Using Acceptance and Commitment Therapy to Decrease High-Prevalence Psychopathology by Targeting Self-Compassion: A Randomized Controlled Trial

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Abstract

Self-compassion, that is treating oneself with kindness and understanding and without harsh judgment in difficult times, has been presented as an alternative to both self-criticism and self-esteem. It has been conceptualized by Kristin Neff to consist of self-kindness, mindfulness, and common humanity. Although a body of research shows the importance of self-compassion to psychological functioning, Neff’s theory is not based on a basic science of behavior change and may therefore be limited in its utility to inform treatment development. Acceptance and Commitment Therapy (ACT) is an acceptance-based behavioral treatment modality that is informed by a basic science of language and cognition called Relational Frame Theory (RFT). This dissertation offers an account of self-compassion based on RFT and seeks to test an ACT intervention for self-compassion based on this account.

The intervention tested here was a 6-hour ACT workshop targeting self-compassion using a randomized, waitlist-controlled design. Participants were undergraduates in psychology classes at the University of Nevada, Reno. Among the 532 participants screened for low self-compassion and high general psychological distress, 73 participated in the RCT. Assessments were completed before and after the workshop as well as at 2-month follow-up. Active treatment was significantly superior to control in improvements in the following outcomes: general psychological distress, anxiety, several other psychological symptom dimensions, and positive affect. Active treatment also showed better improvements on the following process variables: self-compassion, psychological flexibility, self-criticism, self-as-context, and nonjudging of experience.
Psychological flexibility was shown through mediational and other analyses to be a more powerful process of change than self-compassion.
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CHAPTER ONE: INTRODUCTION

Self-compassion has been put forth as a healthy alternative to both self-criticism and high self-esteem and has been conceptualized as consisting of self-kindness, mindfulness, and common humanity (Neff, 2003b). A great deal of correlational evidence supports the involvement of self-criticism in psychopathology and other negative outcomes as well as the role of self-compassion in promoting psychological health, well-being, and other positive outcomes, with a large portion of the research addressing these processes among undergraduates. In addition, a body of research on interventions of various lengths and formats, from mindfulness based stress reduction programs to very brief rationales, has shown that self-compassion may be increased through intervention and that doing so may help bring about positive changes in mental health.

Although Neff’s theory and research program on self-compassion represents a contribution, its lack of grounding in basic science makes it more difficult to know how to generate effective treatments that go beyond commonsense interventions. The approach underlying the development of acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), “contextual behavioral science” (CBS), may provide assistance in this area. CBS uses basic behavioral principles as extended by Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001) to inform intervention development, including ACT.

This dissertation will present an RFT analysis of self-compassion and will test the efficacy of an ACT-based intervention based on this analysis. Participants will be UNR
undergraduates recruited from psychology classes through the online subject pool and will be screened for low levels of self-compassion and high levels of psychological distress. Those meeting criteria may participate in a randomized trial of a 6-hour ACT workshop addressing self-compassion with a wait-list control. Outcome measures of general psychopathology and symptomatology as well as process measures of self-compassion, psychological flexibility, mindfulness, and self-as-context will be given before and after the workshop and at 2-month follow-up.

**Psychopathology and Stressors in Undergraduates**

Rates of psychopathology among undergraduates are high. In a study involving face-to-face interviews of 2188 college students, the overall 12-month prevalence of having a DSM-IV psychiatric disorder was 45.8%, with the prevalence of mood and anxiety disorders at 10.6% and 11.9%, respectively (Blanco et al., 2008). In a large study with university students, the self-reported prevalence of several mental health problems (depression, anxiety, eating disorder, self-injury, or suicidal ideation) was over 50% across two years (Zivin, Eisenberg, Gollust, and Golberstein, 2009). Using Web-based survey data, a similar study found the prevalence of any depressive or anxiety disorder to be 15.6% among undergraduates; 2% of students reported experiencing suicidal ideation in the past 4 weeks (Eisenberg, Gollust, Golberstein, & Hefner, 2007). According to a 2005 survey, however, 10% of undergraduates reported “seriously considering attempting suicide” (American College Health Association, 2006). In another survey study, depression, anxiety, and stress levels among undergraduates were found to be in the
moderate range or worse for 27.1%, 47.1%, and 27.0% of students, respectively (Bayram & Bilgel, 2008).

The problem of student mental health may be worsening: In a survey of directors of university counseling centers, 86% reported an increase in the prevalence and severity of psychological problems of students (Gallagher, 2007). Moreover, students do not seem to be getting the help they need. According to a longitudinal survey, fewer than half of students with a mental health problem at both baseline and 2-year follow-up received treatment for it over that time period (Zivin et al., 2009). According to another survey, an estimated 34% of students with a mood disorder and less than 16% of those with an anxiety disorder sought treatment for their problem in the past year, and across all disorders studied, the estimated rate of treatment seeking in the past year was less than 20% (Blanco et al., 2008).

The high prevalence of psychopathology among undergraduates makes sense considering the significant academic, social, and financial stressors faced by this population. Exam grades and studying for exams ranked at the top of a list of 34 stressors faced by undergraduates and were rated at over 5 on a 0-7 scale of stressfulness (Abouserie, 1994). In addition, many students move away from family and friends to attend college and must build new networks of social support, and as tuition increases (U.S. Department of Education, 2007), students have begun to borrow at higher rates (Doyle, 2008). Disappointment with social support, the loss of a significant social relationship (e.g., spouse or romantic partner), financial struggles, and academic issues (e.g., increased workload, problems with grades) all emerge as predictors of
psychopathology among undergraduates (Blanco et al, 2008; Blum, 1998; Eisenberg et al., 2007; Langston & Cantor, 1989).

**Self-Criticism and Mental Health Problems**

It is likely, though, that these stressors are not the only contributing factors to psychopathology. How individuals relate to themselves in stressful situations also likely plays a role. Specifically, the impact these stressors have on mental health may be exacerbated or attenuated by whether individuals tend to respond to stressful events by taking a harshly self-critical stance or, alternatively, by approaching themselves with compassion and kindness. The following sections will review the literature on how self-criticism and its alternative—self-compassion—relate to mental health.

**Depression**

Self-criticism has been both theorized and shown to be involved in several forms of psychopathology, especially depression. Blatt and Zuroff (1992) hold that self-criticism is a personality trait that can predispose individuals to develop depression in response to stressful or negative events (dependency being another such trait). In a study testing this hypothesis using experience sampling methods with 49 children aged 7 to 14, higher levels of self-criticism and dependency significantly predicted greater increases in symptoms of depression after everyday hassles, and self-criticism predicted depressive symptoms even after controlling for the interaction between dependency and hassles (Adams, Abela, Auerbach, & Skitch 2011). In addition, in a community sample of adults
with a history of major depression who were assessed every 6 weeks for 1 year, increases in daily hassles were associated with greater increases in depression among participants who were both high in self-criticism and low in self-esteem than among those who were either low in self-criticism or high in self-esteem (Abela, Webb, Wagner, Ho, & Adams, 2006). Lastly, in a community sample of adults (N = 723), the relationship between self-criticism and depression measured 1 year later was partially mediated by stressful life events (Cox, Clara, & Enns, 2009). Together, these studies provide evidence that self-criticism may function as a chronic vulnerability for becoming depressed in response to stressful events, and they suggest the possibility that helping individuals to be kinder to themselves early in life could improve mental health outcomes months and years later.

Gilbert, Baldwin, Irons, Baccus, and Palmer (2006) hold that self-criticism is a way of dealing with social threats by punishing the self as an act of submission so as to avoid more severe punishment from a powerful other. They endorse the idea that when individuals are powerless to counter their own self-attacks and submit to their self-criticisms as true, they become depressed. In a sample of 197 undergraduate students, a significant positive correlation was found between depression and trait self-criticism (r = .63; Gilbert et al., 2006), and in another study, depression was predicted by the degree to which self-critical thoughts were experienced as powerful and dominant over a submissive self (Gilbert et al., 2001).

Beck (1967) theorized that in depression, information processing biased towards negative content and away from positive content leads to unrealistically negative views of the self, the world, and the future, which Beck termed the negative cognitive triad. Thus, exaggerated, unrealistic self-criticisms constitute a key feature of depressogenic thinking.
In support of this theory, a prospective longitudinal study of a clinical sample revealed self-criticism at baseline to be a unique predictor of depressive symptoms, presence of major depressive disorder, and psychosocial functional impairment 4 years later, even after entering baseline values of all these variables as well as baseline levels of neuroticism (Dunkley, Sanislow, Grilo, & McGlashan, 2009). Further evidence for the role of self-criticism in depression is provided by a study of 28 adolescents recruited from a clinic, in which self-criticism mediated the relationship between perceived maternal criticism and depression (Bolton, Barrowclough, & Calam, 2009).

**Other Mental Health Variables**

Self-criticism relates to negative psychological outcomes. For example, it has been shown to significantly predict higher negative affect (encompassing unhappy, frustrated, depressed/blue, angry/hostile and worried/anxious; semi-partial \( R = .51 \)) and lower positive affect (happy, joyful, pleased and enjoyment/fun; semi-partial \( R = .38 \)) among undergraduates scoring in the upper or lower quartiles of self-criticism or dependency or both (Mongrain & Zuroff, 1995). In addition, self-inadequacy and self-hatred (both components of self-criticism) have been shown to correlate positively and significantly with anxiety \( (r = .55 \text{ and } .63, \text{ respectively}) \), shame \( (r = .58 \text{ and } .56, \text{ respectively}) \), and self-harm \( (r = .44 \text{ and } .43, \text{ respectively}; \) Gilbert et al., 2010). Lastly, self-criticism has been shown to be associated with PTSD among those who have experienced traumatic events (Cox, MacPherson, Enns, & McWilliams, 2004; Sharhabani-Arzy, Amir, & Swisa, 2005).
In other studies, relationships between self-criticism and negative outcomes have held up even after controlling for other variables. In a study of 299 depressed and non-depressed postpartum mothers, self-criticism was significantly correlated with state anger ($r = .36$ and .33 for depressed and non-depressed mothers, respectively), trait anger ($r = .61$ and .50), anger directed toward the self ($r = .42$ and .43), anger directed toward others ($r = .46$ and .24), and control of anger ($r = -.41$ and -.28), and in a regression analysis self-criticism remained a significant predictor of these variables even after controlling for levels of depression (Vliegen & Luyten, 2008). In a study of 81 adolescent female inpatients at an eating disorders clinic, self-criticism emerged as a unique predictor of more eating disorder symptomatology dimensions than did depressive symptoms, eating disorder diagnosis, or self-efficacy when entered into regression analyses with these variables (Fennig et al., 2008).

Finally, in one study, self-criticism was shown to be a mediator. Specifically, among 170 overweight treatment-seeking individuals meeting criteria for binge eating disorder, self-criticism fully mediated the relationships between childhood emotional abuse and both depressive symptoms and body satisfaction. In addition, self-criticism emerged as a better mediator of these relationships than did self-esteem (Dunkley, Masheb, & Grilo, 2010).
Self-Compassion as an Alternative to Self-Criticism and Self-Esteem: Neff’s Theory

Neff (2003a) draws on Buddhist teachings to identify a compassionate way of relating to the self as a healthy alternative to both self-criticism and the enhancement of self-esteem. She offers the following definition of self-compassion:

Self-compassion . . . involves being touched by and open to one’s own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one’s suffering and to heal oneself with kindness. Self compassion also involves offering nonjudgmental understanding to one’s pain, inadequacies and failures, so that one’s experience is seen as part of the larger human experience. (Neff, 2003b, p. 87)

Informed by Buddhist psychology, Neff conceptualizes self-compassion as consisting of three components: self-kindness, common humanity, and mindfulness. Self-kindness involves extending understanding, patience, and benevolence to the self, especially in times of suffering or difficulty, and such a stance is taken without harsh self-criticism or self-judgment. Common humanity refers to a sense in which one is connected to others in and even through one’s suffering, as suffering is in fact common to all human beings. This sense of common humanity stands in contrast to a sense of isolation in which one’s suffering is unique and stigmatizing. Mindfulness, a concept central to Buddhist teachings and practices, involves holding painful experiences in awareness (that is, not denying or distracting from them) but at a distance so that one does not become overly identified with them. Each of the three components supports each other. For example, the balanced awareness of suffering involved in mindfulness can help the individual to appreciate that others suffer as well, cultivating a sense of common humanity. A sense of
common humanity, in turn, may help to normalize suffering such that kindness, rather than harsh self-judgment, may be extended to the self.

According to Neff (2003b), self-compassion entails a positive stance towards the self that is not contingent upon positive self-evaluations, while self-esteem does depend on the content of self-evaluations. This dependence is at the heart of the pitfalls of self-esteem. First, because individuals are likely to have both positive and negative self-evaluations at different times, high self-esteem is likely to be unstable, as it is dependent upon positive self-evaluations. Second, if high self-esteem is regarded to be important by the individual, this instability could lead to anxiety about negative evaluations and the exacerbation of other kinds of negative affect (e.g., sadness, anger, and embarrassment) around personal failures that prompt negative self-evaluations. Third, individuals may come to believe their negative self-evaluations, which may become a lens through which they see themselves, therefore biasing their future self-evaluations in a negative direction. Alternately, in order to avoid the negative feelings associated with believing negative self-evaluations, individuals may simply ignore or downplay their weaknesses and exaggerate their strengths so as to maintain high self-esteem (Baumeister, Heatherton, & Tice, 1993; Sedikides, 1993), possibly leading to narcissism. This is unnecessary from a stance of self-compassion because self-kindness and normalization are to be extended especially at those times when one may have lost face. Further, because of the sense of common humanity in self-compassion, compassion for others is cultivated, which runs counter to the self-centeredness and lack of concern for others that may result from narcissistic high self-esteem (Damon, 1995; Seligman, 1995).
Correlational Research on Self-Compassion: Validation of the Construct

The three components (Self-Kindness, Common Humanity, and Mindfulness) and their respective opposites (Self-Judgment, Isolation, and Over-Identification) constitute the 6 factors of the Self-Compassion Scale (SCS; Neff, 2003a), which has served as a central tool in a program of research exploring self-compassion and variables related to it. Many studies have shown negative correlations between the SCS and several forms of psychological symptomatology. Correlations with depression range from -.51 to -.60, and correlations with anxiety range from -.65 to -.75 (Deniz, Kesici, & Sümer, 2008; Neff, 2003a; Neff, Hsieh, & Dejitterat, 2005; Neff & McGehee, 2010; Raes, 2010). In addition, the SCS correlates negatively with PTSD avoidance symptomatology ($r = -.24$; Thompson & Watlz, 2008), worry ($r = -.62$; Raes, 2010), and neuroticism ($r = -.36$; Neff, Rude, & Kirkpatrick, 2007) as well with rumination ($r = -.50$), thought suppression ($r = -.37$), and neurotic perfectionism, which is distress caused by not living up to high personal standards ($r = -.57$; Neff, 2003a).

Importantly, the SCS does not correlate with adaptive perfectionism, which is defined as simply having high standards for oneself. This provides some evidence that self-compassion does not lead to passivity or complacency. Further evidence for this is provided by the significant positive relationship between the SCS and personal initiative ($r = .45$; Neff, Rude, & Kirkpatrick, 2007). Relatedly, among undergraduates the SCS correlated positively with intrinsic motivation ($r = .30$) and mastery goals ($r = .28$) and negatively with fear of failure ($r = -.51$) and performance-avoidance goals, in which students work to avoid failing ($r = -.29$; Neff, Hsieh, & Dejitterat, 2005). Thus, students
high in self-compassion do seem to be motivated to succeed, and for healthier reasons. Finally, self-persecution (self-criticism to enact contempt and/or dislike for self, which is antithetical to self-compassion) remained correlated significantly with self-harm, depression, and anxiety after controlling for self-correction (self-criticism to improve one’s performance, which is consistent with self-compassion). However, correlations between self-correction and these outcomes did not remain significant after controlling for self-persecution (Gilbert et al., 2010). These findings provide some evidence that self-persecution and self-correction are separate processes. The findings are consistent with the idea that self-compassion does not involve complacency in that they suggest that one need not reduce self-correction in order to reap the benefits of decreased self-persecution and increased self-compassion (although this interpretation remains to be tested).

Significant correlations have been found between the SCS and the following other positive factors as well: self-reported happiness ($r = .57$), positive affect ($r = .34$), optimism ($r = .62$), reflective wisdom (which involves self-awareness and insight; Ardelt, 2003; $r = .61$), affective wisdom (which consists of sympathy, kindness, and compassion; Ardelt, 2003; $r = .26$), curiosity and exploration ($r = .28$), agreeableness ($r = .35$), extroversion ($r = .32$), and conscientiousness ($r = .42$; Neff, Rude, & Kirkpatrick, 2007). The SCS has also been shown to correlate with satisfaction with life ($r = .45$; Neff, 2003a) and to be a better predictor of overall well-being than the ability disengage and reengage important goals when necessary, stressful life events, and the need for and availability of social support (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). Further, the SCS accounted for more variance in quality of life, depression, anxiety, and
worry than mindfulness did (Van Dam, Sheppard, Forsyth, and Earleywine, 2011).

Finally, the SCS partially mediated the relationship between each of several family variables (e.g., attachment style, maternal support, family functioning) and well-being (Neff & McGehee, 2010). In this study, self-compassion was a partial mediator between personal fable (the belief that one’s experiences and view of life are so unique that others could not understand them) and well-being as well.

**Self-Compassion and Self-Esteem**

Several empirical findings support the conceptual distinction between self-compassion and self-esteem as well as the advantages of self-compassion over self-esteem. For example, although the SCS correlates with self-esteem ($r = .59$), it does not correlate significantly with narcissism, while self-esteem does correlate significantly with narcissism ($r = .29$; Neff, 2003a). In another study, a significant correlation between the SCS and narcissism was found ($r = .23$), but in a hierarchical regression analysis this relationship dropped to near zero when self-esteem was entered as a predictor (Neff & Vonk, 2009). In this same study, self-compassion was significantly better than self-esteem at predicting lower levels of the following variables: self-esteem instability (across 9 time points), global self-esteem contingency (the importance one puts on external factors in determining one’s self-esteem), need for cognitive closure (which consists of difficulty with ambiguity, rigid thinking, and self-righteousness), and anger. Further, self-esteem was no longer a significant predictor of these variables after adding self-compassion, which was a significant negative predictor. These findings are consistent with the idea that the involvement of self-conceptualizations in self-esteem
contributes to its instability, pushing individuals to cling rigidly to positive beliefs about themselves and become angry when these beliefs are threatened.

Further findings suggest that self-compassion may buffer against another possible negative effect of self-esteem: evaluation anxiety. In a study of undergraduates who were asked to write about their greatest weakness, self-compassion predicted less anxiety during writing, even after controlling for levels of negative affect present before writing \((r = -.23; \text{Neff} \& \text{Vonk}, 2009)\). In this study, self-esteem was not a predictor of anxiety during writing, and when controlling for levels of self-compassion the relationship between self-esteem and anxiety became positive but still non-significant \((r = .10)\). The negative relationship between self-compassion and anxiety, however, remained significant after controlling for self-esteem \((r = -.21)\), showing that self-compassion protects against evaluation anxiety while self-esteem does not.

In a similar study, when undergraduates were asked to imagine their reactions to three scenarios in which they failed in some way, self-compassion predicted significantly more unique variance in negative affect (a composite of sadness, anxiety, anger, embarrassment, and negative self-feelings) than did self-esteem or narcissism (Leary, Tate, Adams, Allen, & Hancock, 2007). In a separate study, undergraduates were recorded giving 3-minute introductions of themselves and then received either positive or neutral feedback, ostensibly from another participant (Leary et al., 2007). Among participants low in self-esteem who received neutral feedback, those low in self-compassion experienced significantly higher negative affect than those high in self-compassion, providing evidence that self-compassion may buffer against the negative effects of low self-esteem. Further, participants high in self-esteem and those low in self-
compassion both attributed positive feedback to themselves significantly more than they attributed negative feedback to themselves. This difference was not present in those high in self-compassion, providing evidence for the idea that self-compassion may protect against an attributional bias involved in self-esteem maintenance. Further evidence for the relationship between accurate self-appraisal and self-compassion is provided by another study in which participants were video recorded making up a children’s story, watched their own tape, and watched another participant’s tape (Leary et al., 2007). Participants high in self-compassion rated their own performance about the same as other participants rated it, but self-ratings of those low in self-compassion were lower than ratings of their performance by other participants.

**Self-Compassion Intervention Research**

Although this body of correlational evidence is encouraging for the importance of self-compassion to mental health and overall life satisfaction and for its advantages over self-esteem, it only constitutes indirect evidence as to the causal status of self-compassion. That is, it does not answer the question of whether self-compassion helps bring about positive outcomes, whether such outcomes help engender self-compassion, or whether self-compassion simply varies with these positive outcomes, all of which are impacted by other variables. Further, the correlational evidence does not address the clinical utility of the construct of self-compassion. In other words, can self-compassion be enhanced, and do positive changes in self-compassion engender positive changes in
outcomes? The studies reviewed below address these issues by testing the effects of various interventions and manipulations on self-compassion and other related variables.

**Mindfulness and Meditation**

Associations have been found between self-compassion and several variables related to Eastern spiritual traditions, particularly Buddhism. These include having a meditation practice (Lykins & Baer, 2009; Neff, 2003a), duration of meditation practice (Neff, 2003a; Orzech, Shapiro, Brown, & McKay, 2009), several different measures of mindfulness (Baer, Smith, Hopkins, Kritmeyer, & Toney, 2006), nonattachment (Sahdra, Shaver, & Brown, 2010), and the four “boundless states” of Buddhist teachings (loving kindness, compassion, joy, and equanimity; Kraus & Sears, 2009). It is not surprising, then, that self-compassion has been included as a dependent variable in several studies examining the effects of mindfulness meditation (Moore, 2008; Ortner, Kilner, & Zelano, 2007; Orzech et al., 2009; Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007). These studies evaluated interventions of lengths varying from only 14 10-minute sessions (Moore, 2008) to 4-week residential retreats (Orzech et al., 2009). Two followed a Mindfulness-Based Stress Reduction (MBSR) format of 8 weekly 2-hour sessions (Shapiro et al., 2005; Shapiro et al., 2007), and one intervention was slightly briefer at 7 1.5-hour sessions (Ortner et al., 2007). Prepost improvements in self-compassion among participants receiving mindfulness interventions were either significantly greater than changes observed in control participants (Shapiro et al., 2005; Shapiro et al., 2007) or were significant in themselves (Orzech et al., 2009; Ortner et al., 2007), and one (Ortner et al., 2007) found no such significant changes in control.
participants. Although another study (Moore, 2008) found significant prepost changes in the Self-Kindness subscale of the SCS, changes in SCS total scores were non-significant, perhaps because of small sample size. Finally, changes in self-compassion emerged as a predictor of reductions in perceived stress in one study, providing evidence for self-compassion as a process variable impacting outcomes (Shapiro et al., 2005).

**Shorter Interventions Targeting Self-Compassion Specifically**

In these mindfulness intervention studies, self-compassion was included as an outcome variable but was not the main focus of the intervention. Some studies, however, have tested interventions which were designed specifically to cultivate self-compassion, many of which are quite brief. For example, one study examined the effects of two interventions (one to promote self-soothing among acne sufferers and one to help them resist self-attacks), each of which was based on a therapeutic approach to self-compassion developed by Gilbert (2009) and was presented in the format of a 60-minute computer slide show with daily homework assigned over the next 2 weeks (Kelly, Zuroff, & Shapira, 2009). Results showed that prepost reductions in depression were significantly greater than in the control condition for only the attack-resisting condition, and higher pretreatment self-criticism predicted lower posttreatment depression in only the attack-resisting condition. Reductions in shame, self-reported acne-related distress, and functional impairment in both intervention conditions were significantly greater than in controls.

In testing smoking reduction interventions of similar format and brevity, the rate of smoking reduction was measured for 3 weeks after participants received one of the
following interventions: (1) self-compassion, which was based on Gilbert’s (2009) approach (2) self-controlling (stressing self-directiveness, focus on the task at hand, and perseverance), (3) self-energizing (focusing on the excitement of striving towards incentives), and (4) self-monitoring control (Kelly, Zuroff, Foa, & Gilbert, 2010). The rate of reduction in conditions 1-3, averaged together, was significantly greater than that in the self-monitoring condition, and conditions 1-3 did not differ significantly on this variable. Significant reductions in the self-compassion condition were found only in those high in self-criticism and low in readiness to change.

In another study, restrictive eaters who received a 112-word self-compassion rationale based on Neff’s (2003b) 3-part model had higher levels of post-intervention self-compassion and compensated for a pre-load of food by eating less at a slightly later time than those who received no preload (a healthy eating pattern characteristic of non-restrictors), while those not receiving the intervention did not (Adams & Leary, 2007). In addition, negative affect was lower among restrictive eaters who received the rationale than among those who did not. According to the authors, these findings suggest that restrictive eaters may use eating to cope with negative emotions brought on by diet breaks and that self-compassion may disrupt this pattern.

In a study investigating differences between self-esteem and self-compassion, undergraduates were asked to write about a difficult event they experienced in the past and were then randomized to one of four conditions: (1) a brief self-compassion induction based on Neff’s (2003b) 3-part model, (2) a self-esteem induction (construing the event to protect self-esteem), (3) a writing control (exploring emotions about the event), or (4) true control (no further instructions; Leary et al., 2007). Participants in the
self-compassion condition enjoyed a greater sense of common humanity and lower negative affect than those in each of the other conditions but also attributed the event more to the type of person they were than did the other participants. Although other interpretations of these results are possible, the authors believe they provide evidence that self-compassion—but not self-esteem—helps people to take responsibility for negative events without suffering negative affect.

Though content from the short interventions described above could be integrated into psychotherapy, one study investigated a technique that was specifically developed for use in a therapeutic context. This study evaluated the effects of a 20-30-minute individual Gestalt two-chair self-compassion exercise, in which the participant was led to play out a dialog between two voices (a self-critic and a voice that would respond), alternating between two chairs when alternating between voices (Neff, Kirkpatrick, & Rude, 2007). Although the authors did not report the magnitude of changes in self-compassion or other variables and did not state why this data was not reported, they did report that changes in the following variables were found to significantly correlate with changes in SCS scores from 1-week pretreatment to 3-weeks posttreatment: connectedness ($r = .35$), self-criticism ($r = -.61$), depression ($r = -.31$), rumination ($r = -.40$), thought suppression ($-.55$), and anxiety ($r = -.61$).

**Longer Interventions Targeting Self-Compassion Specifically**

Compassionate Mind Training (CMT; Gilbert & Proctor, 2006) is an intervention consisting of 12 weekly 2-hour group meetings incorporating psychoeducation, group discussion, and exercises designed to practice mindfulness and the cultivation of
compassionate imagery. The following components are stressed in CMT: (1) attunement to feelings prompted by memories, (2) understanding self-criticism as a strategy to pre-empt attacks from others, (3) learning compassionate acceptance of (not submission to or agreement with) one’s use of defensive self-criticism, (4) recognizing that there are different parts of the self that can have different priorities and action tendencies, e.g. self-attacking/self-defending, self-reassuring, (5) developing self-compassionate imagery to engender self-kindness, and (6) exploring and addressing fears about developing self-compassion, e.g. it is a weakness, or feeling warmth means rejection is coming. CMT was pilot tested with 6 patients being treated at a day hospital for severe, long-term, complex difficulties, including clear problems with shame, self-criticism, and self-devaluation (Gilbert & Proctor, 2006). Data from daily self-monitoring showed significant improvements across the 12 weeks of treatment on self-criticism and self-compassion. Self-report measures given at pre- and posttreatment revealed significant improvements on depression, anxiety, feelings of inadequacy, self-hate, self-reassurance, submission, and perceived external shame and social inferiority. In addition, prepost decreases were observed on self-criticism as self-persecution (theorized to be a maladaptive function of self-criticism) but not on self-criticism as self-correction (an adaptive function).

The effects of a weekend self-compassion retreat for adolescents were also tested (McGhee, 2010). Seventeen adolescents (age 14-17) participated in the retreat, the content of which emphasized Neff’s (2003b) three components of self-compassion: self-kindness, common humanity, and mindfulness. The structure of the intervention included psychoeducational presentations and large and small group activities (e.g., role-plays of
self-critical and self-compassionate voices, countering self-criticisms with self-compassionate self-talk, discussions, letter writing, and mindfulness meditation). Data from measures taken immediately before the retreat replicated previously obtained significant correlations between the SCS and measures of depression ($r = -.51$), anxiety ($r = -.73$), connectedness ($r = .58$), and happiness ($r = .72$). However, contrary to hypotheses, no significant prepost or pre-intervention to 6-week follow-up change was found on any of these measures. According to McGehee, these non-significant findings could be due to a small sample size (only 12 participants included in analyses due to missing data) and a possible ceiling effect (SCS scores being above average at baseline). These quantitative results, however, were contrary to responses to the final questionnaire and interview, in which participants alluded to increases in self-compassion and the benefit it had had in their lives.

**Critique of Neff’s Theory**

Neff’s 3-component theory provides a description of what self-compassion involves, and this theory has been validated statistically, for example using factor analysis (e.g., Neff, 2003b). The convergent validity (e.g., with respect to Eastern constructs) and discriminant validity (e.g., with respect to self-esteem) of self-compassion have been validated using correlational methods in several studies. Correlations between self-compassion and important outcomes, such as depression and anxiety, provide evidence for its involvement in human suffering, and self-compassion may be a better protective factor than self-esteem. Further, the intervention research
reviewed above provides evidence for the utility of self-compassion as a target of treatment.

However, Neff’s 3-part theory may be limited in terms of its scientific progressivity and, therefore, its ability to generate novel, effective methods for improving self-compassion and related outcomes. It is argued here that the root of this limitation is the absence of a basic scientific account that specifies the influence of behavior as part of its goals.

As Neff’s theory is described (Neff, 2003a), it is based on Buddhist spiritual concepts. The fact that Buddhist teachings have remained largely unchanged for thousands of years may be regarded as a testament to the reliability of their usefulness, and thus there is likely something to be learned from them. However, the fact that they have changed very little may also be taken to indicate a lack of progressivity in this tradition. Science, however, has progressed by leaps and bounds in the few centuries since its inception, and therefore a basic scientific theory has the potential to make the study of the salutary properties of spiritual concepts more progressive.

While Neff’s program of research includes scientific methods such as the collection and analysis of data, the theory that underlies it lacks grounding in basic science. That is, the research program has tested the validity of an Eastern spiritual construct (self-compassion) and has evaluated its statistical relationships with other constructs, but it has not provided a basic scientific account of the construct. The absence of a basic account could limit the progressivity of the research program in that it could deprive the program of the novel, counterintuitive, predictions that a basic account may offer. If a facet of the analytic goals of such an account is the influence of behavior,
then the predictions it offers are likely to be particularly valuable to the development of novel, effective treatments.

Further, a basic account of self-compassion would specify the essential basic processes involved so that a variety of topographically different interventions targeting them could be developed. While Neff’s account of self-compassion specifies components, they are not tied to basic science, nor are they put forth as processes of change with broad applicability. Without a basic account focused on behavior change, interventions are likely to be based instead on common sense or spiritual traditions and are therefore likely to be less novel. Further, without a focus on broadly applicable underlying processes of change, the knowledge gained from research on self-compassion is less likely to be applicable in other areas. Without the novelty and broad applicability afforded by attention to basic science and underlying processes of change, the development of more and more effective interventions is not likely to progress quickly.

The claim is not being made here that interventions based on Neff’s theory cannot be effective. Among the intervention studies reviewed, 3 test interventions based on Neff’s theory (Adams & Leary, 2007; Leary et al., 2007; McGehee, 2010). (Although Neff was an author of the study evaluating the Gestalt 2-chair intervention [Neff, Kirkpartick, & Rude, 2007], this intervention was not based on Neff’s 3-part theory and will therefore not be considered here.) The weekend workshop for adolescents yielded non-significant results, quite possibly because of missing data and ceiling effects (McGehee, 2010), and therefore it is difficult to draw conclusions either way as to the efficacy of the intervention. The other two studies revealed evidence for the
effectiveness of brief interventions in terms of increasing self-compassion, or at least the common humanity component, and positively impacting other variables.

