interviewers' inter-rater reliability ratings of the first and second ratings of the interviews failed to reach the 0.80 level.

It is interesting that interviewers' and the independent rater's ratings of emotional pain clustered together similarly to ratings of positive life experiences, with higher emotional Valence scores and lower scores of Arousal and Control/Dominance regardless of type of interview. Lang (1980) reported that with the use of emotional responding ratings, the Valence and Arousal scales often have higher correlations with other scales designed to measure the same affective dimensions when compared to the Control/Dominance scale. Emotional Valence (i.e., happiness vs. unhappiness) may be inherently easier to reliably rate than Control/Dominance, or even Arousal due to the prevalence of self-reported and observable cues regarding the Valence associated with a situation, and more ambivalent cues regarding the Arousal and Control/Dominance domains. Additionally, the methodology using emotional pain and positive life events for group membership was designed to reflect emotional valence, rather than Arousal or perceptions of control. Given the emphasis on emotional Valence created by the group methodology and the emotional Valence evoking nature of the interviews, Arousal and Control/Dominance are likely to be much less prominent features and are more subject to

a variety of interpretations.

The higher variability of Arousal and Control/Dominance scores may reflect a more dynamic sense of Arousal or Control/Dominance over a situation, in contrast with the relatively static positive or negative emotional Valence evoked by an event. For example, nearly half of positive life situations in the present study involved the birth of a child or a wedding, and the subjective nature of these positive life experience are often both a source of considerable joy and stress. This dichotomy of positive emotions and stress or arousal sometimes seems to enhance the experience of joy, particularly with the resolution of high levels of arousal and perception of low control over a situation. Thus, one's general sense of emotional Valence may be more stable, while one's perception of Control/Dominance or level of Arousal may be more unpredictable, which serves to make inter-rater reliability more difficult.

Additionally, an exploratory analysis found participants' ratings for emotionally painful events were more strongly correlated with the interviewers' ratings than the ratings of the independent rater. This lack of correspondence may help explain why the inter-rater reliability scores for the interviewers' and independent rater were not higher for emotionally painful events. These differences among the interviewers and the independent rater could be attributed to individual differences among the raters or problems with the training and calibration process for the interviewers. There is also the possibility of a form of measurement bias resulting from the intrinsic differences between in-vivo ratings in comparison with secondary ratings from recordings, conceivably due to the increased interpersonal proximity and awareness of unrecorded interactions.

Exploratory Findings

There are a number of interesting results that were examined to further explore the data in addition to the original analyses that were planned as part of the study. These findings are discussed here tentatively.

Inter-rater reliability of emotional responding between groups. Once the reliability of interviewer's ratings of emotional responding for the EPI and PLEI was examined with respect to participants' group membership, some interesting results were found. The emotional pain group had higher inter-rater reliability scores for the EPI interview (ICC's on the EPI: $r = .81$ for valence; $r = .65$ for arousal; $r = .70$ for Control/Dominance) than for the PLEI interview (ICC's on the PLEI: $r = .69$ for valence; $r = .43$ for arousal; $r = .30$ for Control/Dominance).

Additionally, the positive life experience group generally had higher inter-rater reliability scores for the PLEI interview (ICC's on the PLEI: $r = .76$ for valence; $r = .61$ for arousal; $r = .62$ for Control/Dominance) than for the EPI interview (ICC's on the EPI: $r = .63$ for valence; $r = .62$ for arousal; $r = .30$ for Control/Dominance). It appears that if the group membership and type of interview corresponded (i.e., emotional pain group and EPI, or positive life event group and PLEI) then it led to more reliable responding between the two interviewers.

This finding could be explained by the means of recruitment and group membership for this study, where participants may have put more emphasis on the emotional experience corresponding to the advertisement by which they were recruited, and developed a more coherent narrative regarding their past experience. The length of time participants spent during their interviews also varied according to group membership, with participants in the emotional pain group spending significantly more time on the EPI than participants in the positive life event group. Thus, the findings that corresponding emotional interview and group membership are

associated with both increased inter-rater reliability scores and increased time taken by participants are likely a product of a more detailed account by participants due to their putting more emphasis on the emotional event matching the advertisement they responded to.

Overall Findings

The groups were equivalent on scores of age, sex, ethnicity/race, and SES. No significant differences were found between either group for chronic or acute pain that is either current or previous. The lack of differences between groups regarding acute and chronic pain is an interesting finding on its own, given the potential overlap between physical pain and emotional pain. Recent findings suggest individuals self-selected to talk about emotional pain may have a higher tolerance for intense physical pain (Vargovich, 2011). The participants in both groups appeared relatively similar to one another, with the exception of higher self-reported depression and PTSD symptoms in the emotional pain group, as measured by the BDI-II and PCL, respectively. Participants in the emotional pain group reported significantly higher levels of depression and PTSD symptoms but did not endorse significantly lower valence, higher arousal, or feelings of being controlled associated with their experience of emotional pain compared to participants recruited to discuss a positive life event.

It is interesting that the participants in the emotional pain group reported more problem ratings of current affective functioning, given the lack of differences found between the two groups in ratings of emotional responding and intensity. Since the significant BDI-II and PCL effects reflected current psychopathology, it is possible that there is a temporal difference in the experience of emotional pain-related distress, with participants in the emotional pain group experiencing more problematic current affective functioning. Participants in the emotional pain group reported slightly lower emotional pain intensity (0-100 Likert scale; $M = 86$, $SD = 28.7$)

immediately following the precipitating emotional painful experience in comparison with the positive life event group ($M = 94.1$, $SD = 8.6$). Given high variability of the reported intensity of the emotional pain group in comparison with the positive life event group, it's likely that the emotional pain group was much more heterogeneous concerning both the event they experienced and their response to it. It is possible that the affective impact of emotional pain is delayed and less related to the immediate emotional responding associated with the experience of a negative event, though a much more careful examination is needed. The emotional pain group did not have significantly different relationship status in comparison with the positive life event group, although the emotional pain group appeared to have lower numbers of stable relationships. (See Table 3.) It is interesting what role the potential lack of social support resulting from lower numbers of stable romantic relationships played with participants in the emotional pain groups' reactions and subsequent coping associated with emotional pain.

In the present study, an unexpected result was that neither participants, interviewers, nor the independent rater rated the primary situation (i.e., the situation participants were recruited to discuss) as having different valence, arousal, or perceived Control/Dominance scores than the situation from the secondary (control) interview. This lack of group differences may have been an artifact of the study methodology. It is likely that the primary situation (i.e., corresponding to the emotional pain or pleasant life event advertisement from which participants were recruited) did not have more weight than the secondary situation. One potential reason for the lack of group differences for emotional responding scores is that participants were informed of the use of both interviews in the initial phone screening and were asked to identify both situations to discuss during the scheduled interview. The provision of the information that both an emotionally painful and positive life experience would be discussed at length may have prompted participants

to equally prepare or rehearse the details of two experiences prior to the actual interview, and subsequently weakened the methodology used to create two separate groups. Perhaps the use of a recruitment technique which was less detailed concerning the secondary experience would result in greater group differences.

Although the emotional responding ratings between groups were not significant, there were interesting findings when participants' scores were examined within the groups. The interviewers' and independent rater's ratings of emotional responding had higher reliability for interviews which corresponded to the group to which participants belonged. For example, interviewers' ratings of participants' emotional responding in the emotional pain group were higher on the EPI than the PLEI. Additionally, participants spent significantly more time discussing the experience corresponding to their group membership (e.g., participants in the emotional pain group took longer on the EPI). It appeared that participants may have given more detailed accounts of the emotional experience corresponding to the advertisement from which they were recruited, and may have given slightly briefer or vaguer descriptions of the secondary experience they reported, which could have influenced the accuracy of interviewers' ratings.

Opiate use. Due to the established behavioral and neurological effects of opiate use on the neuroendocrine system involved in the physical and emotional pain systems (Panksepp, 2005; Sullivan et al., 2005), it appears necessary to investigate the role of opiate use in individuals reporting emotional pain. The evaluation of possible self-medication with opiates in response to in response to traumatic or otherwise aversive circumstances appears necessary given both the mediating effects of opiates on the neuro-anatomical underpinnings of emotional pain and the findings that individuals with mental illness are more likely to abuse opioid medications (Edlund, Steffick, Hudson, Harris, & Sullivan, 2007).

