Psychol Rec (2016) 66:527–545
DOI 10.1007/s40732-016-0188-x

ORIGINAL ARTICLE

The Experiential Approach Scale: Development and Preliminary Psychometric Properties

Jeffrey A. Swails[1] · **Robert D. Zettle**[1] · **Charles A. Burdsal**[1] · **James J. Snyder**[1]

Published online: 27 July 2016

Abstract Several measures of experiential avoidance have been developed in investigating how efforts to control unwanted private events may contribute to psychopathology. We sought to extend research on experiential control by developing and examining the psychometric properties of the Experiential Approach Scale (EAS) as a measure reflecting efforts to sustain desired affective states. An exploratory and 2 confirmatory analyses revealed a 2-factor structure comprised of Anxious Clinging and Experience Prolonging subscales. Further structural analyses supported a hierarchical model of experiential control, with experiential approach and experiential avoidance as first-order factors. Both EAS subscales demonstrated high internal reliability and temporal stability as well as sufficient convergent and divergent validity. Only Anxious Clinging was positively associated with measures of psychological distress and psychopathology and inversely related to subjective happiness and satisfaction with life. Suggestions for further research in the development of the EAS and its possible use in investigating experiential approach are discussed.

Keywords Experiential control · Experiential approach · ACT · Happiness · Attachment

The last 15 to 20 years have seen the emergence of a new generation of cognitive behavioral therapies (CBT). This latest, and what some have referred to as the "third wave" of CBT (Hayes, 2004a, 2004b), focuses on how individuals respond and relate to problematic private events including thoughts, emotions, urges, memories, and bodily sensations (e.g., Hayes, Follette, & Linehan 2004; Linehan, 1993; Wells, 1994). In contrast to traditional CBT approaches that primarily seek to change the content, frequency, or form of unwanted private events (e.g., Beck, 1993), third-wave CBTs to a greater degree emphasize responding and relating to them with nonjudgmental awareness (Hayes, 2004b). Increasingly visible among the acceptance and mindfulness-based approaches that characterize the third generation, or wave, of CBT approaches has been acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999; Hayes, Strosahl, & Wilson, 2012).

ACT proposes that we find meaning and vitality in life by behaving in value-congruent ways. Wilson and Dufrene (2008) define values as freely chosen patterns of activity that are intrinsically reinforcing. For example, reading a bedtime story to one's child may be sustained simply because it is one of many ways of enacting the value of being a loving parent. Unfortunately, considerable psychological flexibility, or the ability to adjust or persist in chosen actions, may be necessary to pursue valued living (Hayes et al., 1999), particularly when unpleasant experiential barriers are encountered along the way. The valued action of reading the bedtime story may occur with ease when the parent feels alert and undistracted. Doing so, however, may be more challenging when that same parent is feeling tired or depressed, is preoccupied with other matters (e.g., a work-related report due the next day), and possibly even resents the time and energy that the bedtime story diverts away from doing other seemingly more important things. Under these circumstances, parents understandably may engage in efforts to somehow diminish psychological experiences that stand in the way of the valued action by, for example, suppressing resentful thoughts or distracting themselves from such thoughts and feelings.

✉ Jeffrey A. Swails
jaswails@wichita.edu; swailsjeff@gmail.com

[1] Department of Psychology, Wichita State University, 1845 Fairmount St. Wichita, KS 67260, USA

From the perspective of ACT, such deliberate experiential control efforts to eliminate or attenuate the frequency and intensity of unwanted private events are potentially problematic for two reasons. First, these attempts are often unsuccessful in changing private events, at least in the long term. For example, when participants attempted to suppress thoughts of a white bear, they afterwards experienced a "rebound effect" during which the targeted thought reemerged with renewed intensity (Wegner, Schneider, Carter, & White, 1987; see Wenzlaff & Wegner, 2000, for review of thought control studies). The futility of experiential control efforts also appears to extend to unwanted affective states. When college students attempted to push away a dysphoric mood, they experienced an intensification of it compared to equally dysphoric students who made no similar effort to alter their mood (Wenzlaff, Wegner, & Roper, 1988). In addition, participants in the lab who attempt to alter their mood, either positively or negatively, while under a cognitive load report experiencing the opposite of their intended shift in mood (Wegner, Erber, & Zanakos, 1993).

The experiential control agenda may also be problematic because it often takes time, attention, and energy away from living a valued life. In some instances, individuals may in effect put their lives on hold until they have more (e.g., self-confidence) or less (e.g., depression, anxiety) of some psychological experience. In others, according to Hayes, Luoma, Bond, Masuda, and Lillis (2006), effectively controlling and sustaining certain private events (e.g., to be happy and free of worries) may become the "benchmark" for defining the successful life. In short, life becomes more about having the "right" thoughts and feelings than it is about following one's values. The detrimental impact of experiential control is supported by findings that attempts to suppress or otherwise control thoughts serve as a contributing factor for many psychological conditions, including posttraumatic stress disorder (PTSD; e.g., Ehlers, Mayou, & Bryant, 1998), clinical levels of anxiety (e.g., Becker, Rinck, Roth, & Margraf, 1998), specific phobia (e.g., Muris, Merckelbach, Horselenberg, Sijsenaar, & Leeuw, 1997), and obsessive–compulsive disorder (Salkovskis, Richards, & Forrester, 1995; for full review, see Purdon, 1999). In addition, attempts to alter undesired emotions appear to be equally harmful and have been linked to decreased subjective well-being, poorer interpersonal relationships (Butler & Gross, 2004; Gross & Levenson, 1997), and the manifestation and exacerbation of depression (e.g., Nolen-Hoeksema, 2000; Wenzlaff, 1993; Wenzlaff et al., 1988), anxiety (e.g., Nolen-Hoeksema, 2000), and PTSD (Kashdan & Breen, 2010).

Research to date on experiential control has focused primarily on efforts to somehow alter *negative* psychological experiences. This should not be surprising given the prevalence of aversive contingencies in managing human behavior, their impact in generating anxiety and other unwanted affective reactions, and in reorganizing behavior into rigid and inflexible patterns (Sidman, 1989; Skinner, 1971). The clinical relevance of the pernicious emotional and behavioral consequences of coercion is further underscored by how much of the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (American Psychiatric Association, 2013) is organized around unwanted private events and efforts to control them. This is seen, perhaps, most clearly in the anxiety disorders that are characterized by fear and anxiety as well as pervasive avoidant behaviors that are maintained by their effect in reducing such unwanted emotions.

Efforts to control negative private events within ACT are viewed as forms of experiential avoidance. Although situational avoidance is the type of experiential avoidance that has been studied most extensively by behavior analysts, Skinner (1953) himself recognized that human avoidant behavior may be more expansive in considering a soldier preparing for combat: "The man may be avoiding, not merely battle, but his own reactions of anxiety" (p. 180). Experiential avoidance within ACT accordingly is formally defined as the unwillingness to contact certain private experiences, including thoughts, emotions, urges, memories, and bodily sensations as well as the contexts that give rise to them (Hayes, Strosahl, Wilson, Bissett, Pistorello, Toarmino, & McCurry, 2004b). Experiential avoidance can take on many behavioral forms and is defined by the function it serves. Any behavior that has the effect of somehow altering an *unwanted* private experience is experiential avoidance.

Experiential avoidance as broadly construed has been commonly measured with the original version of the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, et al., 2004) and its subsequent revision (AAQ-II; Bond et al., 2011). In addition to the AAQ as a generic measure of experiential avoidance, several context-specific inventories for assessment of experiential avoidance have also been developed. These questionnaires include, but are not necessarily limited to, the measurement of experiential avoidance related to cigarette smoking (Gifford, Antonuccio, Kohlenberg, Hayes, & Piasecki, 2002), chronic pain (McCracken, Vowles, & Eccleston, 2004), and diabetic self-care (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007).

If experiential control is broadly defined as efforts to alter *any* psychological event, it seems that experiential approach would constitute another dimension of experiential control. We propose that experiential approach can be construed as a second facet of experiential control involving attempts to contact, sustain, or somehow control *positive* thoughts, emotions, urges, memories and bodily sensations as well as the contexts that give rise to them. Given a history of framing avoidance and approach oppositionally, we have opted to refer to experiential control that serves this function as experiential approach.

Learning theorists more generally (e.g., Miller, 1944), and behavior analysts in particular (e.g., Hearst, 1967), have long

been interested in the behavioral effects of approach-avoidance conflicts. Moreover, aversive and positive reinforcing contingencies also have been recognized as generating opposing emotional byproducts that may, in turn, become the respective targets of experiential avoidance and experiential approach. As Skinner (1953, Ch. 11) observed, anxiety that arises when a stimulus precedes a strong negative reinforcer has its counterpart in the elation occurring when a stimulus precedes a potent positive reinforcer. Although it is beyond the scope of this article to provide a comprehensive discussion of the distinction between the two, it seems worth noting that we do not find it useful to equate seeking happiness and other forms of experiential approach with behavior under appetitive control. Eating food when deprived of it may be a joyful experience, but it is the seeking and consumption of nutrients rather than happiness that has survival value. Similarly, sexual behaviors may be both reinforcing and feel good due to shared phylogenic contingencies of survival occurring over the history of our species (Epstein, 1980, p. 342).

The purpose of this article is to describe our efforts to develop a scale to assess this relatively neglected dimension of experiential control, examine its relationship to experiential avoidance, and provide a preliminary report of some of its salient psychometric properties.

Perhaps the most common example of experiential approach is the "pursuit of happiness" as a desired affective state. Many mental health professionals and laypeople alike view the attainment of happiness as the core of psychological well-being (Diener & Larsen, 1993; Fredrickson, 1998; Keyes, 2002; Myers & Diener, 1995). The ostensible benefits of happiness are well documented and include (a) broadening attention (Fredrickson & Branigan, 2005), (b) increasing behavioral repertoires (Fredrickson & Branigan, 2005), (c) improving overall immune functioning (Davidson et al., 2003), (d) promoting psychological growth (Fredrickson, Tugade, Waugh, & Larkin, 2003), and (e) counteracting the effects of negative emotions on the cardiovascular system (Fredrickson, Mancuso, Branigan, & Tugade, 2000; for full review, see Fredrickson & Losada, 2005). These findings, however, do not address how happiness has been attained.

Happiness and other positive emotional reactions that emerge as a byproduct of value-congruent behavior may be more tightly linked to beneficial outcomes than desired affective states that are deliberately pursued as goals. Indeed, there is increasing empirical evidence that suggests that the pursuit of happiness may have the paradoxical effect of making its attainment less likely (Ford & Mauss, 2014). For example, Mauss, Tamir, Anderson, and Savino (2011) examined the affective impact of valuing happiness both correlationally and experimentally. In times of low life stress, participants who were the least happy were those who evaluated happiness the highest. In an experiment, Mauss et al. (2011) manipulated the appraisal of happiness by having one group read an article detailing its benefits and the control group read an article extolling the virtues of accurate judgment. All participants then watched either a positive or negative mood-inducing film. College students in the experimental group reported less positive emotional experiences following the happy film than their control-group counterparts. However, there were no between-group differences in reactions to the sad film.