The claim that is being made, however, is that Neff’s theory of self-compassion is not informed by a basic science focused on behavior change, which may limit the progressivity of the research program and therefore the development of novel, effective interventions.

**Contextual Behavioral Science, Relational Frame Theory, and Acceptance and Commitment Therapy**

The present project attempts to address these problems by taking a contextual behavioral science approach (CBS; Hayes, Levin, Plumb-Vilardaga, Villatte, & Pistorello, in press; Vilardaga, Hayes, Levin, & Muto, 2009) and examining self-compassion from the point of view of psychological flexibility. This section contains a description of CBS and its philosophical roots as well as a basic behavioral account of language and cognition called Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001). The work on psychological flexibility will then be described, followed by an examination of how it might add to Neff’s theory. Finally, Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2012) will be examined as an approach that might be used to increase self-compassion.
Contextual Behavioral Science

Contextual behavioral science is “an inductive approach to scientific system building in the behavioral sciences that is focused on the functional evolution of historically and situationally embedded actions, and that extends that perspective across levels of analysis, and into knowledge development itself” (Hayes, 2011). Several features are considered key to this approach (Hayes et al., in press; Vilardaga et al., 2009):

1) clarity in philosophical assumptions about science, units of analysis, the purpose of analysis, and truth criteria, as explicated in the work on functional contextualism;

2) establishing a set a basic principles adequate to inform intervention as extended by RFT;

3) developing a model of pathology, intervention, and health as explicated in the work on psychological flexibility;

4) measuring putative processes of change, as is explicated in measures of psychological flexibility;

5) testing intervention procedures linked to these processes, as is explicated in the laboratory based components tests of acceptance, defusion, and values;

6) examining mediation and moderation linked to these processes

7) testing effectiveness, dissemination, and training strategies;

8) extending the program across areas and levels of analysis; and,

9) creating a cooperative development community based on these principles.

Not all of these features will be addressed here. Rather, a subset that seem important to the present project will be described.
**Functional Contextualism**

It is important to state key philosophical assumptions that are being relied upon in order to put the present project into context. The philosophy of science that underlies a CBS approach is functional contextualism (Hayes, 1993). A feature of functional contextualism is its truth criterion. Psychological principles are taken to be true based on their ability to lead to the prediction and influence of whole organisms interacting in and with their situational and historical context, with precision, scope, and depth (Hayes, 1993). The focus on prediction and influence as a single, integrated goal is an extension of Skinner’s radical behaviorism and helps explain the environmental emphasis in causal explanations (Hayes, Hayes, Reese, & Sarbin, 1993). In other words, causes are sought in the context of actions (individual history and situation) and their interrelationships because these variables are manipulable and therefore enable the influence of behavior, not prediction alone (Hayes & Brownstein, 1986). Another implication of the focus on both prediction and influence is that theories specifying only relationships between behaviors (e.g., thought-behavior relations, emotion-behavior relations) are regarded as incomplete in that they are missing contextual independent variables that may be manipulated to influence behavior and/or the relations between behaviors. Thus, while it is important and interesting to note the relation of self-compassion to other psychological events, the analysis is viewed as incomplete until the conditions that give rise to self-compassion and its relation to other actions are understood.

As a program of science, CBS seeks to produce psychological theories that have precision (i.e., they can be applied to an event in only a particular way), scope (i.e., they are broadly applicable), and depth (i.e., they are consistent with other levels of analysis,
such as biology or sociology). Scope is particularly important in psychology, where rampant proliferation of separate and distinct constructs and theories of various specific phenomena and disorders has resulted in a mass of scholarship that has little to unify it and is so large as to be nearly impossible to learn. Because high scope is a defining feature of some forms of basic science (e.g., theories of matter and energy, theories of evolution), basic psychological science offers the chance to develop theories that can be applied to multiple psychological phenomena. From a contextualistic point of view, one goal of basic science is to pursue the functional properties common to a topographically diverse set of phenomena, which may enable the development of interventions that target these processes to not be needlessly constrained by topography. This is the reason that CBS has focused on mediational analyses to evaluate processes of change in intervention research.

Because the process of developing scientific theories uses special tools—i.e., scientific methods—it can be more influenced by the natural world and the analytical goals of the scientist and less influenced by social convention, thus yielding theories that seem counterintuitive from the point of view of common sense. If these theories are then retained or rejected based on their utility in achieving analytical ends of prediction and influence, the generation of novel, counterintuitive, testable ideas is a major contribution from the point of view of CBS. Because basic theories apply so broadly, and often touch on common questions (e.g., Why do people behave the way they do?), they have a greater potential than theories of lower scope to generate counterintuitive predictions and to identify common processes of broad applicability.
Relational Frame Theory

RFT is a basic account of human language and cognition that takes the view that the core of language and higher cognition is arbitrarily applicable derived relational responding. Relational responding involves responding to one stimulus in terms of another, for example by learning to choose the larger of two objects. Derived relational responding refers to relational responding that was not directly trained. RFT uses the terms mutual and combinatorial entailment to describe the kinds of derived relations that are key. Mutual entailment refers to the training of one relation and the subsequent derivation of a complimentary relation. For example, learning that gold is more dense than silver entails deriving that silver is less dense than gold. Combinatorial entailment refers to the derivation of one relation through the combination of two others. For example, if one learns that gold is more dense than silver and that silver is more dense than aluminum, one can derive that gold is more dense than aluminum. Functions can be transformed from one event to another in a relational network based on the derived relations between them. For example, because the word “lemon” is in a frame of coordination with a sour, yellow fruit, the word may acquire some of the functions of the fruit, which helps explain why, upon reading the word “lemon” you may visualize a lemon or even taste lemon juice and salivate a bit. From an RFT point of view, relations that are originally formal and non-arbitrary come under arbitrary contextual control through operant processes (see Berens & Hayes, 2007 for evidence of the role of multiple exemplar training in derived relational responding). This means that verbal relations are arbitrarily applicable—relational framing need not depend on the formal (e.g., physical) properties of stimuli. For example, children can learn to regard a dime as “bigger than” a
nickel, even though nickels are physically bigger than dimes. Once the operant of deriving specific types of relation is trained, the derived relations themselves need not be directly trained, resulting in the potential for humans to derive a vast multitude of relations from a limited training set.

RFT has lead to the counterintuitive prediction that purposeful attempts to eliminate types of thinking are inherently unlikely to succeed. Eliminative strategies such as suppressing thoughts are likely to be counterproductive because these efforts involve the application of a rule containing the very thought to be avoided (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994; Wenzlaff & Wegner, 2000). Also, thinking is learned behavior, and there is no process called “unlearning.” Many multitudes of relations can be derived from complex thoughts, whether these derived relations are positive or negative, preferred or despised. Attempts to counter thoughts with opposing content may elaborate the networks of relations surrounding a thought, which may make them increase in salience. Thus, interventions based on common sense, such as attempts at countering self-criticism with self-compassionate self talk (McGehee, 2010) or simply telling participants not to be self-critical (Adams & Leary, 2007), may be limited in their effectiveness from an RFT point of view.

Acceptance and Commitment Therapy

So far in clinical psychology the primary application of a CBS approach is in ACT and its approach to psychological flexibility, although applied CBS methods other than ACT exist in education and other areas (e.g., Cassidy, Roche, & Hayes, 2011). Six processes of change are argued to define psychological flexibility and to form a unified
approach to behavior change. Each is a “middle level term” meaning that each is meant to provide clinically useful orientations to key domains, while in turn being based on a technical analysis in terms of behavioral principles and RFT. The six process are defusion, acceptance, contact with the present moment, self-as-context, values, and committed action. Each is described below.

Defusion involves creating contexts that weaken the transformation of stimulus functions associated with language and cognition, thus reducing the dominance of verbal events in the regulation of behavior and broadening behavioral repertoires. In other words, defusion involves noticing the process of thinking for what it is (verbal behavior) rather than what it claims to be (literal truth about the world), thus empowering individuals’ lives not to be needlessly limited and directed by the content of their thoughts. Importantly, defusion offers an alternative to attempts at cognitive control (e.g., changing, suppressing, or eliminating thinking) because only the individual’s relationship with verbal behavior is targeted for change—not the form, frequency, or situational sensitivity of verbal behavior. In addition, defusion does not involve the elimination of verbal regulation altogether; rather, it involves bringing its use under more flexible contextual and voluntary control. Thus, one can evaluate (e.g., one’s own performance), analyze, and plan when it is important, and one can free oneself from being regulated by these processes when such regulation would have costs.

Acceptance involves both a psychologically accepting stance regarding one’s experience and the behavioral willingness to initiate and sustain contact with difficult private experiences or the events that may occasion them. The psychological stance involves “the voluntary adoption of an intentionally open, receptive, flexible, and
nonjudgmental posture with respect to moment to moment experience” (Hayes, Strosahl, Wilson, 2012, p. 382, italics in original). Acceptance represents a more workable alternative to experiential avoidance (EA), which entails attempts at modifying the form, frequency, and situational sensitivity of private events, even when doing so produces harm (Wilson, Hayes, Gregg, & Zettle, 2001). While non-verbal animals can learn to avoid antecedents of negative events, they do not learn to avoid their own emotional responses to them. However, in humans, the event and the emotional response are mutually related, allowing the emotion to acquire aversive stimulus functions. It is not surprising, then, from an RFT point of view, that these emotions would be judged negatively, as would the self who experiences them.

Contact with the present moment involves focusing attention in a voluntary, flexible way to what is present. It is contrasted with processes such as problem-solving, worry, and rumination, in which derived stimulus functions of internal and external events dominate over discriminations of their non-arbitrary features. In these processes, what is present (i.e., what is here and now) is barely noticed as the individual “disappears” into the verbally constructed future or past. Often these processes are so strong that the individual lacks the flexibility of attention to respond effectively to other features of their surroundings. However, when one is contacting the present moment, attention may be broad but can be narrowed when effective. Defusion may empower this process by weakening the dominance of verbal processes, and acceptance is integral in making the present moment awareness of difficult emotional experiences possible.

Self-as-context is a sense of self that is distinct from a conceptualized identity or “story” of the self (i.e., self-as-content); rather it is the place from which one observes
one’s experience. This “observing self” (Deikman, 1982), self-as-experiencer, or self-as-perspective is supported by deictic relational frames, a particular class of relational frames that are based on the perspective of the speaker rather than on any particular physical characteristics; important examples include I-YOU, NOW-THEN, and HERE-THERE (Hayes et al., 2001). In self-as-context, the self is framed and experienced as I-HERE-NOW, the perspective from which all other things (e.g., sensations, emotions, thoughts) are experienced. The fact that this perspective is always able to be contacted gives rise to the experience of continuity, stability, and expansiveness of the self involved in self-as-context. By contrast, in self-as-content the self is framed as I-THERE-THEN, an object to be described and evaluated. Because this sense of self depends on descriptions and evaluations (e.g., “success,” “cool,” “smart,” “worthy,” “loveable”) it is liable to be destroyed by fusion with interpretations of life events or patterns of behavior as failures, social blunders, intellectual shortcomings, personal flaws, etc. Self-as-content is the sense of self that is involved in self-esteem, so it is not surprising that both suffer from the same instability. Self work in ACT often involves defusing from self-as-content and building self-as-context through practicing perspective taking using deictic frames.

“In ACT, values are freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish pre-dominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself” (Wilson & Dufrene, 2009, p. 66; italics added). Each part of this definition will be explained: Values are freely chosen in that they are not chosen based on reasons (e.g., thoughts, feelings) or pressure from others. They are verbally constructed in that they are abstract qualities (e.g., caring, justice) of actions that emerge through relational framing but are
not physical properties of actions. Values are consequences in that they serve as directions towards which action may be taken, and patterns of action are ongoing, dynamic, and evolving so that the individual may be flexible in how values are enacted moment to moment. Conceptualizing values as directions of action is consistent with their definition as ongoing patterns of behavior. In ACT, one can always take steps towards self-kindness, for instance, but one never finishes being kind to oneself. Finally, values establish these ongoing patterns as intrinsically reinforcing. For example, requesting time off from work to mourn a loss may be experienced as reinforcing as an act of self-kindness whether or not the time off is granted.

*Committed action* is “the continuous redirection of behavior so as to construct larger and larger patterns of flexible and effective behavior” (Hayes, Wilson, & Strosahl, 2011, p. 136, italics in original). It is the alternative to the behavioral rigidity that results from fusion and avoidance but rather is guided by values and therefore feels volitional and self-directed. Indeed, defusion, acceptance, present moment awareness, and self-as-context are practiced in the service of valued committed action, which in turn dignifies these processes. Commitment here is distinguished from a promise in that it is not about the future but rather involves an actual pattern of behavior in the present, consistent with ACT’s identification as a behavior therapy. In addition, while actions will at times fall short of valued intensions, the next committed action involves taking responsibility compassionately and taking the next action as a valued one.

The processes described above may be organized into “response styles”—pairs of processes that are more tightly linked to each other than they are to the other processes. Acceptance and defusion constitute an open response style with respect to direct
experience, and values and committed action together represent an engaged response style, which engenders a sense of meaning and vitality. Present moment awareness and self-as-context represent a response style that is centered as a conscious being in the here and now, enabling the individual to take stock of the current situation and employ openness or pursue engagement. All six processes together are referred to as psychological flexibility, which is defined as “contacting the present moment as a conscious human being, fully and without defense, as it is and not what it says it is, and persisting with or changing a behavior in the service of chosen values” (Hayes, Strosahl, & Wilson, 2012, p. 138). In keeping with the features of a CBS approach, the psychological flexibility model is linked to basic science (RFT and behavioral principles) and specifies key processes involved in psychological health, psychopathology, and psychological intervention.

Acceptance and Commitment Therapy Research

The present project will test an ACT approach to self-compassion. The next section will explain why this makes sense, but in that context it seems important first to review briefly the evidence for psychological flexibility and ACT as an intervention.

Correlational Research. The Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, et al., 2004; Bond et al., 2011) is the most common measure of psychological flexibility processes, particularly experiential avoidance (EA). A review of ACT research (Ruiz, 2010) revealed that 22 studies with correlations between the AAQ and standard measures of depressive symptoms have been reported, with correlations ranging from $r = .37$ to $r = .77$ (weighted correlation of $r = .55$). In addition, 14 studies
show correlations between the AAQ and anxiety ranging from $r = .16$ to $r = .77$ (weighted correlation of $r = .52$). The AAQ also mediates several relationships, including that between perceived criticism in the family of origin and distress (Rosenthal, Polusny, & Follette, 2006) and the relationship between maladaptive perfectionism and worry (Santanello & Gardner, 2007). Further, the AAQ emerged as a better predictor of daily ratings of positive and negative experiences than cognitive reappraisal, and it fully mediated the relationship between coping strategies (cognitive reappraisal and suppression) and these outcomes (Kashdan, Barrios, Forsyth, & Steger, 2006).

**Laboratory Research.** In addition, the AAQ has been shown to predict participants’ reaction to uncomfortable or distressing laboratory tasks. For example, individuals low in EA were able to persist longer in a cold pressor task (Zettle et al., 2005), and those receiving a 90-minute acceptance intervention outperformed those receiving a control-based intervention on the same task (Hayes, Bissett, et al., 1999). In response to a carbon dioxide challenge, those high in EA reported more anxiety and emotional discomfort than those scoring low in EA, and among participants high in EA, those who received a brief suppression protocol experienced more anxiety than those who received an acceptance protocol (Feldner, Zvolensky, Eifert, & Spira, 2003). Advantages of acceptance over suppression have also been found in laboratory studies involving sadness/depression (Liverant, Brown, Barlow, & Roemer, 2008), cardiac reactions to stress (Low, Stanton, & Bower, 2008), and public speaking anxiety (Hofmann, Heering, Sawyer, & Asnaani, 2009). Consistent with RFT’s predictions regarding thought suppression, acceptance coping instructions have been shown to lead to less discomfort in response to intrusive thoughts than suppression instructions (Marcks & Woods, 2005),
and suppression was shown to be associated with more frequent intrusions and higher anxiety than acceptance (Marcks & Woods, 2007). In an alternating treatment design study (Masuda, Hayes, Sackett, & Twohig, 2004) and a group design study (Masuda et al., 2010), a defusion technique (the milk, milk, milk exercise described in Hayes et al., 1999) was shown to be more effective than distraction and diaphragmatic breathing in reducing the believability of and discomfort associated with self-relevant negative thoughts, providing evidence for the importance of defusion in addressing self-criticism.

_Treatment Outcome Research._ Consistent with the idea that interventions based on basic science have the potential for broad application, the body of treatment outcome literature for ACT is striking in its breadth (for a review, see Ruiz, 2010). The problem areas addressed include depression (Zettle & Hayes, 1986; Zettle & Rains, 1989), obsessive-compulsive disorder (Twohig et al., 2010), social phobia (e.g., Block, 2002), generalized anxiety disorder (Roemer & Orsillo, 2007; Roemer, Orsillo, & Salters-Pedneault, 2008), trichotillomania (Woods, Wetterneck, & Flessner, 2006), psychotic symptoms (Bach & Hayes, 2002; Gaudiano & Herbert, 2006), borderline personality disorder (Gratz & Gunderson, 2006), polysubstance abuse (Hayes, Wilson, et al., 2004), cannabis dependence (Twohig, Schoenberger, & Hayes, 2007), and worksite stress (Bond & Bunce, 2000). In the area of behavioral medicine, studies have shown positive results for ACT in the areas of smoking cessation (e.g., Gifford et al., 2004), epilepsy (e.g., Lundgren, Dahl, Melin, & Kees, 2006) and coping with chronic pain (for a review see Vowles & Thompson, 2011), diabetes (Gregg, Callaghan, Hayes, & Glann-Lawson, 2007), and cancer (e.g., Branstetter, Wilson, Hildebrandt, & Mutch, 2004). Treatment protocols were generally fairly short (12 sessions or less), and when ACT was compared
to other standard treatments (e.g., cognitive-behavioral therapy), it generally emerged as comparable or better on most measures.

In addition, ACT outcome research is notable for its focus on processes of change, and changes in cognitive fusion and/or psychological flexibility as measured by the AAQ, as well as by problem-specific measures of psychological flexibility, have been shown to mediate ACT treatment effects in several studies. Further, the processes of change through which ACT works have been shown to be different from those involved in other therapy models. For example, in a study comparing ACT with cognitive behavioral therapy (CBT) or cognitive therapy (CT) for anxiety and/or depression in a university counseling center, greater improvements in symptomatology were found in the ACT condition at posttreatment and 6-month follow-up (Lappalainen et al., 2007). In addition, improvements in the ACT condition correlated with increases in acceptance, while in the CBT condition improvements correlated with increases in self-confidence. This study and a similar one (Forman, Herbert, Moitra, Yeomans, & Geller, 2007) are notable also because they show the feasibility and effectiveness of ACT with a college student population.

ACT is also one of the only treatment approaches to address the problem of stigma and self-stigma. For example, in an open trial of a 6-hour group ACT workshop on self-stigma in 88 substance abusing clients, significant effects for the intervention were found on psychological flexibility, internalized shame, internalized stigma, self-concealment, general health, and self-esteem (Luoma, Kohlenberg, Hayes, Bunting, & Rye, 2008). Building on these results, a randomized trial of a similar 6-hour intervention was found to reduce shame and substance use more at 4-month follow-up than did
treatment as usual (Luoma, Kohlenberg, Hayes, & Fletcher, 2012). In a comparison of a 1-day ACT workshop for self-stigma among overweight individuals to a no-treatment control, the ACT group outperformed the control group on measures of self-stigma in addition to weight loss/maintenance, blood pressure, psychological distress, overall quality of life, physical activity, and binge eating at 3-month follow-up, and these outcomes were mediated by reductions in psychological flexibility (Lillis, Hayes, & Bunting, 2009). A multiple-baseline evaluation of a 6-10 session individual ACT intervention for self-stigma around sexual orientation revealed reductions in daily reports of the extent to which thoughts about sexual orientation interfered with life and caused distress (Yadavaia & Hayes, 2012). Consistent with the psychological flexibility model, reductions in daily ratings of the believability of these thoughts were greater than reductions in their frequency. Measures of internalized homophobia, depression, anxiety, stress, quality of life, perceived social support, and psychological flexibility were also impacted positively. Clearly, self-stigma in these specific areas involves self-judgment and self-criticism, and these positive results suggest that ACT may be used to reduce the impact of self-judgment and self-criticism more generally. In addition, the fact that effects were observed after relatively short interventions suggests that a short ACT intervention targeting self-judgment, self-criticism, and self-compassion could be more effective than other short interventions (e.g., McGehee, 2010; Kelly et al., 2009; Kelly et al., 2010).

Summary. Self-compassion is a key clinical process, but it needs additional work theoretically and in terms of intervention. Aspects of the current CBS approach, including contextualism, RFT, psychological flexibility, and ACT may provide a useful
approach from which to consider the issue, with a key advantage being a major focus on broadly applicable underlying processes of change connected to basic science. The next section will begin with an interpretation of Neff’s 3-component conceptualization from that point of view and will then explicate an ACT/RFT account of self-compassion. The final section will describe how ACT intervention methods may be used to increase self-compassion.

**An ACT/RFT Account of Self-Compassion**

**ACT/RFT Interpretation of Neff’s Conceptualization**

*Self-Kindness vs. Self-Judgment.* Neff (2003b) describes self-kindness as “extending kindness and understanding to oneself rather than harsh judgment and self-criticism” (p. 89). From an ACT perspective, kindness towards oneself would represent a value—one very closely linked to acceptance. Because experiential avoidance is exhausting, empty of vitality, and self-invalidating in its framing of experiences as bad or wrong, acceptance of one’s experience (painful or otherwise) and of the self that experiences them can be a stance of profound self-kindness. Although self-kindness may be enacted in other ways as well, this accepting stance seems to be at the heart of the self-kindness involved in self-compassion.

Neff includes extending understanding to oneself in her definition of self-kindness. From an RFT point of view, this would involve perspective taking supported by deictic frames. In this case, it is not taking the perspective of another but rather taking one’s own perspective by reminding oneself of the complexities of one’s own situation
and experience, especially of the difficulties, obstacles, and hardships that one may face. The deictic frames of I-YOU, HERE-THERE, and NOW-THEN are employed to engender a sense of self as an I-HERE-NOW perspective from which life and all its complications and difficulties are experienced. This sense of self-as-context has the potential to inspire more self-kindness than does a more objectified, evaluated sense of self-as-content.

Neff’s definition also frames self-kindness in opposition to self-criticism and self-judgment. From an ACT/RFT perspective, fusion with self-criticisms would impede self-kindness, but the simple fact that the content of self-criticisms is negative may not interfere with this value. For example, one may take a defused stance with respect to thoughts such as, “You’re not good enough to deserve kindness,” while engaging in actions consistent with self-kindness. ACT regards the function of verbal behavior (e.g., its involvement in impacting valued action) to be more important than its form (e.g., positive or negative). Neff does not explicitly make this distinction, which could lead to confusion between self-kindness as a form and self-kindness as a function. Evidence that self-criticism with a self-persecutory function relates more to psychopathology than self-criticism with a self-correcting/self-improving function highlights the importance of making the distinction between function and form of thoughts (Gilbert, Clarke, Hempel, Miles, & Irons, 2004; Gilbert et al., 2010; Gilbert & Proctor, 2006). Conflating form with function could lead to attempts at replacing self-critical thoughts with self-compassionate self-talk, which may not be maximally effective according to RFT and from a functional point of view may itself be an unkind stance with regard to one’s own automatic thought processes.
Common Humanity vs. Isolation. Deictic frames are also involved in a sense of common humanity, which Neff (2003b) describes as “seeing one’s experiences as part of the larger human experience rather than seeing them as separating and isolating” (p. 89). Perspective-taking allows one to see that both the self and others have I-HERE-NOW perspectives that bear witness to all experiences, including difficult ones. This stands in contrast to the categorizations, distinctions, and therefore separateness, that is inherent to self-conceptualization. As self-conceptualization is weakened and perspective taking strengthened, frames of coordination between self-as-perspective and others-as-perspective are derived. As these frames of coordination accumulate, the sense of a larger common consciousness emerges that is extended across time, place, and person. Through hierarchal framing the individual may get the sense of being a part of this larger blended “we,” which then further strengthens frames of coordination between the self and individual others. Hayes et al. (2012) have described a perspective taking sense of self: It

“is not a sense of self that is alone and cut-off. . . . It is inherently social, expansive, and interconnected . . . . I begin to experience myself as a conscious human being at the precise point at which I begin to experience you as a conscious human being. I see from a perspective only because I see you see from a perspective. Consciousness is shared. . . . Consciousness expands across times, places, and persons. In the deepest sense consciousness itself contains the psychological quality that we are conscious—timelessly and everywhere.” (p. 90).

From this point of view a perspective taking sense of self “is part of the psychological scaffolding for ‘we’ to mean something in an experiential versus purely conceptual manner” (Hayes, Muto, & Masuda, 2011, p. 235).

The involvement of deictic framing in a sense of social connection is evidenced by findings that individuals high in social anhedonia perform worse at deictic tasks than those low in social anhedonia (Villatte, Montestes, McHugh, Freixa i Baqué, & Loas,
2008, 2010). In addition, training in a deictic task led to a short-term increase the amount of connection participants felt with a character in a vignette struggling around race (Vilardaga et al., 2008).

**Mindfulness vs. Overidentification.** Neff (2003b) defines mindfulness as “holding one’s painful thoughts and feelings in balanced awareness rather than overidentifying with them” (p. 89) and identifies acceptance as a component of mindfulness. From an ACT perspective, mindfulness consists of contact with the present moment, acceptance, defusion, and self-as-context (Fletcher & Hayes, 2005). Contact with the present moment is probably most central to mindfulness, as it captures the attentional skills involved: the ability to focus or broaden attention flexibly. When applied to painful thoughts and feelings, these skills along with a dispassionate quality of awareness and defusion skills are key to avoiding overidentification. Contact with the present is also important for enacting self-kindness because awareness of one’s pain is necessary for the application of caring. That is, one cannot take care of pain one does not notice or acknowledge. In addition, ongoing awareness of pain (indeed, of all experiences) allows for deeper contact with the wisdom of one’s value of self-kindness and other values, empowering more effective committed action towards self-kindness.

Acceptance is key to mindfulness in that one can only fully and flexibly attend to an emotion or other experience if it is given full permission to exist. Otherwise, avoidant processes such as distraction, suppression, or denial may preclude full contact. As mentioned above, an accepting stance is integral to self-compassion in that it allows one to abandon a costly, invalidating avoidance agenda in favor of a stance in which one need not be at war with or judge the parts of the self that feel certain emotions. Further, as
with contact with the present moment, in order to effectively care for oneself when one is in pain, one must fully contact the pain.

Defusion is necessary for adopting a mindful stance with respect to thoughts because it allows them to simply be noticed for what they truly are—passing mental events. Defusion involves the decrease in dominance of the arbitrary stimulus functions of thoughts and other stimuli, and as this occurs non-arbitrary stimulus functions gain salience. The world of the present moment opens up and comes alive. A defused stance is important for self-compassion because it allows self-criticisms to come into the mind without having to be believed, proven wrong, or otherwise engaged—a stance that is likely more workable than an agenda of cognitive change. Defusion from self-criticism is particularly well-suited to self-critics because instructions to be less self-critical will likely be taken as criticisms, and will strengthen the self-critical repertoire. Once this repertoire can be defused from, the individual is more free to pursue values, for example self-kindness.

Self-as-context, or the observing self, is a sense of self that emerges from the cultivation of mindful awareness and defusion from self-conceptualizations. It may also aid in the cultivation of the other mindfulness processes. In addition, it gives rise to the sense of transcendence and expansiveness often experienced in spiritual mindfulness practices because, as the core of consciousness itself, its limits cannot be consciously contacted. It is therefore consummately stable. While Neff presents self-compassion as way of relating to the self that is a healthier alternative to self-criticism and self-esteem, she does not offer an alternative sense of self to these forms of self-conceptualization. Self-as-context, however, is an alternative sense of self that spares individuals the
harmful effects of fusion with self-criticism and attempts at self-esteem maintenance while offering a sense of stability underneath threats to the conceptualized self. From an RFT point of view, self-as-context involves perspective taking, and in particular getting in touch with one’s own I-HERE-NOW perspective. This self-perspective-taking may be important for individuals low in self-compassion because they are often overly proficient at taking others’ perspectives and enacting caring for them at the expense of valued self-care. Such “pathological altruism” may be driven, at least in part, by attempts at avoiding threats to the conceptualized self (Vilardaga & Hayes, 2011), again highlighting the utility of self-as-context as an alternative to self-as-content.

An ACT/RFT Account of Self-Compassion

In the preceding section, Neff’s conceptualization of self-compassion was reinterpreted from the perspective of ACT/RFT. In this section, the concepts discussed above are organized into a coherent ACT/RFT account consisting of 3 parts:

1. weakening fusion with self-criticism and self-conceptualizations in general;
2. strengthening deictic framing repertoires, which are involved in cultivating self-perspective-taking and self-as-context, and a resulting socially expansive sense of awareness; and
3. constructing and enacting a value of self-kindness through acceptance and self-acceptance.

Weakening Fusion. As mentioned previously, defusion is an alternative way of relating to verbal behavior, including self-criticism and self-conceptualization in general. A defused stance is adaptive in that it involves flexibility in terms of the extent to which
these verbal products govern behavior. For example, when a self-critical self-conceptualization starts to function as self-fulfilling prophecy, defusion allows these conceptualizations to simply be thoughts that need not be acted upon. In addition, when it seems that clinging to a positive self-conceptualization has too much cost, defusion allows for the “letting go” of such a pursuit. Alternately, the flexibility involved in defusion allows for the option of taking self-criticisms seriously enough to empower values-based self-improvement. The crux of the flexibility inherent in defusion is that the regulation of behavior by verbal products may come under the control of variables other than their content (e.g., values).

Another major advantage of defusion is that it obviates cognitive change strategies, which are likely to be ineffective. That is, because thoughts need not be taken as truth, they can be allowed occur, and individuals need not engage in efforts aimed at thought suppression or the replacement of self-criticisms with self-compassionate self-talk. In addition, because the mere presence of self-critical thoughts is not regarded as a problem from a defused stance, it is less likely that the self-critical repertoire will itself become an object of self-criticism.

**Strengthening Deictic Framing Repertoires.** Deictic framing has been put forth here as being central to the self-perspective-taking involved in self-compassion and as an important repertoire in cultivating a sense of self-as-context, a more stable open alternative to the conceptualized self. The role of deictics in perspective taking and empathy will now be considered, both with respect to others and with respect to the self.

Research on deictic framing has shown it to be involved in repertoires utilizing perspective-taking, such as “Theory of Mind” skills (McHugh, Barnes-Holmes, &
Barnes-Holmes, 2004), understanding deception (McHugh, Barnes-Holmes, Barnes-Holmes, Stewart, & Dymond, 2007), and realizing that others may hold false beliefs (McHugh, Barnes-Holmes, Barnes-Holmes, & Stewart, 2006; McHugh, Barnes-Holmes, Barnes-Holmes, Whelan, & Stewart, 2007). Further, training in deictic framing can improve perspective taking and Theory of Mind (Weil, Hayes, & Capurro, 2011).

Evidence suggests that deictic framing is involved in empathy as well. For example, performance on a deictic task correlates with self-reported empathy (Vilardaga et al., 2008), and training in deictic framing can improve empathy (Riaño, 2008).

Empathy may be defined as “an affective response that stems from the apprehension or comprehension of another's emotional state or condition and is similar to what the other person is feeling or would be expected to feel” (Eisenberg, 2000, p. 671). From an RFT perspective, this apprehension or comprehension arises through social expansion of perspective taking and awareness enabled by I-YOU deictic framing. As with all deictic frames, the I-YOU frame entails a frame of similarity based on the fact that the relata (in this case, I and YOU) are both perspectives. Thus, an individual can imagine a situation from another person’s perspective (i.e., imagine that I were YOU), resulting in a transformation of the functions (e.g., emotionally evocative functions) of the situation for the empathizer. Thus, one can feel sad about the death of a stranger by imagining what this must be like for his children.

