

Measuring Experiential Avoidance in Adults: The Avoidance and Fusion Questionnaire

Jonathan E. Schmalz & Amy R. Murrell, Ph.D.

Abstract

To date, general levels of experiential avoidance are primarily measured by the Acceptance and Action Questionnaire – II (AAQ-II), but it includes items of questionable comprehensibility. The Avoidance and Fusion Questionnaire for Youth (AFQ-Y), previously validated as a measure of experiential avoidance with children and adolescents, was investigated as a measure with adult college students. The AFQ-Y evidenced adequate reliability ($\alpha = .92$) and appropriate convergent and divergent validity in this sample. Interestingly, AFQ-Y and AAQ-II scores, though significantly related, were not so closely related as to say they measure the same construct. The implications of this and future directions for measurement development are discussed.

Keywords: experiential avoidance, assessment, functional approach

The purpose of the present article is threefold. We intend to review the literature on experiential avoidance since a meta-analysis conducted in 2004 (Hayes et al.) and a review by Kashdan, Barrios, Forsyth, and Steger (2006). As a part of this review, we intend to examine the current “gold standard” measure of experiential avoidance. Finally, a measure of experiential avoidance, valid with children and adolescents, will be presented and validated with an adult sample to address issues of item content and clarity.

Experiential avoidance (EA) defines a functional class of behaviors involving excessive negative evaluations of private events (i.e., thoughts, feelings, sensations) and an unwillingness to experience them. EA is evidenced by intentional efforts to control or escape private events and the contexts which occasion them (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). It has been posited as a functional diagnostic category, continuous in nature, demarcated by experiential acceptance and experiential avoidance (Hayes et al, 1996). Not all behaviors serving experientially avoidant functions are pathogenic. Indeed, EA can be an adaptive process. As examples of nonpathogenic avoidance, consider that when people ignore boredom during long work meetings or temporarily avoid conversations with loved ones until the tendency for aggressive reactivity subsides, there are likely no long-term negative consequences. In fact, there are likely positive outcomes in these situations, because such control strategies effectively move us to face discomfort and move us in valued directions. Thus, in such short-term and appropriate contexts, EA can serve as an adaptive form of emotion regulation.

Experiential avoidance becomes problematic when a person relies on it rigidly and nearly exclusively, without regard to situational appropriateness. Rather than using an adaptive control strategy, a wife who uses EA to her benefit by controlling her anger or fears before initiating an uncomfortable conversation with her husband, for example, could very well engage in long-term maladaptive avoidant behaviors as well. Rather than approaching her husband with her marital concerns as they arise, she could turn to drinking, initiating fights about unrelated matters, or ignoring her husband. Any of these behaviors, also function to control the aversive thoughts or feelings experienced, and are likely to have poor long-term consequences. The effectiveness of the experientially avoidant behaviors is contextually dependent and related to their effect on what the wife values. Assuming that she cares about having a meaningful, loving, and honest relationship, drinking, fighting, and the silent treatment do not work.

These forms of intentional internal regulation – applied rigidly and in the long-term – are unlikely to proffer a meaningful, loving, and honest relationship with her husband.

Experiential avoidance used as an inflexible means of regulating private events, restricts the number of available response behaviors (Wilson & Murrell, 2004). Drinking, fighting, and ignoring become “have to” behaviors in response to internal stimuli experienced as unpleasant. In turn these behaviors, by impeding valued directions, lead to an increase in unpleasant external and internal events. These negative events then seemingly require more avoidance. If the wife engages in rigid avoidance strategies like excessive drinking and incitation of arguments, her marital life, as well as other relationships, and her career, would likely deteriorate – creating further aversive situations to avoid. The trap of this type of rule-governed behavior—another process with potential for adaptive and maladaptive uses (see Torneke, Luciano, & Valdivia Salas, 2008)—is clear; following the rule “I have to avoid feeling bad” in conjunction with following the rule, “I have to drink to make the bad go away,” quickly becomes a maladaptive cycle.

Experiential Avoidance and Its Correlates

The implications of maladaptive patterns of experiential avoidance are broad and well documented. In the following studies, various versions of the Acceptance and Action Questionnaire (AAQ) were used as measures of what we are calling – and which will be more fully explicated later – global experiential avoidance. Hayes et al. (2004, 2006) and Kashdan et al. (2006) offer reviews of findings that EA is significantly related to general as well as specific measures of psychological symptoms and problem behaviors. For example, EA correlates with measures of anxiety and depression, and increased feelings of panic and perceived uncontrollability in response to an induction of acute emotional distress (Feldner, Zvolensky, Eifert & Spira, 2003). Further, EA is significantly related to maladaptive perfectionism and excessive worry (Santanello & Gardner, 2007). In addition, people with lower levels of EA have higher pain tolerance and subjectively report a physically painful experience as less aversive than those with higher levels of EA (Feldner et al., 2006). A few studies have looked broadly at the relationship between levels of EA and general distress, or between EA and broad patterns of maladaptive behavior. However, while EA is theoretically posited to occur within and across a number of presenting problems, most of the literature focuses on specific disorders or situations.

Specific presentations. Many of the more specific studies focus on depression or anxiety. The depressive symptoms of familial caregivers of dementia patients significantly relate to levels of experiential avoidance, and this relationship is unaffected by the number of problem behaviors presented by the dementia patient (Spira et al., 2007). People who experience uncued panic attacks exhibit significantly higher levels of EA than people who do not; they also report using more emotionally avoidant regulation strategies than individuals without panic (Tull & Roemer, 2007). EA is also related to obsessive compulsive symptoms (Abramowitz, Lackey, & Wheaton, 2009) and to PTSD and other trauma-related problems.