Research suggesting that chasing happiness and other desired emotional experiences is less fulfilling than allowing them to find us while we pursue a life worth living is generally consistent with an ACT perspective on this matter. For example, in *The Happiness Trap,* Harris (2007) argues that experiential control in general, and that involving happiness in particular, is harmful when it is (a) excessive, (b) unsuccessful, and (c) interferes with valued living. Although Harris emphasizes that a variety of deliberate efforts to become happy can paradoxically make the experience of it less likely, he primarily focuses on those that seek to minimize negative affective states, such as sadness and worry that are viewed as being incompatible with the attainment of happiness and other desired emotions. The equally deleterious role that experiential approach may play in pursuing happiness is acknowledged, but with relatively few exceptions (e.g., Zettle, 2007, p. 170), it has received noticeably less attention within the ACT literature.

Chasing happiness and other positive emotions is perhaps the most obvious dimension or facet of experiential approach. Another apparent aspect of experiential approach, however, is how one relates to happiness once it is contacted. Is it allowed to linger and be savored on its own time or are deliberate efforts made to keep it captive? The futility and suffering associated with attachment in general, and that from clinging to desired emotions in particular, is, of course, a major tenant of Buddhism. In Buddhist thinking, attachment is a cause of distress because it embellishes the appealing aspects and downplays the unappealing aspects of an object. Because the object itself is inevitably fleeting and impermanent, attachment to it is destined to cause suffering (e.g., Asanga, 2001). Recent efforts to create a measure of attachment, or lack thereof, have documented a positive relationship between the Buddhist concept of nonattachment and measures of subjective well-being (Sahdra, Shaver, & Brown, 2010).

There has also been at least some recognition within ACT as well of the futility and perhaps unintended negative consequences of attempting to sustain or cling to happiness and other desired affective states once they are experienced. The polygraph metaphor, in which clients are asked to imagine remaining calm while threatened with being shot if unsuccessful (Hayes et al., 1999, pp. 122–123), is often presented in ACT to underscore the paradoxical impact of experiential avoidance (i.e., "If you're not willing to have it, you've got it"). An ACT metaphor that has a parallel "take-home message" about experiential approach (i.e., "If you're not willing to lose it, you've lost it") is that of the monkey trap (Bach & Moran, 2008, p. 165). A

monkey who has inserted his hand into the narrow opening of a hallowed gourd remains trapped by it as long as he continues to tightly grasp the bait inside.

To summarize, by now the significant relationship between experiential avoidance, as assessed by the AAQ-II as well as context-specific variants of it, and diverse forms of human suffering is well documented. How the two putative forms of experiential control may be related to each other, and the degree to which experiential approach may uniquely contribute to human suffering, are empirical questions that can begin to be addressed by developing a psychometrically sound measure of experiential approach. Insofar as we are unaware of any existing means of assessing experiential approach, the overall purpose of this article is to present our efforts to develop the Experiential Approach Scale (EAS) as such an instrument. We initially opted to focus on the sustaining or clinging dimension of experiential approach. It appears to us that developing a self-report measure that can distinguish actions that produce happiness as a byproduct versus those that do so as a goal may constitute a greater challenge. It is our hope that success in developing this initial version of the EAS may usefully inform any such subsequent efforts.

In what follows, we will first discuss the process of item generation and selection as well as scale development. In the second study, we conducted confirmatory factor analyses, and in the third we evaluated whether experiential approach, as assessed by the EAS, and avoidance, as measured by the AAQ-II, may be hierarchically related to a higher order factor of experiential control. In the fourth study we evaluated the temporal stability of the EAS, and in the final study we report on a preliminary assessment of its convergent and discriminant validity by examining its relationship to an array of both conceptually associated and distinct variables.

Study 1: Item Generation, Selection, and Exploratory Factor Analysis

Method

Members of the second author's research lab first individually generated a pool of 36 items that reflect efforts to sustain or otherwise prolong positively valenced emotions, such as happiness. Following a group discussion, 16 items were eliminated by majority vote. We next evaluated the content validity of the remaining 20 items by sending them to a panel of 11 ACT experts with the following instructions:

> The proposed scale is intended to measure tendencies to cling onto desirable emotions, such as happiness. To what degree do people attach to their preferred emotions? To what degree do people allow preferred emotions to come and go? Consider the butterfly garden metaphor: You walk into a butterfly garden, hold out your hand, and wait for a butterfly to land. When a butterfly lands in your hand, do you enjoy the moment or attempt to grasp on to the butterfly and crush it? Please rate the following items in terms of tapping into the aforementioned construct.

Each item was rated according to a 5-point Likert-type scale ranging from a *very good* (1) to *very bad* (5) reflection of the construct. In addition, the ACT experts were encouraged to offer comments about the items, suggest wording changes, and nominate their own items. None of the judges nominated any additional items, but two did suggest a few minor word changes that were incorporated into the items. Only one item received an average rating above the median response option (3) and was excluded for this reason. We next determined what additional items among the remaining 19 (see Table 1) might also warrant exclusion based on analyses of the questionnaire's internal consistency and factor structure.

Participants

College students ($N = 346$) whose participation was one means of fulfilling a psychology course requirement, comprised the sample in our first study. They completed an online survey consisting of demographic and background questions as well as the EAS and several other inventories. The instructions for the EAS asked participants to "rate how true each statement is for you" using a 7-point Likert-type scale (1 = *never true* to 7 = *always true*). Data were excluded for those who failed to answer every item on the EAS ($n = 5$). We next considered whether any additional participants might warrant elimination based on how rapidly they completed the survey. To do so we compared the average rating of EAS items between the fastest 16 % of completers ($n = 54$), corresponding to the proportion falling a standard deviation below the mean survey completion time of 23 min, and the rest of the sample. In the absence of any significant difference between the two groups, we opted to include the responses of rapid completers. The majority of the retained 341 participants were White (59.2 %) and female (67 %) with a mean age of 22.3 years. See Table 2 for a full listing of the demographic characteristics of Sample 1.

Exploratory Factor Analysis

We used an SPSS syntax program developed by O'Connor (2000) for conducting a minimum average partial test (MAP; Velicer, 1976) to determine the number of factors. The MAP calculates the residual covariance matrix rescaled to the variance of each variable, providing the partial correlations following the extraction of each factor. The average partial r^2 (old criterion) and r^4 (new criterion) are computed

Table 1 Factor loadings for exploratory factor analysis with Promax rotation of EAS

	EAS Items	Subscales	
		Anxious Clinging	Experience Prolonging
1.	When I'm in a good mood, I worry that something will spoil it.	**.819**	.013
2.	When I experience positive emotions, I worry about them fading.	**.840**	.008
3.	My concern with losing good feelings prevents me from enjoying them.	**.842**	−.084
4.	I try to hang on to feelings I enjoy.	.090	**.557**
5.	When I'm feeling "on top of the world," I'm afraid to let go of it.	**.637**	.193
6.	I do my best to stay happy all the time.	−.206	**.693**
7.	When things are going well, I expect something bad to happen.	**.770**	−.105
8.	I wonder why my good moods are fleeting.	**.770**	.036
9.	I do my best to make my good moods last a long time.	−.136	**.851**
10.	If I am in a good mood, I try everything I can to stay that way.	−.066	**.882**
11.	If I could figure out why I am happy, I could make it occur more often.	.230	**.529**
12.	When I'm feeling good, I try to do whatever I can to hang on to it.	.049	**.842**
13.	When I care about someone, I think I will lose him or her.	**.615**	.062
14	I wish I could understand why my happiness doesn't stay longer.	**.813**	.048
15.	*I spend a considerable amount of time and effort holding on to happiness.*[a]	**.568**	**.359**
16.	When I am having fun, I feel that the experience will not last.	**.833**	−.053
17.	I feel unsettled when good things happen in my life.	**.752**	−.098
18.	When I love someone, I can't get enough of it.	.108	**.411**
19.	During my better moments, I expect something will happen and ruin them.	**.866**	−.100

Factor loadings ≥ .32 are in boldface

[a] Nonretained item

following each factor extraction and decrease until all common variance has been extracted and then begin increasing. At this juncture, factor extraction is terminated and the number before the increase is used.

The revised MAP test (Velicer, Eaton, & Fava, 2000) revealed two factors with eigenvalues of 8.1 and 3.5 that accounted for 61.4 % of the variance. We chose an oblique (i.e., Promax with a Kaiser normalization) rather than orthogonal rotation of the two factors because we had no a priori reason to expect that they would be unrelated to each other. Each of the 19 items (see Table 1) except item 15 exhibited loadings salient for inclusion (≥.32; Tabachnick & Fidell, 2007) on a single factor and were consequently retained. Of the remaining 18 items, 11 loaded on Factor 1 that we designated Anxious Clinging. This dimension appears to encompass fear and worry of losing happiness and other desired emotional states. Factor 2, on which the remaining seven items loaded, seems to more closely reflect our original intent to develop a measure of attachment to positive affective experiences. We have accordingly termed it Experience Prolonging. Because the two factors were only modestly correlated ($r = .24$) with each other, we have opted to regard them as comprising separate EAS subscales.

Analyses of Internal Consistency

The Anxious Clinging subscale yielded acceptably high alpha ($\alpha = .94$) and split-half reliability coefficients ($r = .86$). Corrected item-total correlations for the 11 items ranged from .61 (Item 13) to .82 (Item 19) with a mean of .75. The Experience Prolonging subscale also demonstrated an acceptable level of internal consistency as assessed by alpha ($\alpha = .85$) and split-half reliability coefficients ($r = .69$). Corrected item-total correlations for the seven items ranged from .42 (Item 18) to .78 (Items 10 and 12) with a mean of .62.

Descriptive Statistics

Scores on the 11-item Anxious Clinging subscale ranged from 11 to 77 with a mean of 32.8 ($SD = 14.5$). The distribution displayed minimal skewness (.66) and

Table 2 Summary of demographic characteristics of participant samples

Study	1 ($N = 341$)	2 ($N = 271$)	3 ($N = 181$)	4 ($N = 143$)	
Age (*SD*)	22 (6.0)	22 (6.2)	23 (6.3)	19.7 (2.7)	
Gender					
Female	228 (66.9 %)	195 (72.0 %)	141 (77.9 %)	81 (56.6 %)	
Male	113 (33.1 %)	76 (28.0 %)	40 (22.1 %)	62 (43.4 %)	
Race Ethnicity					
Native American[a]	21 (5.0 %)	4 (1.5 %)	4 (2.0 %)	3 (2.0 %)	
Asian	63 (15.1 %)	23 (8.5 %)	26 (13.2 %)	9 (5.9 %)	
Black	39 (9.4 %)	29 (10.7 %)	16 (8.1 %)	18 (11.8 %)	
Native Hawaiian[b]	5 (1.2 %)	1 (.4 %)	3 (1.5 %)	0 (0 %)	
White	247 (59.2 %)	204 (75.3 %)	130 (66.0 %)	103 (67.0 %)	
Hispanic	42 (10.1 %)	NR	NR	18 (11.8 %)	
Other	NR	33 (12.2 %)	18 (9.1 %)	2 (1.3 %)	
Marital Status					
Single	NR	224 (83.6 %)	146 (81.6 %)	138 (96.5 %)	
Married	NR	32 (11.9 %)	28 (15.8 %)	4 (2.8 %)	
Divorced	NR	12 (4.5 %)	5 (2.8 %)	1 (.7 %)	
Anxious Clinging				T1	T2
Mean	32.8	30.7	32.6	29.7	30.7
SD	14.5	12.9	13.4	12.0	13,0
α	.91	.93	.94	.90	.93
Split-half[c]	.85	.84	.86	.80	.83
Experience Prolonging					
Mean	34.7	34.1	33.9	34.6	35.1
SD	7.8	7.5	7.6	8.1	8.2
α	.85	.83	.84	.82	.85
Split-half[c]	.69	.63	.74	.65	.65

Participants were able to select more than one race/ethnicity option.