In the current study, no participants reported using opiate medications as a method of coping with emotional pain, and no participants reported current opiate use. Historic opiate use would likely be an important variable to include in future studies of emotional pain in order to assess a possible relation between emotional pain and opiate use, which could inform the prevalence of self-medication strategies as well as potential clinical methods for treatment of emotional pain.

Interview development. The primary goal of the current investigation was to develop a practical instrument with sound psychometric properties which could effectively measure emotional pain, and provide empirical data to help elucidate the construct of emotional pain. The interview was designed to measure emotional pain differently than previous attempts, by addressing methodological concerns of poor sample generalizability, measurement bias (e.g., social desirability, asking loaded questions), lack of quantitative data, and use of anecdotal reports. A broad-based approach was utilized to measure the multiple dimensions and phenomena identified in the emotional pain literature, and to attend to the exploratory state of the emotional pain construct.

Use of an expert panel to increase the content validity may have been useful after the completion of the interviews, in order to combine interviewers' direct experience with objective external opinions of the expert panel for creation of a future version of the EPI. The interview format appeared to allow interviewers a basic structure to create a narrative, while allowing for following up on and clarifying participants' answers. Overall, it appears that the EPI has value in the measurement of emotional pain, but the somewhat lower than desired inter-rater reliability scores and use of extensive questions may necessitate further development. Given that the initial use of the interview was for an exploratory analysis of emotional pain, it appears that the interview is ready for refinement into a more efficient form, which would increase the potential

for use with more participants and increasing the robustness of its psychometric properties. For example, after the data collection, feedback was elicited from interviewers that use of anchors would likely benefit the accuracy of emotional responding ratings. The secondary CVR analysis suggested the EPI has adequate content validity and also helped clarify specific items that would be beneficial to consider for removal or revision a future edition of EPI.

Grief. It is interesting that no participants required psychoeducational information and guided discussion concerning grief after the debriefing section of the study. Grief has been found to be strongly related to the experience of sadness and pain and has been closely implicated in the experience of emotional pain (Eisenberger, 2006; Gündel et al., 2003; Najib et al., 2004, & Weinstein, 2009a). It was thought that participants reporting intense experiences of emotional pain would likely be experiencing significant current grief, particularly due to a previous study that found the death of a family member or friend accounted for 44% of the reported causal events of emotional pain (Weinstein & McNeil, 2009).

In the current study, 50% of participants reported a personal loss due to the death of a family member, friend, or pet. It may be that since the EPI concluded with a discussion of a potentially positive situation (i.e., how they have grown as a result of their experience), the inducement of grief a participant experienced may have been somewhat tempered by their discussion of a “silver lining” associated with their emotional pain or the financial compensation they received for their participation. Additionally, the restriction that participants’ emotionally painful situations had occurred at least one year prior to the interview may have allowed time for more adaptive coping than if very recent emotionally painful situations were included.

Limitations

Participant self-selection. At present, established measures of emotional pain are unavailable to assist in the identification of the presence and intensity of emotional pain. Thus, self-report was the only viable tool for the recruitment of emotional pain participants for the current study. Participants in the emotional pain group had significantly higher depression and PTSD scores, although there were few other significant group differences. Anecdotally, the factor that appeared to distinguish those who identified themselves as emotional pain participants was the intensity or uniqueness of the emotional pain experience. Based on participants' qualitative self-report, it appeared that emotional pain participants reported experiencing something uncommon or extreme (e.g., murder of a family member by another family member). Employing a different recruitment methodology, such as investigating emotional pain in a naturalistic setting (e.g., hospice, grief center), may increase the intensity of emotionally painful experiences available to study.

Symbolic use of emotional pain language. All participants appeared to be aware of the general concept of emotional pain and agreed that the general definition used for the study was consistent with their own impressions. It was interesting, however, that some participants appeared to adopt use of symbolic pain-language when discussing the somatic experience of emotional pain. Symbolic descriptions such as “gut wrenching and heart breaking” were sometimes used to describe their somatic emotional pain sensations, while other participants vividly recalled painful bodily perceptions in response to distressing life situations void of acute and chronic pain. The definition of emotional pain used for this study (i.e., “emotional pain is felt in response to suffering that is associated with a distressing life situation, and may occur with or

without the presence of physical pain”) was kept intentionally broad in light of the lack of an consensus regarding the definition of emotional pain and to provide an inclusive approach to the composition of emotional pain. In hindsight, it may have been useful to employ a more rigorous screening process to ensure participants experienced sensations of pain in response to suffering associated with a distressing life situation, rather than general negative affect described with symbolic depictions of pain.

Autobiographical recall. Asking participants to recall and relate past experiences is a practical way to examine details of emotionally painful events, but there are some intrinsic limitations. It is likely that heuristics or bias were used in choosing a specific event, and may have possibly led to selectively omitting negative details of an event. Additionally, the extent that a reported event is representative of all of their particular experiences of that type of event is unknown. The instructions participants received, however, were to use an event that was their “most intense” to help ensure that reported event were consistently memorable. Additionally, events that occurred in the past year were not allowed due to recency effects.

Order of interview administration. The order of administration for the EPI and PLEI was always presented corresponding to the advertisement participants responded to (i.e., participants responding to the emotional pain advertisement were administered the EPI first), followed by the other interview and the questionnaires assessing current affective functioning. This order was chosen to minimize participants’ surprise or confusion during initial participation in the study. It is a possibility that the lack of counterbalancing within groups may have led to a confounding order effect on the questionnaire outcomes. A confounding effect is unlikely, however, given that the emotional pain group’s higher report of depressive and PTSD symptoms are not well explained by an order effect. The administration of the PLEI always preceded the

questionnaires for the emotional pain group, and the discussion of an intensely positive event likely would have acted as a positive buffer for the scores of current affective functioning, rather than priming higher scores of PTSD and depression.

Small sample size/lack of diversity. Although use of a community sample was a particular strength of this study, there was an obvious lack of diversity in its participants (e.g., the sample was 100% Caucasian). The sample's SES was above average, which may reflect poor generalizability with the local population, and that participants in this study may have had resources which assisted their coping with emotionally painful situations, or even facilitated their participation. The study would benefit from an inclusion of different races and ethnicities, and lower SES. Additionally, the relatively small sample size may have limited the statistical power, and thus, the robustness of the findings.

Future Research

Future studies that use diverse methodologies are needed to test and replicate the findings of the present study, and the developing emotional pain literature in general. Different sampling techniques, such as writing assignments (such as the use of a diary), or innovative ways of inducing emotional pain in laboratory settings are needed. Utilization of a tactic of saturation could be used along with participant self-report by requesting multiple narratives from a single participant to exhaust one's repertoire of a particular type of event and increase the representativeness of responses. Examining emotional pain in a naturalistic setting, such as a psychology clinic or hospice setting could also be useful. There is also a need to update the EPI and attempt to replicate the findings of the current study. Future use of questionnaires before administration of the questionnaires or counterbalancing the order of interviews will reduce the potential for confounds. Further emphasis during the recruitment process may be helpful to

ensure all participants experienced a painful sensation and not a negative emotional experience described with symbolic pain language.

Conclusions

The objective of this study was to make an empirical contribution to the emotional pain literature, and to construct a practical method for assessing the phenomenon of emotional pain. Emotional pain was found to be associated with symptoms of PTSD, depressive symptoms, negative emotional valence, and feelings of being out of control. Interestingly, anxiety sensitivity and high levels of arousal were not well associated with emotional pain. The EPI is a promising methodology and represents an advance in the measurement and quantification of a diffuse construct, emotional pain. There are a number of potential clinical implications for the EPI, including providing mental health workers information about the nature and scope of emotional pain. Data from the EPI also may facilitate the discovery of factors that may prove useful in the treatment of emotional pain. Understanding the phenomenology of emotional pain and its associated features may help form a better understanding of reactions to aversive circumstances that may be involved in the trajectory for depression or anxiety disorders. The EPI provided rich data to further understand the phenomenon of emotional pain, although future examination and development appear necessary to develop its psychometric properties. The task of assessing the validity of a measure of emotional pain appears to be in its infancy, providing a need for a measurement methodology to help to quantify this phenomenon while allowing a broad based exploration of specific quantitative and phenomenological information.

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Appendix A

Acknowledgement of Payment

Name (print): _____

Address (print): _____

City, State, Zip (print): _____

Social Security Number: _____

My signature below indicates that I have received \$50.00 (fifty dollars) in cash in association with my participation in the research study on “Toward an Understanding of Emotional Pain and Joy.”