Survivors of moderate to severe childhood abuse histories show heightened levels of experiential avoidance (Gratz et al., 2007). EA is related to higher levels of PTSD and depressive symptoms in homosexual male and female survivors of sexual assault (Gold, Dickstein, Marx, & Lexington, 2009; Gold, Marx, & Lexington, 2007). Both emotional inexpressiveness and EA in men with past exposure to interpersonal violence significantly predict levels of aggressive behavior beyond PTSD symptom severity and trait anger (Tull, Jakupcak, & Paulson, 2007). Additionally, Kosovar civilians who evidenced higher levels of EA were more likely than their lower EA neighbors to develop impaired psychological functioning and decreased quality of life (Morina, 2007). Indeed, Kashdan, Morina, and Priebe (2009) found that PTSD, social anxiety disorder, and major depressive disorder are all significantly related to EA in survivors of the Kosovo war.

Certain emotion regulation strategies, like avoidance and emotion-focused self-control strategies, share similar relationships to increased distress and pathology as experiential avoidance (e.g., Aldwin & Revenson, 1987; Folkman et al., 1986; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Kashdan and colleagues (2006) found that EA mediates the relationship between various models of emotional regulation and anxiety-related distress. These findings indicate that emotion regulation strategies used rigidly and without regard to context become problematic, but that no individual strategy is inherently detrimental.

Experiential Avoidance and Indirect Effects or Interactions

Emotion regulation is not the only pattern that seems to be either mediated or moderated by experiential avoidance. Several studies have found that levels of EA change the relationship between internal and external experiences and symptoms. For example, EA moderates the relationship between self-reported health and anxiety and depression symptoms in older adults (Andrew & Dulin, 2007) and partially mediates the relationship between perfectionism and worry (Santanello & Gardner, 2007). In cases of childhood abuse, EA mediates the level of psychological distress later in life (Reddy, Pickett, & Orcutt, 2006). The development of psychological symptoms following sexual victimization is mediated by EA in both Caucasian and ethnically diverse populations (Merwin, Rosenthal, & Coffey, in press). Furthermore, EA partially mediates the relationship between internalized homophobia and both PTSD and depression symptoms in gay males, and fully mediates this relationship in lesbian sexual assault survivors (Gold, Marx, & Lexington, 2007; Gold, Dickstein, Marx, & Lexington, 2009). In addition, EA mediates the relationship between anxiety sensitivity and borderline personality disorder (Gratz, Tull, & Gunderson, 2008). In conjunction with difficulty in goal-directed activity when distressed, EA partially mediates the relationship between anxiety sensitivity and depressive symptom severity and fully mediates the relationship between fear of publicly observable fear reactions and depressive symptom severity (Tull & Gratz, 2008). Even the relationship between materialistic behaviors and diminished well-being is mediated by EA (Kashdan & Breen, 2007).

Experiential Avoidance in Treatment Outcome

Reduced levels of experiential avoidance following therapeutic intervention consistently relate to beneficial changes in levels of symptomatology (see Hayes et al., 2006 for a meta-analysis). Furthermore, change seen in acceptance and commitment therapy (ACT) interventions relates to changes in EA that are not found in traditional cognitive therapy approaches (Forman, Herbert Moitra, Yeomans, & Geller, 2007). Traditional cognitive therapy approaches purport to identify and restructure maladaptive thoughts in order to causally affect emotional and behavioral changes. ACT clinicians, on the other hand, hypothesize that thoughts, feelings, and overt behaviors co-occur in a context in a more probabilistic manner. The goal of treatment is to shift the therapeutic context such that the clinician becomes more able to predict and influence client behavior and the client gains psychological and behavioral flexibility. This flexibility is accomplished through six core processes. These are acceptance, cognitive defusion, self-as-context, contact with the present moment, valuing, and committed action. Acceptance is an active willingness to experience all of one's internal events such as thoughts and feelings as well as being open to external environments that occasion them, without taking any efforts to avoid, change or control such content. Defusion refers to a distancing from internal events such that an individual may respond to them in a flexible manner. Self-as-context refers to a perspective in which an individual can sense that he or she is distinct from and greater than internal and external experiences. Contact with the present moment is defined by a non-evaluative awareness of current contingencies in the internal and external environments. Valuing reflects identifying what matters to an individual and committed action is when he or she takes steps to carry out activities consistent with such values, regardless of internal experiences or other obstacles. Many recent studies evidence the distinct nature of change in acceptance-based approaches.

Individuals treated for social anxiety disorder showed decreased levels of EA related to decreased symptomatology, and decreases earlier in treatment in EA predicted subsequent changes in symptoms (Dalrymple & Herbert, 2007). An acceptance-based behavior therapeutic approach with individuals with generalized anxiety disorder (GAD) showed increases in mindfulness and decreases in experiential avoidance and decreased GAD symptoms (Roemer & Orsillo, 2008). Group ACT interventions with individuals with social phobia that did not specifically target social phobia showed improvements in EA and social phobia symptoms, indicating that change may be related to a general willingness, augmented by valuing, to experience aversive internal states as well as engage in previously avoided behaviors (Ossman, Wilson, Storaasli, & McNeill, 2006). Similarly, a two-day ACT workshop with parents of autistic children, showed symptomatological improvements related to changes in EA (Blackledge & Hayes, 2006). Another study showed that reductions in EA co-occur with reductions in anxiety and depression and temporary alleviation of skin picking in people with dermatillomania (Twohig, Hayes, & Masuda, 2006). Additionally, a one-day ACT intervention for weight loss resulted in significant improvements for participants in weight loss and maintenance, blood pressure, distress, stigma, quality of life, and self-reported physical activity and binge eating; these changes were mediated by decreased EA (Lillis, 2008). In addition to these meditational analyses, which suggest that changes in EA are responsible for later beneficial outcomes of treatment, Bond and Bunce (2000) found that reductions in work-related stress over time following interventions separated by 3 months were solely mediated by EA for individuals in an ACT condition.