Because empathy and perspective-taking are usually thought of in terms of what one does with respect to others (e.g., “putting oneself in another’s shoes”), the idea of applying these processes to the self may seem odd. That is, isn’t one already in one’s own shoes? As a result of processes of self-conceptualization, the answer is no. By
framing the self with an endless list of characteristics and categories (e.g., pretty, good person, fat, stupid, kind, good dancer, mediocre in every way, introverted), the I-HERE-NOW self-as-perspective becomes less salient while the I-THERE-THEN self-as-content/self-as-object becomes more salient. Thus, defusion from self-as-content and the cultivation of self-as-context (i.e., the place from which one can feel pain or relief) are central to the self-empathy involved in self-compassion.

*Constructing and Enacting a Value of Self-Kindness through Acceptance and Self-Acceptance.* While deictic framing may empower self-compassion and is necessary for self-compassion, it is not sufficient. Without a stance of self-kindness, self-perspective-taking may just fuel the fires of self-criticism and self-judgment. For example, noticing how hard a relationship break-up was and still is may prompt self-judgments like, “There’s something wrong with me that I’m not over this yet.” Similarly, noticing that one feels fear and anxiety about approaching new relationships may prompt the judgment, “I’m a whimp.” Just as compassion towards others may be conceptualized as empathy plus kindness (see Lazarus, 1991 for a definition that fits this conceptualization), self-compassion may be conceptualized as self-perspective-taking plus a value of self-kindness.

Judgments about the self based on one’s experience represent a non-accepting stance: Emotional reactions and the self that has them are framed as problems, and the “parts” of the self that feel these “problem” emotions may be pushed away or even punished. Acceptance as an antidote is inherently self-kind in that it validates one’s experiences and welcomes in the self that has those experiences. This is self-acceptance from an ACT point of view. It may be contrasted with a more conventional definition of
self-acceptance, acceptance of one’s flaws, which smacks of resignation to a self-
fulfilling prophecy born of fusion to the conceptualized self. Instead, self-acceptance in
ACT is more about experiential acceptance and acceptance of the experiencing self (self-
as-context) no matter what it happens to be experiencing.

In addition to being self-validating, experiential acceptance is also self-kind in
that it allows for the abandonment of exhausting experiential avoidance behaviors that
likely have costs in terms of valued action. In addition, acceptance and awareness of
emotions is necessary for enacting self-kindness because one cannot truly take care of
oneself during a difficult time without acknowledging and letting oneself feel the pain
that’s present. Indeed, it is only through feeling the pain that is there that one can really
know how best to enact self-care. Finally, accepting pain may grant access to wisdom.
For example, mourning the loss of a parent highlights the values that this parent
represented.

Although acceptance is generally discussed as a way to relate to emotions, an
accepting defused stance also be applied to thoughts. In the context of interventions to
cultivate self-compassion, self-critical thoughts may become the enemy, even if cognitive
change strategies are not encouraged. Therefore, it may be useful to explicitly apply
defused acceptance techniques to the self-critical repertoire. As with emotions, this
represents a more kind, compassionate alternative to attempts at suppressing or punishing
this repertoire.
Intervention Methods

This section will explain how the ACT/RFT conceptualization of self-compassion presented above may be translated into clinical methods. The exercises and metaphors described or mentioned below all appear in the protocol in Appendix B.

*Creative Hopelessness and Defusion.* In keeping with RFT ideas on ineffectiveness of thought control, creative hopelessness work helps individuals contact the counterproductive nature of thought control attempts. For example, individuals may be asked to try not to think about chocolate cake for 1 minute to experience the ironic effects of thought suppression for themselves (Hayes, Strosahl, & Wilson, 1999, p. 124). Defusion, therefore is emphasized over cognitive control and, as with creative hopelessness, is practiced experientially. For example, individuals may be asked to imagine writing their thoughts on leaves flowing down a stream and to watch for times when they fuse with thinking and lose the image of the stream. Defusion from self-content may also be instigated by comparing self-conceptualizations to documentaries, in that both are based on “real footage” but are still merely content about something. That is, in the same way that a documentary about Africa is not Africa, our stories about ourselves are not us (Harris, 2008, pp. 155-156). In keeping with attempts to decrease the literal functions of language and promote defusion, experiential methods and metaphors are used instead of convincing and explaining, which are likely to strengthen fused repertoires such as reason-giving and problem-solving.

*Deictics and Perspective Taking.* Exercises involving perspective-taking are used in some protocols based on Neff’s theory. For example, one protocol had participants write a paragraph to the themselves with the compassion they would use for a friend.
(Leary et al., 2007), and another asked participants to role play a person in a difficult situation responding to other participants role playing self-critical and self-compassionate voices (McGehee, 2010). However, perspective taking is not explicitly a part of Neff’s conceptualization. Isolating this process using a basic account may be important for designing interventions to most effectively utilize it.

One purpose of self-perspective-taking in ACT is to contact a sense of self (self-as-context) that is more stable than self-conceptualizations. This is done through multiple exemplar training of noticing the presence of one’s I-HERE-NOW perspective in a variety of times, places, roles, feeling states, etc. This may be done as an eyes-closed exercise, or it may be done with eyes open with participants moving from chair to chair, noticing that their perspective is there at all times.

Another purpose of perspective taking in an ACT/RFT approach to self-compassion is to build self-empathy, which may weaken self-conceptualization and self-objectification, setting a context for the application of self-acceptance and self-kindness. One way to accomplish this is through an eyes-closed exercise called the “Little Kid Exercise” in which participants are guided to imagine themselves as they were as small children walking through their childhood homes, asking their parents for what they would most want from them psychologically. Then, participants are guided to imagine their adult selves meeting their childhood selves, giving them what they feel the child needs or could benefit from, and then allowing the child to come inside them as part of them. In this exercise, the fact that participants are asked to take the perspective of themselves as innocent children helps to weaken the dominance of self-critical processes and activate a value of self-kindness. Perspective taking is deepened as the child interacts with her/his
parents. Participants then get a chance to act on the value of self-kindness when they come face-to-face with this part of themselves that has wants and needs and may feel insecure. Taking the child in at the end is an act of self-acceptance, of having room for these wants, needs, and insecurities.

Considering that performance on a deictic framing task correlates with AAQ scores (Vilardaga et al., 2008), perspective-taking may also be useful in cultivating defused acceptance of the self-critical repertoire. Just as self-acceptance was cultivated through perspective-taking in the Little Kid Exercise, acceptance of a self-critical repertoire may be cultivated in an eyes-closed exercise (The Letting the Critic In Exercise) by imagining a self-critic and then “getting up behind his/her eyes” to see what may be motivating the harsh criticisms—perhaps fear or failure or abandonment. Seeing the vulnerabilities that the self-critic feels could help cultivate acceptance and kindness towards this part of the self rather than avoidance and hostility. Further, seeing self-criticisms as the self-critic’s ineffective attempts at dealing with fear could serve a defusing function.

Acceptance and Self-Kindness. While Neff (2003b) mentions the idea of experiential acceptance, protocols based on her conceptualization may contain subtle emotional control messages. For example, one protocol advises participants that there’s no reason to feel bad about a diet break (Adams & Leary, 2007), and another induced mindfulness by instructing participants to describe their feelings “in an objective and unemotional fashion” (Leary et al., 2007, p. 899).

With its strong emphasis on experiential acceptance, ACT would be more consistent and comprehensive in setting contexts for the acceptance of private events.
For example, ACT protocols generally include creative hopelessness exercises regarding experiential avoidance (e.g., Polygraph Metaphor; Hayes, Strosahl, & Wilson, 1999, p. 123). In addition, many ACT exercises and metaphors are centered around acceptance (e.g., the Little Kid Exercise, the Letting in the Critic Exercise). These same exercises, especially the Little Kid Exercise, are also designed to awaken the value of self-kindness. In some sense, acceptance and self-kindness are one in the same: Letting oneself feel feelings one has been judging and avoiding is often experienced as a tremendous relief.

ACT also has clinical methods to explicitly demonstrate the link between acceptance and values. For example, values and pain may be thought of as two sides of the same coin—if pain is pushed away, so are values, and thus it is a kindness to the self to keep both close. This is highlighted in the Funeral Exercise (Hayes, Strosahl, & Wilson, 1999, p. 216), where participants imagine witnessing their own funeral and hearing their loved ones describe the participant’s life as the participant would have most wanted to live it. For some individuals this exercise is painful, as it highlights the discrepancy between values and actual behavior. From an ACT perspective, this pain provides useful information about what is valued, since what hurts most matters most.

As a behavior therapy, ACT focuses on actual behavior change. Therefore, the Stand and Declare exercise ends many workshop protocols. In this exercise, participants make public commitments to take certain specific overt actions in the service of values, for example self-kindness. Consistent with the behavioral approach, commitments should not be for life outcomes (e.g., I’m going to get into law school.) because these are not behaviors and often not under the participant’s direct control. Instead, commitments should be specific actions that participants may take (e.g., I will ask my sister for
emotional support instead of believing my mind when it tells me that I shouldn’t be so weak.

In keeping with CBS’s pragmatic truth criterion, the theoretical and treatment-development work above is not merely done as an intellectual exercise, but rather so that methods may be developed to effect real improvements in people’s lives. Psychological flexibility was therefore chosen as a construct around which to build a theory because of the body of research implicating it as a key process by which interventions may bring about positive change. The overlaps between Neff’s conceptualization of self-compassion and psychological flexibility beg the question as to whether self-compassion is a subset of psychological flexibility or vice versa. In addition, considering the conceptual overlaps, as well as the research showing the importance of both constructs to psychological outcomes, the question arises as to which construct is more useful to focus on clinically as a process of change.

Pilot Data

A 4-hour workshop targeting self-compassion from the ACT/RFT approach described above was piloted among 7 students currently receiving psychotherapy at UNR Counseling Services. Measures of depression, anxiety, and stress (Depression, Anxiety, and Stress Scales-21; Lovibond & Lovibond, 1995), self-compassion (SCS), general ACT processes, or “psychological flexibility” (AAQ-II; Bond et al., 2011), and self-as-context (SACS; Zettle, personal communication) were given immediately prior to the workshop and then again sometime between 3 days and 2 weeks after. (See Measures and
Assessment Schedule for more information on these instruments. A 12-item version of the SACS was used here instead of the 7-item version used later.) Analyses revealed that means on all measures improved from pre- to postintervention. Because of the small sample size, power to detect statistically significant effects was inadequate, and therefore statistical significance was not evaluated. However, effect sizes were calculated (see Table 1). These data, while preliminary, seem to indicate that such a workshop may be effective in positively impacting the variables tested and that further research is in order.

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression (DASS-21-Depression)</td>
<td>25.43 (13.70)</td>
<td>18.86 (15.95)</td>
<td>-.45</td>
</tr>
<tr>
<td>Anxiety (DASS-21-Anxiety)</td>
<td>14 (11.66)</td>
<td>12 (11.60)</td>
<td>-0.18</td>
</tr>
<tr>
<td>Stress (DASS-21-Stress)</td>
<td>27 (11.56)</td>
<td>22.57 (15.13)</td>
<td>-0.34</td>
</tr>
<tr>
<td>Self-Compassion (SCS)</td>
<td>12.70 (2.99)</td>
<td>13.32 (2.82)</td>
<td>0.22</td>
</tr>
<tr>
<td>Psych. Flexibility (AAQ-II)</td>
<td>37.71 (7.11)</td>
<td>31.43 (7.48)</td>
<td>-0.81</td>
</tr>
<tr>
<td>Self-as-Context (SACS)</td>
<td>43.71 (10.87)</td>
<td>49.00 (8.70)</td>
<td>0.54</td>
</tr>
<tr>
<td>Mean Effect Size Magnitude</td>
<td></td>
<td></td>
<td>.42</td>
</tr>
</tbody>
</table>

**The Present Study**

Various forms of psychopathology (e.g., depression, anxiety) are prevalent among college students, and relationships between psychopathology and both self-criticism and
self-compassion have been documented. Particularly in the self-compassion literature, these relationships have been examined extensively among undergraduates. Further, treatment outcome literature has shown that self-compassion can be improved through interventions of varying formats, especially among people low in self-compassion, and that changes in self-compassion accompany, correlate with, or mediate changes in measures of psychological symptoms and stress. Although a good deal of research supports Neff’s theory of self-compassion, the fact that it is not grounded in a basic science of behavior change limits its utility for treatment development. ACT is a psychotherapeutic approach grounded in a basic science of language and cognition (RFT) and has been shown to be effective in treating a variety of problems, and thus it is well suited to target the different clinical outcomes impacted by self-criticism and self-compassion. In addition, the ACT outcome research on self-stigma (Lillis et al., 2009; Luoma et al., 2008) shows that relatively brief workshop-format ACT interventions can be effective in impacting processes of self-judgment and self-criticism, and pilot data of an ACT workshop specifically targeting self-compassion shows promising results. Thus, the present study is a randomized waitlist-controlled trial of the efficacy of an ACT workshop for high-prevalence psychopathology (i.e., general psychological distress, depression, anxiety) targeting self-compassion among university students low in self-compassion and high in psychological distress. In addition to evaluating outcomes, processes of change will be examined through mediational and other analyses so that the most active and helpful components of treatment may be identified. Although several processes of change will be evaluated, psychological flexibility and self-compassion will be focused on in these analyses because of their central relevance to this project. Thus, in
addition to answering the question of whether the treatment is efficacious, this study will also examine any differences between self-compassion and psychological flexibility as processes of change.
CHAPTER TWO: METHODS

Overview

The present study is a randomized controlled trial comparing a 6-hour ACT workshop targeting self-compassion to a wait-list control.

Aim 1 is to evaluate the effects of the intervention on high-prevalence psychopathology (i.e., general psychological distress, depression, anxiety), other psychological symptoms, and positive affect.

Aim 2 of the current study is to test the efficacy of this brief intervention in improving processes of self-compassion, self-criticism, psychological flexibility, self-as-context, and mindfulness processes.

Aim 3 is to compare the role of self-compassion and psychological flexibility as processes of change.

Aim 4 is to evaluate whether history of stressful life events functions as a moderator of treatment effects.

Participants and Recruitment

Participants (N = 73) were undergraduates at the University of Nevada, Reno recruited from psychology classes in which credit is required or offered for participation in research studies. Before being invited to participate in the workshop trial, participants
were screened using the SCS and General Health Questionnaire (see Inclusion Criteria and Recruitment sections below).

**Inclusion Criteria**

1. **Enrollment in one or more psychology classes offering credit for research participation at the University of Nevada, Reno (UNR).** Enrollment in these classes was an inclusion criterion so that participants could easily be compensated for their participation in the study.

2. **General Health Questionnaire (GHQ) scale of 10 or higher.** Because the intervention tested here is designed to reduce psychopathology, and because ACT interventions have been shown to have larger effects on those who are distressed (e.g., Muto, Hayes, & Jeffcoat, 2011), those suffering from psychological symptoms were selected for recruitment. The GHQ has been evaluated as a screening instrument for depression, anxiety, and other psychopathology in a variety of populations. Among high school students age 15-18 (the studied sample most similar to that of the proposed study), a threshold of 9/10 was shown to detect the presence of any current DSM-IV Axis I disorder with a sensitivity of 78.3% and a specificity of 60.0% (Baksheev, Robinson, Cosgrave, Baker, & Yung, 2011).

3. **SCS score below 18.25.** Because self-compassion interventions have been shown to be more effective for those low in self-compassion, participants were only recruited if they scored below 18.25 on the SCS, which is the mean score of the sample of undergraduates on which the scale was validated.
4. **Age 18 or older.** Because 18 is the age of legal consent in Nevada, and because the vast majority of students are at least 18 years of age, only students age 18 or older were recruited.

5. **Fluency in English.** The workshop, all assessments, and all correspondence were conducted in English.

Exclusion Criterion

1. **Has received psychological services from James Yadavaia, currently or in the past.** Such potential participants were excluded to insure that the consent procedure, which was administered by James Yadavaia, was not coercive.

**Measures and Assessment Schedule**

All measures were administered online via SurveyMonkey, but print versions appear in Appendix A.

**Primary Outcome Measures**

*General Health Questionnaire (GHQ; Goldberg, 1972).* The GHQ consists of 12 self-report items rated on a 4-point Likert scale and measures general mental health along two factors. Factor 1 represents negative aspects of mental health and includes negative affect (e.g., depression), anxiety, and impaired mental functioning (poor concentration), and Factor 2 encompasses positive aspects, including positive mental functioning (good concentration, feeling useful, ability to make decisions) and positive affect (happiness
and enjoyment; Hu, Stewart-Brown, Twigg, & Weich, 2007). The GHQ has also been researched extensively as a screening instrument for psychopathology among young people (see Tait, Hulse, & Robinson, 2002 for a review). Internal consistency has been shown to be good in a large sample of college-aged individuals (Cronbach’s $\alpha = .84$; Winefield, Goldney, Winefield, & Tiggemann, 1989) and was also good at Time 1 in the current study ($\alpha = .87$).

Depression Anxiety and Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995). This self-report questionnaire consists of 3 7-item scales measuring the severity of depression, anxiety, and stress, respectively, over the past week. Items are rated on a 0-3 scale. Internal consistency has previously been shown to be good ($\alpha$ for each scale > .87; Antony, Bieling, Cox, Enns, & Swinson, 1998), and in the present study, internal consistencies for the scales were acceptable to good at Time 1 ($\alpha$s for depression, anxiety, and stress = .86, .76, and .84, respectively). The DASS-21 scales show good evidence for concurrent validity, with high correlations observed between the DASS-21 Depression Scale and the Beck Depression Inventory ($r = .79$) and between both the DASS-21 Anxiety and Stress Scales and the Beck Anxiety Inventory ($r = .85$ and .70 respectively; Antony et al., 1998).

Secondary Outcome Measures

Brief Symptom Inventory (BSI; Derogatis, 1975). The BSI is a self-report instrument measuring psychological distress, both in general and along 9 symptom dimensions: Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. It is a
shortened form of the Symptom Checklist-90 (Derogatis, 1977), which assesses these same dimensions. Because depression and anxiety are being assessed using the DASS-21, these dimensions have been omitted so as to reduce assessment burden on participants. This truncated version contains 41 items rated on a 5-point Likert scale ranging from not at all (0) to extremely (4). Because the different dimensions contain different numbers of questions, scores are reported as averages of item responses so as to facilitate comparison between dimensions. Internal consistencies for all of the BSI dimensions used in this study have been shown to be acceptable to good, both previously (Derogatis, 1975) and in the present sample (αs ranging from .77 to .87). One exception in the present study was Phobic Anxiety, for which internal consistency was questionable (α = .64). Test-retest reliabilities have ranged from .68 to .91 (Derogatis & Melisaratos, 1983). The BSI has been normed in a college student sample (Cochran & Hale, 1985) and has been shown to be sensitive as a measure of treatment outcome (see Derogatis & Fitzpatrick, 2004).

**Internalized Shame Scale (ISS; Cook, 1996; α = .95; in the present study α = .96).** The ISS is a 24-item self-report measure of internalized shame employing a 5-point Likert scale ranging from never to almost always. Test-retest reliability across 7 weeks was .84. The ISS has been shown to be responsive to ACT delivered in a group format (Luoma et al., 2008, 2012).

**Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988).** The PANAS consists of two 10-item lists of affect words, one list containing positive affect words and the other negative. Participants are to rate each affect word according to the extent to which they have felt it over a specified time period (e.g., the past few days)
using a 5-point Likert scale. In this study, the time period of “the past week” was used. Because the other outcome measures in this study assess negative affect, only the positive affect items of the PANAS were included in this study. The PANAS was validated on undergraduates, and the positive affect items show good internal consistencies over several time periods (αs ranging from .86 to .90) as well as acceptable test-retest reliabilities using an 8-week retest interval (coefficients ranging from .47 to .68). Internal consistency at Time 1 in this study was good (α = .86).

Primary Process Measures

**Self-Compassion Scale (SCS; Neff, 2003a; α = .92; in the present study α = .90).** The SCS measures self-compassion and consists of 26 self-report items rated on a 5-point Likert scale ranging from almost never to almost always. It is divided into 6 subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Over-Identification. Test-retest reliability was .93 among the undergraduates on which the scale was validated. The SCS has been shown to correlate measures of self-criticism and with multiple measures of psychopathology. It has been shown to be responsive to interventions and to be related to changes in outcomes (see Introduction). In one sense the SCS is an outcome measure in the present study, since its purpose is to see if an ACT protocol can successfully target self-compassion as Neff has developed the concept. It is treated as a process measure, however, since few would be interested in self-compassion per se if it did not relate to functioning and psychopathology.

**Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011 α = .84; in the present study α = .87).** The AAQ-II’s 7 self-report items are rated on a 7-point Likert
scale ranging from never true to always true. Item ratings are added together, and higher scores indicate higher levels of psychological inflexibility. Test-retest reliability at 3 and 12 months were .81 and .79, respectively (Bond et al., 2011). The AAQ-II correlates very highly with the AAQ-I (r = .97), which has mediated ACT outcomes (Bond & Bunce, 2000; Flaxman & Bond, 2010).

Secondary Process Measures

Depressive Experiences Questionnaire—Self-Criticism30 (DEQ-SC30; Santor, Zuroff, & Fielding, 1997). The DEQ-SC30 measures self-criticism using 30 self-report items rated on a 7-point Likert scale ranging from strongly disagree to strongly agree. Within a sample of undergraduates on which it was validated, it shows acceptable internal consistency (α = .72 for men and .76 for women), and within the current sample internal consistency at Time 1 was good (α = .82). The DEQ-SC30 has been shown to correlate with measures of depression (Santor, Zuroff, Mongrain, & Fielding, 1997), and different versions of the scale have been used in studies examining self-compassion and self-compassion interventions (e.g., Kelly et al., 2010; Neff, 2003a).

Self-as-Context Scale (SACS; Zettle, personal communication, March 15, 2011 and April 16, 2012). The SACS consists of 7 self-report items rated on a 7-point Likert scale from strongly disagree to strongly agree and were designed to measure the ACT process of self-as-context. All items were rated favorably by a panel of judges with good knowledge of ACT. Internal consistency was acceptable among the validation sample of 112 undergraduates (α = .73) and within the present sample (α = .73). The SACS correlates with the AAQ-II (r = .69) and the Satisfaction with Life Scale (r = .46; Diener,
Emmons, Larsen, & Griffin, 1985). It has been included because of the centrality of self-as-context and self-perspective-taking to the intervention.

*Five Facet Mindfulness Scale (FFMQ: Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).* The FFMQ is a 39-item 5-point Likert scaled questionnaire that was constructed by applying confirmatory factor analysis to items from 5 existing mindfulness questionnaires. The factors that emerged (Nonreactivity to Inner Experience, Observing, Acting with Awareness, Describing, and Nonjudging of Experience) constitute the 5 scales of the FFMQ. They all demonstrate adequate to good internal consistency ($\alpha$s ranging from .75 to .91) and have been shown to mediate outcome (Baer et al., 2008). Because these scales are scored independently, this study will use the three which have been shown to be sensitive to change and predictive of outcomes in other ACT studies: Nonreactivity to Inner Experience, Acting with Awareness, and Nonjudging of Experience. In the present sample, these scales showed good to excellent internal consistency ($\alpha$s = .80, .88, and .92, respectively).

**Moderator Measure**

*Stressful Life Events Screening Questionnaire-Revised (SLESQ-R; Green, Chung, Daroowalla, Kaltman, & DeBenedictis, 2006).* The SLESQ-R is a self-report instrument designed to screen for a history of events that could qualify as Criterion A stressors for PTSD. Each of its 13 items contains a yes-no question regarding history of a particular type of stressful event, such as life-threatening accidents and physical, verbal, and sexual abuse. Follow-up questions for each item assess the age at which the stressor occurred as well as other details, such as how many times the stressor occurred and any other people...
involved (e.g., perpetrators). According to interviews or questionnaires administered after undergraduates filled out the unrevised SLESQ, 85% of the stressors reported met Criterion 1A for PTSD, and the two-week test-retest correlation for total number of stressors was .89 (Corcoran, Green, Goodman, & Krinsley, 2000). Because the SLESQ-R was only included to assess whether participants had been exposed to potentially traumatic stressors, and not the details of the exposure, the follow-up questions were omitted.

The SLESQ-R was used as a moderator in the present study because findings suggest that self-criticism and self-compassion may play an important role in the development of psychological suffering in response to stressful events. For example, self-criticism and self-compassion have been shown to be associated with PTSD symptomatology among those who have experienced traumatic events (Cox, MacPherson, Enns, & McWilliams, 2004; Sharhabani-Arzy, Amir, & Swisa, 2005; Thompson & Waltz, 2008). Participants in the present study were screened for low self-compassion, and given these findings, it is possible that those with a history of traumatic events may be particularly good candidates for the intervention. That was examined by analyses that tested the SLESQ-R as a moderator of outcomes.

Demographic Measures

Gender, racial/ethnic background, and sexual orientation were assessed at screening. Due to an oversight, age was not assessed at screening, but ages of consented participants were assessed at the workshop or via email either between Time 1 and Time 2 or between Time 2 and 3. At Time 1, grade point average and religious and spiritual
practice were assessed. The latter was measured using one question: “How often do you participate in religious or spiritual practice with a community (for example, a congregation or other group)?” Participants indicated one of the following: (1) Less than once a month, (2) About once a month, (3) About two or three times a month, (4) Four or more times a month.

The schedule of assessments is shown in Table 2.

**Procedure**

**Recruitment and Participant Flow**

Participants completed the SCS and GHQ as screening instruments on SurveyMonkey ([http://www.surveymonkey.com/](http://www.surveymonkey.com/)) after signing up through the Psychology Experiment Sign-Up System ([http://unr.sona-systems.com/](http://unr.sona-systems.com/)). Those who qualified for the randomized workshop trial were invited by email and/or by phone by the investigator to attend a 20-minute informed consent meeting. Each participant who consented was then assigned to condition through the random generation of a zero (control condition) or 1 (active treatment) using a random number generator ([http://stattrek.com/statistics/random-number-generator.aspx](http://stattrek.com/statistics/random-number-generator.aspx)). Because the number was generated after the participant consented, the person administering the consent procedure had no knowledge of the condition assignment before consent was given.
Table 2. Assessment Schedule.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Screening</th>
<th>Time 1 (Week before workshop)</th>
<th>Time 2 (1-2 Weeks after workshop)</th>
<th>Time 3 (8-9 Weeks after workshop)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
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<tr>
<td>General Mental Health (GHQ)</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Depression, Anxiety, Stress (DASS-21)</td>
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<tr>
<td>Psychological Distress (BSI)</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Positive Affect (PANAS)</td>
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<td>Internalized Shame (ISS)</td>
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<tr>
<td><strong>Process</strong></td>
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<tr>
<td>Self-Compassion (SCS)</td>
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<td>X</td>
<td>X</td>
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<td>Psychological Flexibility (AAQ-II)</td>
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<td>Self-Criticism (DEQ-SC30)</td>
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<td><strong>Moderator</strong></td>
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<td>Trauma History (SLESQ-R)</td>
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<td><strong>Demographic</strong></td>
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<td>Gender</td>
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<td>Sexual Orientation</td>
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<td>Age</td>
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<tr>
<td>Religious/Spiritual Practice</td>
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</tr>
</tbody>
</table>

**Assessment and Intervention Schedule**

Participants in the treatment condition were scheduled to attend a workshop to occur within 11 weeks of the date they gave consent. During the week prior to the
workshop, these participants were asked to complete the Time 1 measures. They were then asked to complete the Time 2 measures during the week beginning 7 days after the workshop, and finally they were asked to complete the Time 3 measures during the week beginning 8 weeks after the workshop. Three workshops were given for active treatment participants, and therefore the participants were grouped into 3 cohorts. Waitlist participants were then grouped into 3 corresponding cohorts according to when they consented. For example, the earliest consenters were asked to complete the assessments during the same weeks as were the active treatment participants receiving the first workshop, and so on. All assessments were administered online via SurveyMonkey and were completed outside of the direct supervision of study personnel, thus avoiding the introduction of demand characteristics, for example those associated with the administration of assessment procedures by intervention personnel. Following the Time 3 assessment, participants in the wait list control condition will receive the workshop.

Compensation

Participants were compensated with 1 Psychology Experience Credit (PEC) for completing each of the following three assessments: the screening, the Time 1 assessment, and the Time 2 assessment. The credits were awarded within a day of the completion of the assessments. Because the workshop sometimes did not occur at a time when the participants were eligible to earn experimental credits, they were given a choice of being compensated for attending the workshop with 6 PECs or by being entered into a lottery for a $50 Target gift card, in which they had a 1/10 chance of winning. Their compensation for completing the Time 3 assessment was a $10 Target gift card. Gift
cards were purchased with indirect funds from Steven Hayes’s research lab and James Yadavaia’s personal funds.

**Intervention**

*Acceptance and Commitment Therapy Workshop Targeting Self-Compassion.*

Participants were asked to attend a 6-hour workshop delivered in one day. The manual (see Appendix B) was based on the manual used by Lillis et al. (2009) and was adapted significantly to focus on self-compassion. The primary adaptations were as follows: The present workshop focused on the unworkability of attempts to suppress or change self-critical thoughts and defused acceptance of self-critical thoughts as an alternative, while the Lillis et al. workshop covered this material as related to food-related thoughts. The section in Lillis et al.’s protocol on self-stigma, which implicitly covered self-as-context and defusion from self-as-content, was augmented to cover these processes explicitly through metaphors. The present protocol also included different experiential exercises to cultivate self-compassion through perspective taking and contact with self-as-context (the experiencing, feeling self). Instead of a values section with explicit discussion on health/weight-related values, the present protocol focused on values of self-kindness, and acceptance of one’s experience was presented as a way to enact a value of self-kindness.

*Intervention and Assessment Schedule.* Active treatment participants were asked to attend the workshop between the Time 1 and Time 2 assessments, while waitlist control participants were invited to participate in the workshop after completing their Time 3 assessment. Three workshops per condition were given.
**Personnel.** Each workshop was led by two clinical psychology doctoral students who had received practicum training in ACT. Specifically, they had participated in weekly group supervision on the ACT team in the clinical psychology doctoral program at the University of Nevada, Reno for at least 3 semesters. They also had at least 1 year of experience using ACT with individual clients. James Yadavaia served as co-leader for all 6 workshops. Tami Jeffcoat co-led 2 active treatment workshops and 3 waitlist workshops, and Ann Haynos co-led 1 active treatment workshop.

**Adherence.** Because the efficacy of only the workshops in the treatment condition is being evaluated, only these workshops were rated for adherence. All workshops in the treatment condition were audio recorded using MP3 recorders, and a graduate student with a minimum of 1 year of practicum training in ACT rated each workshop. No workshop leader rated a workshop she or he led. Raters used an adherence measure (see Appendix C) consisting of (1) a detailed checklist of workshop components based on the workshop protocol, and (2) a set of items adapted from Plumb & Vilardaga (2010) assessing coverage of the 6 ACT processes and the absence of ACT-inconsistent technologies, e.g. cognitive disputation. Overall scores for each workshop were computed by averaging the individual item ratings, which could range from 1 to 5. To evaluate inter-rater reliability of the adherence instrument, one workshop was rated by 2 of the adherence raters, and their responses were compared. The raters’ responses were never more than 1 point apart, and they agreed 75.9% of the time. To evaluate adherence, each of the 3 active-treatment workshops was rated once, and the adherence scores were as follows: 4.59, 4.69, and 4.86 ($M = 4.71$, $SD = .14$), indicating that the intervention was consistently delivered skillfully and in depth.
Analytic Strategy

Hypotheses

1. Participants receiving the ACT intervention will show greater improvements on psychological health variables than those in the waitlist control group.

2. Participants in the ACT condition will improve more than control participants on process measures of self-compassion, self-criticism, psychological flexibility, mindfulness, and self-as-context.

3. Changes in primary outcome measures (GHQ and DASS) will be mediated by changes in primary process variables (SCS and AAQ-II).

4. Treatment effects on primary outcome measures (GHQ and DASS) will be moderated by trauma history (SLESQ) such that ACT will be more helpful for those who have had greater trauma histories.