Signature: _____

Date: _____

Witness: _____

Appendix B

Morgantown Area Mental Health Resources

If you desire mental health services after completing the study, here is a list of four resources for mental health services in the Morgantown area, and four crisis/suicide hotlines:

1. Valley Healthcare System: Crisis Center

301 Scott Avenue
Morgantown, WV 26508-8804
(304) 225-2280
Website: <http://www.valleyhealthcare.org/>
Hours: Monday through Friday, 9:00 AM to 5:00 PM

2. Quin Curtis Center

Life Sciences Building, Suite 1232
West Virginia University
Morgantown, WV 26506
(304) 293-2001 x 31671
Hours: Monday through Thursday, 9:00 AM to 5:00 PM

3. Chestnut Ridge Hospital

930 Chestnut Ridge Road
Morgantown, WV 26505
(304) 598-6400
24 hours-a-day WVU Healthline: 1-800-982-8242

4. Carruth Center for Counseling and Psychological Services (*for WVU students*)

Student Services Center
West Virginia University
Morgantown, WV 26506
(304) 293-4431
Hours: Monday through Friday, 8:15 AM to 4:45 PM

Crisis / Suicide Hotlines**1. Valley Healthcare System: Crisis Team**

24 Hour Crisis number: 1-800-232-0020
Suicide Prevention Hotline: 1-800-273-8255
• Hours: 24 hours a day / every day

2. USA National Suicide Hotlines

Suicide Prevention Hotline: 1-800-SUICIDE or 1-800-273-TALK
• Toll free and confidential network of more than 140 crisis centers nationwide
• Hours: 24 hours a day / every day

Appendix C

ASI

This questionnaire refers to how you currently feel

Choose the one number that best represents the extent to which you agree with the item. If any of the items concern something that is not part of your experience (e.g., “It scares me when I feel shaky” for someone who has never trembled or had the “shakes”), answer on the basis of how you might feel *if you had* such an experience. Otherwise, answer all the items on the basis of your own experience.

	Very Little	A Little	Moderate	Much	Very Much
1. It is important to me not to appear nervous.	0	1	2	3	4
2. When I cannot keep my mind on a task, I worry that I might be going crazy.	0	1	2	3	4
3. It scares me when I feel “shaky” (trembling).	0	1	2	3	4
4. It scares me when I feel faint.	0	1	2	3	4
5. It is important to me to stay in control of my emotions.	0	1	2	3	4
6. It scares me when my heart beats rapidly.	0	1	2	3	4
7. It embarrasses me when my stomach growls.	0	1	2	3	4
8. It scares me when I am nauseous.	0	1	2	3	4
9. When I notice my heart is beating rapidly, I worry that I might have a heart attack.	0	1	2	3	4
10. It scares me when I become short of breath.	0	1	2	3	4
11. When my stomach is upset, I worry that I might be seriously ill.	0	1	2	3	4
12. It scares me when I am unable to keep my mind on a task.	0	1	2	3	4
13. Other people notice when I feel shaky.	0	1	2	3	4
14. Unusual body sensations scare me.	0	1	2	3	4
15. When I am nervous, I worry that I might be mentally ill.	0	1	2	3	4
16. It scares me when I am nervous.	0	1	2	3	4

Appendix D

PTSD Checklist Civilian Version (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, circle the number in the box to indicate how much you have been bothered by that problem in the last month.

#	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	1	2	3	4	5
2.	Repeated, disturbing dreams of a stressful experience from the past?	1	2	3	4	5
3.	Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	1	2	3	4	5
4.	Feeling very upset when something reminded you of a stressful experience from the past?	1	2	3	4	5
5.	Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	1	2	3	4	5
6.	Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	1	2	3	4	5
7.	Avoid activities or situations because they remind you of a stressful experience from the past?	1	2	3	4	5
8.	Trouble remembering important parts of a stressful experience from the past?	1	2	3	4	5
9.	Loss of interest in things that you used to enjoy?	1	2	3	4	5
10.	Feeling distant or cut off from other people?	1	2	3	4	5
11.	Feeling emotionally numb or being unable to have loving feelings for those close to you?	1	2	3	4	5
12.	Feeling as if your future will somehow be cut short?	1	2	3	4	5
13.	Trouble falling or staying asleep?	1	2	3	4	5

14.	Feeling irritable or having angry outbursts?	1	2	3	4	5
15.	Having difficulty concentrating?	1	2	3	4	5
16.	Being "super alert" or watchful on guard?	1	2	3	4	5
17.	Feeling jumpy or easily startled?	1	2	3	4	5

Emotional Pain Interview

Participant's Identification Date.....

Interviewer Name

“The purpose of this interview is to learn about your experiences with emotional pain. Emotional pain is felt in response to suffering that is associated with a distressing life situation. Emotional pain may occur with or without the presence of physical pain”.

“So that is the definition of *emotional pain*. Do you understand what is meant by that? How does that fit with your understanding?”

1.) Descriptive

“Please take a moment to think of your worst experience of emotional pain. Please tell me about this experience”.

Prompt as necessary (e.g., *what was the emotional pain like for you? How did it feel?*)

Note catchwords and emotional intensity

[illegible]

2a.) Temporal/Date(s)

“When, and over what time period have you experienced this emotional pain? How soon after the event did you feel emotional pain?”

Determine type of onset (e.g., acute, delayed, chronic, episodic).

Assess date(s) of the situation. Establish a timeline.

2b.) Duration

“How long did your emotional pain last? Has it ever stopped? How has the intensity changed over time?”

3.) Associated Environmental Events

“Exactly what happened or what did you experience emotionally that led to the situation/your emotional pain?”

Assess perceived antecedents of the situation

4a.) Emotional and Cognitive Reactions

“What were your emotions and thoughts during the situation (if any)? What were your emotions afterwards (and now)?”

Assess emotions & cognitions related to the emotional pain (e.g., worthlessness, hopelessness, humiliation, relief)

Prompt questions:

What words come to mind when you think about your feelings as a result of your emotional pain?

What thoughts went through your mind at the time of the event?

What thoughts or statements go through your mind now as you reflect on your emotional pain?

4b) World View and Vulnerability

“Did this experience of emotional pain change your view of the world? Did your emotional pain impact how you viewed your family, your job, nature, or how you view the news, for example? Do you feel weaker or stronger as a result of your experience? Do you feel more vulnerable?”

4c.) Responsibility and Fairness

“Do you consider what happened traumatic?”

“Do you believe you have responsibility for the situation, and if so, how much and in what ways?”

“Was your experience fair/unfair? Did you see it coming or was it unexpected?”

5.) Behavioral Reactions

“How have these emotionally painful experiences affected what you do or don’t do? What did you do differently, or are you doing differently now, as a result of the emotional pain? What reactions have stayed the same over time?”

Prompt questions:

What have others seen you doing differently?

How have others noticed changes in how you behave as a result of your emotional pain?

6a.) Relationship(s) (skip if interviewee indicates others were not involved)

“What was your relationship with the other person/people involved? How has your relationship changed as a result of the situation?”

Assess if their relationship was damaged or enhanced?

Do they feel rejected, or that their relationship was not valued?

6b.) Social Interactions

“How have your social interactions with others, and your sense of being connected to others changed after experiencing the emotional pain? How aware were other people of your emotional pain, and its intensity and impact on you?”

Assess if they are more or less isolated after experiencing the emotional pain

7a.) Coping

“What (else) has changed in your life because of the event? How have you dealt with those changes?”

Assess changes in coping style after the experience (*immediate, short-term, long-term*)

7b.) Medication

“Have you used medication(s), either prescribed or over-the-counter, to help you cope/forget?”
 (“What were they?” *[Please list]*)

What were you hoping they would help with? What effect have you noticed they have had?

7c.) Alcohol or Illegal drugs

“Have you ever used alcohol or illegal drugs to help you cope/forget?” (“What were they?”
[list])

What were you hoping they would help with? What effect have you noticed they have had?

8.) Location of Pain

“We do not typically think about where in our body we are experiencing emotions. As you think back to the experience we’ve been discussing, please tell me where you felt, or continue to feel, this emotional pain within your body.” (NOTE LOCATION AND DESCRIPTION)

9.) Other emotionally painful experiences

“Please tell me very briefly about as many other emotionally painful experiences you have had in your life”.

(Without prior cueing, stop at nine additional ones, and then ask for an estimate about the number of additional ones in the following categories: up to 20 in total, up to 30 in total, and so on, in increments of 10.)