Measuring this process of change in treatment. To date, experiential avoidance as a global construct in adult populations has been primarily measured with variations of the Acceptance and Action Questionnaire, with the Acceptance and Action Questionnaire – II (AAQ-II; Bond et al., submitted) being the most recent incarnation. The AAQ-II showed adequate psychometric properties for research across three samples (α range = .76 - .87) in a validation study by Bond and colleagues. However, the alpha reliability coefficient with one sample was observed at only $\alpha = .70$ (Kortte, Veiel, Batten, & Wegener, 2009). In the validation study of a previous 9-item version of the AAQ (Hayes et al, 2004) it was noted that the wording of the items may have been excessively complicated and rooted in the ACT theoretical model which perhaps weakened the psychometric properties of the measure, an opinion echoed by Chawla and Ostafin (2007). AAQ-II items show improvements in comprehensibility; however, the present authors feel they maintain some complexity that may hinder cohesiveness as suggested by the relatively low, though by some standards adequate, Cronbach's alphas observed (Kortte, Veiel, Batten, & Wegener, 2009). An older 16-item version of the AAQ was identified as focusing on avoidance of emotions (Tull, Gratz, Salters, & Roemer, 2004). The AAQ-II does address worries and thoughts in a couple of items, though it still does not address avoidance of physical sensations.

Disease and disorder specific measures of acceptance often use variations of AAQ items with content specific to the disease or disorder. The Acceptance and Action Diabetes Questionnaire (AADQ; Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007) is an 11-item measure of acceptance and action specific to living with diabetes. The measure evidenced an internal consistency coefficient α of .94 in a sample with low-income community health center patients (Gregg et al., 2007). The Voices Acceptance and Action Scale (VAAS; Shawyer et al., 2007) is a 31-item measure of acceptance of auditory hallucinations. The VAAS evidenced adequate reliability ($\alpha = .90$) in a sample of patients with a diagnosis of schizophrenia or other psychotic experience (Shawyer et al., 2007). The Tinnitus Acceptance Questionnaire (TAQ; Westin, Hayes, & Andersson, 2008) is a 12-item tinnitus specific acceptance measure which evidenced adequate internal consistency ($\alpha = .89$) with a sample of patients with chronic tinnitus. The Chronic Pain Acceptance Questionnaire (CPAQ; McCracken, Vowles, & Eccleston, 2004) showed adequate reliability ($\alpha = .78$) with a sample of individuals who had been referred to a pain management program.

Each of these disease and disorder specific measures of EA has the advantage of inquiring about experientially avoidant behaviors directly related to a specific concern of interest. There is evidence in a number of ACT studies that content-specific measures of avoidance more accurately predict changes in specific behaviors (Blackledge & Hayes, 2006). For example, the CPAQ for chronic pain (Geiser, 1992; McCracken, Spertus, Janeck, Sinclair, & Wetzel, 1999) correlated .60 with pain related anxiety in a medical sample, whereas more generalized measures AAQ correlated in the .35 to .58 range on various measures of anxiety in comparable samples. Furthermore, the CPAQ has better test-retest reliability than the AAQ (.85 versus .64 in the initial reliability studies). In addition, the CPAQ (McCracken, Vowles, & Eccleston, 2004) showed adequate reliability ($\alpha=.78$) with a sample of individuals who had been referred to a pain management program. EA measures specific to smoking cessation (Gifford et al., 2004) and diabetes (Gregg et al., 2007) accurately differentiate those who respond well to treatment from those who do not, especially with regard to the targeted behaviors. Many of the items on each of these measures use specific setting events and responses, which likely allow individuals to relate to them meaningfully. The items reference common experiences of individuals living with diabetes, hallucinations, tinnitus, and chronic pain, respectively, and give respondents the opportunity to determine to what extent they engage in a particular response to that experience; that response is, at least theoretically, a good indicator of acceptant or avoidant behavior.

The problem specific AAQ measures, though psychometrically sound, do not measure experiential avoidance in a more general way. They do describe behaviors given a context, but are limited to their specific pathological domains. Conversely, in attempting to gain a global assessment of an individual's tendency towards avoidance or acceptance, AAQ-II items may use too broad of language which does not garner such specific setting events or responses and which ignores the avoidance of bodily sensations. While the AAQ does attempt to capture the global construct of EA, this could explain some of the lower internal consistencies observed in previous uses of the AAQ-II. Therefore, there is a need for a measure that is global and simultaneously provides setting events for responses.

Avoidance and Fusion Questionnaire. The Avoidance and Fusion Questionnaire for Youth (AFQ-Y; Greco, Murrell, & Coyne 2005), given that it was designed with developmental concerns in mind, may serve as a global measure that also includes more specific information. The AFQ was developed as a measure of EA in children and adolescents. Items were intentionally created to use less ACT-specific language and require less knowledge of ACT to understand the intended meanings. In addition, simple language was used. Items were developed with a focus on specific setting events and responses. The self-report scale has 17 items that assess avoidance and fusion on a Likert-like scale that ranges from 0 ("not at all true") to 4 ("very true"). High scores indicate psychological inflexibility. The AFQ-Y showed adequate internal consistency reliability ($\alpha=.90$) in a validation study by Greco, Lambert, and Baer (2008) and in a study with high school adolescents ($\alpha=.87$; Howe-Martin, Biglan, Murrell, & Hankins, in preparation).

While AFQ-Y items were developed with comprehensibility for younger persons as an important consideration, no items appear to be age specific. That is, there is no reason to believe that the items on the AFQ-Y would be inappropriate for college adults. On the whole, items of the AFQ-Y tend to use specific setting events and response behaviors that are general in nature, and considered appropriate for individuals of any age. For example, "If my heart beats fast, there must be something wrong with me," sets up a fast heart beat and offers a specific internal response. The present authors consider this syntactic approach useful in both clarity, but also behavioral distinctiveness in a manner reminiscent of the approach used in the disorder specific versions of the AAQ. Furthermore, AFQ-Y items do address the avoidance of bodily sensations with items like the one above and "I can't stand to feel pain or hurt in my body." Not all items of the AFQ-Y are arranged this way and one item in particular ("I am afraid of my feelings") reads almost identically to an item on the AAQ-II.

