

THE VALUED LIVING QUESTIONNAIRE: DEFINING AND MEASURING VALUED ACTION WITHIN A BEHAVIORAL FRAMEWORK

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A number of cognitive-behavior therapies now strongly emphasize particular behavioral processes as mediators of clinical change specific to that therapy. This shift in emphasis calls for the development of measures sensitive to changes in the therapies' processes. Among these is acceptance and commitment therapy (ACT), which posits valued living as one of its primary core processes. This article offers a definition of values from a behavioral perspective and describes the Valued Living Questionnaire (VLQ) as a first attempt at assessment of valued living. The VLQ is a relatively brief and easily administered instrument derived directly from the primary text on ACT. Initial psychometric support for the VLQ suggests that valued living can be measured, even with the most simple of instruments, in such a way as to consider it a possible mechanism of change in ACT and related approaches.

Key words: behavior therapy, cognitive behavior therapy, Values, Assessment, Valued Living Questionnaire, Acceptance-based psychotherapy, Values-based psychotherapy, Behavioral activation

Emerging “third-wave” behavior therapies concentrate on the “construction of broad, flexible, and effective repertoires over an eliminative approach to narrowly defined problems” (Hayes, 2004, p. 658). Functional analytic psychotherapy (FAP; Kohlenberg & Tsai, 1991), dialectical behavior therapy (DBT; Linehan, 1993), integrative behavioral couple therapy (IBCT; Christensen, Jacobson, & Babcock, 1995; Jacobson & Christensen, 1996; Jacobson, Christensen, Prince, Cordova, & Eldridge, 2000), mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002), behavioral activation (Dimidjian et al., 2006; Jacobson et al., 1996), and Borkovec’s present-moment-focused approach to the treatment of GAD (e.g., Borkovec & Sharpless, 2004), among others, share this shift in focus.

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In addition to changes in the focus of treatment outcome, many of these newer therapies propose differences in putative mechanisms of action. Changes in acceptance, mindfulness, distress tolerance, and metacognition, among others, have been proposed as mediators of clinical change. Because of these differences, third-wave behavioral treatments pose significant empirical challenges. Not only do we need to carry the burden of examining their efficacy, but we have the additional challenge of generating and refining measures sensitive to differences in process and outcome.

Acceptance and commitment therapy (ACT, said as a word, not as individual letters; Hayes, Strosahl, & Wilson, 1999) is one among these emergent cognitive behavioral therapies in which change processes and outcome are being examined. ACT is based on a functional contextualist philosophical framework and a contemporary contextual behavioral theory of human behavior. ACT's underlying theory incorporates well-validated basic operant and respondent conditioning processes from behavior analysis with relational frame theory, a post-Skinnerian theory of relational conditioning processes considered central to understanding human language, cognition, emotion, and motivation (Hayes, Barnes-Holmes, & Roche, 2001).

Examination of the relative clinical efficacy of ACT is in its infancy. However, early randomized trials have shown considerable promise. Compared to waitlist, placebo, or treatment-as-usual, a recent meta-analysis of ACT ($n = 404$) demonstrated a large mean effect size (Cohen's $d = .63$; Hayes, Luoma, Bond, Masuda, & Lillis, 2006) in treating a wide variety of psychological syndromes, as well as other problematic experiences (e.g., burnout; see Hayes et al., 2004).

Although the aforementioned studies showed reductions in distress on a variety of well-standardized measures, such reductions in distress are not the primary targets of treatment. Rather than focusing on symptom elimination, the primary purpose of ACT is to teach clients to accept and embrace necessary suffering in order to increase their ability to engage in committed, life-affirming action. Assessment and intervention for difficult psychological content are well developed; however, the assessment and intervention for life-affirming action or values have been the subject of far less theoretical and empirical development within the behavior therapy movement.

Values Work in ACT

Work on committed, life-affirming action is generally addressed in the values and commitment components of ACT (Hayes et al., 1999). Values work is seen as both directing and dignifying the hard work of treatment (Wilson & Murrell, 2004) and has been linked theoretically and practically to improved therapeutic alliance (Wilson & Sandoz, 2008). Details of values interventions are described in books (e.g., Dahl, Wilson, Luciano, & Hayes, 2005; Eifert & Forsyth, 2005; Hayes et al., 1999), chapters (Wilson & Byrd, 2004; Wilson & Murrell, 2004; Wilson & Sandoz, 2008), and treatment manuals (Dahl, Wilson, & Nilsson, 2004; Hayes et al., 2004).

Although values have been conceptualized in a number of ways in psychology (e.g., Allport, Vernon, & Linzey, 1960; Rokeach, 1973), a discussion of these alternative perspectives is beyond the scope of this article. Rather,

our focus will be on the definition and measurement of valued living within a behavioral framework. In what follows, we aim to define values in a way that is both consistent with behavior analysis and consistent with the way values are approached within the ACT model.