T1 time 1, *T2* time 2

[a] Includes Alaskan Natives

[b] Includes Pacific Islanders

[c] Split-half reliability coefficients

kurtosis (.06). The mean ratings for individual items on the 7-point Likert-type scale showed minimal variability and ranged from 2.4 (Items 3 and 17) to 3.6 (Items 5 and 13).

Scores on the 7-item Experience Prolonging subscale ranged from 7 to 49, with a mean of 34.7 ($SD = 7.8$). The distribution displayed minimal skewness (−.35) and kurtosis (−.03). The mean ratings for individual items showed minimal variability, ranging from 4.4 (Item 11) to 5.2 (Items 4, 6, 9), and were, on average, significantly higher ($M = 5.0$, $SD = 0.3$), $t(340) = 24.7$, $p < .001$, than those on the Anxious Clinging subscale ($M = 3.0$, $SD = 0.4$).

Scores did not differ by gender or race/ethnicity in comparing Whites versus all others for either subscale. Scores also did not vary by age for the Anxious Clinging subscale, but did so for the Experience Prolonging subscale ($r = -.14$, $p = .01$). The correlation between subscales was statistically significant, but weak, $r = .28$, $p < .001$.

Study 2: Confirmatory Factor Analyses

The overall findings of Study 1 suggested that the EAS yields two-factor derived subscales of experiential approach that do not vary substantially by demographic variables. In Study 2 we further evaluated the factor structure of the EAS by conducting confirmatory factor analyses (CFA) with two additional samples. A CFA has the benefit of accounting for measurement error and any other unknown variables that are not associated with the two factors (Kline, 2005). Certain sources of these measurement errors include redundancy in the items, demand

characteristics, and variability in comprehension difficulty of the items (Brown, 2003).

Method

Participants

Both Sample 2 ($N = 371$) and Sample 3 ($N = 209$) participants were recruited and compensated in the same manner as in Study 1. Each completed an online survey consisting of demographic and background questions as well as the EAS and several other inventories

Sample 2 Prior to further analyses, data were first eliminated from two students, among the sample of 371, who failed to meet an age requirement of being 18 years or older. We next excluded 47 participants who failed to answer every item on the EAS. Last, we considered whether any additional participants might warrant elimination based on how rapidly they completed the survey by comparing the EAS subscale scores of the fastest 16 % of completers ($n = 51$) to the rest of the sample. Although the two groups did not differ on the Experience Prolonging subscale, rapid completers scored significantly higher on the Anxious Clinging subscale, $t(320) = 2.50$, $p = .02$. For this reason, we opted to exclude rapid completers from further analyses of Sample 2. The majority of the retained 271 participants were comparable to those of Sample 1 in age ($M = 22$) and in their racial/ethnic (75.3 % White) and gender (72.0 % female) composition (see Table 2). Scores on each of the subscales did not vary significantly by age, ethnicity (in comparing Whites to all others), and gender.

Descriptive statistics for EAS subscales also paralleled those from Sample 1. Scores on Anxious Clinging ranged from 11 to 69, with a mean of 30.7 ($SD = 12.9$), and did not differ significantly from those of Sample 1, $t(610) = 1.87$, $p = .06$. Skewness (.56) and kurtosis (−.26), as well as variability in the mean ratings for individual items (ranging from 2.2 to 3.3), also were comparable to Sample 1.

Scores on Experience Prolonging ranged from 8 to 49, with a mean of 34.1 ($SD = 7.5$), and were also not significantly different than those from Sample 1, $t(610) = 0.88$, $p = .38$. In addition, skewness (−.35) and kurtosis (.20) as well as variability in the mean ratings for individual items (ranging from 4.4 to 5.2) were comparable to Sample 1. As with Sample 1, Sample 2 participants on average endorsed items on the Experience Prolonging scale ($M = 4.9$, $SD = 0.3$) at a significantly higher level, $t(270) = 24.30$, $p < .001$,than those on the Anxious Clinging subscale ($M = 2.8$, $SD = 0.4$). Last, the correlation between subscales was again weak, but significant, $r = .22$, $p < .001$.

In Sample 2, the Anxious Clinging subscale displayed acceptably high alpha ($\alpha = .92$) and split-half reliability coefficients ($r = .82$). Corrected item-total correlations for the 11 items ranged from .64 (Item 13) to .82 (Item 2) with a mean of .72. The Experience Prolonging subscale also showed acceptable levels of internal consistency ($\alpha = .83$ and split-half reliability $r = .63$), comparable to that noted with Sample 1. Corrected item-total correlations for the seven items ranged from .42 (Item 6) to .79 (Item 10) with a mean of .59.

Sample 3 As with Sample 2, data were first eliminated from one student among the sample of 209 who failed to meet an age requirement of being 18 years or older. We next excluded 27 participants who failed to answer every item on the EAS. Because there were no significant differences between rapid completers ($n = 29$) and the rest of the participants on either of the EAS subscales, we opted to include them. The majority of the retained 181 participants were comparable to those of the two previous samples in age ($M = 23$) and in their racial/ethnic (66 % White) and gender (78 % female) composition (see Table 2). Similar to Sample 2, scores on each of the EAS subscales did not vary significantly by gender and ethnicity in comparing Whites to all others. Although scores on the Anxious Clinging subscale did not vary by age, there was a significant, albeit weak, relationship between age and scores on the Experience Prolonging subscale, $r = .10$, $p = .03$.

The descriptive statistics of Sample 3 for the EAS subscales were comparable to both previous samples. Scores on the Anxious Clinging subscale ranged from 11 to 74, with a mean of 32.6 ($SD = 13.4$), and did not differ from either Sample 1, $t(520) = 0.18$, $p = .86$, or Sample 2, $t(450) = 1.47$, $p = .14$. The distribution displayed minimal skewness (.46) and kurtosis (−.35). The mean ratings for individual items showed minimal variability and ranged from 2.4 to 3.6.

Scores on the Experience Prolonging subscale ranged from 7 to 49 with a mean of 33.9 ($SD = 7.6$) and were not significantly different from either Sample 1, $t(520) = 0.95$, $p = .34$, or Sample 2,$t(450) = 0.17$, $p = .86$. The distribution showed minimal skewness (−.65) and kurtosis (.85). The mean ratings for individual items showed minimal variability and ranged from 4.3 to 5.2. The correlation between subscales, $r = .22$, $p < .001$, was comparable to that found in the two previous samples. Also consistent with the earlier samples, the average rating of Experience Prolonging subscale items ($M = 4.8$, $SD = 0.3$) was significantly higher, $t(180) = 17.40$, $p < .001$, than that for items loading on the Anxious Clinging subscale ($M = 3.0$, $SD = 0.4$).

Analyses with Sample 3 again revealed acceptable levels of internal consistency for both subscales. Alpha coefficients for Anxious Clinging ($\alpha = .94$) and Experience Prolonging ($\alpha = .84$) were comparable for those from Sample 1 and Sample 2. Levels of split-half reliability (Anxious Clinging = .86 and Experience Prolonging = .74) as well as corrected item-total correlations also paralleled those seen

with the two previous samples. Corrected item-total correlations for the Anxious Clinging subscale ranged from .61 (Item 5) to .83 (Item 7) with a mean of .75, while those for the Experience Prolonging subscale ranged from .41 (Item 6) to .83 (Item 9) with a mean of .61.

Results and Discussion

We first conducted a CFA with Sample 2 that took into account shared error variance between heavily correlated items, and then attempted to replicate the findings with Sample 3.

Sample 2 To help inform the CFA, we initially conducted a MAP and EFA. Two factors were revealed with eigenvalues of 8.4 and 3.6 that accounted for a slightly lower proportion of variance (59.3 %) than with Sample 1. The correlation between factors was comparable to Sample 1, $r = .24$. In conducting the CFA, we used the structural equation modeling software program Analysis of Moment Structures (AMOS 5.0; Arbuckle, 2003). In order to maximize fit, the errors between three pairs of Anxious Clinging items (7 & 19, 17 & 19, and 1 & 2) and one pair of Experience Prolonging items (6 & 9) were allowed to covary, reflecting similar wording shared by those item pairs.

To assess the goodness of fit we evaluated three measures: (a) the normed chi-square (NC), (b) the root mean square error of approximation (RMSEA; Jöreskog & Sörbom, 1996), and (c) the goodness-of-fit index (GFI; Jöreskog & Sörbom, 1996). Because of its sensitivity to sample size, the chi-square statistic (χ^2) may overestimate the lack of model fit (Bollen, 1989). Accordingly, we divided it by the degrees of freedom (χ^2/df) to yield a normed chi-square (NC) that approaches zero as model fit increases. RMSEA is also inversely related to model fit, whereas GFI increases as the fit of a given model improves. Consistent with guidelines of Bollen (1989) and Hu and Bentler (1998), we considered NC values of ≤ 3, RMSEA values of $\leq .08$, and GFI values of $\geq .90$ as reflective of good model fit. The CFA confirmed the factor structure as all three fit indices were met: (a) NC = 2.80, (b) RMSEA = .08, CI [.07, - .09], and (c) GFI = .92.

Sample 3 By taking into account shared error variance between pairs of EAS items, the CFA with Sample 2 in effect optimized fit. To assess the stability of this model, we evaluated the replicability of its fit with Sample 3. A MAP verified a two factor solution with eigenvalues of 7.5 and 3.6 that accounted for a proportion of variance (62 %) comparable to that of the first two samples. The correlation between factors, $r = .19$, was also comparable to that noted for Sample 1 and Sample 2.

The CFA was conducted in the same fashion as Study 2 with the same pairs of error terms specified. The fit indices of NC (2.41) and GFI (91) were met. While the value of RMSEA (.09) did not meet criterion, it still fell within an acceptable confidence interval, CI[.08, .10], providing at least modest additional support for the reliability of the tested model. Concerns have been expressed about setting rigid cutoff values for fit indices more generally (Marsh, Hau, & Wen, 2004) and for RMSEA in particular (Chen, Curran, Bollen, Kirby, & Paxton, 2008). In light of these reservations, it was our judgment that the two confirmatory analyses in the aggregate provided sufficient evidence of the stability of the EAS's factor structure to warrant evaluation of its relationship with experiential avoidance as assessed by the AAQ-II.