As the AFQ-Y addresses issues of complexity and includes avoidance of bodily sensations and has shown strong internal consistency with youth populations, it might serve as a strong alternate option to the AAQ-II for clinicians and researchers, should it prove valid and reliable with an adult sample. The present authors do not intend to determine whether the AFQ-Y is a better instrument in measuring experiential avoidance; rather the goal is to determine if it is an adequate one that could be added to the toolbox and called upon should its distinctive features be necessary or attractive in forthcoming clinical and research applications.

Both the AAQ-II and AFQ-Y, by name and face validity of their items, are intended to measure the acceptance/avoidance continuum as well as action and fusion, respectively. Acceptance, action and defusion are thought to be separate components of the ACT model of psychological flexibility. Although they can be conceptualized as distinct constructs, along with contact with the present moment, self-as-context, and valued living, previous factor analyses of the AAQ-II and AFQ-Y have revealed a single-factor solution. The AFQ-Y was analyzed in this study using an exploratory factor approach to allow for the possibility that two factors might result. Given that the AFQ-Y had adequate coefficient alphas and acceptable item-total correlations in previous studies, responses to items of the AFQ-Y were expected to be meaningfully related to one another in this sample. For the measure to be useful as a broad measure of experiential avoidance, it must be related to existing measures of EA as well as appropriately related to measures of psychopathology and distress, mindfulness, and quality of life. Therefore, the design allowed for tests of these ideas. The AFQ-Y, administered to a college sample, was expected to demonstrate adequate convergent and divergent validity with established measures of each of these domains.

Method

Participants and Procedures

Participants were undergraduate students ($N = 552$). Ages of participants ranged from 18 to 53 ($M = 20.6$, $SD = 3.45$). The majority of participants identified themselves as White/Caucasian (61.6%), 13.6% as Black/African American, 10.9% as Hispanic/Latino, 5% as Biracial, and 4.7% as Asian/Pacific Islander. The remaining 4% identified as Middle Eastern/Arab, Native American, or Other. Participants were asked to indicate whether or not they had ever received counseling and completed the AFQ-Y and AAQ-II, as well as measures of psychological symptoms, mindfulness, and quality of life in a secured, online, single administration of each measure.

Measures

The Acceptance and Action Questionnaire (AAQ-II). The AAQ-II is a 10-item measure and the current standard for measuring experiential avoidance in adults (Bond et al., submitted). All items are on a 7-point scale from “1-never true” to “7-always true”. It has evidenced adequate psychometric properties in validation samples with university students, community members, and persons seeking treatment for substance misuse (Bond et al., submitted). In the present study, it showed adequate reliability ($\alpha = .86$). The AAQ-II is typically scored such that higher scores suggest greater acceptance. In the interest of keeping the directionality the same, and thus the comprehensibility of the relationship simplified between the AAQ-II and the AFQ-Y, it was determined that the AAQ-II would be scored so that higher scores reflect more avoidance.

Symptom Checklist-90-R (SCL-90-R). The SCL-90-R is a self-report measure consisting of 90 items designed to measure psychological symptoms in the domains of somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Derogatis, 1994). Items are responded to on a 5-point scale (0-4) indicating their level of distress with respect to each item over the last week from “Not at all” to “Extremely.” The SCL-90-R has adequate support of its psychometric properties in two previous studies (Derogatis, Rickels, & Rock, 1976; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988). In the present sample, the reliability was

$\alpha = .98$. Given the theoretical relationship between experiential avoidance as an etiological predictor of psychological symptoms, it was predicted that the two would evidence a moderate direct correlation.

Depression Anxiety Stress Scales (DASS). The DASS is a 42-item measure with three scales: depression, anxiety, and stress (Lovibond & Lovibond, 1995). Participants respond to questions about distress over the past week on a 4-point scale, from “Did not apply to me at all” to “Applied to me very much, or most of the time.” Multiple studies have found the psychometric properties of the scales of the DASS to be strong (Antony, Bieling, Cox, Enns, & Swinson, 1998; Crawford & Henry, 2003). In the present sample the internal consistency reliability of the depression ($\alpha = .95$), anxiety ($\alpha = .91$), and stress ($\alpha = .93$) scales were adequate. Like the SCL-90-R, DASS scores were hypothesized to have a direct relationship of moderate strength with AFQ-Y scores.

The Kentucky Inventory of Mindfulness Skills (KIMS). The KIMS is a measure of mindfulness skills in adults and measures four domains of mindfulness: describing, observing, accepting without judgment, and acting with awareness (Baer, Smith, & Allen, 2004). The KIMS consists of 39 statements rated by respondents on a 5-point scale from “Never or very rarely true” to “Very often or always true” about oneself. In previous studies the KIMS evidenced adequate psychometric properties in samples with students and a sample with patients diagnosed with borderline personality disorder (Baer, Smith, & Allen, 2004; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). In the present sample the reliability coefficients for observing ($\alpha = .88$) and accepting without judgment ($\alpha = .90$) were adequate. The describing ($\alpha = .76$), acting with awareness ($\alpha = .66$), and total composite scales ($\alpha = .77$) were not acceptable given standards laid out by Clark and Watson (1995). Thus, only the observing and accepting without judgment scales were used in our analyses. Observing has been previously shown to have no relationship to experiential avoidance (Baer, Smith, & Allen, 2004), so this non relationship was expected to be observed in the present sample. Accepting without judgment is theoretically consistent with lower EA and thus a significant inverse relationship was expected between that subscale and scores on the AFQ-Y.

Quality of Life Inventory (QOLI). The QOLI is a 16-item self-report measure of life satisfaction that asks participants questions about areas of life that are important to their happiness on a scale from 0-2, from “Not important” to “Extremely important,” and about how satisfied with those areas they are on a scale from -3 to +3, from “Very dissatisfied” to “Very satisfied” (Frisch, 1994). The QOLI ultimately yields T-scores where higher scores suggest greater freedom from psychological distress and greater quality of life. The psychometric properties of the measure have been found to be adequate in previous research (Frisch, 1994). In the present sample the internal consistency reliability coefficient ($\alpha = .86$) is adequate. As experiential avoidance is a theorized predictor of psychological symptoms and thought to minimize the scope of one’s life, AFQ-Y scores were expected to have an inverse relationship with quality of life scores.