Defining Values in ACT

Values establish reinforcers. ACT is a contextual behavioral treatment and, as such, the language of values is a special way to speak about reinforcement among verbally competent humans. Reinforcers for nonhumans, with a few exceptions, consist of a relatively small set of evolutionary imperatives (primary reinforcers; e.g., food, shelter, water, sex, social contact for some species) and events correlated with those imperatives (secondary reinforcers). Furthermore, with a few exceptions, these reinforcers must occur in close proximity and reasonably large magnitude to serve as reinforcers. A grain delivery will not reinforce a pigeon's keypecks unless the grain delivery is of a noticeable quantity and comes within a short period of time following the keypeck.

Humans, in contrast, are able to respond to reinforcers that seem extremely remote in time and whose benefits actually accrue in tiny increments. So, for example, a person might forgo foods with high levels of saturated fats for those with more presumably healthful unsaturated fats, even though the reinforcing value of the food is immediate and large in magnitude, and where the delayed benefits accrue very slowly. In addition to the capacity to respond to remote and incremental benefits, humans are able to respond to benefits with which they could not, even in principle, make contact within their lifetime. So, for example, a person might pray daily in order to avoid Hell and get to Heaven. While it is clear that the pigeon pecks the key because it has a history in which keypecking has produced grain, it is not the case that the human prays because he or she has a history in which praying has produced eternal life. Nevertheless, many people throughout the world expend effort every day in the service of such spiritual pursuits. One can argue that there are immediate benefits that accrue; however, to attribute all this activity to such immediate benefits trivializes the willingness of many individuals who have given their lives in the service of spiritual values. (Here, we make no judgment about the accuracy of such beliefs. We simply note their existence and behaviors devoted to their service.)

Values are verbally constructed. ACT is based on a contemporary contextual behavioral theory that includes relational frame theory (RFT; Hayes et al., 2001). According to RFT, relational conditioning processes are capable of making present psychological functions without the necessity of direct conditioning processes. In the rule-governed behavior literature, verbal stimuli that establish reinforcing psychological functions for other events are called *augmentals* (Hayes, Zettle, & Rosenfarb, 1989). While a tone or light can take on the psychological functions of food or shock by simple coordination in an operant or respondent conditioning paradigm, the same can be done with humans with no such direct conditioning history. Experimental studies have demonstrated the transformation of sexual functions, avoidance-evoking functions, aversion, reinforcing functions, eliciting functions, and discriminative functions, among others (Auguston & Dougher, 1997; Dougher, Auguston, Markham, Wulfert, & Greenway, 1994;

Dougher, Hamilton, Fink, & Harrington, 2007; Roche & Barnes, 1997; Roche, Barnes-Holmes, Smeets, Barnes-Holmes, & McGeady, 2000; Valverde, Soriano, Martinez, & Lopez, 2004). Consider an everyday example: Simply telling a person that you got food poisoning at a particular restaurant may cause him or her to avoid the restaurant, even though that person has neither been poisoned at that restaurant nor ever experienced food poisoning at all. In this example, food poisoning is an augmental, establishing avoidance functions for the restaurant.

Many of the values that humans find important seem to defy direct conditioning interpretations. Take as a case example Victor Frankl's experience in the death camps of Nazi Germany (Frankl, 1992). After spending years in the camps and witnessing the vast majority of his campmates die, Frankl and a colleague found the opportunity to escape the camp in 1945. He describes both excitement and anxiety as the time came for his departure. Frankl had been running a rudimentary "clinic" in the camp, and although he did not have access to appropriate medications or wound dressings, he was able to provide some measure of comfort and secure a few extra rations for his patients.

Frankl (1992) describes making one last round of his patients before the planned escape. He came to a dying man who was from the same region as he. Frankl describes the man looking into his eyes and saying in a tired voice, "You, too, are getting out?" (p. 68). Frankl goes on to say that he decided to take his life into his own hands. He went to his colleague and told him that he would stay in the camp with his patients. When he returned to sit with his patients, Frankl felt a sense of peace that was unlike any he had experienced. In this story, the immediate contingencies would seem to support escape; for Frankl, however, the more potent reinforcer was his ongoing activity as a doctor in the camp.

Values refer to ongoing patterns of activity that are actively constructed, dynamic, and evolving. In ACT, values are distinguished from goals. Goals are achievable ends. ACT uses goals, as do many other behavioral and cognitive behavioral interventions (Beck, Rush, Shaw, & Emery, 1979; Linehan, 1993; Meichenbaum, 1975; Rollnick & Miller, 1995). However, in ACT, goals are directed by client values. Unlike goals, values cannot be completed or achieved in an absolute sense. Rather, values are patterns that can be abstracted and actively constructed from ongoing streams of complex human behavior. For example, getting a degree is a discrete, achievable end. Education might be a relevant value that could continue for a lifetime. While getting a degree could be an important indicator of valued living, one could always continue to pursue education, regardless of milestones achieved. Values, then, are more like directions in which one travels than like destinations at which one arrives. Furthermore, the meaning of education might change over time as an individual changes and grows intellectually.