Study 3: Structural Analysis of Experiential Control

We have posited that experiential approach and experiential avoidance can be construed as two facets or dimensions of experiential control that primarily differ from each other in their targets. Whereas experiential approach involves deliberate efforts to contact and sustain happiness and other desired affective and mood states, experiential avoidance involves purposeful attempts to eliminate or attenuate the frequency and intensity of unwanted private events, such as sadness. We next empirically tested this conceptual model by examining the association of the EAS with the AAQ-II, and whether both measures are structurally related to experiential control as a putative higher order factor.

Method

Participants

An aggregate of 604 college students also completed the AAQ-II during the administration of the EAS to Sample 1 ($N = 338$) and Sample 2 ($N = 266$).

Measure

We used the 7-item version of the AAQ-II to assess experiential avoidance (Bond et al., 2011). Participants responded to items (e.g., "My painful memories prevent me from having a fulfilling life") according to a 7-point Likert-type scale with higher scores reflective of increased experiential avoidance. The AAQ-II has demonstrated sufficient internal and test–retest reliability as well as convergent validity and discriminant validity (Bond et al., 2011). The levels of internal reliability in Sample 1 ($\alpha = .94$) and Sample 2 ($\alpha = .92$) were comparable to that reported by the instrument's developers.

Results and Discussion

EAS-AAQ-II Correlations Levels of experiential avoidance as assessed by the AAQ-II did not differ between Sample 1

($M = 21.2$, $SD = 10.5$) and Sample 2 ($M = 20.7$, $SD = 9.7$), nor between either sample and that reported for a college student sample ($M = 21.4$, $SD = 9.7$) by Bond et al. (2011). We anticipated that both EAS subscales would be positively correlated with the AAQ-II if both instruments were in effect assessing differing, but related dimensions of experiential control. As expected (see Table 3), the link between the AAQ-II and Anxious Clinging was strong across Sample 1, $r = .67$, $p < .001$, and Sample 2, $r = .74$, $p < .001$, whereas the correlations between the AAQ-II and Experience Prolonging were weak, but still significant across Sample 1, $r = .27$, $p < .001$, and Sample 2, $r = .14$, $p = .02$. We used a Z test (created by Steiger, 1980, and updated by Hoerger, 2013) to determine the statistical significance of differences in correlation coefficients between the two subscales and AAQ-II. As seen in Table 3, the correlations of the two EAS subscales with the AAQ-II differed significantly from each other within both Sample 1, $z = 7.48$, $p < .001$, and Sample 2, $z = 9.78$, $p < .001$. These overall findings suggest that anxiously clinging to happiness and other positive affective states is more closely related to experiential avoidance than are efforts to prolong or savor such desired psychological experiences.

Confirmatory Analyses Of relatively greater interest was evaluating support for our proposed hierarchical model of experiential control. To do so, we first conducted a CFA on Sample 1. This was preceded by a MAP indicating three factors with eigenvalues of 10.6 (Anxious Clinging), 3.8 (AAQ-II), and 1.9 (Experience Prolonging) that accounted for 60.8 % of the variance, with all items loading on their respective scales. The Anxious Clinging factor was strongly related to the AAQ-II factor ($r = .67$), while each in turn was only weakly correlated with the Experience Prolonging factor ($r = .24$ and $r = .08$, respectively). As with the previous CFAs, we used AMOS (Arbuckle, 2003) and allowed errors between the same three pairs of Anxious Clinging items and one pair of Experience Prolonging items to covary. To further improve model fit, we also allowed errors between three pairs of AAQ-II items to covary (1 & 4, 2 & 3, 6 & 7). Items 1 and 4 both make reference to "painful memories," whereas Items 2 and 3 ask about "feelings." The final pair of items do not share similar wording, but are adjacent to each other and inquire about life outcomes. The CFA on Sample 1 confirmed the factor structure as all three fit indices were met: (a) $NC = 2.90$, (b) $RMSEA = .08$, CI [.07, .08], and (c) $GFI = .92$. See Fig. 1 for a graphic illustration of the model.

To evaluate the stability of the model, we conducted a separate CFA with Sample 2. A preliminary MAP identified three factors with eigenvalues of 10.4 (Anxious Clinging), 3.7 (AAQ-II), and 1.5 (Experience Prolonging) accounting for 57.7 % of the variance. All items again loaded on their respective scales. Similar correlations between the factors emerged for the second CFA as the Anxious Clinging factor was strongly associated with the AAQ-II factor ($r = .73$), and each was only weakly correlated with the Experience Prolonging

Table 3 Validity coefficients for anxious clinging and experience prolonging subscales

	Anxious Clinging		Experience Prolonging		Difference
	r	*p*	*r*	*p*	*p*
Social desirability measures					
B-ESD ($N = 164$)	−.67	<.001	−.02	.82	<.001
MCSD ($N = 177$)	−.27	.822	.01	.90	.002
Neo-FFI ($N = 170$)	.65	<.001	.01	.92	<.001
PSWQ ($N = 336$)	.58	<.001	.17	.00	<.001
AAQ-II					
Sample 1 ($N = 338$)	.67	<.001	.27	<.001	<.001
Sample 2 ($N = 266$)	.74	<.001	.14	.02	<.001
NAS ($N = 240$)	−.58	<.001	−.09	.19	<.001
Affect-related measures					
Brief-HAPPI ($N = 160$)	.35	<.001	.25	.00	.283
SHS ($N = 178$)	−.57	<.001	.17	.03	<.001
SWLS ($N = 175$)	−.41	<.001	.09	.22	<.001
Psychological distress measures					
GHQ-12 ($N = 268$)	.45	<.001	.03	.58	<.001
BDI-II ($N = 340$)	.55	<.001	<.01	.98	<.001

The difference column displays the p value for the difference, as calculated by Steiger's Z, between the correlation coefficients of the EAS subscale measures with the corresponding criterion measure

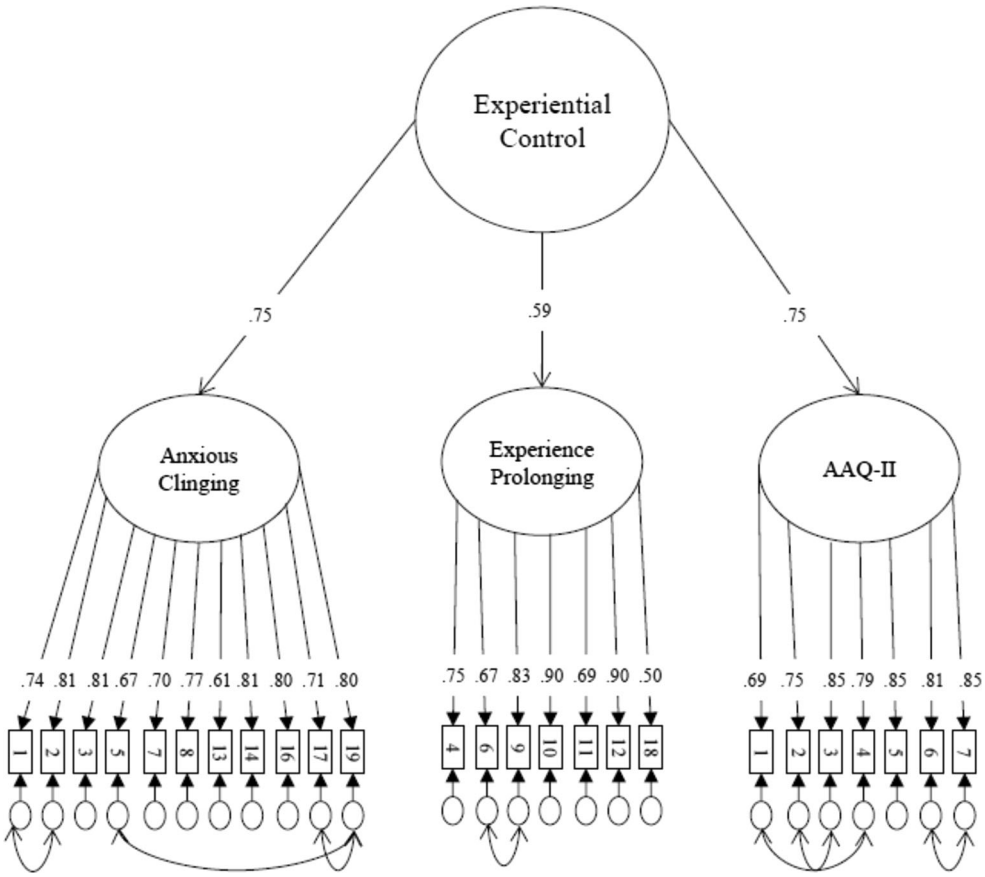

Fig. 1 Measurement model for EAS subscales and AAQ-II for Sample 1. See Table 1 for content of EAS subscale items

factor ($r = .16$ and $r = .12$, respectively). The model for Sample 1 was replicated as all of the fit indices were again met: (a) NC = 2.40, (b) RMSEA = .07, CI [.07, .08], and (c) GFI = .93. See Fig. 2 for a presentation of the model for Sample 2.

As we had speculated, experiential approach and experiential avoidance appear to constitute sufficiently distinct, albeit related, forms of experiential control. Of the two experiential approach subscales, Anxious Clinging is more closely associated with both experiential avoidance as another first-order factor and experiential control as a higher order factor than is Experience Prolonging. Moreover, the overall findings of Study 3 provided enough preliminary empirical support for the construct validity of the EAS to make further evaluation of the psychometric properties of its two subscales meaningful.

Study 4: Test–Retest Reliability

We next investigated the temporal stability of the two subscales that comprise the EAS.

Method

Participants

Sample 4 consisted initially of 200 students recruited from sections of introductory psychology and compensated in the same manner as the three previous samples. They completed the EAS at the beginning (T1) and end (T2) of the same academic semester, with an average of 98, and range of 93 to 107 days, between the two administrations. Data were first excluded from nine participants who did not answer every item at T1. Of the remaining 191 students, 146 responded to the survey at T2, with three of them failing to answer all EAS items. As seen in Table 2, the majority of the retained participants ($N = 143$) as reported at T1 were White (67 %) and female (57 %) and appeared to be comparable to the three previous samples with the exception of age ($M = 19.7$). This significantly lower age level can be attributed to limiting the recruitment of Sample 4 to predominately freshmen enrolled in sections of introductory psychology. Scores on Experience Prolonging only were weakly correlated with age at both T1 ($r = -.23$, $p = .006$) and T2 ($r = -.24$, $p = .003$).