Part 1: Construct Validity

Data Analyses

In Part 1, we examined the factor structure and internal consistency reliability of the AFQ-Y with this adult sample.

AFQ-Y descriptive statistics. The AFQ-Y mean total score for individuals who completed the measure in its entirety ($n = 500$) was 20 ($SD = 12.6$). An independent samples *t*-test suggested no differences ($p = .30$; $CI = -3.60-1.11$) in AFQ-Y scores based on gender. A significant difference ($p = .03$; $CI = 0.21-5.09$) was observed between individuals previously in psychotherapy ($\mu = 21.87$) and those who had never sought psychological services ($\mu = 19.22$). Importantly, no significant differences were observed between participants above the age of 25 and those 25 or below ($p = .92$).

Exploratory factor analysis. Although previous research of the AFQ-Y (Greco, Lambert, & Baer, 2008) found a single factor solution with children and adolescents, we conducted an exploratory primary axis factor analysis with an oblimin rotation and Kaiser normalization to allow for more than one factor, given the possibility that this older sample may interpret and respond to the items in a different manner than children and adolescents.

Results

Item and Scale Characteristics

Items on the AFQ-Y exhibited a clear single factor solution that accounted for 41% of the variance in the items. AFQ-Y items demonstrated good internal consistency reliability ($\alpha = .92$) in this sample, with item-total correlations for every item at or above .40 (.40-.70) as suggested by Cronbach (1951; Cronbach & Shavelson, 2004). For a list of AFQ-Y items and item-total correlations, see Table 1. The items correlated with each other to varying degrees (r s ranging from .16 to .66) and the mean inter-item correlation was .40. This finding is consistent with initial development and validation of the AFQ-Y as outlined by Greco, Lambert, and Baer (2008) and consistent with guidelines suggested by Clark and Watson (1995). The items of the AFQ-Y appear to be meaningfully related and to measure a single construct.

Table 1 AFQ-Y Items and Item-Total Correlations ($N = 500$)

Item	Pearson's r
1. My life won't be good until I feel happy.	.483
2. My thoughts and feelings mess up my life.	.787
3. If I feel sad or afraid, then something must be wrong with me.	.688
4. The bad things I think about myself must be true.	.703
5. I don't try out new things if I'm afraid of messing up.	.687
6. I must get rid of my worries and fears so I can have a good life.	.678
7. I do all I can to make sure I don't look dumb in front of other people.	.622
8. I try hard to erase hurtful memories from my mind.	.645
9. I can't stand to feel pain or hurt in my body.	.522
10. If my heart beats fast, there must be something wrong with me.	.618

11. I push away thoughts and feelings that I don't like.	.624
12. I stop doing things that are important to me whenever I feel bad.	.712
13. I do worse in school when I have thoughts that make me feel sad.	.693
14. I say things to make me sound cool.	.551
15. I wish I could wave a magic wand to make all my sadness go away.	.724
16. I am afraid of my feelings.	.725
17. I can't be a good friend when I feel upset.	.696

All correlations are significant ($p \leq .01$)

Part 2: Convergent and Divergent Validity

In part 2 of this study, using the same adult sample, we examined the convergent and divergent validity of the AFQ-Y. The AFQ-Y was expected to have a strong direct relationship with the AAQ-II, as they are both considered measures of experiential avoidance. A moderate direct relationship was expected between the symptomatology measured by the SCL-90-R and DASS and EA measured by the AFQ-Y. An inverse relationship between AFQ-Y scores and the mindfulness skill accepting without judgment was predicted, and a non-significant relationship was expected between AFQ-Y scores and the mindfulness skill of observing. Lastly, quality of life was predicted to have an inverse relationship with EA as measured by the AFQ-Y.

Results

Relationships between AFQ-Y and AAQ-II

Correlations between AFQ-Y scores and other measures are shown in Table 2. The AFQ-Y evidenced a statistically significant direct relationship with the AAQ-II (both measures were scored such that higher scores indicate greater avoidance, less acceptance). The extent of the relationship ($r = .68$) means that only 46% of the variance in one measure is accounted for by the other. To some extent this number is a reflection of effect size attenuation; nevertheless the magnitude of the relationship appears to be lower than would be expected of two measures of the same construct. That is, if the AAQ-II and AFQ-Y were measuring the exact same construct, one would expect a Pearson's r around or above .80.

Table 2

Correlations (Pearson's r) between AFQ-Y scores and other measures ($N = 487$)

Measure	1	2	3	4	5	6	7	8	9
1. AFQ-Y	-								

2. AAQ-II	.68*	-						
3. KIMS-Accept	-.55*	-.57*	-					
4. KIMS-Observing	.19*	.12*	-.46*	-				
5. DASS - Anxiety	.53*	.55*	-.48*	.22*	-			
6. DASS - Stress	.55*	.58*	-.49*	.19*	.78*	-		
7. DASS – Dep	.59*	.62*	-.52*	.17*	.78*	.74*	-	
8. SCL-90-R	.61*	.61*	-.55*	.26*	.74*	.71*	.73*	-
9. QoLI	-.30*	-.44*	.37*	-.01	-.28*	-.34*	-.42*	-.40*

(*) Identifies significant correlations ($p \leq .01$)

To address this issue, a post-hoc stepwise multiple regression was conducted entering AAQ-II and AFQ-Y scores as predictor variables for quality of life, as this is often considered a more meaningful outcome variable than measures of symptomatology in acceptance-based work. Results indicate that AFQ-Y scores offer no meaningful predictive ability above and beyond the AAQ-II regression model ($AdjR^2 = .18$, $F(1, 489) = 111.8$, $p < .01$).

