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Experiential avoidance as a generalized psychological vulnerability: Comparisons with coping and emotion regulation strategies

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Abstract

Extending previous work, we conducted two studies concerning the toxic influences of experiential avoidance (EA) as a core mechanism in the development and maintenance of psychological distress, and disruption of pleasant, engaging, and spontaneous activity. Of particular interest was whether EA accounted for relationships between coping and emotion regulation strategies on anxiety-related pathology (Study 1) and psychological distress and hedonic functioning over the course of a 21-day monitoring period (Study 2). In Study 1, EA mediated the effects of maladaptive coping, emotional responses styles, and uncontrollability on anxiety-related distress (e.g., anxiety sensitivity, trait anxiety, suffocation fears, and body sensation fears). In Study 2, EA completely mediated the effects of two emotion regulation strategies (i.e., suppression and reappraisal) on daily negative and positive experiences and was associated with diminished daily positive affective experiences and healthy life appraisals, diminished frequency of positive events and more frequent negative life events, and greater negative affective experiences. The present data show that cognitive reappraisal, a primary process of traditional cognitive-behavior therapy, was much less predictive of the quality of psychological experiences and events in everyday life compared with EA. Further consideration of experiential avoidance as a generalized diathesis and toxic process will be useful in improving our understanding of the etiology, phenomenology, and treatment of anxiety conditions, general human suffering, and disruptions in hedonic capacity.

Keywords: Experiential avoidance; Acceptance; Anxiety; Emotion regulation; Coping; Positive emotions

Experiential avoidance is a process involving excessive negative evaluations of unwanted private thoughts, feelings, and sensations, an unwillingness to experience these private events, and deliberate efforts to control or escape from them (Hayes, 1994; Hayes, Strosahl, & Wilson, 1999). In some contexts, subtle avoidance or suppressed behavior can be viewed as a self-protective strategy to prevent seemingly disastrous consequences. Examples include trying not to show signs of anxiety during a job interview, controlling feelings of boredom

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during a conversation with a valued person, or worrying in order to control fears about the anticipated threat of confronting a transgressor. In these contexts, experiential avoidance is a relatively benign short-term strategy to manage emotional expression; the negative consequences such as energy expenditure and not being a fully engaged participant from moment to moment may be minimal. Attempting to control anxiety and fear works as long as an individual can still live in a way that is coherent with their core sense of self, and effort and progress can be made toward personally meaningful goals. Experiential avoidance becomes a disordered process when it is applied rigidly and inflexibly such that enormous time, effort, and energy is devoted to managing, controlling, or struggling with unwanted private events. This struggle, in turn, gets in the way of movement toward valued goals, diminishes contact with present experiences, and thus yields impairment in functioning. The unwillingness to remain in contact with negatively evaluated private events, and chronic attempts to alter the form of these events or contexts in which they arise, are proposed to be a stronger contributor to psychopathology than the content (e.g., intensity, frequency, negative valence) of private psychological and emotional experiences (Forsyth, Eifert, & Barrios, in press; Hayes et al., 1999).

In clinical and non-clinical samples, experiential avoidance is strongly correlated with measures of general psychopathology (Hayes et al., 2004) and specific measures of anxiety and depression (Forsyth, Parker, & Finlay, 2003; Marx & Sloan, 2005; Roemer, Salters, Raffa, & Orsillo, 2005; Tull, Gratz, Salters, & Roemer, 2004). In response to inductions of acute emotional distress (via panicogenic CO_2 inhalation and hyperventilation challenges), healthy individuals endorsing greater experiential avoidance reported more panic symptoms and perceived uncontrollability (Feldner, Zvolensky, Eifert, & Spira, 2003), even after accounting for other risk factors such as anxiety sensitivity (Karekla, Forsyth, & Kelly, 2004; Spira, Zvolensky, Eifert, & Feldner, 2004). These studies demonstrate that experiential avoidance amplifies anxiety symptomatology in individuals with no history of anxiety-related disorders. Thus, there is evidence that experiential avoidance is not merely a concomitant or consequence of anxiety-related pathology, rather it is a psychological vulnerability for anxiety pathology.

The paradox of experiential avoidance is that attempting to hide or inhibit unpleasant thoughts, feelings, and bodily sensations serves to increase the frequency and distress of these same experiences (Gross, 1998a, 2002; Wegner, 1994) and a sense that one is being inauthentic or disconnected from oneself (John & Gross, 2004). Moreover, chronic emotional avoidance interferes with the pleasures of being fully immersed in any activity, resulting in less frequent positive events and dampened positive emotions (Gross & John, 2003; Kashdan & Steger, in press). Rigid attempts to avoid negatively evaluated private experiences apparently lead to more frequent and intense episodes of psychological distress and interference with meaningful life activities.

All human beings will have moments of pain and suffering. This includes experiencing the full spectrum of human emotions, including intense, potentially disturbing states such as panic attacks, and a range of evaluative thoughts including self-doubts about the ability to perform in a particular situation and feeling that one should/ought to be better or present oneself more favorably. The content and form of these events are part of being human and living in the present moment; they are not necessarily problematic or dysfunctional (e.g., thoughts such as I am a loser or I am a banana are just thoughts). Moreover, taking action toward valued goals requires contact with a full range of emotional content, some of it quite painful. This is where experiential avoidance tends to get people into trouble.

In this system, undesired psychological content must be managed first in order to do what is important in life. Here struggle with, and avoidance of, unwanted private events predominates, and the ability to engaged in valued directions is disrupted (Hayes et al., 1999). Such experiential inflexibility, in turn, can yield fusion of a sense of self with thoughts, feelings, and actions, such that an individual is unable to differentiate private emotions, thoughts, images, and memories from the sense of self (e.g., "I am worthless"). In this example, worthlessness must be fixed, the self must be fixed, in order to do what matters. As a consequence, effort and progress toward personally meaningful goals is sacrificed because of an unwillingness to experience and let go of the struggle with unwanted private events. After all, in terms of movement toward the attainment of important goals, potentially unwanted events such as anxious feelings and thoughts can be necessary ingredients (aiding in motivation and perseverance; e.g., Pomerantz, Saxon, & Oishi, 2000). With this conceptualization (see Eifert & Forsyth, 2005; Hayes et al., 1999, for more details), experiential avoidance is defined as a core toxic diathesis underlying several other psychological vulnerabilities.

The scientific literature is replete with an ever increasing number of methods individuals use both to cope with stressful events and to regulate emotional experiences. Other factors implicated in the development and maintenance of pathological conditions and diminished hedonic functioning include maladaptive coping strategies such as avoidant, irrational, and emotional coping, perceptions of uncontrollability, and tendencies to inflexibly engage in emotion suppression (Barlow, 2000; Folkman, Lazarus, Gruen, & DeLongis, 1986; Gross & John, 2003; John & Gross, 2004). There is no clear consensus of which strategies are the most advantageous, which is probably because the effectiveness of regulatory strategies cannot be divorced from the specific stressor being confronted and contextual considerations (i.e., strategy–stressor–context fit). For example, the coach of a basketball team may use humor and playfulness to defuse an argument between two players who each want more playing time. The coach would need to be much more assertive and authoritative if these same two players were arguing during a huddle with a few minutes left in a game to determine who will shoot the final shot.

Despite the multiple considerations in understanding the utility of regulatory strategies, several studies have found strong positive relationships between avoidance, emotion-focused self-control strategies, and psychological distress (e.g., Aldwin & Revenson, 1987; Folkman et al., 1986; Stanton & Danoff-Burg et al., 2000; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Additionally, greater use of emotional approach strategies, targeting the willingness to accept and validate emotional responses to situations, have been associated with less psychological distress (Stanton, Danoff-Burg, Cameron, & Ellis, 1994). Compared to other self-regulatory mechanisms, avoidance and self-controlling coping strategies are less context-sensitive across time and stressful situation (Folkman et al., 1986). This work suggests that the toxic features of emotionally avoidant coping strategies owe to their *inflexibility* or context insensitivity; a finding that is beginning to emerge as a core dimension that distinguishes functional from less functional emotion regulatory strategies (see Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Forsyth et al., in press).