10.) Personal growth

“How have you grown as a result of your emotional pain”?

Participant Ratings

You are now going to be asked to give ratings of your emotional reactions to the experience you just described. These ratings are not about your current feelings, and should reflect how you felt at that time. Please circle your rating on the following scales:

- 1. Happy – Unhappy:** Please mark how *happy* or *unhappy* you felt at the time.

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

- 2. Calm - Excited:** Please mark how *calm* or *excited* you felt at the time.

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

- 3. In control – Controlled:** Please mark how *in control* or *Controlled* you felt at the time.

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

Participant _____ Date _____ Initials _____

Ratings for the <u>interviewer</u>*
--

Circle your rating on the following three scales. This rating should reflect the content of the most intense experience described by the participant, not current affective presentation.

1. Happy – Unhappy

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

2. Calm - Excited

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

3. In control – Controlled

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

Participant _____ Date _____ Initials _____

Ratings for the Secondary rater* (not the interviewer)

Circle your rating on the following three scales. This rating should reflect the content of the most intense experience described by the participant, not current affective presentation.

1. Happy – Unhappy

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

2. Calm - Excited

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

3. In control – Controlled

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

For the following ratings, 0 = Not at all intense, and 100 = Extremely intense. These ratings should reflect the content of the most intense experience described by the participant, not current affective presentation.

- How intense is the (emotional/cognitive/physical) RESPONSE described in this interview on a 0-100 scale? _____
- How intense is the SITUATION described in this interview on a 0-100 scale? _____

Positive Life Event Interview

Participant's Identification Date.....

Interviewer Name

“The purpose of this interview is to learn about your experiences with joy. Joy is felt in response to happy events, in which there is delight, satisfaction, gladness, and/or being elated

“So that is the definition of *joy*. Do you understand what is meant by that? How does that fit with your understanding?”

2.) Descriptive

“Please take a moment to think of your best experience of joy. Please tell me about this experience”.

Prompt as necessary (e.g., *what was the joy like for you? How did it feel?*)

Note catchwords and emotional intensity

[illegible]

2a.) Temporal/Date(s)

“When, and over what time period have you experienced this joy? How soon after the event did you feel joyful?”

Determine type of onset (e.g., acute, delayed, chronic, episodic).

Assess date(s) of the situation. Establish a timeline.

--	--

2b.) Duration

“How long did your joy last? Has it ever stopped? How has the intensity changed over time?”

3.) Associated Environmental Events

“Exactly what happened or what did you experience emotionally that led to the situation/your joy?”

Assess perceived antecedents of the situation

4a.) Emotional and Cognitive Reactions

“What were your emotions and thoughts during the situation (if any)? What were your emotions afterwards (and now)?”

Assess emotions & cognitions related to joy (e.g.,
delight, satisfaction, gladness)

Prompt questions:

What words come to mind when you think about your feelings as a result of your joyful experience?

What thoughts went through your mind at the time of the event?

What thoughts or statements go through your mind now as you reflect on your joyful experience?

4b) World View and Vulnerability

“Did this joyful experience change your view of the world? Did your joyful experience impact how you viewed your family, your job, nature, or how you view the news, for example? Do you feel weaker or stronger as a result of your experience? Do you feel more vulnerable?”

4c.) Responsibility and Fairness

“Do you consider what happened traumatic?” (skip if interviewee indicates trauma was not involved)

7a.) Coping

“What (else) has changed in your life because of the event? How have you dealt with those changes?”

Assess changes in coping style after the experience (*immediate, short-term, long-term*)

7b.) Medication

“Have you used medication(s), either prescribed or over-the-counter, to help you cope/forget?”
 (“What were they?” *[Please list]*)

What were you hoping they would help with? What effect have you noticed they have had?

7c.) Alcohol or Illegal drugs

“Have you ever used alcohol or illegal drugs to help you cope/forget?” (“What were they?”
[list])

What were you hoping they would help with? What effect have you noticed they have had?

8.) Location of joy

“We do not typically think about where in our body we are experiencing emotions. As you think back to the experience we’ve been discussing, please tell me where you felt, or continue to feel, this joy within your body.” (NOTE LOCATION AND DESCRIPTION)

9.) Other joyful experiences

“Please tell me very briefly about as many other unusually joyful experiences you have had in your life”.

(Without prior cueing, stop at nine additional ones, and then ask for an estimate about the number of additional ones in the following categories: up to 20 in total, up to 30 in total, and so on, in increments of 10.)

10.) Personal growth

“How have you grown as a result of your joyful experience”?

Participant Ratings

You are now going to be asked to give ratings of your emotional reactions to the experience you just described. These ratings are not about your current feelings, and should reflect how you felt at that time. Please circle your rating on the following scales:

- 1. Happy – Unhappy:** Please mark how *happy* or *unhappy* you felt at the time.

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

- 2. Calm - Excited:** Please mark how *calm* or *excited* you felt at the time.

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

- 3. In control – Controlled:** Please mark how *in control* or *Controlled* you felt at the time.

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

Participant _____ Date _____ Initials _____

Ratings for the <u>interviewer</u>*
--

Circle your rating on the following three scales. This rating should reflect the content of the most intense experience described by the participant, not current affective presentation.

1. Happy – Unhappy

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

2. Calm - Excited

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

3. In control – Controlled

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20		

Participant _____ Date _____ Initials _____

Ratings for the Secondary rater* (not the interviewer)

Circle your rating on the following three scales. This rating should reflect the content of the most intense experience described by the participant, not current affective presentation.

1. Happy – Unhappy

Happy	Neutral	Unhappy
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

2. Calm - Excited

Calm	Neutral	Excited
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

3. In control – Controlled

In control	Neutral	Controlled
0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – 21		

For the following ratings, 0 = Not at all intense, and 100 = Extremely intense. These ratings should reflect the content of the most intense experience described by the participant, not current affective presentation.

- How intense is the (emotional/cognitive/physical) RESPONSE described in this interview on a 0-100 scale? _____
- How intense is the SITUATION described in this interview on a 0-100 scale? _____

Appendix G

Emotional Pain Interview – Ratings by Expert Judges**Name of Judge:** _____**Date:** _____**Instructions to Judges**

Please rate each item with respect to the **relevance of measuring emotional pain**. Each interview item (and associated notes to the interviewer) is followed by a section for your numerical rating and comments (spaces to record participant responses have been omitted to save space). Please rate whether each item is (1) *essential*, (2) *useful but not essential*, or (3) *not necessary* for the proposed interview, as per Lawshe (1975). Also, any comments about the items or their wording, or any general comments, would be welcome. There is a space at the end of this document to provide general comments or suggestions.

Instructional Set for the Individual being Interviewed

The purpose of this interview is to learn about your experiences with emotional pain. This emotional pain is felt in response to psychological suffering that is associated with a distressing life situation. Emotional pain may occur in the absence of physical pain, or along with it.

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

1.) Descriptive (#1 on updated EPI)

- Please tell me about this experience? NOTE CATCHWORDS AND EMOTIONAL INTENSITY.
 → PROMPT AS NECESSARY (*e.g., what was the emotional pain like for you? How did it feel?*)

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

2.) Temporal/Date(s) (combined with #3 [Duration] to become #2a on updated EPI)

- Please think of your worst or most distressing experience of emotional pain. - Assess date(s) of the situation. ESTABLISH A TIMELINE.

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

3.) Duration (*combined with #2 [Temporal/Date(s)] to become #2b on updated EPI*)

- How long did it take for you to experience emotional pain after the situation occurred? Has it continued? Has it ever stopped? How long did it last? Decreased/increased intensity over time?

- 1 2 3 Please circle one number the left to indicate you rating of this item
1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

4.) Associated Environmental Events (*#3 on updated EPI*)

- Precisely what happened that led to the situation/your emotional pain? What happened during the situation? What happened afterwards?

- 1 2 3 Please circle one number the left to indicate you rating of this item
1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

5.) Emotional and Cognitive Reactions (*combined with #9 [Characteristics of the situation] to become #4a on updated EPI*)

- Emotions now and before. Do you see the world differently? Feeling more/less vulnerable?

- 1 2 3 Please circle one number the left to indicate you rating of this item
1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

6.) Behavioral Reactions (*#5 on updated EPI*)

- What did you do differently, or are you doing differently now, as a result of the event(s)?