As presented in Table 2, descriptive statistics for EAS subscales were comparable to those from the previous

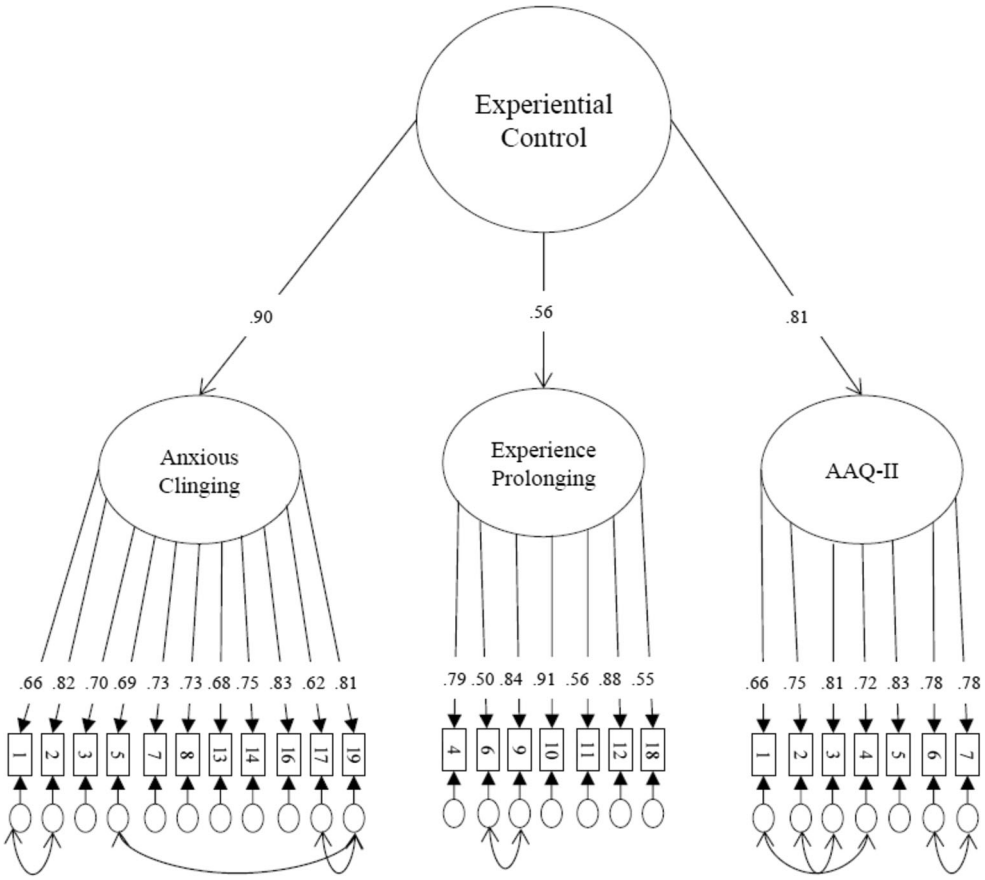

Fig. 2 Measurement model for EAS subscales and AAQ-II for Sample 2. See Table 1 for content of EAS subscale items

samples at both measurement occasions. The correlation between subscales was weak at T1 ($r = .22$, $p = .008$) and insignificant at T2 ($r = .06$, $p = .49$). Scores on the Anxious Clinging scale at T1 ranged from 11 to 64 with a mean of 29.7 ($SD = 12$), and at T2 ranged from 11 to 71 with a mean of 30.7 ($SD = 13$). The variability in individual items at T1 (2.0–3.6) and T2 (2.1–3.5) was also similar to previous samples. In addition, skewness (T1 = .58., T2 = .57) as well as kurtosis (T1 = −.15, T2 = −.09) paralleled that from the earlier samples. Corrected item-total correlations for the 11 items ranged from .46 (Item 13) to .76 (Items 1 and 19) at T1 and from .55 (Item 13) to .82 (Item 2) at T2.

Scores on the Experience Prolonging scale at T1 ranged from 7 to 49, with a mean of 34.6 ($SD = 8.1$), and at T2 ranged from 7 to 50, with a mean of 35.1 ($SD = 8.2$). Individual item variability at T1 (4.3–5.3) and T2 (4.4–5.5) were similar to previous samples. Skewness (T1 = −.76, T2 = −.51) and kurtosis (T1 = 1.0, T2 = .56) were somewhat higher than in the earlier samples, but not to a problematic level. Corrected item-total correlations for the seven items ranged from .34 (Item 18) to .77 (Item 10) at T1, and from .36 (Item 18) to .83 (Item 10) at T2.

The internal reliability of Anxious Clinging (T1 $\alpha = .90$, T2 $\alpha = .93$) as well as Experience Prolonging (T1 $\alpha = .82$, T2 $\alpha = .85$) were acceptably high and comparable to levels noted in the previous samples. As seen in Table 2, the same can be said about the split-half reliability coefficients for both subscales.

Results and Discussion

Differences between T1 and T2 means were nonsignificant for both subscales (Anxious Clinging, $t = -.83$, $p = .41$; Experience Prolonging, $t = -1.45$, $p = .15$), suggesting acceptable levels of temporal stability. Intraclass correlation coefficients for both subscales (Anxious Clinging, $r = .87$, $p < .001$; Experience Prolonging, $r = .76$, $p < .001$) also were acceptably high. With sufficient evidence for both the internal as well as temporal stability of the EAS, we accordingly turned next to an investigation of the convergent and divergent validity of its subscales.

Study 5: Convergent and Discriminant Validity

Because the two subscales of the EAS appear to be both conceptually and statistically distinct, our general expectation was that they would be differentially related to an array of relevant criterion variables. More specifically, because of worry reflected in the Anxious Clinging subscale, we anticipated that it would be more strongly positively associated with measures of psychological distress and dysfunction, but inversely

related to positively valenced criterion variables to a greater degree than the Experience Prolonging subscale.

Method

Participants

College students within each of first three samples already described (i.e., Samples 1–3) also completed a number of measures relevant for evaluating the validity of the EAS during its administration.

Measures

Each of the following measures was administered to only one of the three samples (see Table 3).

Social Desirability Two measures of social desirability were obtained during the administration of the EAS to Sample 3. We anticipated that the relationship of the EAS subscales with social desirability would vary depending on whether it was assessed independently of psychopathology. More specifically, we expected that both subscales would not be correlated with a measure of social desirability free of psychopathology, but that they would be related to a measure of social desirability that also reflects psychopathology.

Brief-Edwards Social Desirability Scale **(B-ESD)** The B-ESD is an abbreviated version (39 items) of the original scale created by Edwards (1957) for assessing social desirability. The items were chosen for their face validity and their ability to discriminate between low and high scorers on the parent inventory. Participants respond to the items (e.g., "I am liked by most the people that know me") in a true–false format, with higher scores reflective of efforts to present oneself in a socially desirable manner. The scale has shown adequate test–retest and internal reliability as well as sufficient convergent validity (O'Grady, 1988). Its internal consistency in our sample ($\alpha = .74$) was also adequate and comparable to that reported by others (O'Grady, 1988).

Marlowe-Crowne Social Desirability Scale–Short Form X1 **(MCSD)** Because the ESD was composed of items selected from the MMPI (Hathaway & McKinley, 1951), it has been suspected of also reflecting psychopathology. To address this limitation, Crowne and Marlowe (1960) developed their alternative social desirability scale to be independent of psychopathology. We used a short form version of the MCSD (Form X1 from Strahan & Gerbasi, 1972) that contains 10 of the original 33 items (Crowne & Marlowe, 1960). Items (e.g., "I like to gossip at times") are responded to as true or false, with higher scores indicative of a socially desirable response set or style. The short form has shown adequate internal reliability ($\alpha = .79$) and is highly correlated with the parent scale (Fischer & Fick, 1993). However, for unknown reasons, the MCSD demonstrated a significantly lower level of internal reliability ($\alpha = .43$) in our sample.

NEO Five Factor Inventory (NEO-FFI) Neuroticism subscale The NEO-FFI is a commonly used personality inventory that is a short form of the revised NEO Personality Inventory (Costa & McCrae, 1992). It consists of five, 12-item subscales that each assesses a different personality "factor" or dimension and has demonstrated adequate validity as well as internal and test–retest reliability (Rosellini & Brown, 2011). To minimize survey length, we opted to only administer the Neuroticism subscale that purportedly measures emotionality, affective reactivity, and anxiety. Items (e.g., "I am easily frightened") are rated on a 5-point Likert-type scale, with higher scores reflective of emotional instability. The internal reliability of the NEO-FFI Neuroticism subscale collected from Sample 3 ($\alpha = .77$) was adequate and comparable to that reported for it in the test manual (Costa & McCrae, 1992).

A measure of neuroticism is often included in evaluating the discriminant validity of newly developed psychological inventories, especially those focusing on potentially negatively valenced constructs, such as experiential approach, that may be related to emotional distress (Rosellini & Brown, 2011). We anticipated that the Anxious Clinging subscale would be more strongly related than Experience Prolonging to affective instability as assessed by the neuroticism subscale of the NEO-FFI, given the strong conceptual similarity between anxiety and neuroticism (Cattell, 1957).

Penn State Worry Questionnaire (PSWQ) This 16-item measure asks respondents to rate items (e.g., "When I'm around people, I worry that I will make a fool of myself") on a 5-point Likert-type scale such that higher scores are indicative of a greater tendency to worry (Meyer, Miller, Metzger, & Borkovec, 1990). The scale has demonstrated adequate test–retest and internal reliabilities as well as sufficient divergent validity with anxiety and depression measures (Meyer et al., 1990). In addition, it showed strong convergent validity with other measures related to worry (Meyer et al., 1990). The PSWQ had adequate internal reliability ($\alpha = .76$) during its administration to Sample 1. Insofar as the first two items that load on the Anxious Clinging subscale (see Table 1) specifically mention "worry," we expected that it would be more strongly related than Experience Prolonging to generalized worrying as assessed by the PSWQ.

Nonattachment Scale (NAS) As we acknowledged earlier, a Buddhist viewpoint regards attachment, such as attempts to sustain happiness and other desired psychological experiences, as a fundamental source of human suffering. The NAS is a recently developed self-report measure designed to

assess nonattachment as a stance incompatible with attachment (Sahdra et al., 2010). This scale contains 30 items rated on a 6-point Likert-type scale such that higher scores indicate greater "nonattachment" (Sahdra et al., 2010). The NAS demonstrated strong internal and temporal consistency in addition to adequate convergent and discriminant validity (Sahdra et al., 2010). The internal reliability of the scale administered to Sample 2 was sufficiently high ($\alpha = .93$).

The Buddhist concept of attachment includes, but is not limited to, overidentification with and clinging to desired emotional states. The NAS accordingly includes items similar to those of the EAS that are reflective of emotional attachment (e.g., "I can enjoy pleasant experiences without needing them to last"), but as well as others that reflect overidentification with a broader array of life experiences and domains (e.g., "I am not possessive of the things I own"). As a consequence, we anticipated that scores on the EAS and NAS would be at least mildly inversely related to each other. However, because the NAS scale shows mild to moderate correlations with measures of psychopathology (Sahdra et al., 2010) we more specifically expected that perhaps the Anxious Clinging subscale would be more strongly related to NAS than the Experience Prolonging subscale.

Affect-Related Measures We examined three measures of positive affective states that we generally predicted would be at least moderately related to the two EAS subscales.

Brief-HAPPI This shortened version of the Hypomanic Attitudes and Positive Predictions Inventory (HAPPI; Mansell & Jones, 2006) contains 25 scorable items (e.g. "When I feel restless, the world becomes full of unlimited opportunities for me") rated on a 0 (*don't believe this at all*) to 100 (*believe this completely*) scale, with higher scores reflecting endorsement of hypomanic attitudes. The Brief-HAPPI has shown adequate internal and temporal stability as well as sufficient convergent and discriminant validity (Mansell & Jones, 2006; Mansell, Rigby, Tai, & Lowe, 2008). The internal reliability of this inventory with Sample 3 was adequate ($\alpha = .72$) and similar to that reported by others (Mansell & Jones, 2006).