Related to coping, emotion regulation refers to the ways individuals modify which emotions are experienced, how they are expressed, and the impact of contextual factors that elicit them. One framework to organize different regulation strategies focuses on their temporality in the emotion generation process (Gross, 1998a,b; John & Gross, 2004). Antecedent-focused strategies are enacted prior to the triggering of emotional response tendencies. Cognitive reappraisal, for instance, is defined as conscious attempts to reduce the aversiveness of an event prior to its occurrence by changing the way it is evaluated (e.g., reduce the threat of an event by minimizing its importance). Response-focused strategies, by contrast, are enacted after emotional responses are generated. Emotion suppression is defined as conscious attempts to inhibit the ongoing stream of emotional experiences whether covert, overt, or both.

Existing data show that cognitive reappraisal and emotion suppression lead to vastly different psychosocial outcomes. Across experimental tasks in which participants are given instructions to reappraise, suppress, or interact normally, reappraisal leads to reductions in negative emotional experiences with no cognitive or social consequences. Suppression, by contrast, is not only cognitively costly, but also tends to yield more of the very distress one wishes to avoid (John & Gross, 2004). Whereas suppression successfully diminishes negative emotional behaviors, adverse consequences include increases in physiological arousal, attenuated positive emotional experiences, impaired memory for social information, and weaker social ties with interaction partners (e.g., Butler & Gross, 2004; Gross & Levenson, 1993,1997; Richards & Gross, 2000). The cumulative long-term impact of these strategies on emotional well-being, social outcomes, and life satisfaction mirror experimental findings (Gross & John, 2003). Overall, suppression—itself a form of experiential avoidance—is strongly related with psychological distress and impaired social outcomes.

To some extent, strategic attempts to escape stressful experiences (avoidant coping), to become independent from aversive events and accompanying emotions (detached coping), or to inhibit the expression of emotions (emotion suppression) can be considered component processes of experiential avoidance. Another component is the belief that personal control over threatening events rests outside oneself (uncontrollability). Experiential avoidance is a broader construct that entails tendencies to be cognitively entangled with internal experiences and general psychological inflexibility (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Besides environmental threats, individuals high in experiential avoidance additionally struggle with their distress

about distress (e.g., fear of fear), and efforts to escape private events as well as those circumstances that evoked them in the past and may evoke them in the future. Private events are negatively evaluated and avoided similar to actual external threats. Whereas individuals lower in experiential avoidance enact more mindful, non-judgmental perspectives toward private events, individuals high in experiential avoidance are imprisoned by their inflexible negative self-referential evaluations and detrimental over-reliance on expressive and emotional suppression.

The more specific emotion control and regulatory processes under present examination, including avoidant and detached coping, emotion suppression, rumination, and cognitive reappraisal are measured more mechanically in terms of form and frequency. In contrast, experiential avoidance is explicitly linked to context and function. Experiential avoidance (measured with the Acceptance and Action Questionnaire; Hayes et al., 2004) is placed within the context of valued behaviors, choices, and activities that are forsaken because of the unwillingness to be in contact with unwanted internal events. Inflexible tendencies to negatively evaluate certain internal events, define the self by these internal events, and struggle to avoid them, operate as a barrier to an approach-orientation in response to approach-avoidance conflicts. The cumulative effects of consistently failing to take action consistent with core values may only lead to regret, disappointment, emptiness, and meaninglessness. More specific regulatory strategies and processes were expected to have minimal to no impact on psychosocial functioning after accounting for a more general index of psychological inflexibility: experiential avoidance.

Research has conceptualized both coping and emotion regulation as self-regulatory strategies. Based on relevant theory, we sought to identify whether maladaptive self-regulatory strategies and perceived uncontrollability maintain relationships with affective disturbances and diminished hedonic functioning after accounting for experiential avoidance (and inversely, acceptance/willingness). While these other risk factors may disrupt ongoing behavior and be associated with psychological distress, experiential avoidance is proposed to be the critical toxic mechanism. We examined the role of experiential avoidance as a potential toxic diathesis to anxiety-related distress (Study 1) and psychological distress and markers of pleasant and meaningful living over the course of a 21-day monitoring period (Study 2). Across both studies, two hypotheses were explored. First, predispositions toward experiential avoidance were expected to yield stronger positive relationships with aversive outcomes and negative relationships with adaptive outcomes compared to more fine-grained self-regulatory strategies (e.g., rumination, emotion suppression). In general, we expected experiential avoidance to serve as a more robust, generalized psychological vulnerability. Second, we examined whether relationships between different self-regulatory strategies and psychosocial outcomes were mediated by experiential avoidance. Experiential avoidance was proposed to be a fundamental mechanism in the development and maintenance of psychological distress, and disruption of pleasant, engaging, and spontaneous activity. To date, studies examining experiential avoidance and positive psychological functioning have narrowly focused on emotion suppression (neglecting other component processes). To our knowledge, this is the first study examining experiential avoidance as a predictor of daily positive affective and cognitive experiences, and the more objective assessment of positive behaviors.

On a more exploratory basis, we were interested in comparing cognitive reappraisal (i.e., a primary process of traditional cognitive-behavior therapy) to experiential avoidance/acceptance (i.e., a primary process of acceptance and mindfulness based therapies), in predicting psychological experiences and events as they unfold over time in the context of everyday life. We examined whether experiential avoidance mediated relationships between more ''healthy'' self-regulatory strategies including problem-solving coping (Study 1) and cognitive reappraisal (Study 2) with psychosocial outcomes. It seems intuitive that tendencies to reflectively search for pathways to solve problems may be related to more adaptive outcomes as a function of low experiential avoidance (or high acceptance). In a given situation, there are a variety of meanings and features to focus on. Cognitive reappraisal involves strategically selecting ways in which situations are construed to reduce their negative emotional impact. The benefits of reappraisal were hypothesized to be a function of adopting a habitual, non-judgmental, accepting stance to the personal meaning assigned to a situation, and the triggered emotional consequences.

The present set of studies purposely focused on non-clinical populations. Non-clinical populations can provide additional evidence for theoretical models suggesting that experiential avoidance is an etiologic factor for psychopathology, and not merely a collateral byproduct.

Study 1

The first study aimed to investigate the relationships among experiential avoidance, maladaptive coping and emotional responses styles, and uncontrollability with anxiety-related distress. The impetus for examining these dispositional constructs is relatively straightforward. First, there is a considerable body of work suggesting that some emotional control strategies are not workable as a solution to anxiety, and in fact contribute to the etiology and maintenance of anxiety-related distress (e.g., emotion focused coping). From an experiential avoidance and emotion regulation perspective, such strategies represent forms of emotion regulation and need not be problematic themselves. In fact, one might predict that emotion focused coping would more fully account for anxiety-related distress when such strategies are applied inflexibly and rigidly and for the purpose of minimizing the frequency, duration, and intensity of unwanted private events. Accordingly, it is the rigid and inflexible nature of such coping strategies that yield functional impairment, not the strategies themselves. This is thought to occur, in part, because such strategies are broadly applied and consequently interfere with important and valued life activities (Eifert & Forsyth, 2005; Hayes et al., 1999). Thus, one prediction here is that forms of coping predict anxiety-related distress, but that this relation is mediated in large part by experiential avoidance.