Exploratory Data Analysis

Before conducting formal statistical analyses, exploratory data analyses were used to identify patterns in the data and test underlying distributional assumptions. Graphical methods were used to examine distribution, homogeneity of variance, autocorrelation, and other patterns in order to choose appropriate statistical methods to test our hypotheses. Diagnostic methods including box plots, histograms, normal probability plots, bivariate and partial correlations were used. Statistics such as means, standard deviations, skewness, and kurtosis were calculated to describe the basic features of the data set. In evaluating whether variables met the assumption of normality, data from each
condition at each time point were required to exhibit skewness between -2.00 and 2.00, and kurtosis between -4.00 and 4.00. All but the following variables met these criteria: the Anxiety subscale of the DASS and the Somatization, Phobic Anxiety, and Psychoticism subscales of the BSI. To meet normality criteria, two outliers were removed from Time 3 of the DASS-Anxiety data, and a square root transformation was applied to data from all time points of the 3 BSI subscales. Results of outcome analyses conducted using these adjusted data sets did not differ from those conducted using the raw complete data in terms of whether the tests yielded significant results.

Outcome Analysis Strategy

Hierarchical linear modeling (HLM) was used to investigate outcomes using an intent-to-treat sample (Raudenbush & Bryk, 2002). HLM provides several advantages over analysis of variance and covariance procedures: HLM does not require data to meet the sphericity assumption of equal variance at each time point, it allows for modeling of individual change and variances, one can model change even when some individuals have missing data, and it can model nonlinear change in individual data (Tasca & Gallop, 2009). In addition, HLM is a particularly powerful way to conduct an intent-to-treat analysis. Unlike normal analysis of variance/analysis of covariance or repeated measures models, HLM uses all available data from all subjects in modeling growth curves. In testing independent variables, an HLM approach takes into account the obtained outcome, missingness, and the spacing between the obtained and non-obtained outcomes for participants with missing data. This approach reduces somewhat the analytic problem of missing data. For example, estimates of ultimate treatment impact
will be reduced for conditions with dropouts among participants who were doing poorly before producing missing data. The standard HLM model involves two levels of analysis that assume that the outcome varies within subjects over time as a function of a person-specific growth curve (Level 1) and that these person-specific change parameters vary across subjects as a function of the participant’s treatment (Level 2). Although treatment occurred in groups, it was not possible to nest the analyses since the comparison condition contained no nesting variable at that level.

Outcome analyses were conducted in two waves. First Time 1, Time 2, and Time 3 outcomes were analyzed, using a model assuming a random intercept and a random slope, allowing the two random terms to be correlated, and assuming an unstructured covariance structure between them. This analysis was followed by a more restrictive one, which assumes a variance components covariance structure in which any correlation between intercept and slope is not modeled. That is, the most complex covariance structure was examined first, followed by a less complex structure. If the simpler model was not significantly different than the more complex model as determined by the restricted log likelihood, it was be used.

If outcomes were non-linear (as determined by a comparison of the significance of the difference in the -2 restricted log-likelihoods of a random intercept HLM and compound symmetry MMRM model) or the HLM analyses did not fully converge (indicated by the Hessian matrix not positive definite) a mixed model repeated measures (MMRM) analysis was conducted. MMRM is similar to HLM in being a mixed regression model, but it differs in that time is modeled categorically, not as a linear covariate, and person-specific growth curves are not generated. As with HLM,
analyses with more restrictive assumptions were used only if there was no significant difference in the fit of the restricted and unspecified covariance structure as determined by comparison of nested models through the restricted log-likelihood. Denominator degrees of freedom for the fixed effects test statistics was based on the Sattherthwaite approximation. The time value for initial assessments in all HLM analyses was set to zero, and time was modeled by the sequential assessment occasion. Effect sizes (converted to Cohen’s $d$), were be derived from the $F$-test statistic for the regression coefficients using the formula $d = 2 \sqrt{\frac{F}{df}}$ (with $df$ constrained to be no larger than the number of participants), which is suggested for repeated measures and multilevel designs (Rosenthal & Rosnow, 1991; Verbeke & Molenberghs, 2000). Effect sizes for within group contrasts were calculated by the formula $\frac{M_{\text{diff}}}{\sqrt{V(1) + V(2) - 2 \text{Cov}(1,2)}}$ where $V=$variance, $\text{Cov}=$covariance, and numbers refer to the measurement occasions compared (Wackerly, Mendenhall, & Scheaffer, 2008, p. 271). Effect sizes are discussed using the cutoffs suggested by Cohen (1988).

Mediation Analysis

The functional role of post levels of self-compassion (SCS) and psychological flexibility (AAQ-II) in producing effects on the primary outcome measures was examined by mediation analysis. Mediation analysis is most commonly conducted using causal steps (Baron & Kenny, 1986), but there are several problems with that approach. First, the causal steps approach never directly tests the significance of the difference between the direct and indirect, or mediated, effect. Second, it requires both a significant
“a path” (treatment on the mediator) and a significant “b path” (relation of the mediator to outcome controlling for treatment), despite the fact that these two values are necessarily related (the larger the “a” path the smaller the “b” and vice versa) which can considerably and artificially reduce power in some cases (e.g., one in which treatment has a very large impact on the mediator). In part for that reason, testing the significance of the “a” and “b” cross product is recognized as perhaps the best all-around available method to test mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). In most finite data sets, the cross product of coefficients parallels the difference between the direct path (treatment on outcome or c) and the indirect path (treatment on outcome accounting for the mediator or c’ ) and thus provides a single test of the statistical significance of the mediated effect.

The statistical significance of the cross product of the coefficients is often tested using an error term devised by Sobel (1982), but it assumes a normal distribution of the cross product, which has been shown to be generally incorrect (Preacher & Hayes, 2004). A nonparametric method developed by Preacher and Hayes (2004, 2008) was used in the current study to test the statistical significance of the cross product of the coefficients. This method solves the distribution problem through bootstrapping, in which k samples of the original size are taken from the obtained data (with replacement after each specific number is selected), and mediational effects are calculated in each sample. In the present set of analyses, parameter estimates were based on 3,000 bootstrap samples. The bias corrected and accelerated 95% confidence intervals were then examined. These confidence intervals are similar to the 2.5 and 97.5 percentile scores of the obtained distribution of the cross products over the k samples, but with z-score based corrections.
for bias due to the underlying distribution (Preacher & Hayes, 2004, 2008). If the confidence intervals do not contain zero, the point estimate was considered significant at the level indicated.

**Moderation Analysis**

To evaluate whether the workshop was differentially effective for individuals according to trauma history, the SLESQ (taken at Time 1) was evaluated as a moderator of the effect of treatment condition on outcomes. Following the recommendations of Hayes (under review), linear regression was used to construct a model with the following predictors of outcome variables: SLESQ, treatment condition, and the interaction (i.e., product) of SLESQ and treatment condition. If the coefficient for the interaction term in a given analysis is significant, SLESQ may be regarded as a moderator of that outcome. Significant interactions were then probed by examining the conditional effects of condition on outcome at the 25th, 50th, and 75th percentiles of the SLESQ.

**Significance**

Given the fact that this is a relatively small trial and the first of its kind, effects of comparisons with a $p$ value of less than for equal to .10 were interpreted, using the language of “significant” ($p \leq .05$) or “marginally significant” ($p \leq .10$) effects.
CHAPTER THREE: RESULTS

Participant Flow

Of the participants completing the screening, 42% qualified for the workshop study, and 35% of those qualifying consented to participate. Due to an error, one participant with a GHQ score of 9 was consented. The participant was allocated to active treatment and completed the workshop. Because the participant’s GHQ score at Time 1 was 10 or higher, as required by the inclusion criteria, data from this participant was included in the analyses. See Figure 1 for further details on participant flow.

Participant Characteristics

Screening Participants

Table 3 provides details on demographic variables and screening questionnaire scores for all participants completing the screening. Overall, screening completers were predominantly female, White/Non-Hispanic, and heterosexual. Independent samples Mann-Whitney U tests revealed a significantly lower proportion of heterosexuals \( (p = .001) \) and higher proportion of questioning individuals \( (p = .03) \) among qualifiers than among non-qualifiers. No other significant differences on demographic variables were found between these two groups or between workshop study participants and non-participating qualifiers. Independent samples t-tests revealed that workshop study participants were lower in self-compassion than qualifiers who did not participate \( (t = \)
5.17, \( p < .001 \)), but no significant difference was found between these two groups on general psychological distress. As expected, qualifiers were lower in self-compassion (\( t = 24.34, \ p < .001 \)) and higher in general psychological distress (\( t = 19.11, \ p < .001 \)) than non-qualifiers, showing that the screening process served its intended function. Together,
Table 3. *Demographic Characteristics and Questionnaire Data for Screening Participants*

<table>
<thead>
<tr>
<th></th>
<th>Workshop Study Participants (N = 73)</th>
<th>Non-Participating Qualifiers (N = 153)</th>
<th>All Qualifiers (N = 225)</th>
<th>Non-Qualifiers (N = 307)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% N</td>
<td>% N</td>
<td>% N</td>
<td>% N</td>
</tr>
<tr>
<td>Female</td>
<td>74 54</td>
<td>77 118</td>
<td>76 171</td>
<td>70 215</td>
</tr>
<tr>
<td>Male</td>
<td>26 19</td>
<td>23 34</td>
<td>24 53</td>
<td>30 92</td>
</tr>
<tr>
<td>Transgender</td>
<td>0 0</td>
<td>1 1</td>
<td>&lt;1 1</td>
<td>0 0</td>
</tr>
<tr>
<td>Asian / Pacific Islander</td>
<td>16 12</td>
<td>16 24</td>
<td>16 36</td>
<td>14 42</td>
</tr>
<tr>
<td>African-American/Black</td>
<td>7 5</td>
<td>5 7</td>
<td>5 12</td>
<td>4 13</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>12 9</td>
<td>13 20</td>
<td>13 29</td>
<td>12 36</td>
</tr>
<tr>
<td>Native American</td>
<td>1 1</td>
<td>1 1</td>
<td>1 &lt;1</td>
<td>2 6</td>
</tr>
<tr>
<td>White / Non-Hispanic</td>
<td>74 54</td>
<td>71 109</td>
<td>72 162</td>
<td>73 225</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3 2</td>
<td>2 3</td>
<td>2 5</td>
<td>1 3</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>89 65</td>
<td>93 142</td>
<td>92 206</td>
<td>98 300</td>
</tr>
<tr>
<td>Gay</td>
<td>4 3</td>
<td>1 1</td>
<td>2 4</td>
<td>0 1</td>
</tr>
<tr>
<td>Lesbian</td>
<td>0 0</td>
<td>1 2</td>
<td>1 2</td>
<td>0 0</td>
</tr>
<tr>
<td>Questioning</td>
<td>3 2</td>
<td>3 5</td>
<td>3 7</td>
<td>1 2</td>
</tr>
<tr>
<td>Pansexual</td>
<td>1 1</td>
<td>0 0</td>
<td>&lt;1 1</td>
<td>0 0</td>
</tr>
<tr>
<td>Mean SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Compassion (SCS)</td>
<td>13.69 2.66</td>
<td>15.55 2.21</td>
<td>14.94 2.52</td>
<td>20.80 3.03</td>
</tr>
<tr>
<td>Psychological Distress (GHQ)</td>
<td>16.49 4.84</td>
<td>16.44 5.05</td>
<td>16.49 4.96</td>
<td>9.02 3.67</td>
</tr>
</tbody>
</table>

Note. Due to rounding and participants’ selecting more than 1 category, percentages may not add to 100, and counts may not add to totals.
these analyses suggest that screening and recruitment did not excessively bias the workshop study sample in problematic ways. In addition, they show that qualifiers for whom the intervention would be most relevant, i.e. those lower in self-compassion, were more likely to enroll.

**Workshop Study Participants**

Of those who attended a consent meeting, approximately 7 declined to give consent. An additional 7 participants withdrew at some point after consent and randomization. Reasons given for non-consent or withdrawal included the time commitment, family issues, and scheduling conflicts. Some participants gave no reason.

Table 4 provides demographic and screening questionnaire data on the 73 consented participants who completed at least the Time 1 assessment and were included in outcome analyses (i.e., study completers, with the term “completion” meaning that they completed any assessment occasions after initial screening) versus the 5 consented participants who withdrew before Time 1 assessments and were not included in analyses (study non-completers). Independent samples Mann-Whitney U tests, which were powered at .80 to detect a large effect of 1.19, revealed no significant differences between completers and non-completers on gender, race/ethnicity, or sexual orientation. Independent samples two-tailed t-tests, powered at .80 to detect a large effect of 1.31, revealed no between-group differences in self-compassion but significantly higher general psychological distress among non-completers \( t(76) = 2.18, p = .03 \). These analyses show that, while non-completers were similar to completers in most ways, they were more psychologically distressed, a difference that could have negative implications
Table 4. Comparisons of Completer and Non-Completer Participants on Variables Measured at Screening

<table>
<thead>
<tr>
<th></th>
<th>Completers (N = 73)</th>
<th>Non-Completers (N = 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>54</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>Transgender</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Asian / Pacific Islander</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>African-American/Black</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White / Non-Hispanic</td>
<td>74</td>
<td>54</td>
</tr>
<tr>
<td>Bisexual</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>90</td>
<td>66</td>
</tr>
<tr>
<td>Gay</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Lesbian</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Questioning</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pansexual</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-Compassion (SCS) at Screening</td>
<td>13.69</td>
<td>2.66</td>
</tr>
<tr>
<td>Psychological Distress (GHQ) at Screening</td>
<td>16.49</td>
<td>4.84</td>
</tr>
</tbody>
</table>

Note. SCS = Self-Compassion Scale; GHQ = General Health Questionnaire.

for the applicability of the intervention among those with greater psychological distress.

The active treatment group is smaller than the waitlist group because of the unblocked randomization procedure, which could not ensure equivalence of group size,
and because of the somewhat higher attrition from the active treatment condition before the Time 1 assessment (4 of 34 in the ACT condition and 1 of 44 in the control condition – a non-significant difference, Fisher’s exact $p = .16$). Table 5 provides demographic information by condition for all participants who completed at least the Time 1 assessment and were therefore included in outcome analyses. An independent samples Mann-Whitney U test revealed that active treatment participants were significantly younger than waitlist control participants ($p = .04$), although the means differed by less than 1 year. Other such tests revealed no other significant differences between conditions on gender, racial/ethnic background, sexual orientation, or religious/spiritual practice. Likewise, independent samples t-tests revealed no significant between-group differences on grade point average, stressful life events, self-compassion, or general psychological distress. Thus, the two groups did not differ in any large or systematic way that could interfere with the attribution of outcome differences to treatment condition.

Of the 30 active-treatment participants, 27 completed all 3 assessments, 22 of whom attended the workshop. One active treatment participant (a workshop attendee) completed only the Time 1 and 3 assessments, 1 (also a workshop attendee) completed only the Time 1 and 2 assessments, and 1 (who did not attend the workshop) completed only the Time 1 assessment. Of the 6 active treatment participants who did not attend the workshop, 1 was not present because of illness, 1 was absent because of family issues, 1 reported having a scheduling conflict, and 3 did not contact the investigator regarding their non-attendance.

In the waitlist group, 38 participants completed all 3 assessments. In addition, 2 completed only the Time 1 assessment, 2 completed only the Time 1 and 3 assessments,
Table 5. Demographic Information and Moderator and Screening Scores by Condition

<table>
<thead>
<tr>
<th></th>
<th>Active Treatment (N = 30)</th>
<th>Waitlist (N = 43)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Female</td>
<td>70</td>
<td>21</td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>Transgender</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Asian / Pacific Islander</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>African-American/Black</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White / Non-Hispanic</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>97</td>
<td>29</td>
</tr>
<tr>
<td>Gay</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lesbian</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Questioning</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pansexual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Age</td>
<td>19.90</td>
<td>4.05</td>
</tr>
<tr>
<td>Grade Point Average (GPA)</td>
<td>3.42</td>
<td>.51</td>
</tr>
<tr>
<td>Religious and Spiritual Practice</td>
<td>1.40</td>
<td>.93</td>
</tr>
<tr>
<td>Stressful Life Events (SLESQ-R)</td>
<td>1.93</td>
<td>1.78</td>
</tr>
<tr>
<td>Self-Compassion (SCS) at Screening</td>
<td>13.91</td>
<td>2.83</td>
</tr>
<tr>
<td>Psychological Distress (GHQ) at Screening</td>
<td>16.80</td>
<td>5.06</td>
</tr>
</tbody>
</table>

Note. For Age, N = 29 in Active Treatment and N = 41 in Waitlist. SLESQ-R = Stressful Life Events Questionnaire-Revised; SCS = Self-Compassion Scale; GHQ = General Health Questionnaire.
and 1 completed only the Time 1 and 2 assessments. The 41 waitlist participants who remained enrolled after the Time 3 assessment were emailed to schedule a workshop. Of those, 20 participants responded and were scheduled for 1 of 3 workshops; 13 of these participants attended.

**Baseline Tests of Model**

Pearson bivariate correlations were carried out to evaluate relationships among outcome, process, and moderator variables at Time 1. Because raw data from all variables at Time 1 met the assumption of normality, transformed data was not used in these analyses. Table 6 displays correlations between outcome variables, and Table 7 shows correlations among BSI subscales. As expected, all psychopathology variables correlated with each other positively, providing evidence that these constructs are related conceptually. However, positive affect was significantly related (inversely) only to depression and general psychological distress, suggesting that positive affect may be largely orthogonal to psychopathology.

Table 8 shows correlations among process variables. As expected, self-compassion, self-criticism, psychological flexibility, self-as-context, Acting with Awareness, and Nonjudging of Experience all correlated with each other significantly, and in the expected directions. However, Nonreactivity to Inner Experience was only significantly related (in the expected positive direction) to self-compassion and self-as-context. These findings suggest that, with the exception of nonreactivity, the process variables are related to each other conceptually.
Table 6. *Pearson Correlations at Time 1 between Outcome Variables*

<table>
<thead>
<tr>
<th></th>
<th>Psych. Distress (GHQ)</th>
<th>Depression (DASS-D)</th>
<th>Anxiety (DASS-A)</th>
<th>Stress (DASS-S)</th>
<th>Internalized Shame (ISS)</th>
<th>Positive Affect (PANAS-P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych. Distress (GHQ)</td>
<td>.66**</td>
<td>.51**</td>
<td>.56**</td>
<td>.59**</td>
<td>-.39**</td>
<td></td>
</tr>
<tr>
<td>Depression (DASS-D)</td>
<td></td>
<td>.69**</td>
<td>.67**</td>
<td>.73**</td>
<td>- .24*</td>
<td></td>
</tr>
<tr>
<td>Anxiety (DASS-A)</td>
<td></td>
<td></td>
<td>.75**</td>
<td>.70**</td>
<td>- .11</td>
<td></td>
</tr>
<tr>
<td>Stress (DASS-S)</td>
<td></td>
<td></td>
<td></td>
<td>.56**</td>
<td>- .04</td>
<td></td>
</tr>
<tr>
<td>Internalized Shame (ISS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.18</td>
</tr>
<tr>
<td>Somatization Items of BSI</td>
<td>.44**</td>
<td>.56**</td>
<td>.74**</td>
<td>.55**</td>
<td>.49**</td>
<td>-.06</td>
</tr>
<tr>
<td>Obsession-Compulsion Items of BSI</td>
<td>.48**</td>
<td>.62**</td>
<td>.64**</td>
<td>.59**</td>
<td>.59**</td>
<td>-.05</td>
</tr>
<tr>
<td>Interpersonal Sensitivity Items of BSI</td>
<td>.54**</td>
<td>.66**</td>
<td>.69**</td>
<td>.55**</td>
<td>.78**</td>
<td>-.10</td>
</tr>
<tr>
<td>Hostility Items of BSI</td>
<td>.55**</td>
<td>.65**</td>
<td>.74**</td>
<td>.75**</td>
<td>.58**</td>
<td>-.04</td>
</tr>
<tr>
<td>Phobic Anxiety Items of BSI</td>
<td>.26*</td>
<td>.48**</td>
<td>.55**</td>
<td>.42**</td>
<td>.54**</td>
<td>-.08</td>
</tr>
<tr>
<td>Paranoid Ideation Items of BSI</td>
<td>.41**</td>
<td>.55**</td>
<td>.65**</td>
<td>.57**</td>
<td>.58**</td>
<td>-.26</td>
</tr>
<tr>
<td>Psychoticism Items of BSI</td>
<td>.55**</td>
<td>.73**</td>
<td>.75**</td>
<td>.68**</td>
<td>.69**</td>
<td>-.11</td>
</tr>
</tbody>
</table>

Note.  * = p < .05 (2-tailed), ** = p < .01 (2-tailed). For all correlations, N = 73. GHQ = General Health Questionnaire; DASS = Depression Anxiety and Stress Scales; ISS = Internalized Shame Scale; PANAS-P = Positive and Negative Affect Scales, Positive Affect Scale; BSI = Brief Symptom Inventory.
Table 7. Pearson Correlations at Time 1 between Brief Symptom Inventory Subscales

<table>
<thead>
<tr>
<th></th>
<th>Obsession-Compulsion</th>
<th>Interpersonal Sensitivity</th>
<th>Hostility</th>
<th>Phobic Anxiety</th>
<th>Paranoid Ideation</th>
<th>Psychoticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>.64**</td>
<td>.52**</td>
<td>.55**</td>
<td>.42**</td>
<td>.61**</td>
<td>.64**</td>
</tr>
<tr>
<td>Obsession-Compulsion</td>
<td></td>
<td>.62**</td>
<td>.68**</td>
<td>.51**</td>
<td>.69**</td>
<td>.72**</td>
</tr>
<tr>
<td>Interpersonal Sensitivity</td>
<td></td>
<td></td>
<td>.55**</td>
<td>.46**</td>
<td>.61**</td>
<td>.66**</td>
</tr>
<tr>
<td>Hostility</td>
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<td>Paranoid Ideation</td>
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<td>.68**</td>
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</table>

Note. ** = p < .01 (2-tailed). For all correlations, N = 73.

As one way of evaluating the functional relationships between outcome and process variables, Pearson correlations were conducted among these variables as well. Table 9 displays the results of these analyses. Self-compassion correlated in the expected direction with all outcome variables except the Somatization and Obsession-Compulsion subscales of the BSI, and self-criticism and self-as-context were correlated significantly in the expected direction with all outcome variables. Psychological flexibility (scored so that a higher score indicates inflexibility) was related positively and significantly, as expected, to all outcome variables except positive affect, where no significant relationship was found. Among mindfulness scales, Acting with Awareness and Nonjudgment of Experience were related to all outcome variables in the expected direction except positive affect. However, Nonreactivity to Inner Experience was only significantly related to internalized shame and positive affect. It is unclear why
Table 8. Pearson Correlations at Time 1 between Process Variables.

<table>
<thead>
<tr>
<th></th>
<th>Psychological Flexibility (AAQ-II) (up is bad)</th>
<th>Self-Criticism (DEQ-SC30)</th>
<th>Self-as-Context (SACS)</th>
<th>FFMQ Nonreactivity to Inner Experience</th>
<th>FFMQ Acting with Awareness</th>
<th>FFMQ Nonjudging of Experience</th>
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<td>.33**</td>
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<tr>
<td>FFMQ Nonreactivity to Inner Experience</td>
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<tr>
<td>FFMQ Acting with Awareness</td>
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</tbody>
</table>

Note. * = \( p < .05 \) (2-tailed), ** = \( p < .01 \) (2-tailed). For all correlations, \( N = 73 \). SCS = Self-Compassion Scale; AAQ-II = Acceptance and Action Questionnaire-II; DEQ-SC30 = Depressive Experiences Questionnaire—Self-Criticism30; SACS = Self-as-Context Scale; FFMQ = Five-Facet Mindfulness Scale.

Nonreactivity to Inner Experience did not exhibit many of the expected correlations with both outcome and process variables. However, while correlational methods cannot provide strong evidence for causality, the overall pattern of these results is consistent with the idea that the process variables may play important roles in improving outcomes.

Correlations between outcome and process variables and stressful life events are shown in Table 10. As expected, stressful life events correlated positively with depression, anxiety, stress, and general psychological distress, as well as with several subscales of the BSI. Although correlational methods cannot confirm causality, these
Table 9. *Pearson Correlations at Time 1 between Process and Outcome Measures*

<table>
<thead>
<tr>
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<th>Self-Compassion (SCS)</th>
<th>Self-Criticism (DEQ-SC30)</th>
<th>Psychological Flexibility (AAQ-II)</th>
<th>Self-as-Context (SACS)</th>
<th>FFMQ Nonreact</th>
<th>FFMQ Aware</th>
<th>FFMQ Nonjudge</th>
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<tr>
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<td>.71**</td>
<td>.64**</td>
<td>-.38**</td>
<td>-.13</td>
<td>-.49**</td>
<td>-.57**</td>
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<td>-.05</td>
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<td>-.58**</td>
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<tr>
<td>Stress (DASS-S)</td>
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<td>.53**</td>
<td>-.29*</td>
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<td>-.56**</td>
<td>-.41**</td>
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<td>Internalized Shame (ISS)</td>
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<td>.77**</td>
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<td>-.73**</td>
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<td>.24*</td>
<td>.27*</td>
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<td>Interpersonal Sensitivity Items of BSI</td>
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<td>.78**</td>
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<td>-.18</td>
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<td>-.52**</td>
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<td>Hostility Items of BSI</td>
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<td>Phobic Anxiety Items of BSI</td>
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<td>.59**</td>
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<td>-.04</td>
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<td>.05</td>
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<td>-.48**</td>
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<tr>
<td>Psychoticism Items of BSI</td>
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<td>.69**</td>
<td>-.40**</td>
<td>-.10</td>
<td>-.55**</td>
<td>-.61**</td>
</tr>
</tbody>
</table>

Note. * = p < .05 (2-tailed), ** = p < .01 (2-tailed). For all correlations, N = 73. SCS = Self-Compassion Scale; DEQ-SC30 = Depressive Experiences Questionnaire—Self-Criticism 30; AAQ-II = Acceptance and Action Questionnaire-II; SACS = Self-as-Context Scale; FFMQ = Five-Facet Mindfulness Scale; Nonreact = Nonreactivity to Inner Experience; Aware = Acting with Awareness; Nonjudge = Nonjudging of Experience; GHQ = General Health Questionnaire; DASS = Depression Anxiety and Stress Scales; ISS = Internalized Shame Scale; PANAS-P = Positive and Negative Affect Scales, Positive Affect Scale; BSI = Brief Symptom Inventory.
Table 10. *Pearson Correlations at Time 1 with Stressful Life Events*

<table>
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<td>Psych. Distress (GHQ)</td>
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<td>Anxiety (DASS-A)</td>
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<tr>
<td>Stress (DASS-S)</td>
<td>.34**</td>
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<tr>
<td><strong>BSI</strong> Subscales</td>
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<td>Obsession-Compulsion</td>
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<td>Interpersonal Sensitivity</td>
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<td>Hostility</td>
<td>.42**</td>
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<td>Phobic Anxiety</td>
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<td>Paranoid Ideation</td>
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<td>Psychoticism</td>
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<tr>
<td>Nonjudging of Experience</td>
<td>-.04</td>
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</table>

Note. * = $p < .05$ (2-tailed), ** = $p < .01$ (2-tailed). For all correlations, N = 73. SLESQ-R = Stressful Life Events Screening Questionnaire—Revised; GHQ = General Health Questionnaire; DASS = Depression Anxiety and Stress Scales; ISS = Internalized Shame Scale; PANAS-P = Positive and Negative Affect Scales, Positive Affect Scale; BSI = Brief Symptom Inventory; SCS = Self-Compassion Scale; DEQ-SC30 = Depressive Experiences Questionnaire—Self-Criticism30; AAQ-II = Acceptance and Action Questionnaire-II; SACS = Self-as-Context Scale; FFMQ = Five-Facet Mindfulness Scale.
results are consistent with the idea that the events assessed by the SLESQ-R may impact individuals negatively in terms of psychological symptoms. In terms of process variables, traumatic events correlated positively with self-criticism and psychological inflexibility, showing that these constructs may be related conceptually.

**Between-Group Differences at Each Time Point**

Tables 11, 12, and 13 show means and standard deviations for outcome and process variables at each time point. P-values for between-condition independent-samples two-tailed t-tests are reported as well. Although between group differences were examined in a more appropriate way later, it is worth noting that Table 11 reveals no significant between-condition differences in scores on the GHQ, DASS, ISS, or PANAS-P at Time 1, and by Time 3, scores are significantly better in the active treatment group for all measures except DASS-A, providing evidence of the efficacy of the intervention on these variables. For BSI symptom dimensions, as reported in Table 12, only Psychoticism showed both non-significant between-condition differences at Time 1 and significant superiority of active treatment at Time 3, again providing evidence for treatment effects on this variable. For all other subscales of the BSI, between-condition differences were non-significant at both Time 1 and Time 3. Table 13 shows that among process measures, no significant between-condition differences were present at Time 1 but that by Time 3, the active treatment group was significantly better than control on SCS, AAQ-II, DEQ-SC30, SACS, and FFMQ Nonjudging of Experience, suggesting that the intervention was efficacious in positively impacting these variables.
Table 11. *Means, Standard Deviations, and Between-Condition Comparisons of Selected Outcome Variables at Each Time Point*

<table>
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<tr>
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<th>Time 1</th>
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<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
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<tr>
<td>Depression (DASS-D)</td>
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Note. All comparisons were independent samples 2-tailed *t*-tests. GHQ = General Health Questionnaire; DASS = Depression Anxiety and Stress Scales; ISS = Internalized Shame Scale; PANAS-P = Positive and Negative Affect Scales, Positive Affect Scale.
Table 12. *Means, Standard Deviations, and Between-Condition Comparisons of Brief Symptom Inventory Subscales at Each Time Point*

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<td>Mean</td>
<td>SD</td>
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Note. All comparisons were independent samples 2-tailed *t*-tests. For the Somatization, Hostility, Phobic Anxiety, and Psychoticism subscales, *t*-tests were conducted on the square root of the raw scores so as to conform to the normality assumption of these tests. However, for ease of interpretation, means and standard deviations of the raw scores themselves are shown.
Table 13. Means, Standard Deviations, and Between-Condition Comparisons of Process Variables at Each Time Point

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Note. All comparisons were independent samples 2-tailed t-tests. SCS = Self-Compassion Scale; DEQ-SC30 = Depressive Experiences Questionnaire—Self-Criticism 30; AAQ-II = Acceptance and Action Questionnaire-II; SACS = Self-as-Context Scale; FFMQ = Five-Facet Mindfulness Scale.
Between-Group Differences in Changes in Outcome Measures

Because information on how variables change over time is key to evaluating treatment outcomes, longitudinal analyses (HLM and MMRM) were conducted to provide stronger tests of the efficacy of the intervention.