Given our conceptualization of chasing after and clinging to happiness as aspects of experiential approach, we anticipated significant positive correlations between the Brief-HAPPI as an index of beliefs related to the hypomanic pursuit of positive emotional experiences (e.g., "When I feel good I am sure that everything will work out perfectly") and both EAS subscales.

Subjective Happiness Scale **(SHS)** This scale is designed to measure overall feelings of happiness (Lyubomirsky & Lepper, 1997). Participants responded to items (e.g., "Compared to most of my peers, I consider myself . . .") on a 7-point Likert-type scale that is adjusted for each question (e.g., *not a very happy person* to *a very happy person*) so that higher scores indicate greater subjective happiness. The internal and test–retest reliability of the scale appear to be sound, and it has demonstrated strong convergent and discriminant validity (Lyubomirsky & Lepper, 1997). The internal reliability of the SHS in Sample 3 ($\alpha = .88$) was also adequate. In light of recent research reviewed earlier, suggesting that pursuing and attempting to sustain happiness may be counterproductive (Ford & Mauss, 2014), we anticipated inverse relationships between both EAS subscales and SHS.

Satisfaction with Life Scale **(SWLS)** This 5-item scale was designed to specifically assess overall life satisfaction apart from positive affect and loneliness (Diener, Emmons, Larsen, & Griffin, 1985). Participants responded to items (e.g., "The conditions of my life are excellent") with a 7-point Likert-type scale so that higher scores indicate greater satisfaction with life. This scale has shown adequate internal and temporal reliability, and acceptable levels of convergent validity and discriminant validity (Diener et al., 1985). Cronbach's alpha in administering SWLS to Sample 3 was .87. Because life satisfaction is conceptualized as one facet of subjective happiness (Diener et al., 1985), we predicted that the SWLS, much like the SHS, would be inversely correlated with both EAS subscales.

Psychological Distress Measures We anticipated significant positive, although possibly nonequivalent, relationships between the EAS subscales and two measures of psychological distress for two reasons. First, aforementioned literature on the effects of pursuing happiness suggest that it paradoxically may ultimately lead to states of psychological distress (Ford & Mauss, 2014). Second, from an ACT perspective, experiential approach, much like experiential avoidance, would be expected to contribute to behavioral rigidity and emotional distress.

General Health Questionnaire **(GHQ-12)** This 12-item measure is derived from a longer version (Goldberg & Hillier, 1979). Participants responded to items (e.g., "Have you recently been able to concentrate on whatever you're doing?") with a 4-point Likert-type scale with descriptors that are adjusted for each question (e.g., *better than usual, same as usual, less than usual,* and *much less than usual*) so that higher scores indicate general psychological distress. The scale has demonstrated adequate types of both reliability and validity (Hankins, 2008; Rompell, Braehler, Roth, & Glaesmer, 2013). The internal reliability of the GHQ-12 from Sample 2 was comparable ($\alpha = .85$) to that previously documented.

Beck Depression Inventory–II **(BDI-II)** This is a well-established measure consisting of 21 depressive symptoms

(e.g., *sadness*) rated for level of severity/intensity with a 4-point Likert-type scale such that higher scores reflect increased levels of depression (Beck, Steer, & Brown, 1996). The sound psychometric properties of the scale are well-documented, and the internal reliability obtained with Sample 1 was also high ($\alpha = .92$).

Results

Correlation coefficients between the two EAS subscales and criterion measures considered in evaluating their convergent and discriminant validity are presented in Table 3. We again used a *Z* test to determine the statistical significance of differences in correlation coefficients between the two subscales and each criterion measure. Because of item omission as well as different sample sizes, the number of paired observations varied across the correlations between the EAS subscales and the validity measures.

Social Desirability The Anxious Clinging subscale was differentially correlated with the two measures of social desirability (see Table 3). While it had a strong correlation with the B-ESD ($r = -.67$), the Anxious Clinging subscale was only weakly correlated with social desirability unrelated to psychopathology, as measured by the MCSD ($r = -.27$). The two coefficients differed significantly, $z = -4.88$, $p < .001$, which is a pattern not uncommon for measures that assess negatively valenced psychological constructs (e.g., math anxiety; Zettle & Houghton, 1998). By contrast, and as shown in Table 3, the Experience Prolonging subscale was unrelated to both social desirability measures—B-ESD, $r = -.02$, $p = .82$, and MCSD, $r = -.01$, $p = .90$—with both correlations being significantly weaker than those with the Anxious Clinging subscale

Neuroticism The correlation between Anxious Clinging and neuroticism was of moderate strength, $r = .65$, $p < .001$, and differed significantly, $z = 7.51$, $p < .001$, from that between NEO-FFI and the Experience Prolonging subscale, $r = .01$, $p = .92$.

Worry The Anxious Clinging subscale was moderately, $r = .58$, $p < .001$, and more strongly correlated with the PSWQ, $z = -6.78$, $p < .001$, than Experience Prolonging, $r = .17$, $p = .001$.

Nonattachment As indicated in Table 3, the Anxious Clinging subscale was moderately inversely related to nonattachment, $r = -.58$, $p < .001$. By contrast, the correlation between the NAS and Experience Prolonging subscale was both statistically insignificant, $r = -.09$, $p = .19$, and significantly weaker, $z = 6.78$, $p < .001$.

Affect-Related Measures The Brief-HAPPI was significantly, albeit weakly, correlated with both the Anxious Clinging, $r = .35$, $p < .001$, and Experience Prolonging subscales, $r = .25$, $p = .002$. Furthermore, these correlation coefficients were not statistically different, $z = 1.07$, $p = .283$.

Anxious Clinging was significantly inversely related to subjective happiness (SHS; $r = -.57$, $p < .001$) and life satisfaction (SWLS; $r = -.41$, $p < .001$). On the other hand, Experience Prolonging was unexpectedly *positively* associated with both measures, although only the weak relationship with SHS was statistically significant, $r = .17$, $p = .027$.

Psychological Distress Measures Although the Anxious Clinging subscale as expected was moderately associated with the GHQ-12, $r = .45$, $p < .001$, and BDI-II, $r = .55$, $p < .001$, the Experience Prolonging subscale was unrelated to both. Significantly different correlation coefficients emerged between the EAS subscales and the GHQ-12, $z = 5.78$, $p < .001$, and the BDI-II, $z = 9.14$, $p < .001$.

The administration of the AAQ-II to Sample 1 and Sample 2 provided us with an opportunity to determine whether experiential approach accounted for variability in levels of psychological distress above and beyond that associated with experiential avoidance. A significant regression model with Sample 1, $R^2 = .45$, $F(3, 334) = 90.01$, $p < .01$, indicated that each of the three measures of experiential control independently accounted for significant variability ($p < .01$) in BDI-II scores: (a) AAQ-II, $\beta = .47$, (b) Anxious Clinging, $\beta = .27$; and (c) Experience Prolonging, $\beta = -12$. However, AAQ-II scores in Sample 2, $\beta = .52$, $p < .01$, were the only significant predictor within the regression model of GHQ-12 scores, $R^2 = .52$, $F(3, 267) = 42.76$, $p < .01$.

Discussion

Our overall purpose in Study 5 was to undertake a preliminary assessment of the convergent and discriminant validity of the EAS. The two subscales did not appear to be unduly influenced by participant attempts to present themselves in a socially desirable light, and with relatively few exceptions, were correlated with measures we had expected they would be associated with (convergent validity), while as anticipated, being unrelated to other conceptually distinct variables (discriminant validity). Although we had not predicted the significant difference between the two EAS subscales in their relationship with social desirability as assessed by the MCSD, the correlation for each subscale with the MCSD was nonetheless nonsignificant. Most important, and especially in light of the significant difference in the correlations between the Anxious Clinging subscale and the two measures of social desirability, these specific findings suggest that neither subscale is contaminated by this response set or style.

Our overall findings that were perhaps the most surprising involved differential relationships displayed between the two EAS subscales with criterion variables. As seen in Table 3, the relationship of Anxious Clinging with all of the measures listed except one was significantly stronger than that of Experience Prolonging. The one exception was the mild correlations both subscales shared with the Brief-HAPPI as a measure of hypomanic attitudes.

A closer examination of Table 3 reveals that the Anxious Clinging subscale was significantly and positively related to all measures of negatively valenced psychological variables—such as neuroticism, worry, general psychological distress, and depression—while being just as strongly, albeit inversely, correlated with every variable reflective of positive affective states and emotional well-being. By contrast, the Experience Prolonging subscale was only significantly and weakly associated with generalized worry, as assessed by PSWQ, and among the positively valenced variables, with subjective happiness. These findings suggest Anxious Clinging reflects a more noxious way of responding to happiness and other desired affective states relative to Experience Prolonging. In Anxious Clinging, the experience of happiness is colored by the concurrent worry of losing it, and as such, it also appears to serve an avoidant function absent with Experience Prolonging. This difference between the two EAS subscales may help shed light on some of the paradoxical effects of pursuing happiness (Ford, Shallcross, Mauss, Floerke, & Gruber, 2014). Several researchers (e.g., Ford & Mauss, 2014; Layous & Lyubomirsky, 2012), for example, have suggested that there may be individuals whose experience of happiness does not appear to be spoiled by their apparent pursuit of it. Future research might explore the degree to which Experience Prolonging attenuates the more broadly reported paradoxical effects of chasing after happiness. In short, perhaps "pursuing happiness" in conjunction with Experience Prolonging does not diminish the positive affective state in the same way that Anxious Clinging does.

The differential relationship between the two EAS subscales and criterion variables examined in Study 5 is further underscored by our regression analysis predicting variability in BDI-II scores. Anxious Clinging appears to serve as a psychological risk factor for depression. By contrast, Experience Prolonging seems to function more as a protective factor against it. Coupled with its weak relationship with subjective happiness, it appears that Experience Prolonging may serve more as a buffer against dysphoria than it does as a contributing factor to hedonic affective states. This working hypothesis obviously requires further examination that presumably could be undertaken through additional correlational as well as experimental strategies. For example, the differential impact of instructions to sustain positive affect in responding to dysphoric versus euphoric mood induction procedures might be evaluated.

Compiling evidence supportive of the convergent and discriminant validity of a newly developed assessment instrument is, of necessity, an ongoing enterprise. We are encouraged that the overall findings of Study 5, in our view, provide sufficient preliminary support for the construct validity of the EAS and its subscales to continue this process. A number of criterion variables worthy of examination in further research occur to us. Perhaps the most obvious candidates would be measures of additional processes, such as cognitive fusion and mindfulness, that are also posited to contribute to psychological flexibility, according to the model on which ACT is based (Hayes et al., 2012a, b). Additional salient variables for consideration, such as sensation seeking, may emerge from other conceptual and research literatures. In particular, it has been suggested that the well-documented link between sensation seeking and alcohol abuse (e.g., Arnett, 1994; Camatta & Nagoshi, 1995; Earleywine & Finn, 1991) may be mediated by a desire to enhance positive emotions (Cooper, Frone, Russell, & Mudar, 1995). If so, Experience Prolonging might be expected to be only moderately related to measures of both sensation seeking (e.g., Arnett, 1994) and alcohol abuse, yet ostensibly help further clarify the association between them. That is, although Experience Prolonging does not appear to be related to measures of subjective distress, it may nonetheless play some role in certain harmful behaviors among those seeking autonomic arousal.