Uncontrollability likewise has been thought to be a core process underlying the etiology and maintenance of anxiety-related pathology (e.g., see Barlow, 2000, for a review). Most cognitive-behavioral interventions, in turn, target the uncontrollable nature of anxiety and fear by teaching clients new ways to master and control their anxiety (e.g., Mastery of Your Anxiety and Panic; Barlow & Craske, 2000). Implicit in this move is the notion that mastery and control of anxiety is necessary to move clients toward psychological health. Otherwise, it would make no sense to teach clients new emotion regulation and control strategies in therapy (e.g., relaxation, cognitive restructuring). Here, we anticipated that the toxic effects of uncontrollability are derived largely from the emotion regulation and control agenda itself. That is, uncontrollability makes sense as a toxic psychological diathesis only in the context of unwillingness to experience anxiety for what it is. Put simply, the experiential avoidance agenda is what makes the uncontrollable nature of anxiety problematic. Anxiety is, under many circumstances, uncontrollable. Without experiential avoidance, there would be little need to control anxiety, and hence to respond to the uncontrollable nature of anxiety in the first place. Thus, we anticipated that the assessed individual coping styles would predict anxiety-related distress, but with the caveat being that such relations would be significantly mediated by experiential avoidance. Consistent with past research (Forsyth et al., 2003; Hayes et al., 2004; Karekla et al., 2004) and conceptual models pointing to the role of experiential avoidance as a toxic predisposition for anxiety-related suffering (Forsyth et al., in press; Hayes et al., 1996, 1999), we predicted that experiential avoidance would mediate (Baron & Kenny, 1986) relations between emotional coping and response styles and anxious distress.

Method

Participants and procedure

The sample consisted of 382 undergraduate volunteers (202 Male; $M_{age} = 18.86$, SD = 1.83) recruited from the University at Albany, SUNY who were given course credit for their participation. The ethnic distribution was 64.9% Caucasian, 9.9% African American, 9.7% Hispanic, 8.1% Asian American, .3% Native American, and the remaining 6.5% fitting an Other category. There were no exclusionary criteria to participate in this study. Upon arrival, participants completed a battery of well established and psychometrically sound dispositional- and anxiety-related measures. The battery was designed to assess adaptive and maladaptive coping with emotion, the tendency to inhibit the expression of emotional responses, uncontrollability over anxiety-related events, and included several other measures known to covary with anxiety-related pathology (e.g., anxiety sensitivity, suffocation fear, body sensation fear). These measures were randomly ordered so as to decrease the probability of response set biases.

Dispositional self-regulation measures

Experiential avoidance. The Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004) is a 9-item measure of experiential avoidance. Items on the AAQ assess tendencies to make negative evaluations of

private events (e.g., "anxiety is bad"), unwillingness to be in contact with certain private events, the need/desire to control or alter the form and frequency of certain private events, and the inability to take action in the face of negatively evaluated private events. The psychometric properties of this scale, including the presence of a single overarching factor structure that covaries with concurrent indicators of anxious arousal and distress, have been well-established in clinical and non-clinical samples (e.g., Feldner et al., 2003; Hayes et al., 2004; Karekla et al., 2004). Participants responded to items using a 7-point Likert scale ($\alpha = .87$).

Coping with emotion. The Coping Styles Questionnaire (CSQ; Roger, Jarvis, & Najarian, 1993) is a 41-item self-report measure designed to assess coping strategies for emotional events. Responses to each item are made using a 4-point Likert-type scale, ranging from 0 = *never* to 4 = *always*. The CSQ has been found to have three distinct factors, comprising of avoidant (i.e., tendency to avoid stressful events), rational (i.e., tendency to problem solve when facing stressful events), and detached (i.e., tendency to be less involved with stressful events) coping strategies. We reversed–coded the avoidant coping subscale so that high scores reflected more adaptive coping for all subscales. Each of the coping factors has demonstrated adequate internal consistency (.74–.90) and test–retest reliability (.70–.80; Roger et al., 1993).

Emotional regulation and control. The Emotional Control Questionnaire (ECQ; Roger & Najarian, 1989) is a 56-item True/False measure designed to assess the tendency to inhibit the expression of emotional responses. The ECQ yields 3 factors, denoted by Rehearsal (i.e., the tendency to dwell or ruminate on past or future upsetting events), Emotional Inhibition (i.e., the tendency to inhibit rather than express emotion), and the Benign Control subscale (i.e., an index of behavioral restraint vs. impulsiveness). All three subscales demonstrate adequate internal consistency (.77–.86; Roger & Najarian, 1989) and test–retest reliability (.79–.92; Roger & Najarian, 1989).

Anxiety uncontrollability. The Anxiety Control Questionnaire (ACQ; Rapee, Craske, Brown, & Barlow, 1996), is a 30-item measure designed to assess perceptions of control over potentially threatening internal and external events and situations associated with anxious responding ($\alpha = .80$ to .89; test–retest, $r = .88$; Rapee et al., 1996). Recent work evaluating the psychometric properties of the original 30-item ACQ in a clinical ($N = 1550$) and nonclinical ($N = 360$) sample suggests that the original 30-item ACQ is best represented by an 18-item form equivalent (i.e., patient vs. nonpatient) unifactorial solution, and three lower order factors reflecting emotion control, threat control, and stress control (see Brown, White, Forsyth, & Barlow, 2004). The present investigation relied on the 18-item version of the ACQ, and the unifactorial solution reflecting perceived control over anxiety-related emotional events. Higher scores on this measure indicate more anxiety control, whereas lower scores indicate more uncontrollability.

Anxiety-related measures

Most anxious clients do not like how they feel and what they think, and seek out therapy in order to feel better (i.e., fewer symptoms, less anxiety, less disturbing thoughts or memories) on the path to living better. Though there are numerous measures that could be used to assess such concerns, the following measures were used, in part, because they address components of anxiety-related suffering that are commonly elevated in anxious clients and those that lead them to seek out therapy.

The *Anxiety Sensitivity Index* (ASI; Peterson & Reiss, 1993; Reiss, Peterson, Gursky, & McNally, 1986), is a 16-item questionnaire designed to assess fear of anxiety-related symptoms. Each item is rated on a 5-point scale of 0 = *very little* to 4 = *very much*. The ASI has a high degree of internal consistency ($\alpha = .82$ to .91; Peterson & Reiss, 1993) and stable test–retest reliability over a three-year period ($r = .71$; Maller & Reiss, 1992).

The *Body Sensations Questionnaire* (BSQ; Chambless, Caputo, Bright, & Gallagher, 1984), is an 18-item measure of fears associated with physical symptoms of arousal that commonly occur during anxiety (e.g., heart palpitations, dizziness). The BSQ has good internal consistency ($\alpha = .87$) and adequate test–retest reliability (see Arrindell, 1993; Chambless et al., 1984).

The *Spielberger Trait Anxiety Inventory Form - Y* (STAI-T; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) is a face valid 20-item scale designed to index trait (chronic) anxiety. Participants respond to each item

on a four-point Likert-type scale, anchored from 1 = *no anxiety* to 4 = *extreme anxiety*. Scores are computed by summing responses, and reverse scoring when appropriate. The STAI-T is a reliable and valid measure of trait anxiety that is commonly employed in anxiety research with clinical and nonclinical populations (Spielberger et al., 1983).

The *Suffocation Fear Scale* (SFS; Rachman & Taylor, 1994), a 16-item scale that assesses fears related to situations in which one's air supply is threatened. Respondents rate on a 5-point Likert type scale ranging from 1 = *not at all anxious* to 5 = *extremely anxious* how they would feel in situations such as swimming while wearing a nose plug. The internal consistency of the SFS is good ($\alpha = .78$; Zvolensky, Lejuez, & Eifert, 1998) and the instrument is an accurate predictor of fearful responding to panicogenic challenge procedures (McNally & Eke, 1996).

Overview of analytic techniques

We first examined the covariation between dispositional measures (experiential avoidance, emotional coping, emotional responding, and diminished anxiety control) and measures known to assess anxiety-related pathology (e.g., anxiety sensitivity, body sensation fears, suffocation fears, trait anxiety). We then followed these analyses with more explicit tests of mediation. Using the approach outlined by Baron and Kenny (1986), we examined whether experiential avoidance mediated relations between emotional coping, emotional responding, and anxiety uncontrollability with each of the assessed indices of anxiety-related pathology. In all models experiential avoidance (AAQ scores) was conceptualized as a mediator.