Primary Outcomes

*General Psychological Distress.* In analyzing Time 1, 2, and 3 GHQ scores longitudinally, an MMRM analysis with a heterogeneous compound symmetry covariance structure best fit the data and revealed a significant effect for treatment condition \((p < .001)\) and time \((p < .001)\), and a significant and small time-by-condition interaction \([F(2, 106.80) = 3.69, p = .03, \text{effect size} = .45]\). The interaction occurred because of between-condition differences in the degree to which participants improved. More specifically, while the waitlist participants showed no improvement from Time 1 to Time 2 \((p = .77)\) and showed a significant medium improvement from Time 1 to Time 3 \([\text{Estimate} = -3.54, \text{SE} = 1.06, t (108.29) = -3.34, p < .01, 95\% \text{ CI: -5.64, -1.44; effect size} = .52]\), those in the active treatment condition showed a significant medium improvement from Time 1 to Time 2 \((p < .001, \text{effect size} = .67)\) and large and significant improvement from Time 1 to Time 3 \([\text{Estimate} = -7.06, \text{SE} = 1.27, t (108.08) = -5.56, p < .001, 95\% \text{ CI: -9.57, -4.54; effect size} = 1.03]\). The Time 1-3 changes were significantly different between the two conditions \([\text{Estimate} = 3.52, \text{SE} = 1.65, t (108.17) = 2.13, p = .04, 95\% \text{ CI: .24, 6.80; effect size} = .52, \text{a medium effect}]\). Figure 2 displays changes in the GHQ across time points for each condition.
Depression. An MMRM analysis with a Toeplitz covariance structure best fit the data for the DASS-D and revealed a significant effect for treatment condition \( p = .01 \) and time \( p = .03 \), and a significant and small time-by-condition interaction \( F(2, 87.45) = 3.11, p = .0498, \text{effect size} = .41 \). The interaction occurred because participants in the waitlist condition showed no improvement from Time 1 to Time 2 \( p = .41 \) or from Time 1 to Time 3 \( p = .34 \), while active treatment participants showed a significant small improvements from Time 1 to Time 2 \( p = .01, \text{effect size} = .48 \) and a significant medium improvement from Time 1 to Time 3 \( \text{Estimate} = -5.72, \text{SE} = 2.09, t(63.18) = -2.73, p = .01, \text{95\% CI:} -9.91, -1.54; \text{effect size} = .51 \). Although time 1-2 changes were significantly different between the two treatment conditions \( \text{Estimate} = 5.50, \text{SE} = 2.21, t(133.02) = 2.49, p = .01, \text{95\% CI:} 1.13, 9.86; \text{effect size} = .61, \text{a medium effect} \), the Time 1-3 changes were not significantly different between conditions \( p = .15 \).
Anxiety. For DASS-A scores, an MMRM analysis with an unstructured
covariance structure best fit the data and revealed no effect for treatment condition \((p = .48)\), a significant effect for time \((p = .04)\), and a significant and medium time-by-
condition interaction \([F(2, 67.21) = 7.48, p < .01, \text{effect size} = .67]\). The interaction
occurred because the waitlist participants showed a significant and small deterioration
from Time 1 to Time 2 \((p = .04, \text{effect size} = .34)\) and no change from Time 1 to Time 3
\((p = .92)\), while active treatment participants showed a significant medium improvement
from Time 1 to Time 2 \((p = .01, \text{effect size} = .53)\) and from Time 1 to Time 3 \([\text{Estimate} =
-5.17, SE = 1.48, t (71.37) = -3.48, p < .01, 95\% \text{ CI:} -8.12, -2.21; \text{effect size} = .66]\). The
Time 1-3 changes were significantly different between the two conditions \([\text{Estimate} =
5.29, SE = 1.92, t (70.47) = 2.76, p = .01, 95\% \text{ CI:} 1.46, 9.11; \text{effect size} = .68, \text{a medium}
effect]\).

Stress. For the DASS-S, an MMRM analysis with a heterogeneous compound
symmetry covariance structure fit the data best and revealed a marginally significant
effect for treatment condition \((p = .06)\), a significant effect for time \((p = .02)\), and no
significant time-by-condition interaction \((p = .13)\). The waitlist participants showed no
change from Time 1 to Time 2 \((p = .42)\) or from Time 1 to Time 3 \((p = .50)\). Those in the
active treatment condition also showed no change from Time 1 to Time 2 \((p = .16)\) but
showed a significant medium improvement from Time 1 to Time 3 \([\text{Estimate} = -5.25, SE
= 1.74, t (111.53) = -3.02, p < .01, 95\% \text{ CI:} -8.70, -1.80; \text{effect size} = .56]\). Evaluation of
the difference in the Time 1-3 changes between conditions revealed a marginally
significant and small effect in favor of the ACT participants \([\text{Estimate} = 4.25, SE = 2.27,
t (111.64) = 1.88, p = .06, 95\% \text{ CI:} -.24, 8.75; \text{effect size} = .46]\).
Secondary Outcomes: BSI Symptom Dimensions

Somatization. In analyzing the Somatization subscale of the BSI, an HLM analysis with a variance components covariance structure best fit the data and revealed no effect for treatment condition, a significant effect for time \( (p < .001) \), and a significant and medium effect for the interaction of condition and time \( [F(1, 92.34) = 6.22, p = .01, \text{effect size} = .58] \). There was no improvement in the waitlist condition \[\text{slope estimate} = - .05, \text{SE} = .04, t(92.14) = -1.45, p = .15, \text{effect size} = .55\], but there was a significant and large improvement for active treatment participants \[\text{slope estimate} = -.19, \text{SE} = .04, t(92.47) = -4.46, p < .001, \text{effect size} = 2.01\] and a significant and large difference between the two slopes \[\text{estimate} = -.14, \text{SE} = .05, t(92.34) = -2.49, p = .01, \text{effect size} = 1.47\].

Obsession-Compulsion. For the Obsession-Compulsion subscale of the BSI, an MMRM analysis with a Toeplitz covariance structure best fit the data and revealed no effect for treatment condition \( (p = .88) \), a significant effect for time \( (p < .01) \), and a significant and medium time-by-condition interaction \[F(2, 91.42) = 7.90, p < .01, \text{effect size} = .66\]. The interaction occurred because of differences in how the groups changed over time. The waitlist participants showed no change from Time 1 to Time 2 \( (p = .13) \) or from Time 1 to Time 3 \( (p = .29) \), however active treatment participants showed a significant medium improvement from Time 1 to Time 2 \( (p < .001, \text{effect size} = .73) \) and from Time 1 to Time 3 \[\text{Estimate} = -.76, \text{SE} = .19, t(67.80) = -4.03, p < .001, 95\% \text{CI}: -1.14, - .38; \text{effect size} = .75\]. The Time 1-3 changes were significantly different between the two conditions \[\text{Estimate} = .59, \text{SE} = .25, t(67.81) = 2.41, p = .02, 95\% \text{CI}: .10, 1.08; \text{effect size} = .59, \text{a medium effect}\].
Interpersonal Sensitivity. An MMRM analysis with a Toeplitz covariance structure best fit the data for the Interpersonal Sensitivity subscale of the BSI and revealed no effect for treatment condition (p = .29), a significant effect for time (p < .001), and a significant and medium time-by-condition interaction [F(2, 88.87) = 6.80, p < .01, effect size = .61]. The interaction occurred because greater improvement occurred in the active treatment condition than in the waitlist. While the waitlist participants showed no change from Time 1 to Time 2 (p = .38) and showed a significant small improvement from Time 1 to Time 3 [Estimate = -.27, SE = .13, t (73.95) = -2.04.34, p = .045, 95% CI: -.54, -.01; effect size = .32], active treatment participants showed a significant large improvement from Time 1 to Time 2 (p < .001, effect size = 1.04) and from Time 1 to Time 3 [Estimate = -.71, SE = .16, t (74.02) = -4.42, p < .001, 95% CI: -1.02, -.39; effect size = .83]. The difference between conditions in Time 1-3 changes was significant [Estimate = .43, SE = .21, t (73.99) = 2.08, p = .04, 95% CI: .02, .85; effect size = .51, a medium effect].

Hostility. In analyzing the Hostility subscale of the BSI, an HLM analysis with an unstructured covariance structure fit the data best and showed no effect for treatment condition (p = .44), a significant effect for time (p < .01), and a significant and medium effect for the interaction of condition and time [F (1, 71.44) = 8.68, p < .01, effect size = .70]. There was no improvement in the waitlist condition [slope estimate = -.01, SE=.06, t (71.49) = -.11, p = .92, effect size = .03], but there was a significant and large improvement for active treatment participants [slope estimate = -.29, SE = .07, t (71.41) = -3.93, p < .001, effect size = 1.13] and a significant and large difference between the two slopes [estimate= -.28, SE = .10, t (71.44) = -2.95, p < .01, effect size = 1.10].
Phobic Anxiety. An HLM analysis with a variance components covariance structure best fit the data for the Phobic Anxiety subscale of the BSI and showed no effect for treatment condition \((p = .37)\), a marginally significant effect for time \((p = .098)\), and no effect for the interaction of condition and time \((p = .27)\). There was no improvement in the waitlist condition \([\text{slope estimate} = -.01, \text{SE} = .03, \text{t} (80.91) = -.44, p = .66, \text{effect size} = .12]\), but there was a marginally significant improvement of a medium effect size among active treatment participants \([\text{slope estimate} = -.07, \text{SE} = .04, \text{t} (81.28) = -1.82, p = .07, \text{effect size} = .62]\). There was, however, no significant difference between the two slopes \([\text{estimate} = -.06, \text{SE} = .05, \text{t} (81.12) = -1.12, p = .27, \text{effect size} = .497]\).

Paranoid Ideation. For the Paranoid Ideation subscale of the BSI, an HLM analysis with a variance components covariance structure best fit the data and revealed a marginally significant effect for treatment condition \((p = .07)\), a significant effect for time \((p < .001)\), and a significant and large effect for the interaction of condition and time \([F (1, 89.85) = 13.87, p < .001, \text{effect size} = .87]\). There was no improvement in the waitlist condition \([\text{slope estimate} = -.04, \text{SE} = .05, \text{t} (89.65) = -.80, p = .43, \text{effect size} = .89]\), but there was a significant large improvement for active treatment participants \([\text{slope estimate} = -.33, \text{SE} = .06, \text{t} (89.99) = -5.53, p < .001, \text{effect size} = 7.37]\) and a significant and large difference between the two slopes \([\text{Estimate} = -.29, \text{SE} = .08, \text{t} (89.85) = -3.72, p < .001, \text{effect size} = 6.47]\).

Psychoticism. An HLM analysis with a variance components covariance structure best fit the data from the Psychoticism subscale of the BSI and showed no effect for treatment condition \((p = .95)\), a significant effect for time \((p < .001)\), and a significant and
medium effect for the interaction of condition and time \[ F(1, 87.59) = 9.57, p < .01, \text{ effect size} = .72 \]. There was no improvement in the waitlist condition \[ \text{slope estimate} = -.03, \ SE = .03, t(87.40) = -1.00, p = .33, \text{ effect size} = .43 \], but there was a significant and large improvement for active treatment participants \[ \text{slope estimate} = -.20, \ SE = .04, t(87.72) = -4.8653, p < .001, \text{ effect size} = 2.54 \] and a significant and large difference between the two slopes \[ \text{estimate} = -.17, \ SE = .05, t(87.59) = -3.09, p < .01, \text{ effect size} = 2.11 \].

**Secondary Outcomes: Other**

*Internalized Shame.* In analyzing ISS scores longitudinally, an MMRM analysis with a Toeplitz covariance structure best fit the data and revealed a significant effect for treatment condition \( p = .03 \) and time \( p < .001 \), and a significant and small time-by-condition interaction \[ F(2, 82.37) = 4.43, p = .02, \text{ effect size} = .49 \]. The interaction occurred because of the between-condition differences in the size of improvements.

While the waitlist participants showed a significant small improvement from Time 1 to Time 2 \( p < .01, \text{ effect size} = .48 \) and medium improvement from Time 1 to Time 3 \[ \text{Estimate} = -11.74, \ SE = 2.85, t(67.52) = -4.12, p < .001, 95\% \text{ CI}: -17.42, -6.05; \text{ effect size} = .64 \], active treatment participants showed a significant large improvement from Time 1 to Time 2 \( p < .001, \text{ effect size} = 1.14 \) and from Time 1 to Time 3 \[ \text{Estimate} = -23.62, \ SE = 3.40, t(67.60) = -6.94, p < .001, 95\% \text{ CI}: -30.41, -16.83; \text{ effect size} = 1.30 \]. The Time 1-3 changes were significantly different between the conditions \[ \text{Estimate} = 11.88, \ SE = 4.44, t(67.57) = 2.68, p = .01, 95\% \text{ CI}: 3.03, 20.7; \text{ effect size} = .65, \text{ a medium effect} \].
**Positive Affect.** For the Positive Affect subscale of the PANAS, an MMRM analysis with a heterogeneous compound symmetry covariance structure fit the data best and revealed a significant effect for treatment condition \((p < .01)\) and time \((p < .001)\), and a significant and medium time-by-condition interaction \([F(2, 98.43) = 5.52, p = .01, \text{effect size} = .55]\). The interaction occurred because, while the waitlist participants showed no change from Time 1 to Time 2 \((p = .35)\) and showed a significant and small improvement from Time 1 to Time 3 \([\text{Estimate} = 2.58, \text{SE} = 1.21, t(102.94) = 2.14, p = .03, 95\% \text{CI}: .19, 4.98; \text{effect size} = .34]\), active treatment participants showed a significant small improvement from Time 1 to Time 2 \((p = .03, \text{effect size} = .42)\) and large improvement from Time 1 to Time 3 \([\text{Estimate} = 8.45, \text{SE} = 1.44, t(102.81) = 5.85, p < .001, 95\% \text{CI}: 5.58, 11.31; \text{effect size} = 1.10]\). The Time 1-3 changes were significantly different between the two conditions \([\text{Estimate} = -5.86, \text{SE} = 1.88, t(102.86) = -3.11, p < .01, 95\% \text{CI}: -9.60, -2.13; \text{effect size} = .76, \text{a medium effect}]\).

**Summary.** Among primary outcome measures, general psychological distress (GHQ) and anxiety (DASS-A) improved significantly more in active treatment than in waitlist (medium effect sizes), providing strong evidence for efficacy on these variables. A nonsignificant trend toward superiority of active treatment over waitlist was observed on Time 1-3 changes in stress (DASS-S), which may be meaningful given the small sample size of this study. No between-group significant differences in Time 1-3 changes were observed for depression (DASS-D). Among BSI subscales, the intervention was efficacious with respect to Somatization, Hostility, Paranoid Ideation, and Psychoticism (large between-condition differences in slopes), as well as Obsession-Compulsion and
Interpersonal Sensitivity (medium-sized between-condition differences). Only Phobic Anxiety did not improve significantly more in the active treatment condition. Lastly, larger Time 1-3 improvements in internalized shame (ISS) and positive affect (PANAS-P) were observed in the active treatment condition (medium effect sizes), suggesting that the intervention was efficacious on these variables.

Primary Process Measures

*Self-Compassion.* An MMRM analysis with a heterogeneous compound symmetry covariance structure best fit the data from the SCS and revealed a significant effect for treatment condition \( (p < .001) \) and time \( (p < .001) \), and a significant and medium time-by-condition interaction \([F(2, 102.61) = 10.18, p < .001, \text{effect size} = .74]\). The interaction occurred because of the differences in magnitude of improvement between conditions. More specifically, the waitlist participants showed a small significant improvement from Time 1 to Time 2 \( (p = .03, \text{effect size} = .35) \) and from Time 1 to Time 3 \([\text{Estimate} = 1.52, \text{SE} = .49, t (109.56) = 3.08, p < .01, 95\% \text{CI}: .54, 2.49; \text{effect size} = .48]\), while active treatment participants exhibited a significant large improvement from Time 1 to Time 2 \( (p < .001, \text{effect size} = 1.15) \) and from Time 1 to Time 3 \([\text{Estimate} = 4.82, \text{SE} = .59, t (109.37) = 8.21, p < .001, 95\% \text{CI}: 3.66, 5.99; \text{effect size} = 1.54]\). The Time 1-3 changes were significantly different between the two conditions \([\text{Estimate} = -3.31, \text{SE} = .77, t (109.45) = -4.32, p < .001, 95\% \text{CI}: -4.83, -1.79; \text{effect size} = 1.06, \text{a large effect}]\). Figure 3 displays changes in self-compassion over time for each condition.
Psychological Flexibility. In analyzing the AAQ-II, an MMRM analysis with a heterogeneous compound symmetry covariance structure best fit the data and revealed a significant effect for treatment condition \((p = .04)\) and time \((p < .001)\) and a small significant time-by-condition interaction \([F(2, 115.52) = 6.00, p < .01, \text{effect size} = .46]\). The interaction occurred because the waitlist participants showed no change from Time 1 to Time 2 \((p = .31)\) and a small significant improvement from Time 1 to Time 3 \([\text{Estimate} = -2.27, \text{SE} = 1.12, t (115.33) = -2.03, p = .045, 95\% \text{CI: -4.49, -.05}; \text{effect size} = .32]\), while active treatment participants showed a significant medium improvement from Time 1 to Time 2 \((p < .01, \text{effect size} = .64)\) and a significant large improvement from Time 1 to Time 3 \([\text{Estimate} = -8.28, \text{SE} = 1.34, t (115.10) = -6.19, p < .001, 95\% \text{CI: -10.93, -5.63}; \text{effect size} = 1.16]\). The Time 1-3 changes were significantly different between conditions \([\text{Estimate} = 6.01, \text{SE} = 1.74, t (115.20) = 3.45, p < .01, 95\% \text{CI: 2.56, 9.47}];\)
effect size = .84, a large effect]. Figure 4 shows changes in psychological flexibility for each condition.

Figure 4. Changes in AAQ-II by Condition

Secondary Process Measures

Self-Criticism. For the DEQ-SC30, an MMRM analysis with a heterogeneous compound symmetry covariance structure best fit the data and revealed a significant effect for treatment condition \((p = .02)\) and time \((p < .001)\), and a significant medium-sized time-by-condition interaction \([F(2, 111.68) = 6.62, p < .01, \text{effect size} = .60]\). The interaction occurred because the waitlist participants showed a marginally significant and small improvement from Time 1 to Time 2 \((p = .09, \text{effect size} = .27)\) and a significant small improvement from Time 1 to Time 3 \([\text{Estimate} = -6.37, \text{SE} = 2.71, t (114.43) = -2.35, p = .02, 95\% \text{ CI: } -11.73, -1.00; \text{effect size} = .37]\), while those in the active treatment condition showed a significant large improvement from Time 1 to Time 2 \((p < .001,\)
effect size = 1.01) and from Time 1 to Time 3 [Estimate = -20.42, SE = 3.24, $t$ (114.15) = -6.31, $p < .001$, 95% CI: -26.83, -14.00; effect size = 1.18]. The Time 1-3 changes differed significantly between the two conditions [Estimate = 14.05, SE = 4.22, $t$ (114.26) = 3.33, $p < .01$, 95% CI: 5.69, 22.42; effect size = .81, a large effect].

**Self-as-Context.** An MMRM analysis with a heterogenous compound symmetry covariance structure best fit the data from the SACS and revealed a significant effect for treatment condition ($p = .01$) and time ($p < .01$), and a significant time-by-condition interaction [$F(2, 104.44) = 3.96, p = .02$, effect size = .47]. The interaction occurred because the waitlist participants did not improve but those in the active treatment condition did. More specifically, the waitlist participants showed no change from Time 1 to Time 2 ($p = .42$) or from Time 1 to Time 3 ($p = .44$), while the active treatment participants showed a significant small improvement from Time 1 to Time 2 ($p = .02$, effect size = .43) and a significant medium improvement from Time 1 to Time 3 [Estimate = 4.76, SE = 1.20, $t$ (109.96) = 3.96, $p < .001$, 95% CI: 2.38, 7.14; effect size = .74]. Time 1-3 changes were significantly different between conditions [Estimate = -3.99, SE = 1.57, $t$ (110.04) = -2.55, $p = .01$, 95% CI: -7.09, -0.88; effect size = .62, a medium effect].

**Nonreactivity to Inner Experience.** In analyzing the FFMQ Nonreactivity to Inner Experience subscale, an HLM analysis with a variance components covariance structure fit the data best and showed no effect for treatment condition ($p = .23$), time ($p = .73$), or the interaction of condition and time ($p = .41$). There was no improvement in the waitlist condition [slope estimate = -.17, SE = .46, $t$ (80.48) = -.38, $p = .70$, effect size = .08], or in the active treatment condition [slope estimate = .41, SE = .54, $t$ (80.95) = -.77, $p = .45$,}
effect size = .19]. There was no difference between the two slopes [estimate = .59, SE = .71, t (80.76) = .83, p = .41, effect size = .27].

*Acting with Awareness.* For the Acting with Awareness subscale of the FFMQ, an MMRM analysis with a Toeplitz covariance structure best fit the data and revealed a marginally significant effect for treatment condition (p = .099), a significant effect for time (p < .01), and no significant time-by-condition interaction (p = .14). While the waitlist participants showed no change from Time 1 to Time 2 (p = .49) and showed a marginally significant and small improvement from Time 1 to Time 3 [Estimate = 1.74, SE = 1.03, t (74.89) = 1.69, p = .096, 95% CI: -.32, 3.80; effect size = .26], active treatment participants showed a significant medium improvement from Time 1 to Time 2 (p < .01, effect size = .57) and from Time 1 to Time 3 [Estimate = 4.44, SE = 1.23, t (74.92) = 3.60, p < .01, 95% CI: 1.99, 6.90; effect size = .67]. A marginally significant and small between-group difference in Time 1-3 changes was found [Estimate = -2.70, SE = 1.61, t (74.91) = -1.68, p = .097, 95% CI: -5.90, -.50; effect size = .41].

*Nonjudging of Experience.* In analyzing the Nonjudging of Experience subscale of the FFMQ, an MMRM analysis with an unstructured covariance structure fit the data best and revealed no effect for treatment condition (p = .22), a significant effect for time (p < .001), and a significant medium time-by-condition interaction [F(2, 66.42) = 4.92, p = .01, effect size = .54]. The interaction occurred because of differences between conditions in the magnitude of improvements. Specifically, the waitlist participants showed a significant small improvement from Time 1 to Time 2 (p = .03, effect size = .35) and a significant medium improvement from Time 1 to Time 3 [Estimate = 3.13, SE = .93, t (68.03) = 3.38, p < .01, 95% CI: 1.28, 4.98; effect size = .53], while active
treatment participants showed a significant medium improvement from Time 1 to Time 2 

due to .01, effect size = .56) and a significant large improvement from Time 1 to Time 3 

[Estimate = 7.05, SE = 1.19, t (68.08) = 6.36, p < .001, 95% CI: 4.84, 9.26; effect size = .111]. Time 1-3 changes differed significantly between conditions [Estimate = -3.91, SE = 1.44, t (68.06) = -2.71, p = .01, 95% CI: -6.80, -1.03; effect size = .66, a medium 

effect].

Summary. Time 1-3 changes were significantly better in active treatment than in 
waitlist for self-compassion (SCS), psychological flexibility (AAQ-II), and self-criticism 
(SACs; large effect sizes) and for self-as-context (SACs) and FFMQ Nonjudging of 
Experience (medium effect sizes), providing evidence for efficacy of the intervention 
with respect to these variables. On FFMQ Acting with Awareness, there was a non-
significant and small trend towards greater improvement in active treatment, which may 
be evidence for efficacy given the small sample size. Finally, Nonreactivity to Inner 
Experience showed no significant between-group difference between slopes.

Process Analyses

Self-compassion and psychological flexibility were evaluated as processes of 
change using several methods, including mediational and correlational analyses. In each 
mediational analysis, all time points were included, and therefore participants who 
missed 1 or more assessments were excluded (N = 8 of 73). In the first round of formal 
mediational analyses, Time 1-3 changes in the primary outcome variables (GHQ and
DASS) were entered as outcomes, and Time 1-2 changes in the primary process variables (SCS and AAQ-II) were entered as mediators.

**Self-Compassion as a Mediator**

Time 1 to Time 2 changes in SCS scores significantly mediated \( p < .05 \) Time 1 to Time 3 changes in GHQ scores (bootstrapped point estimate = -1.69; SE = 1.09; 95% CI: -4.74, - .12). The active treatment group had a significantly better impact on Time 1-3 change in GHQ than did control, \( t(63) = -2.01; p = .049 \), and this effect was no longer significant after adjusting for the mediator, \( t(63) = -1.11; p = .27 \) (proportion of effect mediated = 43.2%).

Time 1-2 change scores in SCS also significantly mediated \( p < .05 \) Time 1-3 changes on the DASS-D (bootstrapped point estimate = -2.46; SE = 1.61; 95% CI: -7.84, - .47). There was a non-significant trend towards superiority of the active treatment group over waitlist in terms of Time 1-3 DASS-D change scores, \( t(63) = -1.79; p = .08 \), and this trend disappeared after adjusting for the mediator, \( t(63) = .85, p = .40 \) (proportion of effect mediated = 51.5%).

These same analyses revealed that SCS Time 1-2 change scores did not significantly mediate Time 1-3 change scores of the DASS-A or DASS-S \( p > .10 \).

**Psychological Flexibility as a Mediator**

Time 1-2 changes on the AAQ-II significantly mediated \( p < .05 \) Time 1-3 changes on the GHQ (bootstrapped point estimate = -1.78; SE = 1.10; 95% CI: -4.74, - .21). The significantly better impact of the workshop on GHQ Time 1-3 changes, \( t(63) = \)
-2.01; \( p = .049 \), was no longer significant after including the mediator, \( t(63) = -1.14; p = .26 \) (proportion of effect mediated = 46.9%).

Time 1-2 AAQ-II change scores significantly mediated (\( p < .05 \)) Time 1-3 DASS-D changes, as well (bootstrapped point estimate = -2.89; SE = 1.79; 95% CI: -7.70, -.34). The non-significant trend towards superiority of active treatment in terms of Time 1-3 DASS-D changes, \( t(63) = -1.79; p = .08 \), disappeared after adjusting for the mediator, \( t(63) = -.80; p = .43 \) (proportion of effect mediated = 59.9%).

Time 1-2 AAQ-II changes significantly mediated (\( p < .05 \)) Time 1-3 DASS-A change scores (bootstrapped point estimate = -1.78; SE = 1.27; 95% CI: -6.02, -.26). The significantly better Time 1-3 DASS-A change scores observed in the active treatment condition, \( t(63) = -2.40; p = .02 \), became non-significant after including the mediator, \( t(63) = -1.59; p = .12 \) (proportion of effect mediated = 37.7%).

Finally, Time 1-2 changes in AAQ-II significantly mediated (\( p < .05 \)) Time 1-3 changes in DASS-S (bootstrapped point estimate = -2.09; SE = 1.52; 95% CI: -7.04, -.09). The non-significant trend towards superiority of the active treatment condition in terms of Time 1-3 DASS-S change scores, \( t(63) = -1.86; p = .07 \), disappeared after including the mediator in the analysis, \( t(63) = -1.09; p = .28 \) (proportion of effect mediated = 43.6%).

Comparing Self-Compassion and Psychological Flexibility as Processes of Change

Given the conceptual overlap between self-compassion and psychological flexibility, and their strong relationship at Time 1 (\( r = -.50, p < .01 \)), the relationship
between Time 1-2 changes in the SCS and AAQ-II and Time 1-3 changes in the GHQ and DASS subscales were examined.

Time 1-2 changes in the AAQ-II correlated significantly with Time 1-3 changes in the GHQ, DASS-D, DASS-A, and DASS-S \( (r = .51, .56, .47, \text{ and } .45, \text{ respectively, all } p \leq .001) \) and continued to do so after controlling for Time 1-2 changes in the SCS \( (r = .41, .47, .41, \text{ and } .44, \text{ respectively, all } p \leq .001) \). Time 1-2 changes in the SCS correlated significantly with Time 1-3 changes in the GHQ and DASS-D, \( (r = -.35, p = .006; \text{ and } r = -.37, p = .003, \text{ respectively}) \), and marginally significantly with Time 1-3 changes in the DASS-A \( (r = -.25, p = .051) \), but did not correlate with Time 1-3 changes in the DASS-S \( (r = -.15, p = .26) \). After controlling for Time 1-2 changes in the AAQ-II, Time 1-2 changes in the SCS did not correlate with any of the primary outcomes \( (r = -.12, -.11, -.02, \text{ and } +.11 \text{ for the GHQ, DASS-D, DASS-A, and DASS-S, respectively, } p = .37 \text{ or higher}) \). Correlations between Time 1-2 SCS changes and Time 1-3 changes in each outcome measure were then compared with correlations between Time 1-2 AAQ-II changes and Time 1-3 changes in the same outcome\(^1\). No significant differences were found, though the correlation between Time 1-2 changes in SCS and Time 1-3 changes in DASS-S was marginally significantly smaller than the correlation between Time 1-2 AAQ-II changes and Time 1-3 DASS-S changes \( (Z = -1.86, p = .06) \). Correlations between Time 1-2 SCS changes and Time 1-3 outcome changes, controlling for Time 1-2 AAQ-II changes, were then compared with correlations between Time 1-2 AAQ-II changes and Time 1-3 changes in each corresponding outcome, controlling for Time 1-2

\(^1\) Because the AAQ-II and SCS are scored in opposite directions, correlations involving the SCS were multiplied by -1 before they were compared with correlations involving the AAQ-II in these and similar subsequent analyses.
SCS changes. These analyses revealed significant differences in correlations involving all 3 DASS subscales (Z = -2.23, p = .03 for DASS-D; Z = -2.31, p = .02 for DASS-A, and Z = -3.24, p < .01 for DASS-S), and the difference between correlations involving the GHQ was marginally significant (Z = -1.75, p = .08).

The relative value of the two measures (psychological flexibility and self-compassion) as mediators was examined in multiple mediator models. These analyses were identical to the previous mediation tests, but Time 1-2 changes in both the SCS and the AAQ-II were included in the model. These tests examine the contribution of each measure in the context of their shared variance. When p was set to .05 or less, in the multiple mediator models Time 1-2 changes in the AAQ-II significantly mediated all primary Time 1-3 outcomes; Time 1-2 changes in the SCS mediated no outcomes. The same set of comparisons were the tested with p set to .10 or less. Naturally, the AAQ-II continued to significantly mediate all primary Time 1-3 outcomes at the marginally significant level; Time 1-2 changes in the SCS still mediated no outcomes, but it was a marginally significant suppressor of Time 1-3 changes in stress (bootstrapped point estimate = 2.05; SE = 1.51; 95% CI: .27, 5.62) meaning that after accounting for Time 1-2 changes in psychological flexibility, Time 1-2 improvements in self-compassion marginally significantly reduced the impact of treatment on stress outcomes at Time 3.

Self-Compassion and Psychological Flexibility as Outcomes

Where significant mediation was found in the first round of formal mediational analyses, Time 1-2 changes in the outcomes were evaluated as mediators of Time 1-3
changes in process variables so as to provide a more stringent test of the mediational status of the process variables.

Time 1-3 changes in the SCS were significantly mediated \((p < .05)\) by Time 1-2 changes in the GHQ (bootstrapped point estimate = 1.04; SE = .58; 95% CI: .27, 2.80). However, the significantly better impact of the workshop on Time 1-3 changes in SCS, \(t(63) = 3.72; p < .001\), remained significant after adjusting for Time 1-2 GHQ changes, \(t(63) = 2.65; p = .01\) (proportion of effect mediated = 32.1%).

Time 1-3 SCS changes were significantly mediated \((p < .05)\) by Time 1-2 change scores in the DASS-D (bootstrapped point estimate = .77; SE = .38; 95% CI: .20, 1.79). The significant effect of condition on Time 1-3 SCS change scores reported above failed again to become non-significant after adjusting for Time 1-2 changes in DASS-D, \(t(63) = 2.65; p = .01\) (proportion of effect mediated = 23.9%).

Thus, both of the outcomes that were mediated by the SCS, also themselves mediated the SCS results. This does not mean that the SCS was unimportant to outcomes obtained, but it means the present data do not unambiguously provide evidence of the functional importance of self-compassion as a process of change relative to these outcomes.

Time 1-3 AAQ-II change scores were significantly mediated \((p < .05)\) by Time 1-2 changes in the GHQ (bootstrapped point estimate = -2.04; SE = 1.22, 95% CI: -5.65, -.38). Time 1-3 changes in the AAQ-II were significantly better in the active treatment condition, \(t(63) = -3.30; p < .01\), but this effect remained significant after adjusting for Time 1-2 GHQ changes, \(t(63) = -2.31, p = .02\) (proportion of effect mediated = 31.6%).
Thus, for the GHQ the present data do not unambiguously provide evidence of the functional importance of psychological flexibility as a process of change.

Time 1-3 changes in AAQ-II scores were not significantly mediated \((p < .05)\) by Time 1-2 changes in any of the DASS subscales \((p > .10)\). The failure of reverse mediation provides some incremental evidence that changes in psychological flexibility may have been functionally important in the follow up DASS outcomes obtained.

**Comparing Self-Compassion and Psychological Flexibility without Treatment**

The differential ability of the SCS and AAQ-II to mediate outcomes raises the issue of whether the same differential pattern of self-compassion and psychological flexibility as predictors would be seen in the absence of treatment. This issue was examined by comparing correlational analyses involving the AAQ-II and SCS. Because participants were screened for below-average self-compassion scores, the range of the SCS was truncated, which could deflate correlations involving the SCS more than those involving the AAQ-II. This should be considered when interpreting the following correlations involving the SCS, as well as the comparisons of these correlations with those involving the AAQ-II.