In the example above, we would say that Frankl's understanding of what it is to be a *mensch*, a doctor, and a friend establishes reinforcers as a sort of verbal establishing operation or augmental (Hayes, Zettle, & Rosenfarb, 1989). The predominant reinforcers established are intrinsic to engagement in the acts themselves. That is, to the extent that Frankl behaves in ways that fit his verbal construction of what it means to be a man, a doctor, and a friend, he finds that engagement in the behaviors is sufficient unto itself.

In ACT, we facilitate a process wherein clients actively construct the sort of persons they wish to be across a variety of life domains. Previous definitions of values from an ACT perspective have emphasized clients' roles primarily in terms of unique interpretations of what particular values mean (e.g., Hayes et al., 1999). More recent conceptualizations of values, however, have emphasized the client's role in the more active process of valuing that is targeted in ACT.

Values are freely chosen. It is important from this perspective to distinguish what we are calling "values" from a wide array of what might be called "purposive behavior." As Skinner (1974) suggested, "operant behavior is the very field of purpose and intention" (p. 55). If all we mean by "valued" is "purposeful," then the distinction becomes meaningless. Rather, we are interested in a subset of purposive behavior—that which might be freely chosen. By "free" here, we do not mean functionally independent of context, of course. This is a behavioral theory, after all. We mean "free" in the sense Skinner spoke of it: free from aversive control (Skinner, 1948, 1971). ACT asks a very fundamental and very human question: In a world where you could choose a direction in your own life, what is the direction you would choose?

Thus, in ACT, "values are freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself" (Wilson & DuFrene, 2009, p. 66). This definition elaborates on the definition found in Hayes et al. (1999): "Values are verbally construed global desired life consequences" (p. 206). The language of verbal construction of values strays from the earlier language of "construed" and "clarified," which could be misinterpreted as presuming values that are a priori out there in the world to be interpreted and clarified. The language of construction emphasizes the active role facilitated in ACT. Values in ACT are not out in the world, to be discovered; rather, they are defined, elaborated, and constructed in an ongoing way by the client. Although this language differs from the language of the 1999 book, it conforms with language in the most recent work, including Wilson and DuFrene (2009), as well as the in progress revision of the 1999 ACT book (Hayes et al., 1999).

Valued living has been posited as a primary core process of ACT (Hayes et al., 2006; Strosahl, Hayes, & Wilson, 2004) and has been theoretically associated with other core processes, such as mindful acceptance, and many important outcomes, such as decreased psychological distress, increased psychological adjustment, and improvements in quality of life (Wilson & Murrell, 2004).

In the ACT model, individuals' attempts to eliminate or attenuate difficult psychological experiences cause avoidance that increases psychological distress and has a negative impact on valued living (Hayes et al., 1999; Wilson & DuFrene, 2009). As suggested earlier, we have good measures of psychological distress. In addition, measures of acceptance and experiential avoidance have been under development (Bond & Bunce, 2000, 2003; Hayes et al., 2004). The continued scientific progress of this work is partially reliant on the development of process measures of valued living that can be used to inform research, practice, and, ultimately, the validity of the ACT model. Additionally, demonstrating the importance of processes

related to positive outcomes of psychotherapy can inform not only the models in which those processes were developed but also psychotherapy in general. There is no reason that values could not be used to direct and dignify the hard work of any therapy, were they shown to be an important mechanism of change.

The Valued Living Questionnaire (VLQ) represents an initial attempt to systematically assess valued living, or the extent to which an individual contacts his or her chosen values in everyday life, from an ACT perspective. This approach was first described as a clinical intervention in *Acceptance and Commitment Therapy* (Hayes et al., 1999) but has since come to be used more broadly as an assessment of valued living. The purpose of the following studies was to examine the psychometric properties of the VLQ and, thereby, its appropriateness as a measure for use in examining psychotherapy outcome and process. The advantages of the use of the instrument include the relative ease with which the data can be collected and its existing integration, both clinical and theoretical, with ACT. The first study was designed to establish the measure's reliability and the second, its validity.

Study 1: Reliability

Participants

Seventy-six undergraduates from a southern university (24% male, 44.7% African American, mean age = 22.29 years) were recruited for participation in return for extra credit in their psychology classes. Participants with incomplete or invalid data (details of exclusion are given below) were omitted from all analyses ($n = 19$ excluded). Remaining participants ($N = 57$) had an average age of 22.6 years, with 75.4% of them being between the ages of 18 and 22. The sample was 63.2% female, 52.6% Caucasian, and 86% single.