Results

Correlations among dispositional measures

Zero-order correlations were computed to determine whether the tendency to engage in experiential avoidance was related to emotional coping styles, expression of emotional responses, and perceptions of diminished control over anxiety-provoking events (i.e., anxiety uncontrollability). As shown in Table 1, results indicated that experiential avoidance was related to less adaptive coping strategies (*r*s from |−.24| to |−.33|), to more maladaptive emotional responding (*r*s from |.22| to |.34| and reports of less control over anxiety-related events ($r = -.50$, $p < .01$).

Predicting anxiety-related pathology

As shown in Table 1, experiential avoidance was correlated with anxiety sensitivity, body sensation fears, suffocation fears, and trait anxiety (*r*s from .19 to .65). Additionally, detached, rational, and less avoidant coping styles were negatively related to anxiety-related pathology (*r*s from −.10 to −.42). As anticipated, lesser

Table 1
Zero-order relations between mediator and independent and dependent variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Experiential avoidance	—	−.33**	−.24**	−.32**	.34**	.22**	.25**	−.50**	.37**	.19**	.65**	.33**
2. Detached coping	—	—	.50**	.39**	−.30**	−.10	−.26**	.33**	−.42**	−.31**	−.39**	−.24**
3. Rational coping	—	—	—	.54	−.20**	−.10	−.18**	.13*	−.16**	−.13*	−.24**	−.10
4. Less avoidant coping	—	—	—	—	−.22**	−.24**	−.30**	.36**	−.31**	−.26**	−.36**	−.21**
5. Rumination	—	—	—	—	—	.16**	.26**	−.38**	.31**	.22**	.43**	.21**
6. Emotional inhibition	—	—	—	—	—	—	−.01	−.05	.10	.00	.26**	−.01
7. Impulsivity	—	—	—	—	—	—	—	−.25**	.15**	.14*	.26**	.14*
8. Anxiety uncontrollability	—	—	—	—	—	—	—	—	−.42**	−.29**	−.56**	−.36**
9. Anxiety sensitivity	—	—	—	—	—	—	—	—	—	.64**	.48**	.52**
10. Body sensation fears	—	—	—	—	—	—	—	—	—	—	.31**	.45**
11. Trait anxiety	—	—	—	—	—	—	—	—	—	—	—	.36**
12. Suffocation fears	—	—	—	—	—	—	—	—	—	—	—	—

Note: $N = 382$. $^{**}p < .01$, $^{*}p < .05$. Lower scores on the ACQ indicate more anxiety uncontrollability.

control over anxiety-related events was related to anxiety-related pathology (*r*s from −.29 to −.56). Similarly, rumination and impulsivity were related to anxiety-related pathology (*r*s from .14 to .43). Emotional inhibition was minimally related to different dimensions of anxiety-related pathology.

Experiential avoidance as a mediator of maladaptive coping and anxiety-related distress

Linear regression analyses were computed to examine whether relations between emotional coping, emotional responding, and anxiety uncontrollability were mediated by experiential avoidance. Results from the zero-order correlations discussed above satisfied the three conditions required for the mediation approach: (1) there were significant relations between emotional coping, emotional responding, and anxiety uncontrollability (independent variables) and anxiety-related outcome indices (dependent variables); (2) experiential avoidance (mediator) was significantly correlated with each anxiety-related outcome (dependent variables); and (3) emotional coping, emotional responding, and anxiety uncontrollability (independent variables) significantly predicted experiential avoidance (the mediator). The final step of mediation involved demonstrating a significant reduction in the predictive relations between emotional coping, emotional responding, and anxiety uncontrollability with anxiety-related outcomes after accounting for the variance attributed to experiential avoidance.

The conservative Sobel test of mediation (Baron & Kenny, 1986; MacKinnon, Warsi, & Dwyer, 1995) was used to examine whether indirect paths from each of the predictors on each dependent variable through experiential avoidance were significantly different than zero. A significant Sobel *z* indicates that the mediator fully accounts for the influence of an independent variable on a dependent variable.

The first series of analyses focused on relations between coping style domains and anxiety-related distress while controlling for experiential avoidance (see Table 2). The second series of analyses evaluated relations between emotion control and regulation domains (i.e., impulsivity, rumination, anxiety controllability) on anxiety-related outcomes and the extent to which such relations are mediated by experiential avoidance. Using this method, experiential avoidance accounted for all of the following significant relations: (1) rational coping on anxiety sensitivity, body sensation fears, and trait anxiety ($zs > -2.87$, $ps < .01$); (2) impulsivity on anxiety sensitivity, body sensation fears, and suffocation fears ($zs > 3.19$, $ps < .01$). Additionally, experiential avoidance partially accounted for the effects of detached coping on anxiety sensitivity, trait anxiety, and suffocation fears ($zs > -4.09$, $ps < .001$); less avoidant coping on anxiety sensitivity, body sensation fears, trait anxiety, and suffocation fears ($zs > -2.42$, $ps < .05$); impulsivity on trait anxiety ($z = 4.82$, $p < .001$); rumination on anxiety sensitivity, body sensation fears, trait anxiety, and suffocation fears ($zs > 2.15$, $ps < .05$); emotional inhibition on trait anxiety ($z = 4.16$, $p < .001$); and anxiety uncontrollability on anxiety sensitivity, trait anxiety, and suffocation fears ($zs > -3.58$, $ps < .001$).

Discussion

The aim of Study 1 was to evaluate coping and emotion regulatory domains in predicting anxiety-related distress and whether experiential avoidance would, as predicted, mediate such relations. Consistent with expectation, experiential avoidance either fully or partially mediated all models. This suggests that coping and other assessed self-regulatory domains may yield anxiety-related distress via rigid and inflexible tendencies to avoid unwanted private events. This suggestion fits well with the role of avoidance in anxiety-related pathology more generally (Barlow, 2000; Forsyth et al., in press), and also the notion that coping and emotion regulation may be adaptive and useful precisely because they are applied flexibly depending on contextual demands and circumstances. For instance, the tendency to inhibit or ruminate on negative events is widely thought to yield more acute distress. Yet, experiencing more acute distress is not necessarily a problem unless one is willing to argue that acute distress in humans is a problem. The same is true of other coping and emotion regulation strategies (see Bonanno, 2004; Gross, 1998b).

Inhibition and rumination, as well as other self-regulatory domains, may yield problematic distress for persons who engage in such strategies to not experience distress and do so inflexibly. Such avoidance efforts, in turn, tend to be life constricting, and thus may yield the kind of functional impairment seen in persons suffering from anxiety disorders. As such, the mediational function of experiential avoidance may be in the qualities of contextual insensitivity and rigidity when circumstances dictate that such strategies are neither

Table 2
Linear regression models for testing the final step of experiential avoidance as mediator