- 1 2 3 Please circle one number the left to indicate you rating of this item
1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

7.) Relationship(s) (#6a on updated EPI. An additional part was added [6b] to assess general social interactions with those not involved in the situation)

- What was your relationship with others involved, if any others were involved? How was/is your relationship affected as a result of the situation? Damaged? Enhanced? Feel rejected, or that your relationship was not valued?

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

8.) What has changed in your life? How have you coped? (#7 on updated EPI)

NOTE: assess changes in coping style after the experience (*immediate, short-term, long-term*)

8a.) Have you used medication(s), either prescribed or over-the-counter, as a coping strategy? (What were they? [*Please list*])

8b.) Have you ever used alcohol, or illegal drugs as coping strategy? (What were they? [*list*])

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

9.) Characteristics of the situation (*combined with #5 [Emotional and Cognitive Reactions] to become #4b and 4c on updated EPI*)

- consider the event traumatic? Do you believe you have responsibility for the situation, and if so, how much and in what ways? Do you believe that your experience was fair/unfair? Was your experience expected or unexpected?

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

10.) Number of painful experiences (#9 on updated EPI)

- How many emotionally painful experiences have you had in your life? (*Ask for brief description of each of them*)

- 1 2 3 Please circle one number the left to indicate you rating of this item
 1 = *essential*, 2 = *useful but not essential*, 3 = *not necessary* for the proposed interview

Judge's comments about this item:

11.) Location of Pain (#8 on updated EPI)

- Where did you feel this emotional pain (in your body)? (NOTE LOCATION AND DESCRIPTION)

1 2 3 Please circle one number the left to indicate you rating of this item

1 = essential, 2 = useful but not essential, 3 = not necessary for the proposed interview

Judge's comments about this item:

General comments or suggestions

[illegible]

Appendix H

Emotional Pain Advertisement

WVU Researchers seek to learn more about Emotional "Pain"

**(from any event that has caused heartbreak, sadness,
loss, or any distress that is experienced painfully)**

Participation involves interviews and talking about previous life experiences, both negative and positive, completing surveys, and taking part in a task with potentially painful finger pressure (which you can stop at any time)

**Financial compensation provided for time and travel to
WVU's downtown campus (with free parking)**

**Takes about 2 hours
Must be at least 18 years old**

Call (304) 685-5501 for more information or to sign up

IRB Approval on file
Daniel W. McNeil, Ph.D., Principal Investigator
Department of Psychology
Eberly College of Arts & Sciences

West Virginia University

Appendix I

Positive Life Event Advertisement

WVU Researchers seek to learn more about
Joyful Experiences
(from any event that has caused happiness,
contentment, satisfaction, or feeling gratified)

Participation involves interviews and talking about previous life experiences, both negative and positive, completing surveys, and taking part in a task with potentially painful finger pressure (which you can stop at any time)

Financial compensation provided for time and travel to WVU's downtown campus (with free parking)

Takes about 2 hours
Must be at least 18 years old

Call (304) 685-5501 for more information or to sign up

IRB Approval on file
Daniel W. McNeil, Ph.D., Principal Investigator
Department of Psychology
Eberly College of Arts & Sciences
West Virginia University

Appendix J

Phone Screening Form
Toward an Understanding of Emotional Pain and Joy

Telephone Screening Script

Name of caller: _____ Name of Researcher: _____

Hello Emotions Project, my name is _____. I'm in the department of Psychology at West Virginia University. Thank you for calling to find out more about our research project. We are working on a research study about emotional pain and joy. Specifically, we are interested in how individuals experience emotional pain, how they cope with it, how it changes over time, and how that influences their pain tolerance and threshold. We also are interested in positive experiences, how people experience joy, remember it, and how they recall it over time. As part of our study, we will be asking you to participate in two interviews, one on an emotionally painful experience and the other on a joyful experience. We will also ask you to complete a few short questionnaires prior to participating in a pressure pain task in which you can stop at any time. That task involves pressure on four of your fingers. Again, you can stop that pressure at any time you wish.

What else would you like me to tell you about this study?

Do you think you might be interested in participating in this study?

<If NO> Thank you very much for calling.

<If YES> Prior to enrolling you in the study, we have to ask you a few questions to determine if you are eligible. We will be collecting information about you during this phone call and your taking part in this phone call is completely voluntary.

Your information will only be seen by researchers at West Virginia University associated with our project. We try to make sure that the information we collect from you is kept private and used only for the research study we are discussing.

That being said, I would like to ask you a series of questions. Please answer honestly and to the best of your ability. There is a possibility that some of the questions may make you uncomfortable or distressed; if so please let me know. Remember, your participation is voluntary; you do not have to complete these questions.

Do I have your permission to ask you these questions? _____

1) How did you hear about this study? (what was the name of the study on the advertisement)?

(Circle One) Emotional Pain Ad Positive Life Experience

2) Emotional pain is felt in response to psychological suffering that is associated with a distressing life situation, in which may occur in the absence of physical pain. a) Have you ever had a time that you felt emotional pain in an intense way that was out of the ordinary? I am referring to emotional pain that would be significant enough that you should be able to remember it if it happened at any time in your life.

YES NO

b) How intense would you rate your most extreme experience of Emotional Pain on a scale of 0 – 100, with “0” being not at all intense, and “100” being extremely intense? _____

c) Please briefly summarize what happened that led to your emotional pain experience:

3) A positive life experience is felt in response to happy events, in which there is delight, satisfaction, gladness, and/or being elated. a) Have you ever had a time that you felt a positive life experience in an intense way that was out of the ordinary? I am referring to a positive life experience that would be significant enough that you should be able to remember it if it happened at any time in your life.

YES NO

b) How intense would you rate your most extreme Positive Life Experience on a scale of 0 – 100, with “0” being not at all intense, and “100” being extremely intense? _____

c) Please briefly summarize what happened that led to your joyful experience:

Now, I would like to ask you a few general questions about yourself.

1) 1a. Age: _____

1b. Date of birth: _____

2) Gender: MALE FEMALE

3) (If FEMALE) Are you currently pregnant, or believe you might be pregnant? YES NO

4) What is your current marital status? Are you currently: single / married / separated or divorced / widowed / live in partner?

5) What is your current occupation, and your past occupations?

6) If spouse or live-in partner or parents/caregivers: What are the current and past occupations of your spouse, live-in partner, or parents/caregivers?

7) Are you currently employed? Full-time, part-time, retired, disabled?

8) What is the highest level of education you have obtained? Specifically, how many years of education have you completed?

9) Now I'm going to ask you a question about how you see yourself compared to other people:

Imagine a ladder with 10 rungs, with each of the 10 rungs being numbered. The top rung is labeled with the number "10", the rung second from the top is labeled "9", and each lower rung has a smaller number, with the bottom rung labeled "1".

Think of this ladder as representing where people stand in the United States. At the TOP of the ladder are the people who are best off – those who have the most money, the most education, and the most respected jobs.

At the BOTTOM are the people who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

WHERE WOULD YOU PLACE YOURSELF ON THIS LADDER? What is the number of the rung where you think you stand at this time in your life, relative to other people in the United States? _____

10) PAIN/ MEDICAL CONDITIONS

- a) Are you currently experiencing any pain that has lasted for four months or longer?
- b) Are you currently experiencing any significant acute pain?
- c) Do you currently have any heart problems?
- d) Do you currently use a morphine pump?
- e) Are you missing your ring or middle finger on either hand?
- f) Do you have an open wound on either your middle or ring fingers?
- g) Do you have peripheral neuropathy? **Y / N** Polyneuropathy in the upper extremities? **Y / N**
Reflex sympathetic dystrophy (RSD) in the upper extremities? **Y / N**

11) MENTAL HEALTH SCREENING

- a) Have you ever seen something that other people who were there could not see? (Not dreaming, not half-asleep, not under the influence of drugs or alcohol)
 - i) If YES, briefly explain:
- b) Have you ever heard anything that other people who were there could not hear? I don't mean having good hearing, but rather hearing things that other people said did not exist. (Not dreaming, not half-asleep, not under the influence of drugs or alcohol)
 - i) If YES, briefly explain:
- c) Have you ever felt like others could read your mind or that your thoughts were not your own, as if they were put there by someone else? (Not dreaming, not half-asleep, not under the influence of drugs or alcohol)
 - i) If YES, briefly explain:
- d) Have you ever believed that a strange, outside force was communicating specifically with you? Sending you signals that only you could understand? (Not dreaming, not half-asleep, not under the influence of drugs or alcohol)
 - i) If YES, briefly explain:
- e) Do you have any current problems with alcohol or drugs?
 - i) If YES, briefly explain:
- f) Are you currently receiving any medication, counseling, or other treatment for depression, anxiety, or any other mental health concerns?
 - i) If YES, briefly explain:
- g) Do you have any mental health concerns at present?
 - i) If YES, briefly explain:

Potential Risks

No permanent side effects are anticipated. You may become upset after re-experiencing past emotionally painful situations and/or experience slight discomfort during exposure to the pressure pain task. These sensations are expected to disappear quickly (i.e., within 60 seconds) when the stimulation is discontinued. At the site of stimulation there is likely to be a small indentation in the skin that may last for approximately 30 minutes.