As was shown earlier, the SCS correlated significantly with 11 of 13 outcomes variables reported in Table 9 (overall average of \(-.37\), reversing the sign of the PANAS correlation for summary purposes). The AAQ-II did so with 12 of 13 outcome variables (overall average of \(.59\), reversing the sign of the PANAS correlation for summary purposes). The relative strength of the relation of the AAQ-II and SCS to outcomes was examined further by partial correlations between the Time 1 AAQ-II and the 13 outcome
variables at Time 1 controlling for the Time 1 values of the SCS, and the Time 1 SCS and the 13 outcome variables at Time 1 controlling for the Time 1 values of the AAQ-II. These results are shown in Table 14. Controlling for the Time 1 AAQ-II value, the SCS correlated significantly with 4 of the 13 outcomes with 7 of the previously significant correlations now no longer reaching significance and at least two now going in the wrong direction (overall average of -.14, reversing the sign of the PANAS correlation for summary purposes). The AAQ-II still correlated significantly with 12 of 13 outcome variables (overall average of .50, reversing the sign of the PANAS correlation for summary purposes). The number of significant partial correlations with outcomes at baseline is significantly higher for the AAQ-II controlling for the SCS (12 of 13) than for the SCS controlling for the AAQ-II (4 of 13), Fisher’s exact $p = .0036$, two tailed. The partial correlations involving the AAQ-II (controlling for the SCS) were then compared with those involving the SCS (controlling for the AAQ-II) for each of the primary outcome measures (GHQ and the 3 DASS subscales). For the DASS-D and the DASS-A, the correlations involving the AAQ-II were significantly greater than were the correlations involving the SCS ($Z = -2.76, p < .01$ for DASS-D; $Z = -4.17, p < .01$ for DASS-A). Comparisons of correlations involving the other outcome measures were non-significant.

The same partial correlations and follow-up comparisons were repeated at Time 2 only in the control group (to avoid contamination due to the ACT interventions) for primary outcome measures. At Time 2, the AAQ-II correlated with the GHQ, DASS-D, DASS-A, and DASS-S, controlling for SCS, .41, .57, .51, and .39, respectively (all significant at .02 or below); conversely the SCS correlated with these outcomes,
Table 14. *Partial Correlations at Time 1 between the Outcome Measures and the SCS controlling for the AAQ-II, AAQ-II controlling for the SCS.*

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<tr>
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<th>Self-Compassion (SCS) controlling for the AAQ-II</th>
<th>Psychological Flexibility (AAQ-II) controlling for the SCS</th>
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<tr>
<td>Psy. Distress (GHQ)</td>
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<td>.33**</td>
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<tr>
<td>Depression (DASS-D)</td>
<td>-.15</td>
<td>.55**</td>
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<td>Anxiety (DASS-A)</td>
<td>-.07</td>
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<td>Stress (DASS-S)</td>
<td>-.24*</td>
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<td>-.47**</td>
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<td>Positive Affect (PANAS-P)</td>
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<td>Somatization Items of BSI</td>
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<td>Psychoticism Items of BSI</td>
<td>-.02</td>
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Note. * = p < .05 (2-tailed), ** = p < .01 (2-tailed). For all correlations, N = 73.
controlling for the AAQ-II, -.03, .02, -.16, and -.21, respectively, all of which were non-significant. Again, correlations involving the AAQ-II were then compared with those involving the SCS by outcome measure. The correlation between the AAQ-II and DASS-D was significantly greater than that between the SCS and the DASS-D (Z = -2.83, p < .01). For the GHQ and the DASS-A, the correlations involving the AAQ-II were marginally significantly greater than those involving the SCS (Z = -1.72, p = .09 for GHQ; Z = -1.70, p = .09 for DASS-A). Differences between correlations involving the DASS-S were non-significant.

These same analyses were repeated at Time 3 only in the control group (again to avoid contamination due to the ACT interventions). At Time 3, the AAQ-II correlated with the GHQ, DASS-D, DASS-A, and DASS-S, controlling for SCS, .19, .48, .52, and .34, respectively (all significant at .05 or below except for the GHQ which was non-significant); conversely the SCS correlated with these outcomes, controlling for the AAQ-II, -.03, .08, -.03, and -.05, respectively, all of which were non-significant. As in Time 1 and 2, correlations involving the AAQ-II were compared with correlations involving the SCS by outcome measure. For the DASS-D and DASS-A, the correlations involving the AAQ-II were significantly greater than those involving the SCS (Z = -2.59, p = .01 for DASS-D; Z = -2.35, p = .02 for DASS-A). Comparisons of correlations involving the GHQ and DASS-S yielded non-significant results.

These relationships to primary outcomes were then examined longitudinally. Time 1 SCS and AAQ scores were examined for their ability to predict Time 1-2 changes in primary outcomes in the control group only. Time 1-2 changes in the GHQ, DASS-D, DASS-A, and DASS-S, were predicted by Time 1 AAQ-II scores, controlling for Time 1
SCS scores, $r = .16, p = .34$, $r = .35, p = .03$, $r = .29, p = .07$, and $r = .34, p = .04$, respectively. Conversely, these outcomes were predicted by the SCS, controlling for the AAQ-II, $r = .05, p = .77$, $r = .10, p = .57$, $r = .02, p = .93$, and $r = .01, p = .98$, respectively. Thus in control group participants only, better Time 1 psychological flexibility scores predicted positive changes in depression, anxiety, and stress at Time 2, controlling for self-compassion, but self-compassion did not do so, controlling for psychological flexibility. Comparisons of correlations involving the AAQ-II to those involving the SCS were then conducted for each primary outcome measure. For the DASS-D, the correlation involving the AAQ-II was significantly larger than that involving the SCS ($Z = -1.98, p = .048$), however comparisons of correlations involving the other primary outcome measures were non-significant.

Time 2 SCS and AAQ-II scores were then examined as predictors of Time 2-3 changes in primary outcome measures in the control group. None of these correlations were significant for either measure, however, except for better Time 2 self-compassion scores predicting worsening post to follow up changes in stress ($r = .33, p = .05$).

These analyses examine the relationship of these two key processes when they are allowed to compete one against the other, but in the absence of treatment. Overall, examined cross sectionally and longitudinally, the beneficial effects for self-compassion disappear when its overlap with psychological flexibility is factored out; the reverse is not true when self-compassion is factored out of psychological flexibility. The parallel set of findings in mediation of treatment outcomes needs to be considered in that context.
Moderation Analyses

The SLESQ-R was evaluated as a moderator of Time 1-3 changes in the main outcomes: GHQ and the 3 DASS subscales. So that coefficients may be interpretable within the range of the data, both SLESQ-R and condition were mean centered prior to analysis (Hayes, Glynn, & Huge, 2012). Data for both Time 1 and Time 3 could only be collected from 93% of participants (68 of 73), meaning that 7% of Time 1-3 change data were missing. Because listwise deletion and single imputation may bias results in data sets with more than 5% missing data (Graham, 2009; Schafer, 1999), multiple imputation (Rubin, 1987) was used in these analyses. Multiple imputation is a Monte Carlo technique for handling missing data, in which multiple complete datasets are constructed by imputing missing data points with values generated based on individuals’ scores on other variables. Each of the imputed data sets is then analyzed using standard techniques, and pooled estimates and confidence intervals for the coefficients of interest are constructed (Croy & Novins, 2005; Graham, 2009; Schafer, 1999). The statistical package mi from R statistics was used to carry out this procedure (Su, Gelman, Hill, & Yajima, 2011). Using bootstrapping, 30 imputed datasets were generated, and missing data were imputed based on values for all other variables in the dataset. Confidence intervals constructed for each coefficient were used to evaluate statistical significance. Because statistical procedures have not yet been developed to incorporate multiple imputation into follow-up analyses, such as the probing of interactions, these analyses were performed on a non-imputed data set in which missingness was handled through listwise deletion.
**General Psychological Distress.** The SLESQ-R did not significantly moderate the effect of treatment condition on Time 1-3 GHQ change scores (coefficient of interaction term = -.41; SE = 1.12; 95% CI: -2.64, 1.83; 90% CI: -2.28, 1.46).

**Depression.** The SLESQ-R was a significant moderator of the impact of treatment condition on the change in DASS-D scores from Time 1 to Time 3 (coefficient of interaction term = -3.11; SE = 1.55; 95% CI: -6.20, -.02). Follow-up analyses based on a non-imputed dataset revealed that 8.18% of the total variance in DASS-D change scores was uniquely attributable to the interaction \([F(1,64) = 6.18, p = .02]\). Probing the interaction revealed that among those scoring low (25th percentile = -1.81; 0.00 uncentered) on the SLESQ-R, the effect of condition on DASS-D Time 1-3 change scores was non-significant \(p = .46\). However, among those scoring moderate (50th percentile = .19; 2.07 uncentered) or high (75th percentile = 1.19; 3.07 uncentered), DASS-D Time 1-3 change scores for the active treatment group were significantly better than those of the waitlist control (conditional effects of -5.11 and -9.04 respectively, \(p\)s both < .05). Thus, ACT was helpful with depression for the more traumatized participants.

**Anxiety.** The SLESQ-R significantly moderated the relationship between treatment condition and DASS-A Time 1-3 change scores (coefficient of interaction term = -2.63; SE = 1.16; 95% CI: -4.94, -.32). Analyses based on a non-imputed dataset showed that 9.47% of the total variance in DASS-A change scores was uniquely attributable to the interaction \([F(1,64) = 7.55, p < .01]\). Probing the interaction showed that among participants scoring low on the SLESQ-R, there was no significant effect of condition on Time 1-3 DASS-A change scores \(p = .59\). By contrast, among those scoring moderate or high, DASS-A change scores were significantly better in the
active treatment group (conditional effects of -5.09 and -8.40, respectively, ps both < .01).

Thus, ACT was helpful with anxiety for the more traumatized participants.

**Stress.** The SLESQ-R was a marginally significant moderator of the impact of treatment condition on DASS-S Time 1-3 changes (coefficient of interaction term = -2.85; SE = 1.51; 95% CI: -5.86, .016; 90% CI: -5.38, -.33), and 7.16% of the total variance in DASS-S change scores in a non-imputed dataset could be uniquely attributed to the interaction \([F(1, 64) = 5.41, p = .02]\). Probing the interaction showed that among participants scoring low on the SLESQ-R, the effect of condition on DASS-S Time 1-3 changes was not significant \((p = .58)\). However, among those scoring moderate or high, DASS-S changes were significantly better for active treatment participants (conditional effects of -5.16 and -8.75, respectively, ps both < .05). Thus, ACT was helpful with stress for the more traumatized participants.
CHAPTER FOUR: DISCUSSION

The human capacity for language and cognition has made it possible for us to dominate the planet. Through planning, comparing, judging, and evaluating we have been able to develop technology to arrange our environments such that we may live comfortably in almost any location on the globe. However, when verbal evaluative processes are turned toward the self in the form of harsh self-criticism and self-objectification, suffering often ensues. It has been argued here that psychological flexibility represents a way of disentangling ourselves from self-criticisms while avoiding futile attempts to change these thoughts, which may free us to relate to ourselves as feeling human beings and, from that place, to enact kindness toward ourselves. It is further argued that, because psychological flexibility is empirically supported as a process of change and is grounded in a basic science of language and cognition (RFT), it may be a better foundation on which to develop a self-compassion treatment than Neff’s conceptualization, which is based on a spiritual tradition. As a randomized controlled trial of a 6-hour workshop targeting self-compassion through psychological flexibility, this study demonstrated that targeting psychological flexibility may be useful in improving self-compassion and related outcomes. In keeping with a CBS approach, which emphasizes the evaluation of processes of change, psychological flexibility was shown to be more central to improving clinical outcomes than self-compassion was and that self-compassion, as it was described by Neff, may even contain elements that could be harmful.
Baseline Models

Correlations among Outcome Measures

Analyses conducted on outcome measures at Time 1 revealed that, as expected, all measures of negative psychological variables (GHQ, DASS subscales, BSI subscales, and ISS) correlated with each other positively and significantly. Positive affect (PANAS-P) only correlated with general psychological distress (GHQ) and depression (DASS-D) but did so in the expected negative direction. The dearth of significant correlations observed between the PASAS-P and the other outcome variables is not surprising, considering the evidence for discriminant validity between positive and negative affect. Specifically, correlations between the positive and negative affect scales of the PANAS are consistently low ($r$s ranging from -.12 to -.23, indicating that only about 1-5% of the variance of the two scales is shared; Watson, Clark, & Tellegen, 1988). Thus, it may be the case that positive affect is a separate construct from negative affect and other psychological variables in which negative affect is involved, an idea that comports with the correlational results observed here.

Correlations among Process Measures

Among process measures, self-compassion (SCS), self-criticism (DEQ-SC30), psychological flexibility (AAQ-II), self-as-context (SACS), Acting with Awareness (of the FFMQ), and Nonjudging of Experience (also of the FFMQ) all significantly correlated with each other in the expected directions, indicating that these processes are compatible with each other and that working to impact one may positively, or at least not
negatively, impact others. Surprisingly, the Nonreactivity to Inner Experience subscale of the FFMQ was only significantly correlated, albeit in the expected positive direction, with self-compassion and self-as-context. Particularly surprising are the very low correlations between nonreactivity and the other FFMQ subscales, which contradict the positive correlations reported in the FFMQ’s validation study (Baer et al., 2006). It is possible that nonreactivity did not correlate with self-criticism because the DEQ-SC30 assesses the presence of self-critical thoughts and feelings rather than one’s reaction to them. However, the AAQ-II does assess responses to thoughts and feelings, and no significant correlation was observed between this scale and nonreactivity.

**Correlations between Outcome and Process Measures**

Correlations conducted between outcome and process measures revealed a similar pattern. That is, the vast majority of outcome variables correlated significantly with the vast majority of process variables in the expected directions, which is consistent with the idea that the process variables may play important roles in impacting outcomes. Among process variables, Nonreactivity to Inner Experience was a notable exception, correlating significantly only with internalized shame and positive affect. Again, this is puzzling, considering nonreactivity has been shown to predict scores on the BSI (Baer et al., 2006). One possible explanation for the anomalous correlational results involving nonreactivity, both with other process variables and with outcome variables, is that the items may have been difficult for the study participants to understand, thereby reducing the validity of the scale. However, this is unlikely considering that the FFMQ was validated on undergraduate psychology students, the same population used in this study. Among
outcome variables, positive affect (PANAS-P) did not correlate significantly with psychological flexibility (AAQ-II), Acting with Awareness (of the FFMQ) and Nonjudging of Experience (also of the FFMQ). Because the AAQ-II’s items are worded such that they assess the presence of psychological inflexibility, it is possible that its nonsignificant correlation with the PANAS-P was due to the discriminant validity between positive affect and negative psychological constructs. The same may be true for FFMQ Aware and Nonjudge, as these scales are negatively worded as well.

Correlations with Moderator: Stressful Life Events

Correlational analyses between the proposed moderator, stressful life events (SLESQ-R), and outcome and process variables revealed significant positive correlations with psychological distress (GHQ), the 3 DASS subscales (Depression, Anxiety, and Stress), and the following BSI subscales: Somatization, Obsession-Compulsion, Hostility, Paranoid Ideation, and Psychoticism. This pattern is consistent with the idea that the events assessed by the SLESQ-R are indeed stressful and may have negative psychological consequences. The SLESQ-R was not significantly correlated with internalized shame (ISS). Although shame has been shown to be a common response to childhood sexual abuse (Andrews, 1995) and adult sexual assault (Vidal & Petrak, 2007), it may be less common in other types of traumas assessed by the SLESQ-R, and this may be why the observed correlation ($r = .17$) did not reach statistical significance.

In terms of process variables, the SLESQ-R correlated only with psychological flexibility (AAQ-II) and self-criticism (DEQ-SC30) and did so in a positive direction. The correlation with psychological flexibility makes sense, as individuals with trauma
histories may have more memories and associated negative feelings to avoid than those without histories of trauma. Given the conceptual links between psychological flexibility, self-as-context, and mindfulness, as well as the correlations found in this study between the AAQ-II, SACS, and the Aware and Nonjudge FFMQ subscales, it is surprising that these scales did not correlate with the SLESQ-R while the AAQ-II did. The correlation between the SLESQ-R and self-criticism is understandable, given that individuals may blame themselves for traumas they’ve experienced. Considering this, it is surprising that there was no significant negative correlation with self-compassion.

**Efficacy**

The workshop was efficacious overall. Improvements in outcome and process measures from Time 1 to Time 3 were generally greater in the active treatment condition than in waitlist, and effect sizes for differences in improvement from Time 1-3 were generally medium to large. Almost invariably, Time 1-2 improvements that were present in the active treatment condition grew by Time 3.

**Outcome Measures**

Among primary outcome measures, general psychological distress (GHQ) and anxiety (DASS-A) improved significantly more in active treatment than in waitlist (medium effect sizes), and a nonsignificant trend toward a small difference between conditions was observed on Time 1-3 changes in stress (DASS-S). It is possible that this difference did not reach significance because of insufficient power to detect a small
effect. Although Time 1-2 and Time 1-3 improvements in depression (DASS-D) were significant in active treatment (small and medium effects, respectively) but not significant in waitlist, the between-condition difference in Time 1-3 changes did not reach significance. This latter finding may also be due to insufficient power. Further, floor effects may also have prevented the achievement of a larger effect, as Time 1 levels of both stress and depression were in the mild range (Lovibond & Lovibond, 1995).

As with primary outcome measures, results for secondary outcome measures were largely positive. Among the BSI subscales, significantly greater improvements in the active treatment condition were observed for Somatization, Hostility, Paranoid Ideation, and Psychoticism (large between-condition differences in slopes), as well as for Obsession-Compulsion and Interpersonal Sensitivity (medium-sized between-condition differences). Only Phobic Anxiety did not improve significantly more in the active treatment condition. Here again, insufficient power to detect a small effect may be responsible for the lack of significance. Internalized shame (ISS) and positive affect (PANAS-P) also improved more in active treatment than in waitlist, and between-condition differences in slope for both of these variables were medium.

The outcome results as a whole, and in particular the secondary outcome results, may be taken as evidence for the broad range of areas of functioning impacted by ACT and for which self-compassion may be relevant. For several variables, improvements in response to an ACT-based self-compassion intervention make immediate sense. For example, it is not surprising for anxiety and interpersonal sensitivity to decrease upon beginning to pursue personally fulfilling values instead of pursuing positive self-image through the approval of others. As values of self-kindness are developed, one might
predict that internalized shame would decrease and that positive affect would increase. Considering the correlation observed between self-compassion and compassion towards others (Crocker & Canevello, 2008), it makes sense that self-compassion work would result in a decrease in hostility towards others. Although the effects on Paranoid Ideation may be less obviously comprehensible, it may be the case that as individuals improve at self-perspective-taking, they also improve at taking the perspectives of others, thus decreasing paranoia. Or perhaps as they come to treat themselves more kindly, the outside social world seems more kind as well. Examination of the 5 Psychoticism items reveals 2 items reflecting negative self views (feeling one should be punished for one’s sins and feeling as though there is something wrong with one’s mind), 2 items about feeling distant from others, and 1 about one’s thoughts being controlled. Thus, it is possible that, in addition to psychoticism, this scale also reflects a process of self-persecution, which may include feelings of differentness from others. In this sense, improvements on this scale in response to the self-compassion workshop are understandable, given the components on defusion from self-criticisms and self-conceptualizations. The effects on paranoia and psychoticism also make sense in the context of evidence showing ACT’s effectiveness in reducing psychotic symptoms (Gaudiano & Herbert, 2006). With respect to the Obsession-Compulsion items, those assessing checking and indecisiveness reflect an intolerance for error. To the extent that error presented participants difficulty because of its negative implications about their conceptualized selves, this symptom dimension was likely improved through work on self-compassion. This finding also comports with research showing ACT to be effective for obsessive-compulsive disorder (e.g., Twohig et al., 2010). Similarly, the effect on
Somatization may be understood in light of research showing the effects of ACT interventions on physical symptoms, in particular seizures (Lundgren et al., 2006; Lundgren, Dahl, Yardi, & Melin, 2008). Improvements in areas unrelated to self-compassion suggest that even though the workshop employed psychological flexibility to target self-compassion, it likely generalized to other areas.

Process Measures

The primary process measures, i.e., self-compassion (SCS) and psychological flexibility (AAQ-II), both improved more in active treatment than waitlist, and the differences between slopes were large. Thus, the workshop was functionally an ACT-based intervention targeting self-compassion. Self-criticism (DEQ-SC30) exhibited the same pattern of results as the primary process measures, a finding which comports with the effects observed on self-compassion. On self-as-context (SACS), active treatment participants also improved more than waitlist participants, and the difference in slopes between conditions was medium. This finding provides evidence that the self-as-context material in the workshop had its intended function, and the finding is notable in that this is the first study in which this process was measured and shown to be impacted by an ACT intervention. Among the mindfulness (FFMQ) scales, Nonjudging of Experience improved more in the active treatment group, with a medium between-condition difference in slopes. On Acting with Awareness, there was a non-significant trend towards greater improvement in active treatment. Again, the non-significant finding may be due to insufficient power to detect a small effect. Finally, Nonreactivity to Inner Experience showed no difference between slopes. Regarding the 3 FFMQ scales, it is
likely that the only significant effect was on Nonjudging of Experience because this was the only construct that was explicitly targeted in the workshop. That is, while the workshop addressed defusion from self-criticism regarding feelings and thoughts, no exercises or discussions explicitly covered nonreactivity or simple awareness. Thus, the intervention had a sizeable effect on all of the processes it specifically targeted.

**Process Analyses**

Analyses evaluating processes of change consistently revealed psychological flexibility to be more involved in outcomes than self-compassion. In formal mediation analyses, self-compassion (SCS) emerged as a mediator of changes in general psychological distress (GHQ) and depression (DASS-D) but not anxiety (DASS-A) or stress (DASS-S), while psychological flexibility (AAQ-II) mediated all primary outcomes: general psychological distress and the 3 DASS subscales of depression, anxiety, and stress. The AAQ-II also performed better in reverse mediation analyses where Time 1-2 changes in outcomes were evaluated as mediators of Time 1-3 changes in process variables. Specifically, changes in psychological flexibility were only mediated by general psychological distress but not by any of the DASS subscales. However, Time 1-3 changes in self-compassion were mediated by both of the outcomes for which SCS was a mediator: general psychological distress and depression. Findings of reverse mediation call into question the idea that the proposed process variable is indeed a process of change and may indicate instead a reciprocal relationship between the variables. Thus, the results provide fairly strong evidence for psychological flexibility as
a process of change impacting depression, anxiety, and stress. Considering the reverse mediational findings with respect to self-compassion, it is less likely that self-compassion is a process of change but may instead be considered an outcome involved in other outcomes.

In multiple mediation models, which examined the contribution of the SCS and AAQ-II in the context of their shared variance, psychological flexibility mediated all primary outcomes, while self-compassion mediated none. Thus, it is likely that self-compassion by itself was found to mediate general psychological distress and depression outcomes only because of its conceptual overlaps with psychological flexibility. In other words, self-compassion may have little to offer in improving outcomes above and beyond the effects of psychological flexibility.

Other process analyses lent more support to the idea that psychological flexibility is more active as a process of change and that self-compassion may not make a unique contribution. In longitudinal correlational analyses, Time 1-2 changes in psychological flexibility correlated with Time 1-3 changes in all primary outcomes, even after controlling for self-compassion. However, Time 1-2 changes in self-compassion only correlated significantly with Time 1-3 changes in general psychological distress and depression and marginally significantly with Time 1-3 changes in anxiety, and all of these effects disappeared when controlling for psychological flexibility. Correlations between psychological flexibility and depression, anxiety, and stress, controlling for self-compassion, were significantly stronger than correlations between self-compassion and these outcome measures, controlling for psychological flexibility.
Correlational analyses in the absence of treatment also support the uniqueness of psychological flexibility’s impact. At Time 1 the AAQ-II correlated significantly with all of the primary outcomes controlling for the SCS (and for 12 of the 13 overall outcomes), while the SCS only correlated significantly with the GHQ and the DASS-S after controlling for the AAQ-II (and for only 4 of the 13 overall outcomes, a statistically significant difference). Follow-up comparisons of correlations of primary process measures with primary outcome measures revealed that the correlations involving the AAQ-II were significantly larger than those involving the SCS for depression and anxiety. In the control group at Time 2, the AAQ-II correlated significantly with all primary outcomes controlling for the SCS, while the SCS correlated significantly with none after controlling for the AAQ-II. Similar follow-up comparisons showed that correlations involving the AAQ-II were significantly greater than those involving the SCS for depression, and marginally significantly greater for general psychological distress and anxiety. In the control group at Time 3, the AAQ-II correlated with depression, anxiety, and stress (but not GHQ), controlling for the SCS, while the SCS correlated with none of these outcomes, after controlling for the AAQ-II. Comparisons of these correlations by outcome revealed that, for depression and anxiety, correlations involving the AAQ-II were significantly larger than those involving the SCS. In longitudinal analyses in the control group, better Time 1 AAQ-II scores predicted better Time 1-2 changes in the DASS subscales controlling for Time 1 SCS scores. However, Time 1 SCS scores did not significantly predict Time 1-2 changes in any primary outcomes after controlling for Time 1 AAQ-II scores. Follow-up comparisons revealed the AAQ-II to be a significantly better predictor of depression improvements than the
Finally, better Time 2 SCS scores predicted *worsening* stress scores from Time 2 to Time 3.

The above findings provide substantial evidence for the idea that psychological flexibility and self-compassion are overlapping constructs. Further, they indicate that what is unique to psychological flexibility is much more active in improving outcomes than what is unique to self-compassion, and thus psychological flexibility is likely a more useful construct as a process of change. This makes sense, given that psychological flexibility was developed to be a process of change, while self-compassion was not. Moreover, it comports with the body of research in which psychological flexibility has mediated treatment effects.

Two findings actually provide evidence that what is unique to self-compassion could actually be harmful. First, using multiple mediation, Time 1-2 changes in the SCS were found to be a marginally significant *suppressor* of Time 1-3 improvements in stress. This indicates that the part of self-compassion that is not shared with psychological flexibility may have interfered with improvements in stress. Consistent with this finding, within the control condition, better Time 2 SCS scores predicted *worsening* stress scores from Time 2 to Time 3. It is surprising that this would be the case, but it may be possible that the SCS measures, at least in part, a maladaptive control agenda with respect to thoughts and emotions. For example, the item, “When something upsets me I try to keep my emotions in balance,” could be measuring emotional suppression rather than mindfulness, which it is intended to measure. Although this could simply reflect a measurement issue, it is also quite possible that it reflects a lack of theoretical coherence with respect to mindfulness and acceptance. According to Neff (2003a), when one is
being mindful, one “must not avoid or repress their painful feelings” (p. 224). However, if one were to try to keep one’s emotions in balance, one would have to employ avoidance, repression, or another emotional control tactic.

The apparent superiority of psychological flexibility over self-compassion as a process of change could be questioned, however, on the grounds that the intervention used here was based on an ACT conceptualization of self-compassion rather than on a conceptualization informed by Neff’s theory. That is, perhaps the SCS would have emerged as a better process measure if the intervention were based on Neff’s theory, from which the scale was derived. Further research should indeed examine whether the SCS or the AAQ-II is a better measure of processes of change in treatments based explicitly on Neff’s theory, which has not yet been tested, but the argument (and such a finding) would only shift the problem from the theory to the measurement of its concepts. The SCS purports to measure Neff’s theoretical concept, not a portion of that concept that is applicable only to methods drawn from a specific tradition. The intervention in the present study produced larger between condition Time 1-3 improvements on the SCS than on the AAQ-II (effect size of 1.06 for the SCS and .84 for the AAQ-II). The effect size of this brief intervention on the SCS was somewhat smaller than the impact produced by a much longer intervention from within the self-compassion tradition (effect size = 1.67, Neff & Germer, 2013) but it was still large. If treatments that alter the SCS are not altering actual changes in self-compassion if they are conducted from different traditions, then it needs to be specified how self-compassion can be measured in a broader way.
Moderation

Stressful life events (SLESQ-R) significantly moderated depression (DASS-D) and anxiety (DASS-A) outcomes and marginally significantly moderated stress (DASS-S) outcomes such that the workshop had a greater effect on these variables among those endorsing more types of stressful life events. However, changes in general psychological distress (GHQ) were not moderated by the SLESQ-R. This inconsistency is puzzling, considering that depression, anxiety, and stress, collectively, are close to the construct of general psychological distress. Still, the DASS findings show that the workshop was more efficacious among those who were in greater need of it, an interpretation that comports with the results of a study comparing an acceptance-based protocol for coping with food cravings to a control-based protocol (Forman, Hoffman, McGrath, Herbert, Brandsma, & Lowe, 2007). In this study, the acceptance-based protocol produced better outcomes among participants reporting greater sensitivity to the presence of food in terms of behavior, thoughts, and feelings. Other research has shown ACT to be more effective among those high in experiential avoidance (e.g., Masuda et al., 2007; Muto et al., 2011). Given the correlation between stressful life events and psychological flexibility in this study, it may be that the workshop was more effective among the more traumatized participants at least partly because they were higher in experiential avoidance.
Limitations

The sample used in this study could limit its generalizability. First, as undergraduates, the participants were younger and more homogenous in age than the general adult population, and thus they may be more open to new ideas about how to relate to themselves than older populations. Second, as college students in psychology classes, they may be higher in intellectual ability, socioeconomic status, and psychological mindedness than the general population. It could be argued that some of the concepts contained in the protocol could be too subtle and sophisticated for individuals of lower ability levels. However, evidence against the seriousness of this concern is provided by reports of the successful application of ACT in intellectually disabled (Brown & Hooper, 2009; Pankey & Hayes, 2004) and brain injured individuals (Sylvester, 2011). Thus it is likely that, with some modifications, the protocol tested here may be useful for individuals with intellectual limitations. Third, although the sample was screened for low self-compassion and high psychological distress, it was not treatment-seeking. Therefore, caution may need to be used in generalizing these findings to a clinical population because, for example, such individuals may be even more distressed than the participants in this study. However, evidence showing ACT to work better among more distressed individuals (e.g., Muto et al., 2011) indicates that this may not be a serious concern. Lastly, the participants in this study were compensated for attending the workshop with course credit or entry into a drawing for a gift card, and therefore it is uncertain whether individuals would be willing to participate in the intervention simply for what it may offer them psychologically. However, the pilot data,
which were collected on uncompensated treatment-seeking individuals, provide some preliminary evidence for the feasibility and effectiveness of this type of intervention in a clinical population. In addition, a weekly self-compassion group is currently running at UNR Counseling Services and continues to receive referrals of interested clients.

The use of a control group guards against wrongly attributing changes to the intervention that are due to regression to the mean or to factors in the participants’ environments unrelated to treatment, for example changes in academic demands over the course of the semester. However, the use of a waitlist control group does not allow the discrimination of placebo or demand effects from treatment effects. That is, active treatment participants may have reported better outcomes out of (1) a belief that the workshop should help them, or (2) a desire to please the investigator by reporting positive outcomes. Neither of these processes would be operating in the waitlist group.

In terms of the mediational analyses, one difficulty in drawing conclusions about the status of psychological flexibility as a process of change stems from the fact that, with the exception of stress (DASS-S), changes in AAQ-II did not precede changes in outcomes but rather occurred simultaneously with them. Because this study did include a post-intervention assessment and a follow-up assessment, temporal precedence in process variable changes could have been detected. However, the failure to detect such precedence here may be due to a short lag time between improvements in process and outcomes, instead of the absence of temporal precedence.

One other concern regarding process analyses is that, because the sample was screened for below-average SCS scores, the range for this measure was truncated, thus possibly deflating correlations between the SCS and other variables. Because the sample
was not screened for low psychological flexibility, it is possible that the AAQ-II emerged as a better predictor of outcomes for this reason, rather than for its greater centrality as a process of change. However, this concern is mitigated by the fact that, at Time 1, the means for both the SCS and the AAQ-II were about equally worse than the samples on which they were validated (.98 standard deviations for the AAQ-II and 1.08 standard deviations for the SCS). In addition, the restriction of range of the SCS due to screening for low self-compassion would not deflate correlations involving change scores in this variable. In fact, if the SCS were truncated to a larger extent than the AAQ-II, regression to the mean would inflate change scores on this variable, also likely inflating their range and correlations involving them. Even with this possibility, the AAQ-II emerged in these analyses as a better process of change.