Mediation models	β	Sobel z		β	Sobel z
Self regulation measures					
Coping with emotion			DV = Body sensation fears		
DV = Anxiety sensitivity			Experiential avoidance	$.18^{***}$	-2.87^{***}
Experiential avoidance	$.28^{***}$	4.67^{***}	Rational coping	$-.08$	
Detached coping	$-.32^{***}$				
			DV = Body sensation fears		
DV = Anxiety sensitivity			Experiential avoidance	$.12^{*}$	-2.42^{*}
Experiential avoidance	$.35^{***}$	-4.20^{***}	Less avoidant coping	$-.22^{***}$	
Rational coping	$-.07$				
			DV = Trait anxiety		
DV = Anxiety sensitivity			Experiential avoidance	$.61^{***}$	6.04^{***}
Experiential avoidance	$.30^{***}$	-4.66^{***}	Detached coping	$-.19^{***}$	
Less avoidant coping	$-.21^{***}$				
DV = Trait anxiety			DV = Anxiety sensitivity		
Experiential avoidance	$.63^{***}$	-4.70^{***}	Experiential avoidance	$.28^{***}$	4.52^{***}
Rational coping	$-.09^{*}$		Rumination	$.21^{***}$	
DV = Trait anxiety			DV = Anxiety sensitivity		
Experiential avoidance	$.60^{***}$	-5.54^{***}	Experiential avoidance	$.37^{***}$	4.76^{***}
Less avoidant coping	$-.18^{***}$		Impulsivity	.04	
			DV = Body sensation fears		
			Experiential avoidance	$.12^{*}$	2.15^{*}
DV = Suffocation fears			Rumination	$.18^{***}$	
Experiential avoidance	$.28^{***}$	-4.09^{***}	DV = Body sensation fears		
Detached coping	$-.15^{**}$		Experiential avoidance	$.18^{***}$	3.19^{**}
DV = Suffocation fears			Impulsivity	.08	
Experiential avoidance	$.29^{***}$	-4.28^{***}			
Less avoidant coping	$-.12^{*}$		DV = Trait anxiety		
			Experiential avoidance	$.57^{***}$	4.41^{***}
Emotional regulation and control			Rumination	$.24^{***}$	
DV = Trait anxiety			*Anxiety control*		
Experiential avoidance	$.62^{***}$	4.16^{***}	DV = Anxiety sensitivity		
Emotional inhibition	$.12^{**}$		Experiential avoidance	$.21^{***}$	-3.58^{***}
			Anxiety uncontrollability	$-.32^{***}$	
DV = Trait anxiety					
Experiential avoidance	$.63^{***}$	4.82^{***}	DV = Trait anxiety		
Impulsivity	$.10^{*}$		Experiential avoidance	$.49^{***}$	-7.78^{***}
			Anxiety uncontrollability	$-.32^{***}$	
DV = Suffocation fears					
Experiential avoidance	$.28^{***}$	4.41^{***}	DV = Suffocation fears		
Rumination	$.11^{*}$		Experiential avoidance	$.21^{***}$	-3.65^{***}
			Anxiety uncontrollability	$-.25^{***}$	
DV = Suffocation fears					
Experiential avoidance	$.33^{***}$	4.12^{***}			
Impulsivity	.05				

Notes: $N = 382$. *** $p < .001$, ** $p < .01$, * $p < .05$. All p-values were two-tailed. β = beta weight from linear multiple regressions. A significant Sobel z indicates that the mediator fully or partially accounts for the influence of an independent variable on a dependent variable.

workable nor functional (see Eifert & Forsyth, 2005). We should note that the approach used here suffers from methodological and interpretive limitations inherent in self-report correlational research. Yet, the findings dovetail well with emerging evidence pointing to the role of experiential avoidance as a learned and potentially toxic predisposition for acute distress and psychopathology (Forsyth et al., in press; Hayes et al., 1999).

Study 2

To better understand causal mechanisms, the cross-sectional approach in Study 1 was improved in Study 2 by using a more sophisticated methodology to examine whether experiential avoidance predicts psychological outcomes and behaviors as they naturally unfold in spontaneous, real-world contexts over time. In terms of elucidating mechanisms of action, experience-sampling is a methodological improvement to test whether experiential avoidance mediates relations between coping and emotion regulatory strategies and their role in predicting psychological outcomes and behaviors over time. Using a 21-day experience sampling methodology, we sought to replicate the findings from Study 1 highlighting the role of experiential avoidance as a toxic diathesis for anxiety-related distress. Specifically, we examined relations between experiential avoidance, emotion suppression, and cognitive reappraisal with daily reports of social anxiety. The inclusion of cognitive reappraisal allowed for comparisons between one of the primary processes of traditional cognitive-behavioral therapies (e.g., Barlow & Craske, 2000) with the primary process of acceptance and mindfulness based therapies, namely, experiential avoidance/acceptance (e.g., Eifert & Forsyth, 2005).

We also examined relations between experiential avoidance and a range of daily positive subjective experiences and behavioral events. This was the first comprehensive examination of experiential avoidance and positive psychological functioning. Existing data on the structure of well-being support two distinct, related factors: hedonic and psychological well-being (e.g., Kashdan, 2002; Keyes, Shmotkin, & Ryff, 2002; Ryff & Keyes, 1995; Waterman, 1993). Hedonic well-being is exemplified by the greater occurrence of positive affective experiences, pleasure, and cognitive appraisals of life satisfaction. Psychological well-being is exemplified by exercising one's talents, potentials, and character strengths, cultivating meaningful interests and social relationships, and being authentic in one's choices. For this study, core markers of hedonic well-being were indexed by assessing daily positive affect, life satisfaction, and the frequency of positive events (behavioral indicator of this dimension). In terms of psychological well-being, we assessed daily meaning or purpose in life. The components of psychological well-being can be conceptualized as building blocks for an engaging and meaningful existence, as opposed to the more pleasurable life that is synonymous with hedonic well-being.

Finally, we believe there is a strong rationale for our inclusion of gratitude as an additional marker of both hedonic and psychological well-being. Gratitude is a pleasant state in response to recognizing personal benefits provided by an external benefactor (McCullough, Kilpatrick, Emmons, & Larson, 2001). Gratitude promotes a desire to engage in prosocial behavior, and feeling grateful on a given day has been shown to build positive social interactions and relationships, counter negative emotions, and lead to greater emotional well-being and healthy activity (e.g., Emmons & McCullough, 2003; Seligman, Steen, Park, & Peterson, 2005). Gratitude can be differentiated from general positive affect because it is an other-focused state; when you feel it, there is an inevitable expansion of the self with dual connections to the gifts received and the strengthening of social bonds with the benefactor.

More objective behavioral reports on the presence of positive and negative events are less likely to be affected by response style and memory biases that could account for relations between experiential avoidance and aversive psychosocial outcomes observed in Study 1 and other related research (e.g., Hayes et al., 2004; Roemer et al., 2005; Tull et al., 2004). Thus, we employed an experience-sampling methodology to evaluate anxiety-related pathology (i.e., social anxiety), emotions, and events in the real-world contexts in which people live as opposed to data on general tendencies with global self-report questionnaires or responses to (more artificial) stimuli in a laboratory. Our hypotheses were similar to Study 1 in that experiential avoidance was expected to mediate relations between emotion regulation strategies and daily outcomes.

Method

Participants and procedure

Participants were 97 undergraduates (64 female; M_{age} of 19.75, SD = 3.20). Our initial sample was 111 students with daily reports being returned by 106 students. We removed three students with invalid response patterns and six failing to complete primary dispositional measures. Most participants were Caucasian (76%),

followed by Asian-American (13.5%), African-American (4.2%), Native American and Hispanic (2.1% each), and one participant indicating "other."

Participants completed an initial questionnaire packet. They were also given a packet containing 21 daily report forms and were instructed to complete one form at the end of each day over the 21 day monitoring period. They were informed if they forgot to complete it the previous night, they could complete it within an hour of awaking the next morning. It was stressed that completing reports any later than early morning was not acceptable. Instructions were repeated in class and emails.

Dispositional self-report measures

Experiential avoidance. Similar to Study 1, the 9-item Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004) was used to assess experiential avoidance.

Emotion regulation strategies. The 10-item Emotion Regulation Questionnaire (Gross & John, 2003) assesses individual differences in two emotion regulation strategies: emotion suppression and cognitive reappraisal. Emotion suppression refers to general tendencies to control, hide, or change the natural occurrence of positive and negative emotions. Cognitive reappraisal refers to general tendencies to modify the meaning of emotion-eliciting events, and thus, their emotional impact. Participants responded to the 4-item emotion suppression and 6-item cognitive reappraisal subscales using 7-point Likert scales ($\alpha = .79$ and .80, respectively).

Daily affect, event, and hedonic functioning scales

Participants completed items relating to several constructs on a daily basis for 21 days. The multilevel random coefficient modeling software program hierarchical linear modeling (HLM) 6.0 (Raudenbush, Bryk, Cheong, & Congdon, 2004) provides appropriate reliability estimates for the nested data generated by 21 daily reports completed by 97 individuals.