General Discussion

Our purpose in conducting this project was to develop an ostensible measure of experiential approach and to undertake a preliminary examination of some of its salient psychometric properties. We believe our overall findings suggest that we were largely successful in creating the EAS as a psychometrically sound instrument, although in some ways that we had not anticipated. Our original intent was to develop a unidimensional measure of experiential approach to represent a facet of experiential control complementary to that of experiential avoidance, as assessed by the AAQ-II. The AAQ-II can be seen as reflecting how undesirable psychological experiences, such as anxiety, are reacted to when contacted. In a parallel fashion, we sought to develop the EAS to assess how desirable emotions such as happiness are responded to when contacted psychologically. However, instead of capturing only one way of doing so, exploratory and confirmatory factor analyses of the EAS revealed two subscales that reflect two conceptually and statistically distinct ways of in effect consuming happiness and other desirable affective states. Both subscales are related to experiential avoidance and the construct of experiential control, but differentially so.

In seeking feedback from our panel of ACT experts at the stage of item development, we made reference to the

"butterfly garden metaphor." A reconsideration of this metaphor seems useful in underscoring the apparent distinction between the two EAS subscales. At least two choices are possible when the butterfly of happiness lands in our open hand. We may opt to simply savor every joyful moment, however long it lingers (Experience Prolonging), or seek to capture the experience by clenching our fist around it (Anxious Clinging).

The weak correlation between the two EAS subscales and differential relationship with the AAQ-II, and to lesser degree with the higher order factor of experiential control, suggest that Anxious Clinging and Experience Prolonging can be at least preliminarily viewed as distinct constructs and facets of experiential approach. Although both subscales were significantly correlated with the AAQ-II, the moderate-to-strong association between the Anxious Clinging subscale and the AAQ-II suggest that each may be assessing complementary facets of experiential control. By contrast, the correlation between Experience Prolonging and the AAQ-II was weak and significantly lower than that involving Anxious Clinging. These findings are also consistent with the measurement model that was replicated in Study 3. Experience Prolonging can be viewed as means of experiential approach. However, compared to Anxious Clinging, it is less strongly related to both experiential control as a higher order construct and to experiential avoidance as another means of experiential control.

Further suggestive evidence that the two facets of experiential approach may exert differing psychological influences is provided by additional findings from Study 5. The Anxious Clinging subscale was at least moderately related to every measure of psychological distress and dysfunction examined (e.g., neuroticism, worry, depression) and inversely associated with every positively valenced variable, such as subjective happiness and satisfaction with life. Anxiously closing our fist on the butterfly of happiness crushes it. Experience Prolonging, on the other hand, was generally unrelated to both types of criterion measures examined in Study 5. The visit of the butterfly may be lengthened as much as possible by extending our steady and open hand to it. The possibility, supported by the regression analysis of BDI-II scores, that Anxious Clinging may actively contribute to psychological suffering whereas Experience Prolonging may be inert or perhaps even function as a mild protective factor, seems worthy of further investigation. Such means might include additional correlational research, but with samples more representative of clinical populations, and the possible manipulation of Anxious Clinging versus Experience Prolonging protocols as independent variables in experimental analogue studies (Levin, Hildebrandt, Lillis, & Hayes, 2012).

A more expansive agenda investigating the EAS with clinical samples would address the most obvious limitation of our research to date on the instrument. All four of our participant groups were convenience samples of college students. It is thus unclear if the administration of the EAS to a clinical population would reveal a similar factor structure and correlations of its subscales with the AAQ-II. Even if this were the case, whether the two subscales could reliably discriminate between clinical and nonclinical samples would also need to be determined. Based on the findings of this project, our expectation is that those seeking psychological services would score significantly higher on the Anxious Clinging subscale, but perhaps significantly lower on Experience Prolonging. Our experience in administering the EAS to a handful of clients in our department training clinic is supportive, but data from a larger and more representative clinical population obviously are needed to adequately address this issue. Our hope is that making the EAS available to other researchers at this juncture in its development might accelerate the evaluation of its psychometric properties with such samples.

A second shortcoming of our work in investigating experiential approach until now is that it has been restricted to assessing it via a paper-and-pencil measure. Behavior analysts have been suspicious of self-reports for several good reasons. Foremost among these is the recognition that some of the variables that control verbal behavior may differ from those controlling the actual behavior self-report measures seek to assess. Accordingly, as Harzem (1984) has argued, the concern is not with asking questions per se, but with how to regard the answers that are given. Ultimately, the relationship between responses to the EAS and overt actions that are at least analogous to clinically relevant behaviors must be established. Our development of what is ostensibly a dispositional measure is not unprecedented in behavior analysis (e.g., Wulfert, Greenway, Farkas, Hayes, & Dougher, 1994) and in our view can be appropriately seen as a preliminary step in the eventual investigation of behavior–behavior relations such as those just described. Although we intend to pursue some of this research, we would also encourage others for whom the EAS is now accessible to do likewise.

A third and final limitation of the EAS worthy of recognition is that it falls short in capturing what appear to us to be additional nuances and facets of experiential approach. The two subscales of the EAS appear to reflect two different ways of reacting to happiness and other desired affective experiences. In this sense, the two subscales seem to constitute the "flipside" of items on the AAQ-II that ask about reactions to undesirable emotion experiences (e.g., "I worry about not being able to control my worries and feelings"). The two subscales, however, do not assess deliberate actions undertaken to contact happiness (i.e., chasing after butterflies), but differing ways of responding to it that appear to have distinct psychological implications once it is contacted. In short, if the two subscales can be thought of as representing differing ways of "consuming happiness"—is the glass of fine wine hurriedly quaffed or slowly sipped?—neither assesses the "pursuit of

happiness" or the operant behavior required to produce it. The development of an instrument to assess this facet of experiential approach would permit an examination of its relationship with the EAS subscales. For example, do those who most actively chase after happiness also anxiously cling to it once it is caught?

The availability of a means to more readily assess "pursuit of happiness" would also provide the opportunity to compare the psychological consequences of seeking happiness as a desired goal as opposed to having it emerge as a quality of value-congruent actions. Questions of this sort have been considered by philosophers for centuries, but in our view are also becoming more amenable to empirical investigation by contextual behavioral scientists. It is our hope that the development of the EAS may at least play some small role in increasing our understanding of how experiential approach may contribute to human suffering, and thereby help create a science more adequate to the challenge of the human condition (Hayes, Barnes-Holmes, & Wilson 2012).

Compliance with Ethical Standards

Conflict of Interest The authors declare they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington: Author.

Arbuckle, J. L. (2003). *Amos 5.0 update to the Amos user's guide*. Chicago: Small Waters.

Arnett, J. (1994). Sensation seeking: A new conceptualization and a new scale. *Personality and Individual Differences, 16*, 289–296. doi:10.1016/0191-8869(94)90165-1.

Asanga. (2001). *Abhidharmasamuccaya: The compendium of the higher teaching (philosophy)*. (S. Boin-Webb, Trans.). Fremont: Jain.

Bach, P., & Moran, D. (2008). *ACT in practice: Case conceptualization in acceptance and commitment therapy*. Oakland: New Harbinger.

Beck, A. T. (1993). Cognitive therapy: Past, present, and future. *Journal of Consulting and Clinical Psychology, 61*, 194–198. doi:10.1037/002-006X.61.2.194.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio: Psychological Corporation.

Becker, E. S., Rinck, M., Roth, W. T., & Margraf, J. (1998). Don't worry and beware of white bears: Thought suppression in anxiety patients. *Journal of Anxiety Disorders, 12*, 39–55. doi:10.1016/S0887-6185(97)00048-0.

Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley. doi:10.1002/9781118619179.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., ... Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire: II. A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*, 676–688. doi:10.1016/j.beth.2011.03.007.

Brown, T. A. (2003). Confirmatory factor analysis of the Penn State Worry Questionnaire: Multiple factors or method effects. *Behaviour Research and Therapy, 41*, 1411–1426. doi:10.1016/S0005-7967(03)00059-7.

Butler, E. A., & Gross, J. J. (2004). Hiding feelings in social contexts: Out of sight is not out of mind. In P. Philippot & R. S. Feldman (Eds.), *The regulation of emotion* (pp. 101–126). Mahwah: Erlbaum.

Camatta, C. D., & Nagoshi, C. T. (1995). Stress, depression, irrational beliefs, and alcohol use are problems in a college student sample. *Psychology of Addictive Behaviors,* 203–213. doi:10.1111/j.1530-0277.1995.tb01482.x

Cattell, R. B. (1957). The conceptual and test distinction of neuroticism and anxiety. *Journal of Clinical Psychology, 13*, 221–233. doi:10.1002/1097-4679(195707)13:3<221::AID-JCLP2270130303>3.0.CO;2-0.

Chen, F., Curran, P. J., Bollen, K. A., Kirby, J., & Paxton, P. (2008). An empirical evaluation of the use of fixed cutoff points in *RMSEA* test statistic in structural equation models. *Sociological Methods & Research, 36*, 462–494. doi:10.1177/0049124108314720.

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. *Journal of Personality and Social Psychology, 69*, 990–1005. doi:10.1037/0022-3514.69.5.990.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor (NEO-FFI) Inventory professional manual*. Odessa: PAR.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354. doi:10.1037/h0047358.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., … Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65*, 564–570. doi:10.1097/01.PSY.0000077505.67574.E3.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75. doi:10.1207/s15327752jpa4901_13.

Diener, E., & Larsen, R. J. (1993). The experience of emotional well-being. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 405–415). New York: Guilford Press.

Earleywine, M., & Finn, P. R. (1991). Sensation seeking explains the relation between behavior disinhibition and alcohol consumption. *Addictive Behaviors, 16*, 123–128.

Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. New York: Dryden.

Ehlers, A., Mayou, R. A., & Bryant, B. (1998). Psychological predictors of chronic posttraumatic stress disorder after motor vehicle accidents. *Journal of Abnormal Psychology, 107*, 508–519. doi:10.1037/0021-843X.107.3.508.

Epstein, R. (Ed.). (1980). *Notebooks B. F. Skinner*. Englewood Cliffs: Prentice Hall.

Fischer, D. G., & Fick, C. (1993). Measuring social desirability: Short forms of the Marlowe-Crown Social Desirability Scale. *Educational and Psychological Measurement, 53*, 417–424. doi:10.1177/0013164493053002011.

Ford, B. Q., & Mauss, I. B. (2014). The paradoxical effects of pursuing positive emotion: When and why wanting to feel happy backfires. In J. Gruber & J. Moskowitz (Eds.), *The light and dark sides of positive emotion* (pp. 363–382). Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780199926725.003.0020.