**Experiment-wise Alpha**

Although mediational and moderation analyses were only conducted on key variables of theoretical significance, a considerable number analyses were conducted in this study, which increases the possibility of detecting an effect that was not present (Type I error). One common way to reduce the possibility of Type I error is to adopt a lower alpha, which is a problematic approach in that it wrongly assumes that an individual finding means something different depending on whether it is reported in isolation or along with other findings (O’Keefe, 2003; Perneger, 1998). If a particular alpha is reasonable for one comparison in isolation, there is no reason why it should be changed because other comparisons have been conducted. Furthermore, grouping tests
by experiment is arguably an arbitrary way to localize alpha, as they could also be grouped by journal issue, researcher’s career, topic area, and so on. The consequence of lowering alpha based on this logic is an inappropriate increase in the possibility of failing to detect effects that are actually present (Type II error). Because power in this study was limited due to small sample size and unequal group sizes, adopting a more conservative alpha would be unwise.

**Conclusions**

This study showed that a workshop targeting self-compassion was efficacious in improving outcomes of general psychological distress, anxiety, somatization, obsessive-compulsive traits, interpersonal sensitivity, hostility, paranoid ideation, psychoticism, internalized shame, and positive affect. Participants with greater trauma histories benefitted more from the intervention in terms of depression, anxiety, and stress. The intervention also had a positive effect on the following process variables: self-compassion, psychological flexibility, self-criticism, self-as-context, and nonjudging of experience. A series of process analyses consistently provided greater evidence for the superiority of psychological flexibility over self-compassion, as conceptualized by Neff, as a process of positive change in outcomes. More specifically, these analyses showed that psychological flexibility had potency as a process of change above and beyond the contribution self-compassion. However, self-compassion showed no such unique potency and even showed evidence of being uniquely active in suppressing improvements in stress. Thus, self-compassion and psychological flexibility seem to be overlapping
constructs, each of which has unique parts. The data here suggest that the common components are salutary, as are psychological flexibility’s unique parts, and that self-compassion’s unique parts (e.g., subtle messages of emotional and/or cognitive control) may be harmful. Thus, the ACT-based conceptualization of self-compassion explicated here seems to have more clinical utility.

In interpreting the construct of self-compassion through the lens of the psychological flexibility model and proposing a new account using core ACT processes, this project explored the overlaps and distinctions between psychological flexibility and self-compassion, as Neff has conceptualized it. The claim was made that the ACT account had greater potential to inform broadly applicable, effective treatment because it is based on psychological flexibility, a broadly applicable process of change grounded in basic science. The outcome analyses in this study have borne out the prediction that an intervention based on this account can produce improvements across a wide range of outcomes. In showing psychological flexibility to be more central to these improvements than Neff’s conceptualization of self-compassion, the data provide evidence for the claim that a method of intervention development informed by CBS may be more profitable than basing interventions on spiritual traditions or common sense.

**Future Directions**

Arguably, the most important findings in this study were the process analyses, as they provided information as to which constructs were most active and should be targeted in future interventions. However, because the intervention targeted several processes
using many different technologies, and because the AAQ-II measures several facets of psychological flexibility, it is difficult to know which components of the intervention impacted which processes and were most beneficial. One way to examine processes of change with greater precision is to use laboratory analog studies to evaluate brief interventions that specifically target basic processes of interest. Although self-perspective-taking was theorized to be an important process in this intervention, it was not directly examined in this study. In order to evaluate the importance of this process, the deictic framing task that has been shown to improve empathy (Riaño, 2008) may be modified to target self-perspective-taking and may be tested in terms of its impact on outcomes such as self-kindness and mood. If improvements are observed, such a protocol may be integrated into larger therapeutic packages, which may themselves be tested to evaluate the utility of this technology in a more clinical context.

Considering that the intervention tested here targeted self-compassion through psychological flexibility but improved a variety of outcomes that were not directly addressed, the clinical areas in which this technology could be useful are many. For example, the intervention’s positive effects on hostility indicate that self-compassion work could be included in an ACT protocol for anger management. In such a protocol, defusion could be applied to self-criticisms about feelings of anger, and compassionate acceptance could be applied to the feelings themselves. Self-perspective taking could facilitate compassionate acceptance of feelings and self-forgiveness for past misbehavior. Perspective-taking of others may be easily integrated here and may reduce aggressiveness. Given the positive results for paranoid ideation and psychoticism, self-compassion work may also be included in ACT protocols addressing psychotic disorders.
Although this work may be relevant for a variety of ways in which these clients become frustrated with or critical of themselves, it may be particularly useful in reducing the self-stigma they experience. Indeed, the approach to self-compassion tested here may be useful in treating any issue for which individuals stigmatize themselves, and its proliferation into these areas could be an important step in further developing the existing ACT work in the area of self-stigma.

In light of the process findings in this study, all of these applications should avoid subtle messages of cognitive or emotional control in favor of the deep present-moment acceptance and defusion contained in the psychological flexibility model. For example, self-compassion work should not be aimed at reducing the frequency of self-criticisms and when self-critical repertoires emerge in therapeutic interactions, therapists should not ally with clients in their struggle with them. Rather, they should help them open up to making room for these thoughts without becoming entangled with them. In addition, self-kindness work should not be prescriptive in that the question as to whether clients care about treating themselves well should be an open one so as to avoid counterproductive attempts at engendering feelings that don’t happen to be there. Clinicians should bear in mind that, although experiential avoidance may seem on first blush to be compassionate and self-compassionate, deep compassion actually involves meeting ourselves exactly where we are, with love.
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APPENDIX A: MEASURES
GHQ

We would like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer ALL questions by circling the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

Have you recently:

1. been able to concentrate on whatever you’re doing?
   - 4: Better than usual
   - 3: Same as usual
   - 2: Less than usual
   - 1: Much less than usual

2. lost much sleep over worry?
   - 4: Not at all
   - 3: No more than usual
   - 2: Rather more than usual
   - 1: Much more than usual

3. felt that you are playing a useful part in things?
   - 4: More so than usual
   - 3: Same as usual
   - 2: Less useful than usual
   - 1: Much less useful

4. felt capable of making decisions about things?
   - 4: More so than usual
   - 3: Same as usual
   - 2: Less so than usual
   - 1: Much less capable

5. felt constantly under strain?
   - 4: Not at all
   - 3: No more than usual
   - 2: Rather more than usual
   - 1: Much more than usual

6. felt you couldn’t overcome your difficulties?
   - 4: Not at all
   - 3: No more than usual
   - 2: Rather more than usual
   - 1: Much more than usual
(GHQ Continued)

Have you recently:

7. been able to enjoy your normal day-to-day activities?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
</tbody>
</table>

8. been able to face up to your problems?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
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<th>1</th>
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<tbody>
<tr>
<td></td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less able than usual</td>
<td>Much less able</td>
</tr>
</tbody>
</table>

9. been feeling unhappy and depressed?

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<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
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</table>

10. been losing confidence in yourself?

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<thead>
<tr>
<th></th>
<th>4</th>
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<th>1</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
</tbody>
</table>

11. been thinking of yourself as a worthless person?

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<thead>
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<th></th>
<th>4</th>
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<th>1</th>
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<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
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12. been feeling reasonably happy, all things considered?

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<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td></td>
<td>More so than usual</td>
<td>About same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
</tbody>
</table>
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:*

<p>| | | | | |</p>
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<tr>
<th></th>
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<tbody>
<tr>
<td>0</td>
<td>Did not apply to me at all</td>
<td>1</td>
<td>Applied to me to some degree, or some of the time</td>
<td>2</td>
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</tbody>
</table>

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<tr>
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<tbody>
<tr>
<td>1</td>
<td>I found it hard to wind down</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>I was aware of dryness of my mouth</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>I couldn’t seem to experience any positive feeling at all</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>I found it difficult to work up the initiative to do things</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>I tended to over-react to situations</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>I experienced trembling (eg, in the hands)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>I felt that I was using a lot of nervous energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>I was worried about situations in which I might panic and make a fool of myself</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>I felt that I had nothing to look forward to</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>I found myself getting agitated</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>I found it difficult to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>I felt down-hearted and blue</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>I was intolerant of anything that kept me from getting on with what I was doing</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>I felt I was close to panic</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn’t worth much as a person</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Below is a list of problems people sometimes have. Please read each one carefully. Using the numbers below, please indicate HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS INCLUDING TODAY.

0 = Not at all   1 = A little bit   2 = Moderately   3 = Quite a bit   4 = Extremely

DURING THE PAST 7 DAYS, how much were you distressed by:

___ 1. Faintness or dizziness
___ 2. The idea that someone else can control your thoughts
___ 3. Feeling others are to blame for most of your troubles
___ 4. Trouble remembering things
___ 5. Feeling easily annoyed or irritated
___ 6. Pains in the heart or chest
___ 7. Feeling afraid in open spaces
___ 8. Feeling that most people cannot be trusted
___ 9. Poor appetite
___ 10. Temper outbursts that you could not control
___ 11. Feeling lonely even when you are with people
___ 12. Feeling blocked in getting things done
___ 13. Your feelings being easily hurt
___ 14. Feeling that people are unfriendly or dislike you
___ 15. Feeling inferior to others
___ 16. Nausea or upset stomach
___ 17. Feeling that you are watched or talked about by others
DURING THE PAST 7 DAYS, how much were you distressed by:

___ 18. Trouble falling asleep
___ 19. Having to check and double check what you do
___ 20. Difficulty making decisions
___ 21. Feeling afraid to travel on buses, subways, or trains
___ 22. Trouble getting your breath
___ 23. Hot or cold spells
___ 24. Having to avoid certain things, places, or activities because they frighten you
___ 25. Your mind going blank
___ 26. Numbness or tingling in parts of your body
___ 27. The idea that you should be punished for your sins
___ 28. Trouble concentrating
___ 29. Feeling weak in parts of your body
___ 30. Thoughts of death or dying
___ 31. Having urges to beat, injure, or harm someone
___ 32. Having urges to break or smash things
___ 33. Feeling very self-conscious with others
___ 34. Feeling uneasy in crowds
___ 35. Never feeling close to another person
___ 36. Getting into frequent arguments
___ 37. Feeling nervous when you are left alone
DURING THE PAST 7 DAYS, how much were you distressed by:

___ 38. Others not giving you proper credit for your achievements

___ 39. Feeling that people will take advantage of you if you let them

___ 40. Feeling of guilt

___ 41. The idea that something is wrong with your mind
ISS

Below is a list of statements describing feelings or experiences that you may have from time to time or may be familiar to you. Most of these statements describe feelings and experiences that are generally painful or negative in some way. Try to be as honest as you can in responding.

Read each statement carefully and indicate the frequency with which you find yourself feeling or experiencing what is described in the statement.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I feel like I am never quite good enough.
2. I feel somehow left out.
3. I think that people look down on me.
4. I scold myself and put myself down.
5. I feel insecure about others’ opinions of me.
6. Compared to other people, I feel like I somehow never measure up.
7. I see myself as being very small and insignificant.
8. I feel intensely inadequate and full of self-doubt.
9. I feel as if I am somehow defective as a person, like there is something basically wrong with me.
10. When I compare myself to others, I am just not as important.
11. I have an overpowering dread that my faults will be revealed in front of others.
12. I see myself striving for perfection only to continually fall short.
13. I think others are able to see my defects.
14. I could beat myself over the head with a club when I make a mistake.
15. I would like to shrink away when I make a mistake.
16. I replay painful events over and over in my mind until I am overwhelmed.
17. At times I feel like I will break into a thousand pieces.
18. I feel as if I have lost control over my body functions and my feelings.
19. Sometimes I feel no bigger than a pea.
20. At times I feel so exposed that I wish the earth would open up and swallow me.
21. I have this painful gap within me that I have not been able to fill.
22. I feel empty and unfulfilled.
23. My loneliness is more like emptiness.
24. I feel like there is something missing.
PANAS-P

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to the word. Indicate to what extent you have felt this way in the past week.

1
very slightly

2
a little

3
moderately

4
quite a bit

5
extremely
or not at all

_____ interested

_____ alert

_____ excited

_____ inspired

_____ strong

_____ determined

_____ attentive

_____ enthusiastic

_____ active

_____ proud
SCS

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th>Almost never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Almost always</th>
</tr>
</thead>
</table>

____ 1. I’m disapproving and judgmental about my own flaws and inadequacies.

____ 2. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.

____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

____ 5. I try to be loving towards myself when I’m feeling emotional pain.

____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

____ 7. When I’m down and out, I remind myself that there are lots of other people in the world feeling like I am.

____ 8. When times are really difficult, I tend to be tough on myself.

____ 9. When something upsets me I try to keep my emotions in balance.

____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

____ 11. I’m intolerant and impatient towards those aspects of my personality I don’t like.

____ 12. When I’m going through a very hard time, I give myself the caring and tenderness I need.

____ 13. When I’m feeling down, I tend to feel like most other people are probably happier than I am.

____ 14. When something painful happens I try to take a balanced view of the situation.
<table>
<thead>
<tr>
<th></th>
<th>Almost never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>I try to see my failings as part of the human condition.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>When I see aspects of myself that I don’t like, I get down on myself.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>When I fail at something important to me I try to keep things in perspective.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>When I’m really struggling, I tend to feel like other people must be having an easier time of it.</td>
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<tr>
<td>19</td>
<td>I’m kind to myself when I’m experiencing suffering.</td>
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<td>20</td>
<td>When something upsets me I get carried away with my feelings.</td>
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<tr>
<td>21</td>
<td>I can be a bit cold-hearted towards myself when I’m experiencing suffering.</td>
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<tr>
<td>22</td>
<td>When I’m feeling down I try to approach my feelings with curiosity and openness.</td>
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<tr>
<td>23</td>
<td>I’m tolerant of my own flaws and inadequacies.</td>
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<tr>
<td>24</td>
<td>When something painful happens I tend to blow the incident out of proportion.</td>
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<tr>
<td>25</td>
<td>When I fail at something that’s important to me, I tend to feel alone in my failure.</td>
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<tr>
<td>26</td>
<td>I try to be understanding and patient towards those aspects of my personality I don’t like.</td>
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## AAQ-II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

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<tr>
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<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>never true</td>
<td>very seldom true</td>
<td>seldom true</td>
<td>sometimes true</td>
<td>frequently true</td>
<td>almost always true</td>
<td>always true</td>
<td></td>
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</tbody>
</table>

1. My painful experiences and memories make it difficult for me to live a life that I would value. 1 2 3 4 5 6 7

2. I'm afraid of my feelings. 1 2 3 4 5 6 7

3. I worry about not being able to control my worries and feelings. 1 2 3 4 5 6 7

4. My painful memories prevent me from having a fulfilling life. 1 2 3 4 5 6 7

5. Emotions cause problems in my life. 1 2 3 4 5 6 7

6. It seems like most people are handling their lives better than I am. 1 2 3 4 5 6 7

7. Worries get in the way of my success. 1 2 3 4 5 6 7
Listed below are a number of statements concerning personal characteristics and traits. Read each item and use the following 1-7 scale to rate how much you agree or disagree with it. If you strongly agree, write 7; if you strongly disagree, circle 1; The midpoint, if you are neutral or undecided, is 4.

<table>
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<tr>
<th>Strongly</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly</th>
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<tbody>
<tr>
<td>Agree</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Disagree</td>
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1. I tend to be satisfied with my current plans and goals, rather than striving for higher goals.

2. When I am closely involved with someone, I never feel jealous.

3. I often find that I don’t live up to my own standards or ideals.

4. If I fail to live up to expectations, I feel unworthy.

5. Many times I feel helpless.

6. There is a considerable difference between how I am now and how I would like to be.

7. I enjoy sharp competition with others.

8. There are times when I feel “empty” inside.

9. I tend not to be satisfied with what I have.

10. I would feel like I’d be losing an important part of myself if I lost a very close friend.

11. People will accept me no matter how many mistakes I have made.

12. I am not very concerned with how other people respond to me.

13. Often, I feel I have disappointed others.

14. If someone makes me angry, I let him (her) know how I feel.

15. I constantly try, and very often go out of my way, to please or help people I am close to.

16. I never really feel secure in a close relationship.

17. The way I feel about myself frequently varies: there are times when I feel extremely good about myself and other times when I see only the bad in me and feel like a total failure.
18. Even if the person who is closest to me were to leave, I could still “go it alone.”

19. One must continually work to gain love from another person: that is, love has to be earned.

20. I often feel guilty.

21. I think of myself as a very complex person, one who has “many sides.”

22. I can easily put my own feelings and problems aside, and devote my complete attention to the feelings and problems of someone else.

23. I have a difficult time accepting weaknesses in myself.

24. In my relationships with others, I am very concerned about what they can give to me.

25. Very frequently, my feelings toward someone close to me vary: there are times when I feel completely angry and other times when I feel all-loving towards that person.

26. I grew up in an extremely close family.

27. I am very satisfied with myself and my accomplishments.

28. I tend to be very critical of myself.

29. Being alone doesn’t bother me at all.

30. I very frequently compare myself to standards or goals.
**FFMQ**

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

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<tbody>
<tr>
<td></td>
<td>never or very rarely true</td>
<td>rarely true</td>
<td>Sometimes true</td>
<td>often true</td>
<td>very often or always true</td>
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</tbody>
</table>

1. I criticize myself for having irrational or inappropriate emotions.  
2. I perceive my feelings and emotions without having to react to them.  
3. When I do things, my mind wanders off and I’m easily distracted.  
4. I don’t pay attention to what I’m doing because I’m daydreaming, worrying, or otherwise distracted.  
5. I watch my feelings without getting lost in them.  
6. I tell myself I shouldn’t be feeling the way I’m feeling.  
7. I am easily distracted.  
8. I believe some of my thoughts are abnormal or bad and I shouldn’t think that way.  
9. I make judgments about whether my thoughts are good or bad.  
10. I find it difficult to stay focused on what’s happening in the present.  
11. When I have distressing thoughts or images, I “step back” and am aware of the thought or image without getting taken over by it.  
12. In difficult situations, I can pause without immediately reacting.  
13. It seems I am “running on automatic” without much awareness of what I’m doing.  
14. When I have distressing thoughts or images, I feel calm soon after.  
15. I tell myself that I shouldn’t be thinking the way I’m thinking.
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<td></td>
<td>never or very rarely true</td>
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<td>Sometimes true</td>
<td>often true</td>
<td>very often or always true</td>
</tr>
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</table>

_____ 16. I rush through activities without being really attentive to them.

_____ 17. When I have distressing thoughts or images I am able just to notice them without reacting.

_____ 18. I think some of my emotions are bad or inappropriate and I shouldn’t feel them.

_____ 19. When I have distressing thoughts or images, I just notice them and let them go.

_____ 20. I do jobs or tasks automatically without being aware of what I’m doing.

_____ 21. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 22. I find myself doing things without paying attention.

_____ 23. I disapprove of myself when I have irrational ideas.
Below you will find a list of statements. Please rate how much you agree with each statement by circling a number next to it. Use the scale below to make your choice.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>strongly disagree</strong></td>
<td><strong>disagree</strong></td>
<td>slightly disagree</td>
<td>neither agree nor disagree</td>
<td>slightly agree</td>
<td>agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

1. When I am upset, I am able to find a place of calm within myself.  
   ![1 2 3 4 5 6 7]

2. I have a perspective on life that allows me to deal with life’s disappointments without getting overwhelmed by them.  
   ![1 2 3 4 5 6 7]

3. I lose my sense of stability as my emotions change.  
   ![1 2 3 4 5 6 7]

4. Despite the many changes in my life, there is a basic part of who I am that remains unchanged.  
   ![1 2 3 4 5 6 7]

5. As I look back upon my life so far, I have a sense that part of me has been there for all of it.  
   ![1 2 3 4 5 6 7]

6. Regardless of the different roles I’ve had in life, I have a continuous sense of who I am.  
   ![1 2 3 4 5 6 7]

7. My thoughts and feelings define who I am.  
   ![1 2 3 4 5 6 7]

8. I allow my emotions to come and go without struggling with them.  
   ![1 2 3 4 5 6 7]

9. I have experienced moments in which I feel connected to a perspective that goes beyond what I am thinking and feeling.  
   ![1 2 3 4 5 6 7]

10. My sense of self is made of more than my roles, emotions, and thoughts.  
    ![1 2 3 4 5 6 7]

11. I am a very different person depending upon my mood and frame of mind.  
    ![1 2 3 4 5 6 7]

12. I am able to notice my changing thoughts without getting caught up in them.  
    ![1 2 3 4 5 6 7]
STRESSFUL LIFE EVENTS SCREENING QUESTIONNAIRE - REVISED

The items listed below refer to events that may have taken place at any point in your entire life, including early childhood.

1. Have you ever had a life-threatening illness?
   ___ yes   ___ no

2. Were you ever in a life-threatening accident?
   ___ yes   ___ no

3. Was physical force or a weapon ever used against you in a robbery or mugging?
   ___ yes   ___ no

4. Has an immediate family member, romantic partner, or VERY CLOSE friend died because of accident, homicide, or suicide?
   ___ yes   ___ no

5. At any time, has anyone (parent, other family member, romantic partner, stranger or someone else) ever PHYSICALLY FORCED you to have intercourse, or to have oral or anal sex against your wishes, or when you were helpless, such as being asleep or intoxicated?
   ___ yes   ___ no

6. Other than experiences mentioned in earlier questions, has anyone ever touched private parts of your body, made you touch their body, or tried to make you have sex against your wishes?
   ___ yes   ___ no

7. When you were a child, did a parent, caregiver, or other person ever slap you repeatedly, beat you, or otherwise attack or harm you?
   ___ yes   ___ no

8. As an adult, have you ever been kicked, beaten, slapped around or otherwise physically harmed by a romantic partner, date, family member, stranger, or someone else?
   ___ yes   ___ no
9. Has a parent, romantic partner, or family member repeatedly ridiculed you, put you down, ignored you, or told you were no good?
   ____ yes  ____ no

10. Other than the experiences already covered, has anyone ever THREATENED you with a weapon like a knife or gun?
    ____ yes  ____ no

11. Have you ever been present when another person was killed? Seriously injured? Sexually or physically assaulted?
    ____ yes  ____ no

12. Have you ever been in any other situation where you were seriously injured or your life was in danger (e.g., involved in military combat or living in a war zone)?
    ____ yes  ____ no

13. Have you ever been in any other situation that was extremely frightening or horrifying, or one in which you felt extremely helpless, that you haven't reported?
    ____ yes  ____ no
APPENDIX B: WORKSHOP PROTOCOL

Acceptance and Commitment Therapy for Self-Compassion Workshop Manual

James Yadavaia, M.A.
Lindsay Fletcher, M.A.
Jason Lillis, Ph.D.
Steven C. Hayes, Ph.D.

University of Nevada, Reno
Introduction

This protocol is a 6-hour workshop that aims to increase self-compassion using the principles of Acceptance and Commitment Therapy. The protocol specifically targets defusion from self-criticism, work on self, and values, as these processes seem to be key in treating oneself less harshly and more kindly. These processes are instigated by teaching mindfulness skills that promote a change in one’s relationship to self-criticisms and self-conceptualizations and that foster an experience of the self as an experiencing being (rather than an object) and as stable observer of failures and successes. Values clarification allows individual participants to connect with what is deeply important to them in life.

This is a flexible protocol. This means that modules can be presented out of sequence if later material becomes relevant earlier in the workshop. In addition, examples of principles can be added to illustrate the principle of any ACT idea or module. However, exercises may not be added, and principles not covered in this protocol may not be added.

Each mini-module is organized by a theme or an ACT principle. The bullet points are meant to orient the facilitators to key material that should be covered in some way during the module.

This protocol is based loosely on the manual by Lindsay Fletcher, Jason Lillis, and Steven Hayes called “Acceptance and Commitment Therapy for Physical Activity Workshop Manual.” It has been adapted to address self-compassion.

Throughout the protocol, exercises from the following ACT books are used:


Page numbers are noted and source origin can be determined by the following key:

“GOOYM”= Get out of your mind and into your life (2005)
“ACT”= Acceptance and Commitment Therapy (1999)
“Learning ACT”
“Happiness Trap”
I. Setting the Context of the Workshop (10:30-11:00)

A. Pass out pens and nametags

B. Introductions (participants first, then leaders): name, tell us about yourself briefly

C. Informed Consent
   1. [Jamie] This is your time; we invite you to make a difference. This is about your life, creating one where you’re more at peace with yourself and one that has more meaning and vitality.
   2. [Tami] Creating a safe place for people to make this whatever they want to. Confidentiality is VERY important; your privacy will be protected.
      Stay in room; stay the whole time.
   3. [Jamie] Highly experiential; Challenging and unusual; Confusion is likely. This is not intuitive.
      Predictions:
      1. Some of this will connect with you.
      2. Some if it won’t.
      If it doesn’t, we ask you to step into that, stick with it, and see if there is something important there. Approach it with curiosity if it’s not working.
   4. [Tami] If we see you working on something, we’ll ask for permission to push you a bit.
      Push yourself, but do only what you feel ready to do; It’s your choice, you set limits.
      Everything you want to say in here, say… Everything you don’t want to say in here, say… (you’ve probably hit something important)
   5. [Jamie] No rescuing, can’t trust that it’s not done to: “Stop feeling what you’re feeling b/c I don’t want to feel what I’m feeling” or “You’re too damaged”

II. [Tami] Self-Compassion Stats (11:00-11:05)

A. People high in self-compassion experience less:
   Depression
   Anxiety
   Worry
   Emotional Eating
   Stress
   Self-centeredness

B. They also experience more
   Well-being
Happiness
Meaning in what they do
Optimism
Wisdom
Curiosity
Personal initiative

But—easier said than done. We’ll talk about and practice some ways of being kinder to yourself today.

III. [Jamie] Values: [Funeral Exercise] (ACT p. 216) & Discussion/Processing (11:05-11:35)

Discussion point: Did caring for yourself come up at all as a value? If no, how do you feel about that?

IV. Creative Hopelessness / Defusion (11:35-11:55)

A. Discussion of costs/effectiveness
   1. [Tami] Let’s first talk about why we criticize ourselves in the first place and what the effects are.
      a. Self-criticism/beating oneself up as a motivator
         -Discuss paradoxical effects of this
      b. Working to be better, look good, or be perfect
         -Tyranny of self-improvement: Brainstorm things that society/media tells us we need to fix about ourselves before we can regard ourselves as okay.
            -Appearance (weight, body shape, skin)
            -Achievement (grades, sports, activities, etc.)
            -Personality (nicer, more positive, more friendly)
            -Can you be perfect?
            -Does it make your life better, or is it just exhausting?
      c. Does anyone criticize themselves for feeling a certain way?
         -“I shouldn’t be afraid of this.”
         -“I should be over this by now.”
         -“I shouldn’t get this upset.”
         -“I shouldn’t feel this way because it doesn’t make sense.”
   2. [Jamie] Can we actually change our feelings by telling ourselves that we’re feeling the wrong thing?
      Trying not to be sad increases sadness because you will feel sad at some point (it’s a normal human emotion), and you’ve failed at something.
      Telling yourself to calm down when you’re angry actually makes you more angry.
      [Polygraph Metaphor] (ACT p. 123): Telling yourself not to feel anxious actually can make you more anxious.
B. [Tami] Normalizing Self-Critical Thoughts

1. Where do these thoughts come from?

*Exercise: What are numbers?* (ACT p. 126)

Take-home: the things that have been put in our head might not be there because they’re important or true.

- Maybe as kids (or even now) we bought things people told us because it *seemed like they knew* what they were talking about.
  
  *E.g., You should never let anyone down, or people won’t like you.*

- Maybe it seemed like these people would *reject* us if we didn’t buy into and follow what they were saying.
  
  *E.g., Big girls don’t cry. Boys who cry are sissies.*

- Or maybe it seemed like others would be easier on us if we blame ourselves.
  
  *E.g., It’s not you--it’s me. I’m the one with the problem.*

- In order for this to be convincing, we have to believe it, at least a little, while we’re saying it.

- Or maybe you just saw it on a t-shirt somewhere
  
  *E.g., Second place is the first loser; No Fear!.*

- More Examples

  *You should put your all into everything you do.*
  
  *You should always be strong and not show weakness.*
  
  *Your best isn’t good enough.*

**Point is:** *It may be the case that this stuff isn’t in your head because it’s true or works—maybe it’s in there because you just happened to pick it up at some point, for no really good reason . . . like 1-2-3.*

Sort of like it just gets programmed in:

*2-Computer Metaphor* (ACT p. 144)

Mary had a little…, Blondes have more…, There’s no place like…

*Do with them: Notice what pops up in your head -OR- write on notecards:*

  People think that I’m…
  
  The best thing about me is that I’m…
  
  I wish I was…
  
  The worst thing about me is that I’m…

  *Voluntary Share- Isn’t this absurd?; What do you think about this?*

C. [Jamie] (Control is the Problem): “Knowing that these self-critical thoughts aren’t there for any good reason may make us want to try to stop having them or try to get rid of them. But can we? *Can we control thoughts?*” (11:55-12:10)

*Exercise: Don’t think of chocolate cake* (ACT p. 124)
Research has shown that you may be able to suppress in short-term, but it soon appears more often and with more intensity.

When you try to not think of something, you create a verbal rule: “Don’t think of X.” Problem is, that rule contains “X” in it, so it will tend to bring “X” to mind. Make sense?

How about: Don’t think about past failures – have you tried that one?
Did it work?

“Think positive about yourself,” quickly turns into, “Never have negative thoughts about yourself.”
- Is that possible, and would you even want it?
- You might not notice personal weaknesses you’d want to work on.

How about recognizing your failures and mistakes, forgiving yourself for them, and making room for them as part of your life, so that you can learn from them?

D. [Jamie] (Defusion) The alternative to trying to get rid of thoughts: letting them be what they actually are: just thoughts. (12:10-12:25)

[Leaves on a Stream Exercise] (GOOYM pp. 76-78; Learning ACT p. 95)
Other techniques:
- Cubbyholeing
- Using the word “mind” as something that’s not you: “My mind is telling me I’m worthless and stupid”
- Thanking your mind for that thought.
- KSCR: self-criticism radio
- Notice consequences of buying vs. not buying.
- Just because the thought comes into your mind doesn’t mean you have to buy it.

E. [Tami] [Passengers on the Bus] (ACT p. 157-158)
Valued directions could be:
- Moving towards life goals
- Interpersonal connection

Passengers could be:
- Inner criticizer: Sometimes when you listen to this passenger, you don’t do stuff because it tells you that you won’t do it well enough or that you don’t deserve it.
- The Positive Thinker: You try really hard to listen to this passenger, but sometimes he/she isn’t on the bus, or is sitting in the back.
F. [Jamie] (Bringing acceptance and a value of care or kindness to the inner self-critic.)

[Letting the Critic In Exercise] (12:25-12:55)

Script:

Just take a moment to get present in your body . . . notice your breath . . . notice how your feet feel in your shoes . . . notice how it feels to be sitting in this chair . . . as you get distracted by thoughts about the future or the past, just keep returning yourself to the present, to the sound of my voice.

Now, take a moment to think of a time recently when you were critical of yourself for something you did or didn’t do. Try and think of a time where you felt you weren’t enough. Maybe you felt stupid or unprepared or unattractive. Maybe you got a bad grade on an exam because you didn’t study enough or studied the wrong thing. Maybe you said or did something in a social situation that other people reacted negatively to. Maybe you tried to do something you didn’t know how to do. Now, when you have that incident in your mind, just let yourself kind of ruminate on what you did or didn’t do, and why it was bad. And just notice the thoughts about you that come up as you do this . . . notice the self-criticisms. What are they exactly?

And now see if you can notice that there are two parts of you here: the one doing the criticizing and judging, and the one hearing those criticisms and judgments and feeling something in response to them. So you have the criticizer and the feeler (recipient? receiver?). Imagine them as actually being two people. Now, when you’re being self-critical you can see things well from the point of view of the criticizer and just feel crappy. But let’s do something a bit different and imagine yourself occupying the space of the feeler, getting up behind that person’s eyes. Imagine what the criticizer looks like. Imagine the criticizer’s facial expression. Is it angry? impatient? disgusted? And now imagine what it’s like to be the feeler. What does this feeler feel as she or he watches and listens to the criticizer? Sad? Discouraged? Guilty? Shameful? What’s that like? Just sit in that experience a moment, not so that you can get punished for what you did, but just to really get a feel for what it’s like to be in this place. Just sit in it and focus on the experience of being criticized . . .