Daily positive and negative affect. Valence (positive versus negative) and arousal (activation versus deactivation) serve as two intersecting dimensions in affective space, leading to four quadrants of experienced affect (e.g., Barrett & Russell, 1998; Watson, 2000). Items were selected to map onto each quadrant. Daily positive affect was measured with nine items (relaxed, proud, excited, appreciative, enthusiastic; happy, satisfied, curious, grateful) and negative affect was measured with five items (afraid, sad, anxious, angry, sluggish). Participants responded with a 5-point Likert format. HLM analyses indicated excellent reliability for daily positive (.95) and negative (.93) affect.

Participants were also asked to provide daily reports on the intensity of gratitude emotions experienced (Gratitude Adjectives Checklist; McCullough, Emmons, & Tsang, 2002). Participants rated how "grateful" and "appreciative" they felt during the day. HLM analyses indicated excellent reliability (.97). Data suggest this scale has excellent psychometric properties in clinical and non-clinical samples (Emmons & McCullough, 2003; McCullough et al., 2002).

Daily social anxiety. A 7-item scale, with a 5-point Likert format, was used to assess social anxiety during the day. Items were derived and modified from other scales: five straightforward items with the highest loadings from the Fear of Negative Evaluation Scale (Rodebaugh et al., 2004), and two items from the International Consensus Group on Depression and Anxiety (Ballenger et al., 1998). HLM analyses indicated excellent reliability (.91). Prior analyses with the current dataset suggest excellent factorial, convergent, and discriminant validity (Kashdan & Steger, in press).

Daily meaning in life. Perceived meaning in life was measured on a daily basis with two items, "how meaningful does your life feel?" and "how much do you feel your life has purpose?" Participants responded with a 7-point Likert format. HLM analysis indicated excellent reliability (.97).

Daily life satisfaction. Perceived life satisfaction was measured using the item, "how satisfied are you with your life?" Participants responded with a 7-point Likert format. HLM analysis indicated excellent reliability (.97).

Daily curiosity. Daily tendencies to feel curious and explore the environment were measured with four items derived by modifying items from the Curiosity and Exploration Inventory (Kashdan, Rose, & Fincham, 2004). Items included, "I was actively seeking as much information as I could in new situations," "When I was participating in activities, I was so involved that I lost track of time," "I frequently found myself looking for

new opportunities to grow as a person (e.g., information, people, resources),'' and ''Everywhere I went, I was out looking for new things or experiences.'' Participants responded with a 7-point Likert format. HLM analysis indicated excellent reliability (.94).

Daily positive and negative events. Positive and negative daily events were measured with 18 of 20 and 11 of 20 daily events, respectively, from the Daily Events Survey (Butler, Hokanson, & Flynn, 1994). Items from this scale have been frequently used in experience-sampling studies (e.g., Nezlek, 2002). Examples of positive events included, ''Went out socializing with friends/date (e.g., party, dance clubs)'' and ''Met a daily fitness goal.'' Examples of negative events included, ''Was excluded or left out by my group of friends'' and ''Classmate, teacher, co-worker, or friend criticized me or my abilities.'' Each day, participants rated events by indicating yes or no as to whether it occurred. For each day, the number of positive and negative events was aggregated. HLM analyses indicated excellent reliability for daily positive (.95) and negative (.94) events.

Results

Correlations between dispositional measures

Zero-order correlations were computed between experiential avoidance and tendencies toward different emotion regulation strategies. The results indicated that experiential avoidance was positively related to emotion suppression, $r = .28$, $p < .05$, and showed a negative relation with cognitive reappraisal that approached statistical significance, $r = -.19$, $p = .06$. There was no relation between suppression and reappraisal ($r = .03$).

Overview of analytic techniques

We evaluated the covariation between dispositional measures (experiential avoidance, emotion regulation) and daily experiences and events using a HLM approach. The data were hierarchically arranged two-level models with 1956 daily assessments nested within 97 persons. Coefficients representing day level were estimated for each person (within-person at Level-1) and then individual differences in these coefficients were estimated (between-person at Level-2). Level-1 variables were group-mean centered and Level-2 variables were grand-mean centered. All models had a random intercept and slopes were treated as random effects. Models were conducted using the HLM 6.0 program (Raudenbush et al., 2004). Degrees of freedom were based on the total sample of participants.

For all analyses, we transformed *t*-tests into correlation coefficients (i.e., effect sizes; ES) to convey the strength of the relations. We initially examined relations between dispositional experiential avoidance, emotion suppression, and cognitive reappraisal with everyday negative and positive experiences and events. Following these analyses, using the steps outlined by Baron and Kenny (1986), we examined experiential avoidance as a mediator of the significant effects of emotion regulation strategies (suppression, reappraisal) on daily outcomes.

Predicting everyday negative and positive experiences and events

As shown in Table 3, experiential avoidance was inversely related to daily positive affect, gratitude, presence of meaning in life, life satisfaction, and curiosity, and positively related to daily negative affect and social anxiety ($rs \geqslant .38$, $ps < .001$). Emotion suppression was inversely related to daily positive affect, gratitude, presence of meaning in life, life satisfaction, and curiosity, and positively related to social anxiety ($rs \geqslant .21$, $ps < .05$). In contrast, cognitive reappraisal was inversely related to daily gratitude, life satisfaction, and curiosity ($rs \geqslant .20$, $ps < .05$). As for daily reports of behavioral events, the only significant findings found experiential avoidance positively related to positive events and negatively related to negative events ($rs \geqslant .23$, $ps < .05$). Thus, only experiential avoidance was related to all daily outcomes and the magnitude of these relations was stronger than relations between emotion regulation and daily outcomes.

Experiential avoidance as a potential mediator of emotion regulation effects

We used a HLM approach to examine whether relations between emotion regulation and daily outcomes were mediated by experiential avoidance. Our zero-order correlation results and the findings reported in Table 3 support the first three requisite steps of mediation: (1) there were nine significant relations between emotion

Table 3
Summary of hierarchical linear models of experiential avoidance and emotion regulation in predicting daily experiences and events

Daily outcomes	Experiential avoidance			Emotion suppression			Cognitive reappraisal		
	β	t-test	ES r	β	t-test	ES r	β	t-test	ES r
Experiences									
Positive affect	−.04	-5.05^{***}	.47	−.04	-3.09^{**}	.30	.02	1.41	.15
Negative affect	.19	5.93^{***}	.52	.05	.94	.10	−.02	−.49	.05
Gratitude	−.10	-4.14^{***}	.39	−.11	-3.04^{**}	.30	.07	2.41^{*}	.24
Social anxiety	.28	5.07^{***}	.47	.26	2.84^{**}	.28	.05	.61	.07
Meaning in life	−.14	-4.88^{***}	.45	−.18	-3.79^{***}	.37	.04	.95	.10
Life satisfaction	−.10	-6.45^{***}	.55	−.10	-3.81^{***}	.37	.04	1.99^{*}	.20
Curiosity	−.20	-4.00^{***}	.38	−.17	-2.09^{*}	.21	.17	2.56^{*}	.26
Events									
Positive events	−.11	-3.73^{***}	.36	−.05	−1.14	.12	.05	1.34	.14
Negative events	.03	2.28^{*}	.23	.01	.68	.07	−.02	−1.36	.14

Notes: * $p<.05$. ** $p<.01$. *** $p<.001$. All p-values were two-tailed. β = unstandardized HLM coefficient. Degrees of freedom were 95 for each model. We transformed t-tests into correlation coefficients (i.e., effect sizes; ES) to convey the strength of relationships.

suppression and cognitive reappraisal (independent variables) and daily outcomes (dependent variables), (2) experiential avoidance (mediator) was significantly related to each daily outcome (dependent variables), and (3) emotion suppression and cognitive reappraisal (trend) significantly predicted experiential avoidance. The final step of mediation tested whether the nine significant relations between emotion regulation and daily outcomes were reduced to near-zero after accounting for the variance attributed to experiential avoidance. For the final step of mediation, we conducted a series of HLM analyses with experiential avoidance and an emotion regulation variable as simultaneous predictors of daily outcomes. Results are shown in Table 4.