Measures

Valued Living Questionnaire. The VLQ (see the Appendix) is a two-part instrument designed to assess valued living. In the first part, participants rate the importance of 10 domains of living on a 10-point Likert-style scale. These life domains are (1) family (other than parenting and intimate relations), (2) marriage/couples/intimate relations, (3) parenting, (4) friendship, (5) work, (6) education, (7) recreation, (8) spirituality, (9) citizenship, and (10) physical self-care. The instructions specify that not everyone values all of these domains, and that some domains may be more important, or important in different ways, at different times in an individual's life. This part of the questionnaire is designed to identify the domains of living in which the individual chooses to value a particular behavioral pattern. For example, an individual may identify work as very important by rating it a "10," and physical self-care as minimally important by rating it a "2." The second part of the VLQ asks the client to rate, using the Likert-style scale, how consistently he or she has lived in accord with the valued behavioral pattern within each domain over the past week. This part of the questionnaire is designed to measure self-assessment of the fit between the client's actual activities and the valued behavioral pattern.

Responses from both “importance” and “consistency” are used to calculate a valued living composite, which helps to quantify the extent to which one is living out particular values in everyday life. This composite represents the primary theoretical importance of values in the ACT conceptualization, rather than the extremeness or range of values (measured on the Importance Scale) or the degree to which individuals consistently value life domains they may or may not have identified as important (measured on the Consistency Scale). The composite is recommended as the score of interest in research and clinical use at this time.

Butcher Treatment Planning Inventory. The BTPI (Butcher, 1998) is a 210-item, true-false measure of clinical symptomatology and treatment difficulty. The reliability and validity of the BTPI are well-established (Butcher, 1998; Butcher, Rouse, & Perry, 1998; Perry & Butcher, 1999). It was originally developed for use in clinical settings but provides additional norms for use with other populations, including college samples. Using the nationally representative sample, raw scores were converted to *T* scores ($M = 50$; $SD = 10$) as indicated in the manual (Butcher, 1998). Clinical scale scores for Depression, Anxiety, Anger-In, Anger-Out, Lack of Environmental Support, Narcissism, Low Expectation of Benefit, Relationship Problems, and Somatization were computed as directed in the manual. The BTPI also provides four indicators of response style: Inconsistent responding (INC), a measure of the consistency of responding; Overly Virtuous Self-Views (VIR), a measure of reluctance to admit minor flaws; Exaggerated Problem Presentation (EXA), a measure of symptom exaggeration; and Closed-Mindedness (CLM), a measure of a client’s openness to treatment. The clinical scales were not the focus of the study; rather, the response style indicators were used as validity scales to omit invalid responders. In keeping with the test manual, participants deviating more than 1 standard deviation from the mean for college students based on the standardization sample were eliminated from analyses.

Procedure

Using an IRB-approved protocol, participants were seen on two separate assessment occasions. After signing the consent form, participants completed the VLQ, the BTPI, and a Demographics Questionnaire, and were scheduled to return 1 to 2 weeks later. In Session 2, participants completed the VLQ again and received a debriefing form, which provided more detailed information regarding the study’s hypotheses and references for supplementary information and/or mental health services.

Results

Calculations and Descriptive Statistics

As this is the first time that the VLQ was evaluated for use as a psychometric instrument and this particular conceptualization of valued living is relatively new, importance and consistency responses were subjected to separate statistical analyses, along with the recommended valued living composite. Descriptive statistics were computed in order to examine the distribution of responses and to provide a basis of comparison for future use.

Importance. First, the distributions of responses on the two parts of the VLQ (Importance and Consistency) were considered separately in preliminary analyses. Responses on the first part of the measure were summed to yield an overall Importance score for the two administrations, and the distributions were examined. The average Importance scores were 84.65 and 84.39, with standard deviations of 10.38 and 11.80 for the first and second administrations, respectively. Importance scores ranged from 53 to 100 in the first administration, and from 51 to 100 in the second administration. Thus, the average per-item rating was between 8 and 9, with per-item ratings ranging, on average, from 5 to 10. Means and standard deviations of Importance responses for each item can be seen in Table 1.