Psychological Symptomology

In the present sample, the AFQ-Y showed statistically significant positive relationships with general psychological symptoms measured by the SCL-90-R ($r = .61$) and depression ($r = .59$), anxiety ($r = .53$), and stress ($r = .55$) measured by the DASS. These findings are coherent with the theory of psychological symptomology as an indicator of experiential avoidance. The degree of relationship is meaningful and indicative that symptoms are related to yet still distinct from EA.

Mindfulness

Because the describing, acting with awareness, and composite scales of the KIMS did not exhibit highly acceptable levels of internal consistency ($\alpha = .76$, $.66$, and $.77$, respectively), they were excluded from analyses. In the present sample the AFQ-Y displayed an expected inverse relationship with the mindfulness facet accepting without judgment ($r = -.55$). A statistically significant, though pragmatically meaningless ($r = .19$), relationship was observed between experiential avoidance scores on the AFQ-Y and the observing facet of mindfulness as measured by the KIMS. This suggests that one's ability to observe or notice one's experience may not be predictive of EA and vice versa, a finding consistent with that of Baer, Smith, and Allen (2004).

Quality of Life

The predicted inverse relationship between experiential avoidance as measured by the AFQ-Y and quality of life was observed ($r = -.30$). This suggests, coherent with theory, that EA is inversely related to the quality of an individual's experience of their life.

General Discussion

The present study found that the AFQ-Y, heretofore intended for and validated among child and adolescent samples, was psychometrically appropriate with an adult undergraduate student sample. The AFQ-Y was best represented by a single factor structure and exhibited strong construct validity. Scores on the AFQ-Y were related in theoretically consistent ways with other psychological constructs. The AFQ-Y measures a construct that is related to, though distinct from, general psychopathology; is inversely related to the mindfulness construct of acceptance without judgment; and is directly related to quality of life.

The greatest limitation to this study is the use of only undergraduate students, thereby limiting the extent of its external validity. Secondly, the exploratory factor analytic techniques used also limit the extent to which these findings may be extrapolated to the adult population in general. Lastly, these findings are all correlational in nature and no indication of causality should be gleaned from the present findings.

Despite these limitations, the present study provides good evidence for the use of the AFQ-Y with adults, perhaps as an alternative to the AAQ-II. Although it is longer by seven items, there are reasons to believe that the AFQ-Y is *perhaps* a more exacting and comprehensible measure of EA due to its specific setting events and response behaviors. This approach, similar to the one found in disorder specific versions of the AAQ, ideally creates situations and response behaviors which individuals can identify with and which demarcate a tendency towards EA or acceptance. More importantly, the AFQ-Y can be considered an alternative measure of EA with adults should researchers and clinicians prefer its wording and approach, or find it better suited to their needs.

The abundance of fruitful basic experimental and therapeutic outcome research that indicates an important role of experiential avoidance as a mediator of change in therapies addressing functional aspects of symptoms necessitates strong psychometric bases for reliable and valid investigations. But, before we can reliably measure progress and change in therapy, we must ensure that our yardstick is actually three feet long. The community of researchers interested in a functional analytic approach to understanding maladaptive behavior patterns – those who think EA is an important functional component – ought to carefully ascertain the nature of the constructs we use, before we conclude we are measuring them appropriately. At present, two measures of EA, both sufficiently internally reliable and apparently valid, may not be truly measuring the same construct. It could be that one of the two measures accurately measures the EA construct, or that neither does. Or, it could be that each is measuring some component of EA, but failing to capture it in its entirety. Theoretically, the level of relationship observed in this study could indicate that both measures tap into the acceptance/avoidance domain, and that the discrepancy is found in the action/fusion distinctions. However, as components of psychological flexibility, the potential for difference is questionable, as observed in the post-hoc regression analysis which suggests that the two measures relate to quality of life in a similar manner.

As a further post-hoc examination into this issue, an exploratory factor analysis was run entering in all items of both the AAQ-II and the AFQ-Y. Principal axis extraction and oblique rotation were used. The analysis initially revealed five factors; two of which should likely be retained. These two factors accounted for approximately 43% of the total variance. The first factor might have been best characterized as a mixture of cognitive fusion and avoidant behaviors, and it accounted for about 37% of the variance. Thirteen of the seventeen AFQ items (#s 1-7, 10, 12, 14-17) loaded most highly on this factor (loadings ranged from .40 to .78). The remaining AFQ items all loaded best on factor 4, which accounted for only about 3% of the overall variance. Several AAQ items had modest loadings on the first factor as well, although those items tended to cluster better on the second factor, which could be labeled as a general measure of the acceptance-avoidance dimension. Items 2-5 and 7-9 from the AAQ loaded very highly on this second factor (ranging from .74 to .80, negatively). Interestingly AAQ item #s 1, 6,

and 10 all loaded on factor 5, which accounted for a small portion (2%) of overall variance. It should be noted that there were a number of AFQ items with modest loadings on the second factor; although, as was this case with the AAQ items on the primarily AFQ-related factor, this was not the best fit. This may or may not be a meaningful finding.

As a post-hoc analysis there are some methodological problems with this approach, the most salient two of which are mismatching scales – a 7-point one and a 5-point one with differing qualitative anchor – and that the items were administered on separate pages without consideration to randomization or order effects. These results are noteworthy only insofar as they might incite future research to more carefully examine how the items of these scales are or are not related. Future research might use matching scales for the two measures administer them in a randomized order. As the AFQ-Y appears to be psychometrically sound with adults, it is the present authors' recommendation that future research of intervention outcomes include both measures to better determine how they may or may not differ in that capacity.