Using the conservative Sobel test of mediation (see Study 1 for details), experiential avoidance accounted for all significant relations between emotion suppression and daily outcomes (i.e., positive affect, gratitude, social anxiety, meaning in life, life satisfaction, curiosity) ($zs>2.25$, $ps<.05$) and partially accounted for all significant relations between cognitive reappraisal and daily outcomes (i.e., gratitude, life satisfaction, curiosity) ($zs>1.75$, $ps<.10$). However, one reason that experiential avoidance failed to fully account for cognitive reappraisal effects were that the effects were small in magnitude to begin with. These data suggest that nearly all relations between dispositional emotion regulation strategies and daily positive and negative psychological outcomes were completely mediated by experiential avoidance.

Discussion

Similar to Study 1, experiential avoidance was a stronger consistent predictor of daily anxiety-related pathology (i.e., social anxiety) and emotional distress compared to other emotion regulation strategies. Experiential avoidance also demonstrated stronger inverse relations with daily positive emotions, life appraisals, and events. Most important, all of the relations between emotion suppression and "unhealthy" daily functioning, and to a lesser extent, cognitive reappraisal and "healthy" daily functioning, were fully mediated by experiential avoidance. As predicted, experiential avoidance was found to be an integral, toxic diathesis in predicting day-to-day distress and hedonic functioning, and the frequency of negative and positive events. These data provide some of the first empirical evidence to support the function of experiential avoidance as a barrier to deriving pleasure and meaning from life, and behaving in more valued directions in real-world contexts. Despite extending prior work on experiential avoidance by using an experience-sampling approach and behavioral reports of events, and attending to a range of positive psychological outcomes, there is reason to be cautious about causality until relevant variables are experimentally manipulated. For instance, our methodology did not allow us to specify whether changes in experiential avoidance had temporal precedence over changes in daily outcomes. Such questions could be addressed using an experimental

Table 4
Hierarchical linear models for testing the final step of experiential avoidance as mediator

Mediation models	β	t-test	ES r	Sobel z
Emotion suppression models				
DV = Positive affect				
Experiential avoidance	−.04	-4.18^{***}	.40	2.32^{*}
Emotion suppression	−.02	−1.67	.17	
DV = Gratitude				
Experiential avoidance	−.18	-3.29^{**}	.33	2.32^{*}
Emotion suppression	−.07	−1.83	.19	
DV = Social anxiety				
Experiential avoidance	.25	4.31^{***}	.41	2.36^{*}
Emotion suppression	.13	1.44	.15	
DV = Meaning in life				
Experiential avoidance	−.12	-3.86^{***}	.37	2.32^{*}
Emotion suppression	−.12	-2.50^{*}	.25	
DV = Life satisfaction				
Experiential avoidance	−.08	-5.43^{***}	.49	2.52^{*}
Emotion suppression	−.05	-2.24^{*}	.23	
DV = Curiosity				
Experiential avoidance	−.19	-3.45^{**}	.34	2.28^{*}
Emotion suppression	−.02	−.90	.10	
Cognitive reappraisal models				
DV = Gratitude				
Experiential avoidance	−.09	-3.77^{***}	.37	1.83
Cognitive reappraisal	.05	1.80	.18	
DV = Life satisfaction				
Experiential avoidance	−.09	-6.12^{***}	.54	1.90
Cognitive reappraisal	.02	1.11	.12	
DV = Curiosity				
Experiential avoidance	−.18	-3.60^{**}	.35	1.75
Cognitive reappraisal	.12	1.96	.20	

Notes: $^{*}p<.05$. $^{**}p<.01$. $^{***}p<.001$. All p-values were two-tailed. β = unstandardized HLM coefficient. Degrees of freedom were 94 for each model. We transformed t-tests into correlation coefficients (i.e., effect sizes; ES) to convey the strength of relationships. A significant Sobel z indicates that the mediator fully accounts for the influence of an independent variable on a dependent variable.

approach. Nonetheless, experience-sampling methods offer advantages over experimental paradigms in that they allow one to test theoretical models within naturalistic contexts, and thus tend to have greater ecological validity compared with laboratory studies.

As a complement to cross-sectional and experimental studies on the consequences of emotion regulation strategies and experiential avoidance, we used experience-sampling to understand the day-to-day variability in subjective experiences and behavioral events as they naturally unfold in the lives of individuals. Using this approach, we found that experiential avoidance leads to dysregulated emotional experiences and life constricting behavior (e.g., limited appetitive activity). Although emotion suppression is a component of experiential avoidance, suppression was unrelated to behavioral reports of specific events or daily global negative affect. The process consequences of chronic tendencies to suppress emotions was best captured by the attenuation of day-to-day positive emotional responses and appraisals of life satisfaction and meaning. Suppression involves a strategic blunting of emotions that consequently interferes with enjoyment and meaning in everyday life. In contrast, cross-sectional studies have found cognitive reappraisal to be positively related to psychological health. However, over the course of 21 days, reappraisal had small relations to a narrow range of day-to-day well-being indices (only 3 of 9 bivariate relations were significant). Thus, experiential avoidance/inaction, or inversely acceptance/willingness, better accounted for psychological functioning over time compared to cognitive reappraisal. Despite limitations discussed below, experiential

avoidance exhibited robust psychological costs, mediating relations between emotion regulation and naturalistic experiences and events.

General discussion and conclusions

The current set of studies suggest individuals reporting greater experiential avoidance suffer from affective, cognitive, and social consequences spanning indices of psychological distress and diminished hedonic functioning. Both studies found a strong relation between experiential avoidance and anxiety-related pathology. Interestingly, relations between coping, emotion response styles, and emotion regulation strategies with anxiety-related pathology were minimized or eliminated altogether when the effects of experiential avoidance were controlled. Dovetailing with prior experimental work (e.g., Karekla et al., 2004; Spira et al., 2004), these data are consistent with conceptualizations of experiential avoidance as a toxic self-regulatory diathesis for anxiety-related pathology.

Experiential avoidance interferes with the ability to live in accord with one's core values (Hayes et al., 1999; Wilson & Murrell, 2004). Regardless of content, it is consistent with core values to express and accept one's feelings, thoughts, and strivings. Evaluating, inhibiting, and attempting to alter aspects of the self was proposed to disrupt psychological and social well-being and not merely the exacerbation of negative experiences and events. In the present study, we found that individuals reporting greater experiential avoidance reported diminished positive affective experiences, life satisfaction, meaning in life, and less frequent positive (social, achievement, hedonistic, virtuous) events on a day-to-day basis in naturalistic, spontaneous contexts. All relations with daily positive outcomes were stronger for experiential avoidance compared to emotion suppression and cognitive reappraisal. More important, relations between emotion regulation strategies and daily positive outcomes were mediated by experiential avoidance.

Supporting our conceptual model, individuals chronically engaging in attempts to suppress their emotions experienced diminished hedonic functioning on a daily basis as a function of their habitual (1) failure to accept that some inner experiences will be less than desirable, (2) unwillingness to be in contact with these experiences, and (3) efforts to alter their form, frequency, or the factors that elicit them or may elicit them in the future (Forsyth et al., in press). In contrast, cognitive reappraisal exhibited few, small magnitude relations with positive psychological functioning that were reduced to non-significance after accounting for the effects of experiential avoidance. These findings suggest that individuals who inflexibly engage in experiential avoidance have less degrees of freedom to live in the present moment and take action toward valued ends and goals. When faced with approach-avoidance conflicts in the natural environment (e.g., a fun party that will involve experiencing unwanted social anxiety), experiential avoidance appears to obstruct approach-oriented actions and the subsequent potentiality of pleasure and meaning. Over time, this inflexible, avoidant regulatory style has considerable costs in terms of pathological outcomes and disrupted well-being and flourishing.