Table 1

Means and Standard Deviations of Importance, Consistency, and Valued Living Composite Scores by Item and Administration in Study 1

Domain	Importance		Consistency		Composite	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Family relations	9.04	1.79	8.63	1.68	78.3	22.7
	9.11	1.59	8.51	1.88	78.8	22.8
2. Marriage/couples intimate relations	8.68	1.66	6.70	2.68	59.3	27.9
	8.72	1.89	7.07	2.60	63.9	27.9
3. Parenting	9.00	1.83	5.46	3.52	51.0	35.3
	8.61	2.17	5.61	3.43	51.1	34.4
4. Friendships/social relations	8.30	1.68	7.54	2.33	64.9	26.4
	8.44	1.56	8.18	1.58	70.3	21.9
5. Employment	8.40	1.90	5.23	3.78	45.5	36.5
	8.04	1.95	6.70	3.24	54.0	31.1
6. Education/training	9.18	1.36	8.86	1.48	81.6	19.2
	9.18	1.33	9.04	1.34	84.1	20.0
7. Recreation	7.33	2.05	6.51	2.96	50.8	28.2
	7.54	2.32	6.74	2.43	54.5	28.2
8. Spirituality	8.84	1.63	6.70	2.71	60.8	28.8
	8.70	1.74	6.84	2.67	61.3	29.3
9. Citizenship/community life	7.16	2.22	5.91	3.04	44.5	28.7
	7.21	2.41	6.18	2.89	48.3	29.4
10. Physical well-being	8.72	1.28	6.81	2.80	60.3	28.0
	8.84	1.44	7.77	2.52	70.4	27.9

Note. The first row for each domain contains means and standard deviations for the first administration, and the second row contains means and standard deviations for the second administration.

Consistency. Next, responses on the second part of the measure were summed to yield an overall Consistency score for the two administrations, and the distributions were examined. The average Consistency scores were 68.11 and 72.63, with standard deviations of 12.82 and 11.93 for the first and second administrations, respectively. Consistency scores ranged from 41 to 100 in the first administration and 49 to 100 in the second administration. Thus, the average per-item rating was around 7, with per-item ratings ranging from 4 to 10. Means and standard deviations of Consistency responses for each item can be seen in Table 1.

Valued Living Composite. Finally, the valued living composite was calculated using responses from the Importance and Consistency responses. As seen in Table 1, the product of the Consistency and Importance ratings was calculated for each domain represented in the questionnaire. The mean of these products is the valued living composite. The mean valued living composites were 59.52 and 63.68, with standard deviations of 14.14 and 15.02 for the first and second administrations, respectively. Valued living composites ranged from 32.5 to 95.10 in the first administration and ranged from 34.90 to 98.00 in the second administration.

Reliability

Internal Consistency. To some extent, ACT theory suggests that psychological flexibility will result in global increases in valued living. It is less clear on an item-by-item basis whether, say, increases in valued living within the domain of intimate relations would be strongly related to increases in citizenship. Because different items on the VLQ represent different domains of living, we anticipate global change without necessarily expecting an individual to interact with domains of different value similarly. However, we have computed internal consistency for the importance, consistency, and composite scores both in the service of furthering conceptual development of values and as a means of understanding empirically the pattern in which individuals value different domains.

Internal consistency of the Importance and Consistency Scales was examined using Cronbach's alpha. Inter-item consistency of the Importance Scale was good ($\alpha_1 = .79$, $\alpha_2 = .83$) for the first and second administrations. Inter-item consistency of the Consistency Scale was adequate ($\alpha_1 = .58$, $\alpha_2 = .60$) for the first and second administrations. This suggests that individuals reported less variability in how important different domains were to them, and more variability in how they behaved with respect to those domains.

Internal consistency of the valued living composite was also examined using Cronbach's alpha. Inter-item consistency of the valued living composite was adequate ($\alpha_1 = .65$, $\alpha_2 = .74$) for the first and second administrations. This suggests that individuals' degree of consistency was relatively constant across the different domains that were important to them. There was, however, considerable variability in item-total correlations both between items and between administrations, as seen in Table 2, suggesting that some domains were less consistent with the overall trend than other domains.

Table 2
Item-Total Correlations by Item and Administration in Study 1

Domain	Time 1	Time 2
1. Family relations	.10	.23
2. Marriage/couples/intimate relations	.34	.37
3. Parenting	.18	.13
4. Friendships/social relations	.37	.50
5. Employment	.11	.29
6. Education/training	.45	.48
7. Recreation	.37	.50
8. Spirituality	.41	.47
9. Citizenship/community life	.69	.73
10. Physical well-being	.36	.40

Test-Retest Reliability. The theoretical importance of temporal consistency in the Importance and Consistency Scales was less questionable. One would expect to see greater temporal consistency in importance scores than in consistency scores, as one of the claimed advantages of using values as a guide to behavior is the relative stability of that which is valued over time (Hayes et al., 1999; Wilson & Murrell, 2004). The Pearson product-moment correlations between the two administrations for Importance and Consistency Scales were calculated as an estimate of test-retest reliability. Importance was, as expected, highly reliable (.90), and reliability of the Consistency Scale was marginal (.58). Because each item represents a different domain of life, temporal consistency was also examined at the domain level for both Importance and Consistency Scales using Pearson product-moment correlations. As can be seen in Table 3, the test-retest reliability coefficients ranged from .61 to .82 for importance and .43 to .61 for consistency.