Ford, B. Q., Shallcross, A. J., Mauss, I. B., Floerke, V. A., & Gruber, J. (2014). Desperately seeking happiness: Valuing happiness is associated with symptoms and diagnosis of depression. *Journal of Social and Clinical Psychology, 33*, 890–905. doi:10.1521/jscp.2014.33.10.890.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*, 300–319. doi:10.1037/1089-2680.2.3.300.

Fredrickson, B. L., & Branigan, C. A. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion, 19*, 313–332. doi:10.1080/02699930441000238.

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*, 678–686. doi:10.1037/0003-066X.60.7.678.

Fredrickson, B. L., Mancuso, R. A., Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and Emotion, 24*, 237–258. doi:10.1023/A:1010796329158.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*, 365–376. doi:10.1037/0022-3514.84.2.365.

Gifford, E. V., Antonuccio, D. O, Kohlenberg, B. S., Hayes, S. C., & Piasecki, M. M. (2002, November). *Combining Bupropion SR with acceptance and commitment-based behavioral therapy for smoking cessation: Preliminary results from a randomized controlled trial*. Paper presented at the annual meeting of the Association for Advancement of Behavior Therapy, Reno, NV.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the general health questionnaire. *Psychological Medicine, 9*, 139–145. doi:10.1017/S0033291700021644.

Gregg, J. A., Callaghan, G. M., Hayes, S. C., & Glenn-Lawson, J. L. (2007). Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 75*, 336–343. doi:10.1037/0022-006X.75.2.336.

Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106*, 95–103. doi:10.1037/0021-843X.106.1.95.

Hankins, M. (2008). The reliability of the twelve-item general health questionnaire (GHQ-12) under realistic assumptions. *BMC Public Health, 8*, 355–362. doi:10.1186/1471-2458-8-355.

Harris, R. (2007). *The happiness trap*. Wollombim: Exisle.

Harzem, P. (1984). Experimental analysis of individual differences and personality. *Journal of the Experimental Analysis of Behavior, 42*, 385–395.

Hathaway, S. R., & McKinley, J. C. (1951). *Minnesota Multiphasic Personality Inventory manual (Rev.)*. San Antonio: Psychological Corporation.

Hayes, S. C. (2004a). Acceptance and commitment therapy and the new behavior therapies: Mindfulness, acceptance and relationship. In S. C. Hayes, V. M. Follette, & M. M. Linehan (Eds.), *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition* (pp. 1–29). New York: Guilford Press.

Hayes, S. C. (2004b). Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies. *Behavior Therapy, 35*, 639–665. doi:10.1016/S0005-7894(04)80013-3.

Hayes, S. C., Barnes-Holmes, D., & Wilson, K. G. (2012). Contextual behavioral science: Creating a science more adequate to the challenge of the human condition. *Journal of Contextual Behavioral Science, 1*, 1–16. doi:10.1016/j.jcbs.2012.09.004.

Hayes, S. C., Follette, V. M., & Linehan, M. M. (2004). *Mindfulness and acceptance: Expanding the cognitive behavioral tradition*. New York: Guilford Press.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44*, 1–25. doi:10.1016/j.brat.2005.06.006.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). New York: Guilford Press.

Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., … McCurry, S. M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54*, 553–578.

Hearst, E. (1967). Oscillatory behavior during approach-avoidance conflict. *Journal of the Experimental Analysis of Behavior, 10*, 75–84.

Hoerger, M. (2013). *Z_H: An updated version of Steiger's Z and web-based calculator for testing the statistical significance of the difference between dependent correlations*. Retrieved from http://www.psychmike.com/dependent_correlations.php

Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*, 424–453. doi:10.1037/1082-989X.3.4.424.

Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: User's reference guide*. Lincolnwood: Scientific Software International.

Kashdan, T. B., & Breen, W. E. (2010). Everyday strivings in war veterans with posttraumatic stress disorder: Suffering from a hyperfocus on avoidance and emotion regulation. *Behavior Therapy, 41*, 350–363. doi:10.1016/j.beth.2009.09.003.

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior, 43*, 207–222. doi:10.2307/3090197.

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford Press.

Layous, K., & Lyubomirsky, S. (2012). The how, why, what, when, and who of happiness: Mechanisms underlying the success of positive interventions. In J. Gruber & J. Moskowitz (Eds.), *Positive emotion: Integrating the light sides and dark sides* (pp. 473–495). New York: Oxford University Press.

Levin, M. E., Hildebrandt, M. J., Lillis, J., & Hayes, S. C. (2012). The impact of treatment components suggested by the psychological flexibility model: A meta-analysis of laboratory-based component studies. *Behavior Therapy, 35*, 741–756. doi:10.1016/j.beth2012.05.003.

Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.

Lyubomirsky, S., & Lepper, H. S. (1997). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46*, 137–155. doi:10.1023/A:1006824100041.

Mansell, W., & Jones, S. H. (2006). The brief-HAPPI: A questionnaire to assess cognitions that distinguish between individuals with a diagnosis of bipolar disorder and non-clinical controls. *Journal of Affective Disorders, 93*, 29–34. doi:10.1016/j.jad.2006.04.004.

Mansell, W., Rigby, Z., Tai, S., & Lowe, C. (2008). Do current beliefs predict hypomanic symptoms beyond personality style? Factor analysis of the hypomanic attitudes and positive predictions inventory (HAPPI) and its association with hypomanic symptoms in a student

population. *Journal of Clinical Psychology, 64*, 450–465. doi:10.1002/jclp.20455.

Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal, 11*, 320–341. doi:10.1207/s15328007sem1103_2.

Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people happy? Paradoxical effects of valuing happiness. *Emotion, 11*, 807–815. doi:10.1037/a0022010.

McCracken, L. M., Vowles, K. E., & Eccleston, C. (2004). Acceptance of chronic pain: Component analysis and a revised assessment method. *Pain, 107*, 159–166. doi:10.1016/j.pain.2003.10.012.

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy, 28*, 487–495. doi:10.1016/0005-7967(90)90135-6.

Miller, N. E. (1944). Experimental studies of conflict. In J. M. Hunt (Ed.), *Personality and the behavior disorders* (Vol. 1, pp. 431–465). New York: Ronald Press.

Muris, P., Merckelbach, H., Horselenberg, R., Sijsenaar, M., & Leeuw, I. (1997). Thought suppression in spider phobia. *Behaviour Research and Therapy, 35*, 769–774. doi:10.1016/S0005-7967(97)00036-3.

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science, 6*, 10–19. doi:10.1111/j.1467-9280.1995.tb00298.x.

Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of Abnormal Psychology, 109*, 504–511. doi:10.1037/0021-843X.109.3.504.

O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, and Computers, 32*, 396–402. doi:10.3758/BF03200807.

O'Grady, K. E. (1988). The Marlowe-Crowne and Edwards social desirability scales: A psychometric perspective. *Multivariate Behavioral Research, 23*, 87–101. doi:10.1207/s15327906mbr2301_5.

Purdon, C. (1999). Thought suppression and psychopathology. *Behaviour Research and Therapy, 37*, 1029–1054. doi:10.1016/S0005-7967(98)00200-9.

Rompell, M., Braehler, E., Roth, M., & Glaesmer, H. (2013). What is the general health questionnaire-12 assessing? Dimensionality and psychometric properties of the general health questionnaire-12 in a large scale German population sample. *Comprehensive Psychiatry, 54*, 406–413.

Rosellini, A. J., & Brown, T. A. (2011). The NEO Five-Factor Inventory: Latent structure and relationships with dimensions of anxiety and depressive disorders in a large clinical sample. *Assessment, 18*, 27–38. doi:10.1177/1073191110382848.

Sahdra, B. K., Shaver, P. R., & Brown, K. W. (2010). A scale to measure nonattachment: A Buddhist complement to western research on attachment and adaptive functioning. *Journal of Personality Assessment, 92*, 116–127. doi:10.1080/00223890903425960.

Salkovskis, P. M., Richards, C. H., & Forrester, E. (1995). The relationship between obsessional problems and intrusive thoughts. *Behavioural and Cognitive Psychotherapy, 23*, 281–299. doi:10.1017/S1352465800015885.

Sidman, M. (1989). *Coercion and its fallout*. Boston: Authors Cooperative.

Skinner, B. F. (1953). *Science and human behavior*. New York: The Free Press.

Skinner, B. F. (1971). *Beyond freedom and dignity*. New York: Knopf.

Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin, 87*, 245–251. doi:10.1037/0033-2909.87.2.245.

Strahan, R., & Gerbasi, K. C. (1972). Short, homogenous versions of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology, 28*, 191–193. doi:10.1002/1097-4679(197204)28:2<191::AID-JCLP2270280220>3.0.CO;2-G.

Tabachnick, B. G., & Fidell, L. S. (2007). Multivariate analysis of variance and covariance. *Using Multivariate Statistics, 3*, 402–407.

Velicer, W. F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika, 41*, 321–327. doi:10.1007/BF02293557.

Velicer, W. F., Eaton, C. A., & Fava, J. L. (2000). Construct explication through factor or component analysis: A review and evaluation of alternative procedures for determining the number of factors or components. In R. D. Goffin & E. Helmes (Eds.), *Problems and solutions in human assessment* (pp. 41–71). New York: Springer. doi:10.1007/978-1-4615-4397-8_3.

Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thought. *Journal of Personality and Social Psychology, 65*, 1093–1104. doi:10.1037/0022-3514.65.6.1093.

Wegner, D. M., Schneider, D. J., Carter, S., III, & White, L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology, 53*, 5–13. doi:10.1037/0022-3514.53.1.5.

Wells, A. (1994). Attention and the control of worry. In G. C. L. Davey & F. Tallis (Eds.), *Worrying: Perspectives on theory, assessment and treatment* (pp. 91–114). Oxford: Wiley.

Wenzlaff, R. M. (1993). The mental control of depression: Psychological obstacles to emotional well-being. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of mental control* (pp. 239–257). Englewood Cliffs: Prentice Hall.

Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual Review of Psychology, 51*, 59–91. doi:10.1146/annurev.psych.51.1.59.

Wenzlaff, R. M., Wegner, D. M., & Roper, D. (1988). Depression and mental control: The resurgence of unwanted negative thoughts. *Journal of Personality and Social Psychology, 55*, 882–892. doi:10.1037/0022-3514.55.6.882.

Wilson, K. G., & DuFrene, T. (2008). *Mindfulness for two: An acceptance and commitment approach to mindfulness in psychotherapy*. Oakland: New Harbinger.

Wulfert, E., Greenway, D. E., Farkas, P., Hayes, S. C., & Dougher, M. J. (1994). Correlation between self-reported rigidity and rule-governed insensitivity to operant contingencies. *Journal of Applied Behavior Analysis, 27*, 659–671.

Zettle, R. D. (2007). *ACT for depression: A clinician's guide to using acceptance and commitment therapy in treating depression*. Oakland: New Harbinger.

Zettle, R. D., & Houghton, L. L. (1998). The relationship between mathematics anxiety and social desirability as a function of gender. *College Student Journal, 32*, 81–86.