References

- Abramowitz, J.S., Lackey, G.R., & Wheaton, M. G. (2009) Obsessive–compulsive symptoms: The contribution of obsessional beliefs and experiential avoidance. *Journal of Anxiety Disorders, 23*, 160-166.
- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology, 53*, 337–348.
- Andrew, D.H., & Dulin, P.L. (2007) The relationship between self-reported health and mental health problems among older adults in New Zealand: Experiential avoidance as a moderator. *Aging and Mental Health, 11*, 596-603.
- Antony, M.M., Bieling, P.J., Cox, B.J., Enns, M.W., & Swinson, R.P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales (DASS) in clinical groups and a community sample. *Psychological Assessment, 10*, 176-181.
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*(3), 191-206.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27-45.
- Blackledge, J. T., & Hayes, S. C. (2006). Using acceptance and commitment training in the support of parents of children diagnosed with autism. *Child & Family Behavior Therapy, 28*(1), 1-18.
- Bond, F.W., Hayes, S.C., Baer, R.A., Carpenter, K.M., Orcutt, H.K., Waltz, T., & Zettle, R.D. (submitted). *Preliminary psychometric properties of the Acceptance and Action Questionnaire – II: A revised measure of psychological flexibility and acceptance.*
- Chawla, N., & Ostafin, B. (2007). Experiential avoidance as a functional dimensional approach to psychopathology: An empirical review. *Journal of Clinical Psychology, 63*, 871-890.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*, 309–319.

- Crawford, J.R., & Henry, J.D. (2003). The Depression Anxiety Stress Scales (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology, 42*, 111-131.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297–334.
- Cronbach, L. J., & Shavelson, R. J. (2004). My current thoughts on coefficient alpha and successor procedures. *Educational and Psychological Measurement, 64*, 391–418.
- Dalrymple, K. L., & Herbert, J. D. (2007). Acceptance and commitment therapy for generalized social anxiety disorder: A pilot study. *Behavior Modification, 31*, 543-568.
- Derogatis, L. R. (1994). *Symptom Checklist-90-R: Administration, scoring and procedures manual* (3rd ed.). Minneapolis, MN: NCS Pearson.
- Derogatis, L. R., Rickels, K., & Rock, A. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *British Journal of Psychiatry, 128*, 280-289.
- Feldner, M. T., Hekmat, H., Zvolensky, M. J., Vowles, K., E., Secrist, Z., & Leen-Feldner, E. W. (2006). The role of experiential avoidance in acute pain tolerance: A laboratory test. *Journal of Behavior Therapy & Experimental Psychiatry, 37*(2), 146-158.
- Feldner, M. T., Zvolensky, M. J., Eifert, G. H., & Spira, A. P. (2003). Emotional avoidance: an experimental test of individual differences and response suppression using biological challenge. *Behaviour Research and Therapy, 41*(4), 403-411.
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology, 50*, 571–579.
- Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D., & Geller, P. A. (2007). A randomized controlled effectiveness trial of acceptance and commitment therapy and cognitive therapy for anxiety and depression. *Behavior Modification, 31*(6), 772-799.
- Frisch, M. B. (1994). *Manual and treatment guide for the Quality of Life Inventory*. Minneapolis, MN: NCS Pearson.
- Geiser, D.S. (1992). *A comparison of acceptance-focused and control-focused psychological treatments in a chronic pain treatment center* (Unpublished doctoral dissertation). University of Nevada, Reno.
- Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasecki, M. M., Rasmussen-Hall, M. L., & Palm, K. M. (2004). Applying a functional acceptance based model to smoking cessation: An initial trial of acceptance and commitment therapy. *Behavior Therapy, 35*, 689-705.
- Gold, S. D., Marx, B. P., & Lexington, J. M. (2007). Gay male sexual assault survivors: The relations among internalized homophobia, experiential avoidance, and psychological symptom severity. *Behaviour Research and Therapy, 45*(3), 549-562.
- Gold, S.D., Dickstein, B.D., Marx, B.P., & Lexington, J.M. (2009). Psychological outcomes among lesbian sexual assault survivors: An examination of the roles of internalized homophobia and experiential avoidance. *Psychology of Women Quarterly, 33*, 54–66.

- Gratz, K. L., Tull, M. T., & Gunderson, J. G. (2008). Preliminary data on the relationship between anxiety sensitivity and borderline personality disorder: The role of experiential avoidance. *Journal of Psychiatric Research, 42*(7), 550-559.
- Gratz, K. L., Bornovalova, M. A., Delany-Brumsey, A., Bettina, N., & Lejuez, C. W. (2007). A laboratory-based study of the relationship between childhood abuse and experiential avoidance among inner-city substance users: The role of emotional nonacceptance. *Behavior Therapy, 38*(3), 256-268.
- Greco, L. A., Lambert, W., & Baer, R. A. (2008). Psychological inflexibility in childhood and adolescence: Development and evaluation of the Avoidance and Fusion Questionnaire for Youth. *Psychological Assessment, 20*(2), 93-102.
- Greco, L. A., Murrell, A. R., & Coyne, L. W. (2005). *Avoidance and fusion questionnaire for youth*. Unpublished manuscript, Department of Psychology University of Missouri, St. Louis. Available online at www.contextualpsychology.org.
- 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.
- Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes, and outcomes. *Behaviour Research and Therapy, 44*(1), 1-25.
- Hayes, S. C., Masuda, A., Bissett, R., Luoma, J., & Guerrero, L. F. (2004). DBT, FAP, and ACT: How empirically oriented are the new behavior therapy technologies? *Behavior Therapy, 35*, 35-54.
- Hayes, S.C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford.
- Hayes, S. C., Strosahl, K. D., Wilson, K. G., Bissett, R. T., Pisterello, J., Toarmino, D., . . . McCurry S. M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54*, 553-578.
- Hayes, S. C., Wilson, K. W., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*(6), 1152-1168.
- Horowitz, L. M., Rosenburg, S. E., Baer, B. A., Ureno, G., & Villasensor, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology, 56*, 885-892.
- Howe-Martin, L., Biglan, T., Murrell, A., & Hankins, M. (in preparation). Experiential avoidance in adolescence: Internalizing problems, externalizing problems, and substance abuse.
- Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential avoidance as a generalized psychological vulnerability: Comparisons with coping and emotion regulation strategies. *Behaviour Research and Therapy, 9*, 1301-1320.