Table 3
Test-Retest Reliability by Item and Scale

Domain	Importance	Consistency	Composite
1. Family relations	.78	.43	.72
2. Marriage/couples/intimate relations	.81	.51	.57
3. Parenting	.77	.66	.70
4. Friendships/social relations	.76	.60	.72
5. Employment	.64	.56	.65
6. Education/training	.77	.45	.79
7. Recreation	.82	.51	.70
8. Spirituality	.79	.60	.70
9. Citizenship/community life	.69	.54	.66
10. Physical well-being	.61	.61	.61

Additionally, although the conceptualization of the valued living composite would suggest a low degree of temporal consistency, as it is considered to measure a characteristic of behavior that is dynamic from

moment to moment, estimates of valued living would be expected to be consistent over relatively short intervals (i.e., 1 to 2 weeks), particularly because individuals are responding with respect to their behavior "during the past week." Establishing the consistency of the valued living composite was also of practical importance with respect to its utility as a process measure, such that change in the valued living composite could be attributed to intervention only if some degree of temporal consistency was established. The Pearson product-moment correlation between the two administrations for the valued living composite was calculated as an estimate of test-retest reliability. Test-retest reliability of the valued living composite was good (.75), suggesting that trends in valued living across domains are fairly stable over short intervals. Because of the variability in responding between items representing different domains, temporal consistency with respect to specific life domains was also examined using Pearson product-moment correlations. As seen in Table 3, test-retest reliability coefficients for individual domains ranged from .57 to .79, suggesting adequate temporal consistency.

Study Two: Validity

Participants

Three hundred thirty-eight undergraduates at a southern university (23% male, 18% African American, mean age = 19.94 yrs.) were recruited for participation in return for extra credit in their psychology classes. Some participants ($n = 85$) were excluded because of incomplete or invalid data. The remaining 253 participants were retained.

As is often the case with samples drawn from undergraduate university students, the sample was rather homogenous with regard to demographic characteristics. Participants had an average age of 20 years, with 92.3% of them being between the ages of 18 and 22. The sample was 80% female, 80.4% Caucasian, and 97% single. Twenty-three percent of the participants had seen a mental health professional at some point in the past, but only 3.5% were being treated by a mental health professional at the time of the survey.

Measures

In addition to the VLQ, the BTPI, and the demographics questionnaire described in the previous section, two measures of theoretically related constructs were included in Study 2, along with a measure of social desirability.

Acceptance and Action Questionnaire. The AAQ-16 (Hayes et al., 2004; Bond & Bunce, 2003) is a 16-item, 7-point Likert scale measure of experiential avoidance, or the tendency to avoid undesirable thoughts and feelings. The AAQ-16 has been shown to have good validity and adequate internal consistency (see Bond & Bunce, 2003). Higher scores indicate more experiential avoidance.

Short Form-36. The SF-36 (Brazier et al., 1992) is a measure of general health status, including physical health, sense of well-being, quality of life, and ability to function. The SF-36 has been shown to have good reliability and validity (Brazier et al., 1992). Responses are scored as directed in the manual to yield scores for physical functioning, general health, role of

physical discomfort, role of emotional discomfort, bodily pain, vitality, social functioning, and mental health. Higher scores are indicative of better health.

Procedure

Using an IRB-approved protocol, participants attended one assessment session. After signing the consent form, participants completed the battery of measures, including the VLQ, AAQ, BTPI, SF-36, and a demographics questionnaire. Participants received a debriefing form upon completion, providing more detailed information regarding the study's hypotheses and references for supplementary information and mental health services.

Results

Calculations and Descriptive Statistics

As in Study 1, overall scores for importance and consistency were computed and subjected to statistical analyses, along with individual item responses. The average importance score was 87.23 (indicating an average per-item rating of almost 9), with a standard deviation of 8.69. Importance scores ranged from 53 (indicating an average per-item rating of about 5) to 100 (indicating an average per-item rating of 10). Means and standard deviations of importance responses for each item can be seen in Table 4.

The average consistency score was 71.67 (indicating an average per-item rating of about 7), with a standard deviation of 14.37. Consistency scores ranged from 31 (indicating an average per-item response of about 3) to 100 (indicating an average per-item response of 10). Table 4 shows the means and standard deviations of the responses to each item on both the Importance and Consistency Scales. Means and standard deviations of consistency responses for each item can be seen in Table 4.