Potential Benefits

You may gain a better understanding of the research process and your participation may eventually benefit others. Additionally, recounting personally relevant emotional topics has been demonstrated to have a wide range of mental and physical benefits. It is believed that describing an emotional experience helps make sense of the experience, as well as relieving stress from disclosure, which is commonly referred to as "getting something off your chest". You may also benefit from having questions answered relating to your own pain and fears.

There are no costs for you to participate beyond your own transportation to participate.

If you agree to participate in the study, you will be compensated \$50.00 at completion of the tasks we discussed.

In closing:

- **What questions do you have?**
- **Do you think you would like to take part in this research?**

<If, NO> Thank you for your time.

<If YES> Thank you for your interest. I would like to schedule a time for you to come in, if that works for you.

If you have any other questions or concerns, please feel free to contact _____ at (304) 685-5501

SCHEDULING

Name: _____ Phone:(specify:day/evening/cell)_____

Address: _____

Time: _____ Day: _____ Date: _____

Directions to the Anxiety, Psychophysiology, & Pain Research Laboratory:

The Anxiety, Psychophysiology, & Pain Research Laboratory (APP Lab) is located on the second floor of the Life Sciences Building, in room 2317. The street it is located on is Campus Drive, which is in the Sunnyside neighborhood, as a part of West Virginia University's Downtown Campus. The address of the APP Lab is 53 Campus Drive, Morgantown, WV 26506. It is located in room 2317 of the Life Sciences Building. Turn left down the hallway from the elevator on the second floor of the building, and the clinic is located through a glass door halfway down the hallway on your left.

Please call (304)685-5501 if you need further directions.

Free parking is available on Campus Drive. However, for free parking, you need a parking pass to place on your dashboard. You can give me your mailing address now, and I will mail one to you so that you have it ahead of time. But, if you forget, and if you have a cell phone, you can call (304) 685-5501, from the parking space and a parking pass will be brought out to you. Otherwise, you can enter the APP Lab to get a parking pass, and then place it on your dashboard.

DIRECTIONS TO THE APP LAB FROM I-68

From highway 68, exit at the University Avenue exit. Turn left down the hill on North 119. Continue straight through several lights through town. Route 119 will be called Don Knotts Boulevard and then turn into Beechurst. The road will narrow to 2 lanes. Turn right at the light at Campus Drive and go up the hill. The APP Lab is in the new Life Sciences Building on your right ½ way up the block. There are 4 parking spaces in front of the building marked "QUIN CURTIS CENTER" where you may park.

DIRECTIONS TO THE APP LAB FROM I-79

Take the Westover/Downtown Morgantown exit (exit #152) and turn towards Morgantown (away from the mall) at the end of the exit ramp. Just after you turn you should pass an Exxon on your right. Drive Northeast on Highway 19 through Westover. This road is fairly curvy; keep following it to the Monongahela River where you will cross a bridge. Cross the bridge in the left lane into downtown Morgantown, turning left at the end of the bridge. You will now be on Beechurst Street. The road will narrow to 2 lanes. Turn right at the light at Campus Drive and go up the hill. The APP Lab is in the new Life Sciences Building on your right ½ way up the block. There are 4 parking spaces in front of the building marked "QUIN CURTIS CENTER" where you may park.

If there are no parking places available, you may park in the lot immediately next to the Life Sciences Building. Just be sure to display the parking pass on your dash

Appendix K

PA 12 Demographics Form

NAME : _____

Today's date: _____

1. Age

How old are you? _____

2. Ethnicity / Race

What is your race or ethnicity? _____

3. Education LevelWhat is the highest level of education you completed?
_____**4. Romantic Relationship Status**

- ☐ Single (no current romantic partner)
☐ Married/Live with current partner
☐ Current partner lives outside the home
☐ Separated / Divorced / Widowed

5. Current Employment Status

- ☐ Full-time employment
☐ Part-time employment
☐ Unemployed
☐ Disabled
☐ Volunteer
☐ Other: _____

6. Current Occupation

- ☐ Not applicable (N/A)
☐ Student
☐ Skilled trade
☐ Unskilled trade
☐ Homemaker
☐ Professional (specify: _____)
☐ Other: _____

7. What is your (combined) annual household income (before taxes)?

- ☐ \$0-20,000 ☐ \$20-40,000 ☐ \$40-60,000
☐ \$60-80,000 ☐ \$80-100,000 ☐ \$100,000+

8. Are you undergoing any current counseling or other outpatient treatment for emotional or psychological problems?☐ Yes ☐ No**9. Have you ever had any previous counseling or other outpatient treatment for emotional or psychological problems?**☐ Yes ☐ No**10. Have you ever been hospitalized for emotional or psychological problems?**☐ Yes ☐ No**11. Are you currently taking any medications?**☐ Yes ☐ No*If "Yes", please specify your medication(s) and dosage # times taken per day here:*

12. Do you have any current or past significant medical conditions?☐ Yes ☐ No*If "Yes", please specify your significant current or past medical condition(s) here:*

Appendix L

INFORMATION ABOUT GRIEF

When someone close to us dies, the loss affects both our bodies and minds. Grief is a natural reaction that helps us cope with loss (Shear, 2003).

Painful thoughts and feelings can serve as guides to help us adjust to the loss. Like love, grief is different for every person and every relationship, but there are certain things that most grieving people have in common (Shear, 2003).

In the period following the death of someone we love, the bereaved person is preoccupied with thoughts of the deceased, often accompanied by a host of painful emotions. In the initial period of grief, people often withdraw from the world and lose their usual interest in social interaction (Shear, 2003).

For many people this reaction feels foreign and unwanted. But grief serves the purpose of giving people time and guidance in finding a way to live their daily lives without the person who died, and pushes them to think about this person in a new way (Shear, 2003).

Life without a person we love is never the same, and in this sense, grief is a permanent state. However, as adjustment to the loss progresses, thoughts and feelings change (Shear, 2003).

Grief almost always includes some mixture of sadness, anxiety, guilt, anger and shame, although sadness is the emotion most commonly associated with grief (Shear, 2003).

“It is also important to know that grief usually contains positive feelings interspersed with the negative ones, even in the early period of bereavement. We feel good as we recall happy memories, tell funny anecdotes, feel pride in honoring the person who died, or warmth in recollecting closeness to the loved one. If the person who died was ill and burdensome, it is very normal to feel relief when they die. We might also feel relief after the death of a person who was often difficult to be with, even though we also feel sad about the loss. Sometimes people feel guilty or ashamed of their positive feelings, feelings of relief. Of course for most people the overall feeling of grief is quite unsettling and painful.

The unsettling feelings and social withdrawal pave the way for needed psychological and social role changes that are needed to adjust to an important loss. It is also good to know that grief works best when a person is able to experience positive feelings and when we allow ourselves to set aside the anguished feeling when our minds allow us to do so. Doing this does not mean that we are betraying or disrespecting the person who died, nor does it mean we are on our way to forgetting them” (Shear, 2003, p.17).

“We suddenly find a new **social role** thrust upon us. We have lost a person who was part of ourselves and it can feel like we have lost our identity, like we no longer know who we are. One of the adjustments we must make after losing someone we love is learning to live in the world without that person. At the same time when we are close to someone, there is a way in which we never lose them” (Shear, 2003, p.18).

“People we love live in our minds and especially in our **memory**. People we love are not usually with us all day every day. Instead, they come and go in our everyday life, even when we are very close. The important thing is to know that they are there to talk to, to touch, to hear and to see. Of course, with the death of a loved one, these comforts are no longer available. But most people find that they do still feel

their loved one is there. In the beginning, even this feeling is very difficult and sad, but with time a sense of comfort re-emerges” (Shear, 2003, p.18).