Now check in and see how you feel towards the criticizer. Is there some anger? Or fear? Or annoyance? A desire to push the criticizer away or to run away? A desire to tell it to just shut up? Whatever you feel towards the criticizer, just notice that.

And now imagine what’s motivating the criticizer. This part of you may just seem mean and motivated by hostility, but see if you can notice if there’s some motivation or feeling underneath. Is there fear or anxiety maybe? Fear that you won’t succeed? Anxiety that you’ll be left alone? Or maybe it’s just really wanting to be accepted by others? Or just really wanting you to do well or be good in some way that feels important? See if you can notice that the criticizer is
feeling pain too—that fear, or that longing for things to be different for you than how they are. And when you do notice that, see if you notice any compassion for that scared or hurting criticizer. If not, that’s okay too. But, see if you can notice that the criticizer is using judgments and criticisms in an attempt to help you out. This is all it knows how to do, and it’s getting it so wrong cuz those criticisms generally don’t help. This poor part of you is scared or hurting and just wants things to be better, but it’s going about it in such an ineffective way.

And now take a moment to imagine what this criticizer might need—comfort, reassurance, maybe just to know that it’s cared about. And now see if it would be possible to bring this criticizer close . . . to approach it . . . and give it what it needs. See if it would even be possible to let the criticizer come into you, so that you can keep it safe and care for it . . . without buying into what it has to say.

**Lunch Break: (15:00-1:25)**

[Jamie] Task: Notice if the criticizer is telling you anything during lunch and see if you can do what you did during the exercise . . . be kind and gentle to the criticizer without buying what it has to say.

After lunch: debrief (1:25-1:30).

**V. Self**

A. [Tami] **[Good Pen – Bad Pen Exercise]** (based on Best Pen Exercise in Learning ACT p. 118) (1:30-1:35)

- Have someone describe a pen (just the facts about physical properties), then have them evaluate it as a good pen or bad pen.

  **Take home: Evaluations are not facts about things.**

  - Everything can be criticized (or prized) because the same facts can be used to support different evaluations.
  - So “bad” or “good” isn’t in the thing—it’s part of the evaluation.
  - Also true of self-evaluations. None are really true, so we don’t have to buy any of them.

- Brainstorm some self-evaluations to apply this to.

B. [Jamie] (Discriminating story from observer & defusing from story)

This applies to our broader stories of ourselves too. But let’s take an example of a different kind of story to demonstrate what I mean:

**[Documentary of Africa Metaphor]** (Happiness Trap pp. 155-156) (1:35-1:45)

(Defusing from conceptualized self and introducing observer self)

- One sense of you is the story/object/image, i.e. something that can be watched.
- But there’s also the you that is the viewer—the experiencer of this life unfolding before you.
[Tami] Observer Exercise: eyes-open and moving around and discussion (ACT pp. 192-196)

(Building sense of stable observer self) (1:45-2:15)
- This observing self cannot be destroyed, like your image of yourself as the successful one, pretty one, smart one, competent one, strong one, perfect one, “good” one can.
- That’s because it’s the you that’s there noticing these images, noticing when you’re living up to them, and noticing when you’re not living up to them.
- And so, when you don’t live up to them, when you screw up, the story or image of you that you like to cling to may be threatened, but this observing you is not threatened.
- It’s always there for whatever you notice. It’s also the you that’s there noticing your emotions, your pain, your pleasure.
- So, in an important sense, these stories or images and these feelings are not you, or at least the only sense of you that there is. They’re just things that happen to be in your life right now. This observer you is bigger than all of these things—it contains them.

VI. Values/Acceptance/Committed Action

A. [Jamie] Values Discussion: (2:25-2:40)
As human beings, we can spend a lot of time trying to work towards building up a positive story or self-image and avoiding a negative one. We give our lives over to these stories, and often it seems like an empty battle. For example, we can spend a lot of time and energy trying to be perfect or “good enough,” but does this mindset improve your life, or is it just exhausting and discouraging?
If you’ve been trying hard to build up a positive self-image, what are you hoping will happen if you achieve it? Maybe it would be better to work towards that thing.
What could our lives be about if we weren’t chasing a positive image or running from a negative one?
- If you did reach “good enough,” what would you want to be up to?
- What stuff do you care about deep in your heart?
- If this were the last day of your life, would you be worrying about looking good or being perfect or being a “success,” or would more important concerns take center stage? What would those concerns be? How would you make those things more important in your life?
- If the funeral exercise was painful for you, what was missing—how could you make your life about that?

B. [Tami] Awareness and Acceptance of Pain; Values (2:40-3:10)
1. Doing well at things is important, but is it the only thing that’s important?
   Are these things important:
- Letting yourself have your emotions as normal human reactions to events.
- Self-Soothing—acknowledging your pain and suffering so that you can take care of yourself and be kind to yourself.
- Self-Forgiveness—acknowledging your failings, feeling the disappointment or regret, but letting yourself off the hook.
  - Something to get you to self-forgiveness: Ask yourself, “What would I tell my best friend if she/he were in this place?” Really step out of yourself and put yourself in the perspective of a caring outside observer.
- Patience with yourself when you’re hurting.

2. [Jamie] What wisdom can you find in your failures and your feelings about them?
   - Pain-values link: Awareness/Acceptance of disappointment or regret regarding failure can help you to contact what’s important to you.
     e.g., if you regret beating yourself up, this may mean you value self-kindness; if you regret letting a friend down, maybe that means you value being there for people. Let go of the criticisms about falling short, and give yourself the chance to experience doing something meaningful and fulfilling.
   - Present metaphor of pain and values as 2 sides of the same coin.
   - Noticing and validating your pain (e.g., exhaustion) can empower you to make positive changes (e.g., not expecting so much of yourself).

C. [Jamie] Defusing from values as rigid “shoulds.” (3:10-3:20)
   Easy for “being gentler with myself” to become another thing to worry about failing at. When you do fall short, as we all do, give yourself a break for it.

[Tami] [Little Kid Exercise] (3:20-3:55 min.)
(Developing self-compassion through self-perspective-taking)
   Just take a moment to slow down and just notice your breath . . .
   Notice what it feels like to be sitting in this chair. Notice the feel of your clothes on your skin, the sounds in the room. If thoughts come in that distract you or take you away, like thoughts about the past or thoughts about the future, just gently return your attention to my voice.

Picture yourself outside of your home as a child.
Put self there, notice yourself, notice what you look like, notice your smaller features, touch your hands, feel your hair, be in that body looking out.

Open the door, go inside, and look around.
As you look around, remember the unease—what it was like to be a little kid and start worrying or start wondering if you were ok, if things would be alright.
Try to get in touch with that as you’re on this journey back in time.

Now think of a female figure who was important in your upbringing. Maybe it was your mother, maybe a big sister or a grandmother or an aunt. Maybe it was a babysitter. Picture where she may have been in that house, where you think she’d be if was there.
Go there, in her presence
Before she even sees you, notice what she’s doing, notice how you feel watching her.
Try to get her attention, and as you do, notice what had to be done to get it.
Think of what you needed at that time from her…attention, reassurance, peace, support.
Then, ask her for something.
Just watch the response, whatever it may be.
Ask for whatever comes to mind to ask for.
And just notice what happens.
Bid her goodbye, and leave the room.

Go find a male figure who was involved in your life as a kid. It may have been your dad, or maybe a grandfather or an uncle or a big brother. If he wasn’t in the house, put him where you think he’d be if he were there.
Go there, in his presence.
Before he even sees you, notice what he’s doing, notice how you feel watching him.
Try to get his attention, and as you do, notice what had to be done to get it.
Think of what you needed at that time from him…attention, reassurance, peace, support.
Then, ask him for something.
Just watch the response, whatever it may be.
Ask for whatever comes to mind to ask for.
And just Notice what happens.

Now leave that room.
And now go to a place in this house where you felt most comfortable.
Walk through the house, head towards that part of the house, imagine yourself going there.
And now imagine that you are your present-day self, in the age you are now, and are in that comfortable part of the house, suddenly grown up, standing there in that spot.
And here in that place coming towards you is a little kid who looks exactly like that kid whose hands, shoes and clothes and hair you touched before.
That’s you at that age. You know who that child is. The child does not know who you are, but somehow that child feels comfortable towards you anyway.
Look at the gestures and the walk and the clothes. See if you can see through the outside; you know the inside.
Just notice how the kid is carrying him or herself.
Have the kid come right up in front of you.
Notice any feeling that comes up.
Seeing through those mannerisms and gestures, if you could actually be in this situation and somehow the kid magically thought it was safe to be there listening to you, what would you have to say to him or her, knowing what’s ahead, the difficulty of times to come?
What would the kid really want from these big people around him, these adults, and you? If the kid could give voice, What would be wanted? Allow that kid to give voice and say it to you.
Hearing that- is that request unreasonable? Is this something that should be ok for a kid to have?
Is there something you could do, having heard that request? Would you be willing to respond to it? Something you could do, psychologically.
If find yourself resisting or holding back, see if you can get through that.
Is this kid worth it? Is he or she valuable, worthwhile, whole? Loveable?
If it’s attention, could you give that?
Maybe it’s wanting to be understood, listened to, be in a safe place, or just wanting to know that he or she is okay just as they are.
Is this something you would be willing to try to do?
If you can find your way to yes, see if you can say that in your mind’s eye,
Almost like you are making a promise to the little kid you once were.
Now bring the little kid towards you. If you’re moved to, give the kid a hug, and as you do, the kid just kind of comes inside you. Back inside you, as part of your memories or history so that he or she can remember that promise.

Now with your eyes still closed, imagine what the room we’re sitting in looks like—walls, ceiling, carpet, other people—and when you’re ready, open your eyes and return your attention to the room.

D. [Jamie] Stand and Declare (3:55-4:30)

**Orienting framework:** This is a human thing, about more, larger patterns in our lives. We’re going to make some commitments too. Because it’s easy to talk in the abstract and then go back to life-as-usual, commitments should be specific and concrete.

**Give context:** For some, just standing up here at all might be a really big thing. Say what is there to say.

**[Structure: 1 of us goes first, 1 of us goes last. Or we both go last.]**
In the process of looking at your thoughts and feelings around yourself, is there somewhere in your life where you can see a cost to not giving yourself a break, to holding yourself to such high standards. Tell the group how, what you’ve been doing, and what you’re going to do different.

**[Pick someone who will do a good job first]**

**[Orienting]**
Take a moment to get present. What is it like to really be seen, really see if it’s ok to make room for any discomfort that shows up, use this as a metaphor for doing this in your life after today. Sense of somehow, these people are just like me

**[Coaching]**
Underneath that, what do you really care about?
What’s behind even that? What do you really want? What have you really been doing?
If you feel pulled into rehearsal, that’s not what this is about. Try to stay with the exercise, the people.
APPENDIX C:
Adherence Rating Scale for Acceptance and Commitment Therapy for Self-Compassion Workshop Protocol

This adherence rating scale consists of two parts:
(1) a list of intervention components which will be rated according to the degree to which they were covered.
(2) a list of general processes, both consistent with an ACT approach and inconsistent with it, which will be rated according to their depth of coverage throughout the entire workshop.

A set of general guidelines appears below, and before each part of the scale there are specific guidelines for that section.

GENERAL GUIDELINES

1. CONFIDENTIALITY:

All audio recordings and rating scores are confidential material. While listening to recordings and rating workshops, please ensure that you do so in a place where others cannot hear them. The recordings are to be handled like private psychiatric charts. Do not leave recordings or rating material unattended. Do not discuss the content of workshops with anyone other than project staff. This is done to ensure the confidentiality of all participants and workshop leaders.

2. RATE OBSERVABLE LEADER BEHAVIORS:

Items refer to the workshop leaders’ behavior, not the participants’ behavior or the participants’ responses. In rating the leaders’ behavior, the rater should consider what the leaders actually attempted to do, not whether those attempts were met with success or failure. Variables must have explicitly occurred. Do not rate a variable as having occurred if this occurrence was not explicit but only implied. Raters should have specific examples in mind to substantiate their ratings. Always consider the entire workshop when rating an item.

3. RATE THE SUM OF THE ACTIONS OF BOTH LEADERS:

The intervention delivered to the workshop participants consists of the behaviors of both workshop leaders. Therefore both leaders’ behavior should be considered together in making ratings. Ratings should reflect what was said and done by the leaders as a team, not on who said or did certain things.

4. RATE LEADER FACILITATION:

Although the rater’s task is to rate the leaders’ behavior, a participant may initiate a behavior, which is being emitted with only limited involvement of the workshop leaders.
An item should not necessarily receive a lower rating in this case. Ratings should reflect the degree to which the leaders facilitated the behavior being measured. Facilitation refers to the degree to which the leaders actively encouraged or prompted the participants in a specific activity, rather than merely acting as a passive recipient of the participant’s self-initiated behavior.

6. AVOID HALOED RATINGS:

The Adherence Rating Scale is designed for the purpose of describing the raters’ behavior in the workshop. In order to use the Adherence Rating Scale correctly, it is essential that the rater rate what actually occurred, and not what ought to have occurred. Therefore, the rater must be sure to apply the same standards for rating an item regardless of:

1. the type of therapy the rater thinks he/she is rating;
2. other behaviors the leaders engaged in during the workshop;
3. ratings given to other items;
4. how skilled the rater believes the leaders to be;
5. how much the rater likes the leaders.

7. RATE EVERY ITEM BY CIRCLING WHOLE NUMBERS:

This scale is designed so that every item is rated for every workshop. Do not leave any item blank. Although raters may be tempted to give a score between whole numbers (e.g., 4.5) only whole numbers are acceptable scores. Thus, please record only whole numbers for each variable.

Many items have sub-items, which are indicated by a letter. Only rate the items designated by a number. The sub-items are not rated separately, but instead factor into the rating given to the item they are listed under. The leaders’ behavior does NOT need to be differentiated among sub-items. If the leaders’ behavior falls under any one of the sub-items, it counts as an example of the heading item (i.e., if a behavior would fall under changing content of thoughts or substituting positive thoughts, it is just considered an example of Challenging Cognitions).

8. USE THE MANUAL DURING EACH RATING:

In order to prevent rater drift, we strongly recommend that all raters read the manual’s description of each item each time a workshop is rated. Because of the complexity of the scale items, it is essential that the rater be completely familiar with the definitions of variables before rating them.

   **Use the manual for specific examples:** Examples are provided in the manual to be used as guidelines for rating leaders’ behavior. The examples are guidelines for
rating an item. The rater is expected to exercise his/her judgment when using the examples to guide his/her rating.

**Use the manual to clarify subtle differences between items:** Because the items may overlap in terms of breadth of coverage, the same leader behaviors, which are appropriately rated in one item, may also apply to another item. The rater should be careful to rate each item distinctly (i.e., the rater should consider the extent to which the behavior specified in that item occurred and should not consider other similar items when doing so). The rater should use the manual as a guide to clarifying subtle differences between items.

9. **TAKE NOTES:**

**LIST RATINGS:** Although the components are listed in the order in which they appear in the protocol, some parts of components (e.g., discussion of certain points) may occur out of order. In order to make sure that ratings reflect all the parts of the component covered, regardless of time, make ratings (in pencil) of components at the time they should occur. Keep notes of parts of components covered early so that they can be included in these ratings. Also keep notes of parts of components covered late so that you may go back and change ratings you made earlier.

**PROCESS RATINGS:** Do not rate any items on this part of the scale until the entire workshop has been listened to. We recommend that the rater take notes while listening to the workshop. This enhances accuracy of the ratings because raters will be reminded of information, which is relevant to rating the items and keeps the rater focused on what actually occurred in the workshop. Because raters are asked to make many fine distinctions, it is essential that the rater listen to the workshop carefully and without distraction.

**LIST OF WORKSHOP COMPONENTS**

**GUIDELINES FOR LIST RATINGS**

Below is a list of specific workshop components (i.e., metaphors, exercises, and discussions). When making your ratings, please rate the depth of coverage (i.e., how deeply the key points were addressed) as opposed to word-for-word correspondence with the protocol. Please use the following scale for your ratings:

<table>
<thead>
<tr>
<th>A rating of:</th>
<th>Would indicate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = not at all:</td>
<td>The component was not covered at all.</td>
</tr>
<tr>
<td>2 = a little:</td>
<td>The component was touched on but not addressed in an in-depth manner.</td>
</tr>
</tbody>
</table>
3 = somewhat: The component was covered in a some depth, but some parts were missing.

4 = considerably: The component was covered in a fairly in-depth manner. Coverage was quite adequate but not extensive.

5 = extensively: The component was covered in a very in-depth, extensive manner.

COMPONENTS:

_____ 1. Funeral Exercise (with discussion)

_____ 2. Discussion: Why We Criticize Ourselves and What the Effects Are

_____ 3. Can we actually change our feelings by telling ourselves that we’re feeling the wrong thing? (including Polygraph Metaphor)

_____ 4. Where do thoughts come from? (including “What Are The Numbers?” Exercise and 2-Computer Metaphor)

_____ 5. Control is the Problem (including Chocolate Cake Metaphor)

_____ 6. Defusion (including Leaves on a Stream Exercise and other techniques listed)

_____ 7. Letting the Critic In Exercise (including discussion)

_____ 8. Good Pen—Bad Pen exercise

_____ 9. Documentary of Africa Metaphor

_____ 10. Observer Exercise

_____ 11. Chessboard Metaphor

_____ 12. Values Discussion

_____ 13. Discussion: Awareness and Acceptance of Pain; Values

_____ 14. Discussion: Defusing from Values as Rigid Shoulds

_____ 15. Little Kid Exercise (with discussion)

_____ 16. Stand and Declare
GENERAL PROCESS RATINGS

GUIDELINES FOR GENERAL PROCESS RATINGS

Please use the following scale to rate the items for frequency and extensiveness:

A rating of: Would indicate:

1 = not at all: The variable never explicitly occurred.

2 = a little: The variable occurred at least once (and may have occurred a few times) and was not addressed in an in-depth manner.

3 = somewhat: The variable occurred several times and was addressed at least once by the leaders in a moderately in-depth manner.

4 = considerably: The variable occurred with relatively high frequency and was addressed by the leaders in a moderately in-depth manner.

5 = extensively: The variable occurred with great frequency and was addressed by the leaders in a very in-depth manner.

For the frequency and extensiveness of ratings, the starting point for rating each item on the scale is “1.” The rater should assign a rating of greater than “1” only if he/she hears examples of the behavior specified in the items. The rater should be careful not to start rating from the midpoint (“3”) out.

PROCESSES:

1. CREATIVE HOPELESSNESS/WORKABILITY/CONTROL AS A PROBLEM

A. Efforts to Control Thoughts and Feelings: To what extent did the leaders identify the efforts to try to control thoughts or feelings as problematic agenda?

This question is intended to evaluate whether the leaders discussed the nature of the agenda of trying to control thoughts and feelings (i.e., preventing one from having certain feelings or thoughts) and problems with this effort.

Examples:
Th: If you don’t want to have it, you’ve got it.

Th: Control works in the world outside the skin, but not in the world inside the skin.
Th: Could you stop being afraid if I hooked you up to a polygraph machine and put a gun to your head?

Th: Could you fall in love with a stranger if I offered you money to do it?

Th: When you’re trying to control your thoughts and urges, you can think of them like waves—you can surf through them. Think about a wave. It has about a three-minute hang time. If you try to control it, you’ll never be able to ride it out. You can’t block a wave from coming.

Th: When you try to control thoughts and urges they just get more intense—they don’t go away.

Th: Don’t think about a jelly doughnut.
Cl: I can’t.
Th: Exactly my point.

B. Explore the Impact of Previous Efforts to Avoid or Control: To what extent did the leader discuss the emotional and situational consequences of this unsuccessful behavior (e.g., It’s exhausting)?

This question is intended to evaluate whether the leaders attempted to help the participants make contact with the lessons of their past behavior. This can include the painful costs of failing to change as well as discussing the strategies they have used in the past that involve efforts to control or avoid uncomfortable emotions or thoughts. The leaders’ general purpose would be to set the stage for adopting a more accepting approach as an act of self-compassion.

Examples:
Th: (In response to participant’s discussion of ineffective control strategy.) Is that familiar?
Th: And how has that worked for you in the past?
Th: (Using the ‘shovel’ metaphor in a way that identifies the participant’s typical ‘shovel.’)
Th: (Exploring the costs of using; e.g., financial costs, emotional costs, roads not taken, etc.)
Cl: I know quite a few people have quit on will power alone. In fact, I personally have had some success in the past quitting this way.
Th: And, you’re here now, so obviously that hasn't really worked for you.

2. DELITERALIZATION/DEFUSION
A. Deliteralization/Defusion: To what extent did the leaders use, teach or remind the participants of use of language conventions aimed at helping the participants remember that thoughts and feelings are just thoughts and feelings and not necessarily reality (i.e., “but” versus “and,” and/or “I am having the thought/feeling/evaluation that…,” and/or “thank your mind for that,” etc.)?

This question is intended to evaluate whether the leaders helped the participants to identify thoughts as thoughts and not necessarily as reality. Thoughts are just words, even long-held beliefs. If thoughts are seen for what they are (just thoughts), choices can be made as to whether or not they should actually be acted upon. This may include discussions about the limitations of language in general as well as reminders to the participants to see particular thoughts and feelings as just thoughts and feelings, distinct from established facts. The leader might discuss deliteralization as “mind chatter” or separating private experiences (thoughts and feelings) from reality.

Examples:

Th: OK, and that is a thought you are describing isn’t it? Thank your mind for that!

Th: Say the word “milk” really fast.
Cl: Milk, milk, milk, milk, milk, milk…
Th: Notice how the meaning of milk disappeared? The word milk is just a word; the milk isn’t inherent in the word, it is in the meaning we give it.

Th: So how is, “Gosh, I’m never going to be able to do this!” different from, ”I really will be able to do this!”? 
Cl: They’re both thoughts.
Th: Right, they’re just thoughts. Thoughts are different from what you do. Can you have the thought, ”Gosh, I’m never going to be able to do this!” and do it anyway?

B. Feeling/Thoughts DO NOT Lead to Actions: To what extent did the leaders identify that a participant’s feeling/thought does not lead the participant to behave in certain ways?

This item measures the extent to which the leaders highlighted that the participants’ behavior is not the result of thoughts/feelings, but rather that the participants have the ability to observe private experiences and thoughts and not act on them.

3. SELF-AS-CONTEXT:
To what extent did the leaders facilitate the participants’ sense of self-awareness or identification as the context in which all their thoughts, feelings or evaluations occur; i.e., the place from which they can observe or experience all their thoughts and feelings
versus identifying their thoughts or feelings as who they are (e.g., talk about the “observer self”)?

This question is intended to evaluate whether the leaders worked on the participants’ sense of relationship with themselves, in particular to what extent did the leaders encourage the participants to relate to themselves from a more complete and profound perspective rather than basing their sense of self on their self-conceptualizations?

**Examples:**

*Th:* You are the perspective from which you can observe all your thoughts and feelings.

*Th:* Notice that you are not just your thoughts and feelings; you are the place from which you observe all of your thoughts and feelings.

*Th:* At the deepest level of your experience, you are like the chessboard, and all your thoughts and feelings are like the pieces. You are in contact with all of the pieces, black and white. You are the board that contains them all, but you are more than any of the pieces.

*Cl:* I feel like a failure.

*Th:* Notice that you’re having that thought right now. That thought is one of many experiences contained within you, but it is not specifically you. Think of it this way: you are the container for your experiences. Your experiences can be held within you, but they are not the container itself: the experiences are not you.

4. WILLINGNESS/ACCEPTANCE

**A. Experiential Acceptance:** To what extent did the leaders facilitate the participants’ willingness to contact and accept difficult feelings, thoughts, memories and/or bodily sensations, both in the workshop and outside? This question is intended to evaluate whether the leaders worked on creating a context wherein the participants could experience negative thoughts/feelings/memories/bodily sensations in the workshop and/or encouraged the participants to allow themselves to feel their feelings outside of the workshop. Presence of participant emotion is not enough. The participant feeling their emotion must be encouraged by the leader(s). In other words, it must occur as a result of interventions and attitudes expressed by the leader(s).

**Examples:**

*Th:* This is a safe place to let yourself feel what’s there.

*Th:* Can you give yourself permission to have that feeling?

*Th:* Why don’t we try going there and feeling what is there to be felt?

*Th:* What would it be like if you were to give yourself some space to have that feeling?
5. CONTACT WITH THE PRESENT MOMENT

To what extent did the leaders facilitate noticing and awareness of the participants’ current experiences? This includes physical sensations, emotions, and any experience with a focus on the present moment. This also includes negative feelings as well as positive feelings, as long as the focus is on experiencing the present moment.

Example:
Th: See if you can just show up to what is there to be experienced right now in this moment.

6. VALUES:

To what extent did the leaders help the participants discuss their values? This question is intended to evaluate whether the leaders worked on helping the participants clarify and establish what their values are. In addition, it is intended to assess the extent to which self-kindness was discussed as a value.

Examples:
Th: What do you want to be about?
Th: What do you want for its own sake, just because that is what matters to you?
Th: Is treating yourself with kindness important to you?

7. COMMITTED ACTION

To what extent did the leaders encourage the participants to generate concrete, specific behavioral commitments in any area of their lives, but particularly in the area of self-compassion?

Examples:
Th: You have stated that you want to be kinder to yourself. What are things you can commit to doing this week to begin to move in that direction?

8. CHALLENGING COGNITIONS

A. Changing Content of Thoughts: To what extent did the leaders encourage the participant to think something different than what the participant was already thinking? This item should be rated if the leader says something that indicates the participant should think one thing instead of another thought that has been presented. This item is intended to measure the level that the leaders tried to replace the content of participants’ thoughts with other content.

Examples:
Cl: I just don’t think I’m worth very much as a person.
Th: Oh, I bet you can think of some things about you that give you worth.

Cl: I was having the thought that I am not good enough.
Th: No. Just think that you are good enough.

B. Substituting Positive Thoughts: To what extent did the leaders attempt to help the participants practice possible rational responses to the participants’ negative or self-critical thoughts or beliefs? This includes trying to replace self-criticism with self-compassionate self-talk.

Examples:
Cl: I think that I’m no good at anything!
Th: That doesn’t sound like a very nice thing to say to yourself. Why don’t you say, “It’s okay to not be good at something”?

9. EXPERIENTIAL AVOIDANT CHANGE STRATEGIES

A. Avoid or Control: To what extent did the leaders encourage the participants to avoid or control their thoughts, feelings, memories or bodily sensations? This can include instances where the leaders appear to do something designed to make the participants “feel better” or prevent them from “feeling bad.”

This item would be rated highly if the leaders immediately move to problem solving when a participant’s feelings, thoughts, memories and/or bodily sensations come up. This item would not be rated if the leaders encourage sticking with difficult thoughts, feelings, memories and/or bodily sensations.

Examples that should be rated:
Th: You should do what you can not to be sad so that you can spare yourself those bad feelings.
Th: This is clearly difficult for you—why don’t we move on to the next topic.

B. Reassurance in Order to Reduce Experience: To what extent did the leaders reassure participants in a way that supported the participants not feeling what they were feeling?

This item is intended to measure the extent to which the leaders offered reassurance that was not merely supportive, but was intended to reduce the participants’ affect or current experience. Leader behaviors rated on this item include behaviors that show an unwillingness on the part of the leader to experience what the participant is experiencing.
Examples:
Cl: (crying) I feel like such a failure sometimes.
Th: Don’t cry—I’m sure you’ll start feeling better about yourself soon.

Th: Don't feel bad.

Th: It’s ok. You will feel better soon.

Th: Don’t cry. It will be alright.

10. COGNITIVE THERAPY RATIONALE:

To what extent did the leaders provide a rationale that emphasizes the importance of evaluating the accuracy of the participants’ cognitions (beliefs, thoughts, etc.) and changing inaccurate cognition in order to alleviate the participants’ suffering?

The purpose of this item is to measure how extensively the leaders discussed:
(1) the importance of evaluating the accuracy of the participants’ cognitions, and
(2) the possibility of changing the participants’ inaccurate cognitions for the purpose of improving their lives.

In order for this item to be rated greater than “1” the leader must make the connection between evaluating/changing cognitions and alleviating suffering. This connection must either be explicit or strongly implied.

This item should not receive a rating greater than “1” if:
(1) the leaders state that they would be focusing on evaluation/changing the participants’ cognitions simply because it would be good to get them straightened out and did not at least imply that doing so would serve to alleviate the participants’ suffering.

Example:
Th: Sometimes we are overrun with self-critical thoughts and beliefs, which are often inaccurate. In order to feel better it is very important to take a careful look at the accuracy of the thoughts and beliefs and change them if they are inaccurate.

The above example should receive a rating of greater than “1” because the leader explicitly stated that the purpose of evaluating/changing cognitions was to reduce the participant’s suffering.

This item measures the extent to which the leaders offered a rationale that emphasizes that evaluation and changing inaccurate cognitions (thoughts, beliefs, etc.) would be helpful in alleviating the participants’ suffering.
11. THOUGHTS AND FEELINGS CAUSE ACTION

A. Feelings/Thoughts Lead to Action: To what extent did the leaders identify that a participant’s thought or feeling may lead to certain behavior? For example, did the leaders state that self-critical thoughts lead to self-punishment or preclude self-kindness?

Example:
Th: Self-criticism is bad because it leads us to treat ourselves poorly.

B. Relate Improvement to Cognitive Change: To what extent did the leader relate improvement in the participants’ lives to changes in their beliefs or automatic thoughts?

This measures how much the leaders made a connection between improvement the participant has experienced in their lives and changes that have occurred in the participants’ beliefs, thoughts or underlying assumptions.

Example:
The following example should receive a rating greater than “1” because the leader related improvement the participant experienced in his life to changes in his cognitions:

Th: You mentioned that in junior year of high school you started feeling better and that was around the time you met your girlfriend who was really good to you. Do you think you were feeling better because she made you realize that your self-criticisms weren’t really true?

12. OVERALL ADHERENCE TO PROJECT MANUAL: This item is intended to measure the Leaders’ overall adherence to the manual. This includes using the items that are discussed in the manual and not using items that contradict the manual (anti-ACT items). This is a global score of the whole workshop. This item does not measure how well or skillfully the leader facilitates the workshop, only whether he/she was using the intervention outlined in the manual.

A rating of: Would indicate:

1 = not at all: The workshop was entirely off topic or focused entirely on general assessment without addressing any of the other processes outlined in the manual.

2 = a little: The leaders spent most of the workshop off topic, only superficially attending to at least one processes outlined in the manual.

3 = somewhat: The leaders spent at least half of the workshop attending to at least one of the processes outlined at any point in the manual.
4 = considerably: The leaders spent most of the workshop applying multiple processes in a considerably in-depth manner.

5 = extensively: The leaders spent most of the workshop applying multiple processes in an extremely in-depth manner.

13. OVERALL COMPETENCE OF LEADERS: This item is intended to measure how skillfully the leaders delivered the intervention. The whole workshop should be considered when assigning a score to this item. How well the leaders attended to the participants’ needs and how well the leaders delivered the intervention outlined in the manual should be considered for this item.

A rating of: Would indicate:
1 = not at all: The leaders did not interact skillfully with any participants to model, instigate, or reinforce processes, did not skillfully apply any of the techniques or processes outlined in the manual.

2 = a little: The leaders interacted with the participants only superficially to model, instigate, or reinforce processes, and/or attempted to apply the techniques and processes outlined in the manual but did so poorly.

3 = somewhat: The leaders sometimes interacted with the participants to model, instigate, or reinforce processes, and applied the techniques and processes outlined in the manual only superficially.

4 = considerably: The leaders interacted moderately with the participants to model, instigate, or reinforce processes, and applied the techniques and processes outlined in the manual clearly and in moderate depth.

5 = extensively: The leaders interacted consistently with the participants to model, instigate, or reinforce processes, and applied the techniques and processes outlined in the manual very clearly and in great depth.