- Kashdan, T. B., & Breen, W. E. (2007). Materialism and diminished well-being: Experiential avoidance as a mediating mechanism. *Journal of Social and Clinical Psychology, 26*, 521-539.
- Kashdan, T. B., Morina, N., & Priebe, S. (2009). Post-traumatic stress disorder, social anxiety disorder, and depression in survivors of the Kosovo War: Experiential avoidance as a contributor to distress and quality of life. *Journal of Anxiety Disorders, 23*, 185-196.
- Kortte, K. B., Veiel, L., Batten, S. V., & Wegener, S. T., (2009). Measuring avoidance in medical rehabilitation. *Rehabilitation Psychology, 54*, 91-98.
- Lillis, J. (2008). *Acceptance and commitment therapy for the treatment of obesity-related stigma and sustained weight loss* (Unpublished doctoral dissertation). University of Nevada, Reno.
- Lovibond, S.H., & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. ed.) Sydney: Psychology Foundation.
- McCracken, L. M., Spertus, I. L., Janeck, A. S., Sinclair, D., & Wetzel, F. T. (1999). Behavioral dimensions of adjustment in person with chronic pain: Pain-related anxiety and acceptance. *Pain, 80*, 283-289.
- McCracken, L. M., Vowles, K. E., & Eccleston, C. (2004). Acceptance of chronic pain: Component analysis and a revised assessment method. *Pain, 107*, 159-166.
- Merwin, R. M., Rosenthal, M. Z., & Coffey, K. A. (in press). Experiential avoidance mediates the relationship between sexual victimization and psychological symptoms: Replicating findings with an ethnically diverse sample. *Cognitive Therapy and Research*.
- Morina, N. (2007). The role of experiential avoidance in psychological functioning after war-related stress in Kosovar civilians. *Journal of Nervous and Mental Disease, 195*(8), 697-700.
- Ossman, W. A., Wilson, K. G., Storaasli, R. D., & McNeill, J. W. (2006). A preliminary investigation of the use of acceptance and commitment therapy in group treatment for social phobia. *International Journal of Psychology and Psychological Therapy, 6*, 397-416.
- Reddy, M. K., Pickett, S. M., & Orcutt, H. K. (2006). Experiential avoidance as a mediator in the relationship between childhood psychological abuse and current mental health symptoms in college students. *Journal of Emotional Abuse, 6*(1), 67-85.
- Roemer, L., Orsillo, S. M., & Salters-Pedneault, K. (2008). Efficacy of an acceptance-based behavior therapy for generalized anxiety disorder: Evaluation in a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 76*(6), 1083-1089.
- Santanello, A. W., & Gardner, F. L. (2007). The role of experiential avoidance in the relationship between maladaptive perfectionism and worry. *Cognitive Therapy and Research, 31*(3), 319-332.
- Shawyer, F., Ratcliff, K., Mackinnon, A., Farhall, J., Hayes, S.C., & Copolov, D. (2007). The voices acceptance and action scale (VAAS): Pilot data. *Journal of Clinical Psychology, 63*(6), 593-606.

- Spira, A. P., Beaudreau, S. A., Jimenez, D., Kierod, K., Cusing, M. M., Gray, H. L., & Gallagher-Thompson, D. (2007). Experiential avoidance, acceptance, and depression in dementia family caregivers. *Clinical Gerontologist, 30*(4), 55-64.
- Stanton, A. L., Kirk, S. B., Cameron, C. L., & Danoff-Burg, S. (2000). Coping through emotional approach: Scale construction and validation. *Journal of Personality and Social Psychology, 78*, 1150-1169.
- Torneke, N., Luciano, C., & Valdivia Salas, S. (2008). Rule-governed behavior and psychological problems. *International Journal of Psychology and Psychological Therapy, 8*(2), 141-156.
- Tull, M. T., & Gratz, K. L. (2008). Further examination of the relationship between anxiety sensitivity and depression: The mediating role of experiential avoidance and difficulties engaging in goal-directed behavior when distressed. *Journal of Anxiety Disorders, 22*(2), 199-210.
- Tull, M. T., Gratz, K. L., Salters, K., & Roemer, L. (2004). The role of experiential avoidance in posttraumatic stress symptoms and symptoms of depression, anxiety, and somatization. *Journal of Nervous and Mental Disease, 192*, 754-761.
- Tull, M. T., & Roemer, L. (2007). Emotion regulation difficulties associated with the experience of uncued panic attacks: Evidence of experiential avoidance, emotional nonacceptance, and decreased emotional clarity. *Behavior Therapy, 38*(4), 378-391.
- Tull, M. T., Jakupcak, M., & Paulson, A. (2007). The role of emotional inexpressivity and experiential avoidance in the relationship between posttraumatic stress disorder symptom severity and aggressive behavior among men exposed to interpersonal violence. *Anxiety, Stress & Coping: An International Journal, 20*(4), 337-351.
- Twohig, M. P., Hayes, S. C., & Masuda, A. (2006). A preliminary investigation of acceptance and commitment therapy as a treatment for chronic skin picking. *Behaviour Research and Therapy, 44*, 1513-1522.
- Westin, V., Hayes, S. C., & Andersson, G. (2008). Is it the sound or your relationship to it? The role of acceptance in predicting tinnitus impact. *Behaviour Research and Therapy, 46*, 100-108.
- Wilson, K. G., & Murrell, A. R. (2004). Values work in acceptance and commitment therapy: Setting a course for behavioral treatment. In S. C. Hayes, V. M., Follette, & M. Linehan (Eds.), *Mindfulness & acceptance: Expanding the cognitive-behavioral tradition* (pp. 120-151). New York: Guilford.

Author Contact Information:

Jonathan E. Schmalz
Amy R. Murrell, Ph.D. (Corresponding author)
Department of Psychology
University of North Texas
1155 Union Circle #311280
Denton, TX 76203-5017