“The loss of a loved one creates an assortment of practical and psychological problems that must be solved. Practically, we need to take care of daily chores that we did not have before and omit others that we are used to doing. Psychologically, we need to find a way that thoughts and feelings about the person who died can be comfortably retrieved or “**re-visited**,” and also comfortably set aside, and a way for the bereaved person to engage fully in his or her own life” (Shear, 2003, p.18).

“As these problems are addressed, it is possible to feel a sense of **pride** in having effectively coped with a difficult challenge, to imagine the pride the deceased would have in knowing we have done this, and to take comfort in thinking about the person and pleasure in recollecting shared moments, even if this pleasure is now bittersweet. Adjustment to the loss also brings new possibilities of satisfaction and joy in a life lived without the person who died” (Shear, 2003, p.18).

HOW GRIEF WORKS

“The intense emotions, preoccupation with the deceased and social withdrawal that are the hallmarks of grief all serve to signal to ourselves and to others the need for a “time out.” During the time-out period, practical problems can be solved and the process of psychological adjustment can begin” (Shear, 2003, p.18).

Thoughts and feelings typically associated with the grief process:

“**Sadness** is lessened if we think about the ways our loved one is still present or if we try not to think about the person at all. So sadness helps us find the ways we can re-visit comforting thoughts and feelings, and sadness motivates us to find satisfaction with life without the person we love” (Shear, 2003, p.18).

“**Anxiety** is lessened if we tackle the challenges that are making us anxious. Anxiety motivates us to do the things we need to do to manage without the person who died, to master the new chores, to find new ways to comfort ourselves and to be happy” (Shear, 2003, p.18).

“**Guilt** is lessened when we find a way to honor the other person, to forgive ourselves or to make up for something if we believe we really fell short. Dealing with guilt often helps us grow as a person, but guilt is an emotion that can also stop us in our tracks. Problems with guilt are often present when grief isn’t working” (Shear, 2003, p.18).

“**Anger**, too, can be useful in pushing us to take care of practical things or to honor the dead by standing up for them. Anger about an untimely death can provide an impetus to help others or to pay tribute to the person who died. However, anger is another emotion that can cause problems if it is very strong” (Shear, 2003, p.19).

“**Shame** also pushes us to find ways to relieve the other painful emotions and to achieve a sense of competence in life without the deceased. But if shame leads us to ignore the feelings or pretend we do not have them, this can be a problem” (Shear, 2003, p.19).

“When grief is working resolving these feelings can help a bereaved person learn to **take comfort in memories** instead of just feeling the pain associated with the loss and helps solidify a permanent sense of connection to the person who died” (Shear, 2003, p.19).

“As this learning to take comfort in memories and solidifying a permanent sense of connection occurs, the feelings of anguish are eased. The adjustments we need to make to relieve intense sadness, anxiety, and especially guilt, anger and shame, are not easy. So it is not surprising that sometimes the adjustment does not go smoothly. Sometimes grief doesn’t work” (Shear, 2003, p.19).

“Strong feelings of sadness and loneliness almost always occur following the death of a close friend or family member. Most people also experience guilt, resentment, anger, and shame. Experiencing any and/or all of these emotions following the loss of a friend or family member is perfectly normal” (Shear, 2003, p.19).

“However, some people find that they are **unable to accept the death**, their feelings remain very strong and persistent, and accompanied by certain types of disturbing ideas that seem to inhibit the natural process of gradually diminishing grief intensity. Another way of saying this is that grief isn’t working and the bereaved person is “stuck” in the grieving process. When this happens, grief intensity remains high and adjustment does not occur. The bereaved person, in a sense, loses their own life as well as that of the person who died. We call this condition in which unmanageably intense and/or persistent grief symptoms occur, **complicated grief**. Complicated grief symptoms are a kind of signal that grief isn’t working, that something is blocking the acceptance and adjustment to the loss” (Shear, 2003, p.19).

Appendix M

PERSONAL GOALS AND REWARDS

Goals:

Identifying and working on personal goals is a core component working through grief.

- What would you like to be doing with your life if grief was not holding you back?

“The idea is to identify personal dreams, long- term goals. This procedure does not target treatment goals, but rather life goals. After identifying these goals, work with the individual to help begin on the road to accomplishing or at least exploring the feasibility of these goals.

Somewhat surprisingly, most of the very anguished individuals still have secret goals and dreams. It is important to bring these out and to encourage the patient to begin to move towards these goals, at the same time they are working on dealing with the loss” (Shear, 2003, p.21).

In they are not able to identify their own goals, ask questions like:

- “Did you have any dreams a long time ago that got put on hold because your life was taking a different direction?”
- “Is there anything you planned to do with the person who died that you never got to do or that you wish you could have done more of?”
- “Is there anything that you decided not to do because you couldn’t do it with the person who died?”

“If these questions are answered affirmatively, explore how practical it is to revisit them now. If they are no longer goals or if they are not practical, they will still provide information and hints about what goals might be” (Shear, 2003, p.21).

“Consider practical and psychological barriers, and provide support and practical advice. Emphasize the importance of outside support, to optimize support they get from others in achieving their goals. Have them think about who can help them and how they can help achieve their goals” (Shear, 2003, p.21).

Rewards:

Personal goals are the long-term motivating visions of our imagined successful life.

Personal rewards are small everyday pleasures that may or may not be related to goals. In recognition of the difficulty of confronting the reality of the death, focus on these small daily rewards. Think about things you really like to do, things you want, that make you happy” (Shear, 2003).

- “What type of things do you like to do?”
- “What type of things do you want?”

Content based on the work of Shear (2003)

Table 1.

Total number/means (and percentage/standard deviations) for demographics

	Emotional Pain	Positive Life Event
Age	49.8 (15.5)	50.6 (14.8)
Gender		
Female	10	10
Male	6	6
Hollingshead SES	50.1 (10.2)	46.0 (10.1)
Class of SES		
Class I (55-66)	8 (50.0%)	3 (18.8%)
Class II (40-54)	6 (37.5%)	9 (55.2%)
Class III (30-39)	2 (12.5%)	3 (18.8%)
Class IV (20-29)	-	1 (6.2%)
Class V (8-19)	-	-

Note. SES class categories are guidelines based on the Hollingshead SES measure; none of the values listed above for the two groups differ at $p < .10$, except the Hollingshead SES measure, in which $p = .091$.

Table 2.

Exclusionary Criteria

-
1. Heart Disease
 2. Peripheral Neuropathy or polyneuropathy in the upper extremities
 3. Reflex sympathetic dystrophy (RSD) in the upper extremities
 4. Missing middle or ring finger on either hand
 5. Use of morphine pump
 6. Under age 18 years
 7. Over age 70 years
 8. Open wound on either middle or ring fingers
 9. Not literate in spoken and written English
 10. Obviously inebriated
 11. Demonstrating obvious psychotic symptoms
 12. Developmentally disabled
 13. Currently pregnant
 14. Reporting significant (physical) pain

Table 3.

Means (and standard deviations) for additional events and count of relationship status

Group	Emotional Pain	Positive Life Event
Additional emotional pain events	4.6 (2.8)	2.9 (1.6)
Additional positive life events	3.0 (2.1)	4.4 (3.2)
Relationship Status		
Single (no current romantic partner)	$n = 6$	$n = 3$
Married/Live with Current Partner	$n = 3$	$n = 9$
Current partner lives outside the home	$n = 2$	$n = 0$
Separated	$n = 1$	$n = 0$
Divorced	$n = 2$	$n = 4$
Widowed	$n = 2$	$n = 0$

Note. $n = 16$ per group; none of the values listed above for the two groups differ at $p < .10$, except for relationship status, in which $p = .09$.

Table 4.

Content validity ratios for EPI items

Rater	Instructions	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Judge #1	1	1	2	2	2	1	1	1	2	1	1	1.5	1
Judge #2	1	1	1	2	1	2	2	1	2	1	1	2	3
Judge #3	1	1	1	3	3	1	1	2	3	2	2	2	3
Judge #4	1.5	1	1	1	2	1	1	2	1	1	2	1	2
Judge #5	2	2	1	1	1	1	2	1	3	1	2	1	3
Judge #6	1	1	1	1	1	1	1	2	2	2.5	2	1	1
Judge #7	1	1	2	1	1	1	1	1	2	1	1	1	1
Judge #8	1	1	1	1	1	1	1	1	1	1	1	1	1
CVR	.5	.75	.5	.25	.25	.75	.5	.25	-.5	0.5	0	.25	0
Adjusted CVR	1	1	1	.75	.75	1	1	1	.5	.75	1	1	.25

Note. $CVR = (n_e - N/2)/(N/2)$, with “ n_e ” representing the number of expert judges indicating an *essential* (1) item, and “ N ” representing the total number of expert judges (i.e., $n = 8$).