Table 4
Means and Standard Deviations of Importance, Consistency, and Valued Living Composite Scores by Item in Study 2

Domain	Importance		Consistency		Composite	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Family relations	9.23	1.28	8.17	1.82	76.6	22.2
2. Marriage/couples/intimate relations	9.37	1.12	7.15	2.97	67.9	30.2
3. Parenting	9.46	1.46	6.12	3.69	59.0	37.1
4. Friendships/social relations	8.90	1.23	8.17	1.76	73.8	21.4
5. Employment	8.35	1.57	6.04	3.38	51.5	32.2
6. Education/training	8.85	1.38	8.55	1.50	76.4	20.1
7. Recreation	7.76	1.69	7.07	2.41	56.2	24.3
8. Spirituality	9.02	1.76	6.97	2.64	64.7	29.0
9. Citizenship/community life	7.43	1.84	5.86	2.72	44.9	25.6
10. Physical well-being	8.94	1.27	7.71	2.01	69.5	22.5

The valued living composite was then calculated as in Study 1 above using responses from the Importance and Consistency Scales. The product

of the consistency and importance ratings was calculated for each domain represented in the questionnaire. As seen in Table 4, the group means for these domain-level composites ranged from 44.9 (indicating moderate levels of valued living for Citizenship/Community Life) to 76.6 (indicating moderately high levels of valued living for Family Relations). The mean of these products is the valued living composite. The average valued living composite was normally distributed around a mean of 64.21 with a standard deviation of 15.41, and ranging from 29.40 to 100.

Reliability

The Importance Scale, Consistency Scale, and valued living composite were examined for internal consistency. Inter-item consistency was good for the Importance and Consistency Scales, with Cronbach's alphas of .77 and .75, respectively. This suggests that individuals valued different domains similarly, in terms of both their relative importance and how they interact with them. Inter-item consistency was good for the valued living composite, as well, with a Cronbach's alpha of .77. As in Study 1, this suggests that individuals' degree of valued living is relatively constant across the different domains that are important to them.

Validity

Content Validity. The content of the VLQ emerged from clinical experiences. Therapists trained in ACT initially developed interventions aimed at systematically identifying domains of living that would provide motivation for the hard work of treatment (Hayes et al., 1999). These domains were abstracted from the interventions and used to create the VLQ. The domains that were included (family, intimate relationships, parenting, friendship, work, education, recreation, spirituality, citizenship, and physical self-care) were the most frequently reported valued domains of living in the clinical experience of the authors and consulted clinicians.

Construct Validity. In ACT, values are defined as verbally constructed, dynamic, ongoing patterns of activity, for which the predominant reinforcer is intrinsic to the fit between the individual's behavior and the valued behavioral pattern. Thus, the VLQ, which is designed to measure the extent to which an individual is contacting his or her chosen values, was expected to be unidimensional. Both the Kaiser-Mayer-Olkin Measure of Sampling Adequacy (.77) and Bartlett's test ($\chi^2[45] = 627.66, p < .001$) suggested that principal factor analysis could be conducted to examine the latent structure of the domain-specific composite scores.

Principal factor analysis yielded one factor that accounted for 35.04% of the variation in valued living composites. Visual inspection of the scree plot of eigenvalues (Figure 1) supported the extraction of one factor, as would be theoretically consistent. As seen in Table 5, this one-factor solution produced factor loadings ranging from .39 to .65 and item-total correlations ranging from .39 to .55. These moderate factor loadings and item-total correlations suggest that although the variability in domain-specific composite scores may be best accounted for by one general factor (as opposed to other latent structures), that factor is not necessarily very meaningful with respect to valued living in individual life domains. In other words, the overall valued living composite score can be appropriately used as an approximation of the

extent to which an individual’s behavior in a valued domain corresponds with the valued behavioral pattern.

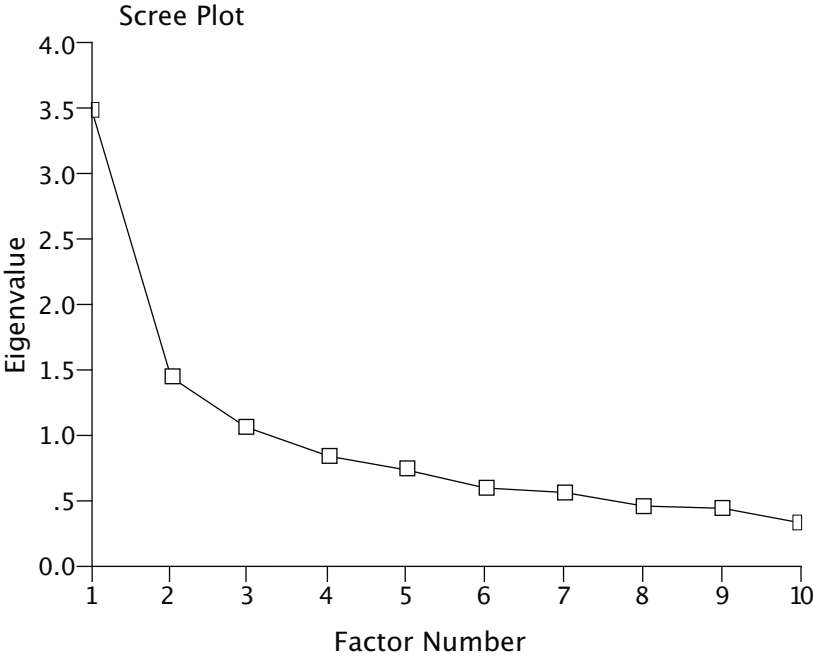


Figure 1. Scree plot of eigenvalues from principal factor analysis of 10 value domains on VLQ.