We believe the current investigation supports models suggesting that experiential avoidance is an important etiologic and maintenance factor in anxiety disorders. There is merit in merging this work with other psychological and biological vulnerabilities. When confronted with stressors that evoke anxiety or fear, individuals with more diminished feelings of personal control (Barlow, 2000), greater tendencies to view threat as a dynamic entity that escalates at an increasingly rapid rate (Riskind, Williams, Gessner, Chrosniak, & Cortina, 2000), or an over-reliance on external events to derive a sense of self-worth (and more labile self-worth and affect; e.g., Crocker & Wolfe, 2001) are more vulnerable to developing emotional disturbances. Experience-sampling and experimental methodologies can be useful methods to examine the relation between rigid and inflexible forms of experiential avoidance and other vulnerabilities in predicting the development of pathological anxiety. For instance, when individuals are confronted with fearful stimuli (on a daily basis or in response to experimental inductions), how do changes in experiential avoidance and other cognitive vulnerabilities predict temporal changes in anxiety-related pathology? Repeated assessments of negative and positive emotional and behavioral responses to fear learning over longer periods of time can elucidate the most important factors and processes differentiating disordered and non-disordered trajectories. The use of longitudinal growth curve modeling can elucidate "how," "when," and "why" individuals experience

significant distress and life disruptions, including avoidance responses at the expense of appetitive activity (when confronted with approach-avoidance conflicts).

In combination with prior studies on the adverse psychological consequences of experiential avoidance (e.g., Feldner et al., 2003; Marx & Sloan, 2005; Roemer et al., 2005; Sloan, 2004), an important line of further inquiry is methods to decrease avoidance and increase acceptance. Experimental work suggests that instructions to engage in a non-judgmental awareness and acceptance of ongoing internal states leads to less panic-related symptoms (e.g., Eifert & Heffner, 2003; Levitt, Brown, Orsillo, & Barlow, 2004) compared to control or regulatory instructions drawn from cognitive-behavioral treatments (e.g., attempt to relax) in response to biological challenges. Interventions designed to target the unwillingness to accept certain internal experiences have had promising results for various psychological conditions (e.g., Bach & Hayes, 2002; Bohus et al., 2004; Newman, Castonguay, Borkovec, & Molnar, 2004). Not surprisingly, recent developments within cognitive-behavior therapy have resulted in a rethinking of the mastery and control agenda that has come to characterize virtually all mainstream cognitive-behavioral interventions.

The treatment implications following from this work are relatively straightforward, and explicitly target the very agenda of emotion regulation itself as a prerequisite for effective action. For instance, in the first unified acceptance-based protocol for anxiety disorders of its type, Eifert and Forsyth (2005) introduce strategies that undermine excessive struggle and control over anxious thoughts, feelings, and sensations, and thereafter use experiential exercises, exposure and value-guided behavioral activation to assist clients in moving forward with their lives in the direction of chosen values. This treatment, based on Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), redirects the focus of treatment from feeling better (i.e., fewer symptoms) in order to live better to living *better* (i.e*., doing what matters in life*). Thus, exposure-like exercises are not cast as a means to reduce anxiety, but as a strategy to develop willingness to be with anxiety while moving in the direction of valued goals. Problematic psychological content is not targeted explicitly—exposure is done in the service of client values, not to manage anxiety. Cognitions are not challenged, disputed, or restructured. Instead, the emotion regulation agenda is the explicit target and clients are shown how that agenda has kept them from living out the lives they wish to live. In short, anxiety management is conceptualized as the problem (not a solution) and is dropped in favor of life management.

The explicit focus on undermining emotion regulation, while developing greater choice and psychological flexibility, is a broad-band repertoire expanding strategy. That is, it is about fostering acceptance of unwanted psychological and change (i.e., movement in valued directions) at the same time. It allows clients to have their pain, their unpleasant thoughts, memories, and feelings as they are and do what is important to them. More broadly, this approach ought to weaken the tendency for clients to get stuck in a cycle of regulation and control when emotional or psychological pain show up from time to time. In fact, acceptance of unwanted private experience can be thought of a powerful way to transform previous approach-avoidance conflicts (e.g., "I need to drive to work, but I may experience a panic attack…I am unwilling to have the panic, and so can't drive") into approach-approach conflicts (e.g., I need to drive to work…I may experience a panic attack and I am willing to have that"). Indeed, the extant research, including the present findings, suggest that so long as the emotion regulation agenda is present, the risk is great for psychological distress, suffering, and diminished life functioning. Targeting the emotional regulation agenda directly may be a powerful way to increase functioning beyond anxiety while preventing lapses following treatment. We should add that the jury is still out on the overall efficacy of this approach. Yet, at least one multisite study (UCLA and the University at Albany, SUNY) is underway testing these notions with a heterogeneous sample of anxiety sufferers. More research is clearly needed that directly compares the most efficacious treatments available on specific conditions (e.g., exposure-based therapies for anxiety disorders) to acceptance-based treatments.

In line with the current investigation, the outcomes under study should be expanded beyond traditional measures of distress and impairment to include the forms and processes of positive psychological functioning and flourishing. For instance, Acceptance and Commitment Therapy makes values clarification explicit, and includes a heavy emphasis on identification of client goals and actions that are congruent with their core values, while also reducing barriers to value-based living (e.g., see Eifert & Forsyth, 2005; Wilson & Murrell, 2004 for greater elaboration of treatment issues). Most of these barriers, in turn, are those having to do with the regulation of unwanted psychological and emotional content. With this approach, changes in treatment may not be adequately reflected by a narrow focus on the frequency and intensity of negative experiences and

events. The most important changes may be in the relationships people have with their negative experiences and events. That is, there may be a greater commitment to accepting these experiences and events and by doing so, day-to-day living may be more effortless, satisfying, and meaningful. The use of experience-sampling strategies in clinical trials is a good beginning. However, new assessment devices are needed that can adequately capture the complexity in which individuals modify ways in which they act with awareness, accept without judgment, and make choices that are congruent with personally meaningful values.

Despite promising future directions from the current set of studies, there are several caveats and limitations that warrant consideration. First, despite the use of ecologically sensitive experience-sampling techniques in Study 2, all of the variables in both studies were confined to self-report. To some extent, self-report is the most appropriate method to assess subjective experiences and the degree to which internal events are accepted or avoided. However, there is merit in supplementing these techniques with other modalities including informant reports and behavioral measures. Second, our methodology did not allow for an adequate examination of causality. One of the necessary conditions of mediation, temporality, was not addressed (and tends to be systematically neglected). Clear temporal relations need to be established to demonstrate that a mediator is a critical, causal mechanism between independent (e.g., coping mechanisms, emotion regulation strategies) and dependent (e.g., anxiety-related pathology, hedonic functioning) variables. Nonetheless, the convergence across cross-sectional and 21-day experience-sampling methodologies add credence to our findings. A more refined investigation would include assessments of moment-to-moment experiential avoidance, coping mechanisms, and emotion regulation strategies in response to specific (internal or external) events to test whether (1) changes in experiential avoidance occur prior to changes in outcomes and (2) the impact of changes in coping and emotion regulation on specific events are a function of changes in experiential avoidance. Third, the findings in both studies may not generalize beyond our non-clinical college student samples. Findings should be replicated with clinical samples. However, as mentioned, our interest was in examining experiential avoidance as a toxic diathesis, thus, the use of non-clinical samples fit our aims. Fourth, our results were confined to a single operational measure of experiential avoidance. Future work should consider other measures of experiential avoidance and acceptance. Also, data are needed on whether avoidance and acceptance are best conceptualized on a bipolar continuum (as they are on the AAQ) or if there is an important degree of independence between these constructs.

Overall, results suggest that individual differences in experiential avoidance are associated with greater anxiety-related pathology and diminished positive psychological functioning, and experiential avoidance fully mediated the relations between other coping and emotion response styles and these same outcomes. Results were similar across cross-sectional and 21-day experience sampling methodologies. Including a comprehensive assessment of day-to-day positive psychological functioning elucidated particularly strong inverse relations between experiential avoidance and positive affective experiences and events (even after controlling for tendencies to suppress emotions). Our findings converge with other experimental data to suggest that experiential avoidance is a general psychological vulnerability to anxiety-related pathology and disruptions in the elements of satisfying and meaningful living.

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