Adjusted CVR = $CVR = (n_e - N/2)/(N/2)$, with “ n_e ” representing the number of expert judges indicating both *essential* (1) and *useful but not essential* (2) items, and “ N ” representing the total number of expert judges (i.e., $n = 8$).

Table 5.

Means (and standard deviations) for the ASI, PCL, and BDI-II across groups

	Emotional Pain	Positive Life Event	Total
ASI	18.2 (11.4) ^a	16.8 (8.5) ^a	17.5 (9.9)
BDI-II	11.3 (10.0) ^a	5.3 (5.2) ^b	8.3 (8.4)
PCL	35.1 (14.6) ^a	24.0 (5.0) ^b	29.0 (13.0)

Note. $n = 16$ per group; means for the two groups within each row that do not share a common superscript differ at $p < .05$.

Table 6.

Analyses of variance for interview type and group, for participant, independent rater, and interviewer

	<i>MS</i>	<i>F</i>	<i>p</i>
<u>Participant</u>			
Interview type			
Valence	5148.06	1580.98	.00
Arousal	31.60	1.02	.32
Control/Dominance	1040.06	20.44	.00
Group			
Valence	7.56	2.97	.10
Arousal	54.39	1.82	.19
Control/Dominance	49.00	1.20	.28
Interview x Group			
Valence	15.35	.31	.59
Arousal	18.05	.36	.56
Control/Dominance	6.25	1.91	.18
<u>Interviewer</u>			
Interview type			
Valence	4607.02	1230.24	.00
Arousal	1.27	0.27	.61
Control/Dominance	1838.27	115.22	.00
Group			

Valence	0.39	0.85	.36
Arousal	5.64	0.11	.24
Control/Dominance	34.52	0.33	.57
Interview x Group			
Valence	2.64	0.17	.69
Arousal	0.14	0.04	.85
Control/Dominance	9.51	0.84	.56
<hr/>			
<u>Independent rater</u>			
Interview type			
Valence	3615.02	3036.23	.00
Arousal	16.00	4.55	.04
Control/Dominance	199.51	121.45	.00
Group			
Valence	0.39	0.15	.71
Arousal	0.77	0.86	.36
Control/Dominance	0.14	0.03	.86
Interview x Group			
Valence	2.26	0.47	.58
Arousal	0.77	0.64	.43
Control/Dominance	1.89	0.54	.47

Note. $n = 16$ per group; $df = 1, 31$ for Group and Interview type; $df = 2, 31$ for Interview x Group.

Table 7.

Means and standard deviations for participants' ratings of emotional responding for the type of interview

	<u>EPI</u>		<u>PLEI</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence*	19.0	2.0	1.1	1.3
Arousal	16.6	4.5	15.2	6.2
Control/Dominance*	16.3	6.4	8.3	7.0

Note. $n = 16$ per group; * indicates that the rating for types of interview differ at $p < .05$.

Table 8.

Means and standard deviations for participants ratings of both group's emotional responding

	<u>Emotional Pain</u>		<u>Positive Life Event</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence	9.7	2.1	10.4	4.9
Arousal	15.1	5.9	16.8	4.9
Control/Dominance	12.5	6.1	11.8	7.7

Note. $n = 16$ per group; * indicates that the rating for types of interview differ at $p < .05$.

Table 9.

Means and standard deviations for the interviewers' and independent rater's ratings of emotional responding for the type of interview

	<u>Interviewer</u>			
	PLEI		EPI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence*	1.6	1.6	18.5	1.5
Arousal	16.8	2.8	16.5	1.8
Control/Dominance*	7.1	5.8	17.4	1.5
	<u>Independent rater</u>			
	PLEI		EPI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence*	2.7	1.0	17.7	0.9
Arousal *	15.6	1.9	13.8	1.9
Control/Dominance*	11.1	3.1	15.5	1.2

Note. $n = 16$ per group; * indicates that the rating for types of interview differ at $p < .05$.

Table 10.

Means and standard deviations for interviewers' and independent rater's ratings of both group's emotional responding

	<u>Interviewer</u>			
	<u>Emotional Pain</u>		<u>Positive Life Event</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence	9.9	1.95	10.1	1.6
Arousal	16.1	2.3	16.7	2.3
Control/Dominance	10.9	4.3	12.3	3.65
	<u>Independent Rater</u>			
	<u>Emotional Pain</u>		<u>Positive Life Event</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Valence	10.5	1.1	10.3	0.98
Arousal	15.3	1.8	15.1	2.05
Control/Dominance	14.0	2.5	14.4	1.8

Note. $n = 16$ per group. ; * indicates that the rating for types of interview differ at $p < .05$.

Table 11.

Means (and standard deviations) for interviewers' and independent rater's ratings of emotional responding for the EPI and PLEI between groups

		EPI		PLEI	
		Interviewer	Independent rater	Interviewer	Independent rater
Emotional Pain Group	Valence	18.4 (2.1)	18.1 (1.2)	1.4(1.8)	2.8 (0.9)
	Arousal	16.0 (2.2)	15.1 (1.6)	16.2 (2.4)	15.3 (2.0)
	Control/Dominance	16.4 (5.1)	15.9 (2.1)	5.2 (3.5)	9.8 (1.9)
Positive Life Event Group	Valence	18.5 (1.5)	17.7 (0.9)	1.6(1.6)	2.7 (1.8)
	Arousal	16.5 (1.8)	13.9 (1.9)	16.8 (2.8)	15.7 (1.7)
	Control/Dominance	17.4 (1.5)	15.5 (1.2)	7.2 (5.8)	11.2 (3.1)

Note. $n = 16$ per group.

Table 12.

Content of emotionally painful events

Category	Frequency	Percent
All Categories	n = 32	100%
Death of family member	n = 9	28%
Divorce	n = 6	19%
Death of close friend	n = 6	19%
Responsible for accidentally injuring another person	n = 2	6%
Childhood emotional abuse	n = 2	6%
Serious injury leading to lengthy recovery	n = 1	3%
Vicarious trauma working with sexual abuse victims	n = 1	3%
Death of pet	n = 1	3%
Giving up child for adoption	n = 1	3%
Sexual harassment at work	n = 1	3%
Chemotherapy session for breast cancer	n = 1	3%
Re-living of childhood neglect in therapy	n = 1	3%

Table 13.

Content of positive life events

Category	Frequency	Percent
All Categories	<i>n</i> = 32	100%
Birth of child or grandchild	<i>n</i> = 10	31%
Wedding for self or child	<i>n</i> = 5	16%
Religious event	<i>n</i> = 4	13%
Vacation	<i>n</i> = 2	6%
Acceptance to academic program	<i>n</i> = 2	6%
First Date	<i>n</i> = 2	6%
Athletic accomplishment	<i>n</i> = 2	6%
Adoption of child	<i>n</i> = 1	3%
Moving away from home to begin college	<i>n</i> = 1	3%
Successful completion of major occupational project	<i>n</i> = 1	3%
Returning safely from Vietnam war	<i>n</i> = 1	3%
Completion of academic program	<i>n</i> = 1	3%

Table 14.

Pearson correlations of participants' and interviewers' emotional responding ratings

			Participants' ratings					
			EPI			PLEI		
			valence	arousal	control	valence	arousal	control
Interviewers' ratings		Valence	.73**	.23	.05	-.30	.03	.14
	EPI	Arousal	.22	.70**	.55**	-.26	.05	-.11
		Control/ Dominance	.28	.35*	.67**	-.15	-.21	-.07
		Valence	-.02	-.27	-.33*	-.67**	-.09	-.25
	PLEI	Arousal	.11	.22	.20	.11	.65**	.29
		Control/ Dominance	.26	-.17	-.06	.00	.19	.55**
Independent Rater's ratings		Valence	.42*	.16	-.14	-.35*	-.13	-.08
	EPI	Arousal	.10	.21	.13	-.20	-.02	-.09
		Control/ Dominance	.00	-.12	.10	-.27	-.02	-.10
		Valence	-.22	-.38*	-.37*	.50**	-.13	-.14
	PLEI	Arousal	.12	.24	-.01	-.01	.63**	.23
		Control/ Dominance	.12	-.15	-.13	-.04	.22	.49**

Note. * $p < .05$. ** $p < .01$.