Table 5
Factor Loadings and Item-Total Correlations by Domain in Study 2

Domain	Factor loadings	Item-total correlations
1. Family relations	.48	.39
2. Marriage/couples/intimate relations	.40	.40
3. Parenting	.39	.41
4. Friendships/social relations	.63	.54
5. Employment	.41	.42
6. Education/training	.46	.39
7. Recreation	.58	.45
8. Spirituality	.58	.47
9. Citizenship/community life	.65	.55
10. Physical well-being	.64	.51

ACT theory posits a relationship between processes targeted in the therapy and valued living as the primary outcome. In particular, acceptance of negative thoughts and feelings should be related to valued living, particularly during and following an ACT intervention, as individuals

become more aware of these processes and better able to report on them accurately (Wilson & Murrell, 2004). Correlational analyses provided initial support for these hypotheses. Pearson product-moment correlations were computed for valued living composites with scores on the AAQ-16. There was a significant negative correlation between valued living and experiential avoidance, $r(251) = -.14$, $p < .05$.

ACT also proposes that valued living should be related to positive outcomes, such as decreased psychological distress and improvements in quality of life (Wilson & Murrell, 2004). Correlational analyses provided initial support for these hypotheses. Pearson product-moment correlations were computed for VLQ scores with the clinical scales of the BTPI and the scales related to quality of life on the SF-36. As indicated in Table 6, all correlations were in expected directions. Analyses revealed significant negative correlations between valued living and depression, anxiety, somatization, hostile attitude, negative psychosocial environment, relationship difficulties, general pathology, and treatment difficulty. In addition, analyses revealed significant positive correlations between valued living and social functioning, vitality, mental health, and action despite emotional or physical problems.

Table 6
Significant Correlations of Psychological Strengths and Difficulties With Valued Living

Area of psychological difficulty	<i>r</i>
Experiential avoidance	-.14*
Depression	-.26***
Anxiety	-.14*
Somatization	-.19**
Hostile attitude	-.20**
Negative psychosocial environment	-.21**
Relationship difficulties	-.23***
General pathology	-.27***
Treatment difficulty	-.20**
Area of psychological strength	<i>r</i>
Lack interference by emotional problems	.22***
Lack interference by physical problems	.15*
Social functioning	.13*
Vitality	.27***
Mental health	.23***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The current studies were conducted to provide an initial consideration of the reliability and validity of the assessment of valued living, or the extent to which individuals' behavior puts them in contact with their values, as defined in ACT. The Valued Living Questionnaire, a preliminary measure

developed for clinical use, was evaluated in terms of its internal consistency, temporal consistency, and relationship with theoretically relevant outcomes.

Initial support was provided for reliability of inferences drawn from valued living scores. Because the items on the VLQ represent different domains of living, internal consistency of the subscales was not judged to be particularly conceptually relevant. Even the healthiest, most well-adjusted individual would not be expected to necessarily report similar importance of or interaction with different domains of living. In the first study, inter-item consistency of the Importance Scale was good, and inter-item consistency of the Consistency Scale was adequate. This suggests that individuals experience more variability in how they interact with different domains of living than in how important they feel those domains are. In the second study, however, inter-item consistency was good for both the Importance and Consistency Scales, suggesting that individuals experience different valued domains and their activities in those domains similarly.

The valued living composite, however, takes into account both importance and consistency, thereby weighting important domains more heavily than those that are less important, making it unclear whether or not internal consistency would be an expected or even an important characteristic of the Valued Living Composite Scale. It may be that valued living is appropriately conceptualized as a functional response class, such that when individuals are engaging in valued living, they tend to do so consistently over those domains that are important to them. However, it could also be that individuals, particularly those who are experiencing or have experienced significant levels of suffering, engage in valued living with respect to one or more important domains and not in others. Because of this lack of clarity with regard to the independence of valued living across different domains, internal consistency was examined in an exploratory fashion.

The valued living composite was found to be internally consistent. This suggests that, at least in a nonclinical sample, individuals tend to engage in valued living across the domains that are important to them, rather than focusing on values in one domain at the expense of another. However, individuals in this sample reported fairly low levels of distress and high levels of valued living relative to what might be expected from individuals in a clinical sample. Although anecdotal, Dahl and colleagues (2004) found clinically that distressed healthcare workers seemed to narrow their activities to a small subset of domains. It is possible that when individuals are experiencing more problems in living than the current sample did, not only are levels of reported valued living lower, but also consistency across domains deteriorates. Evaluation of this measure in a clinical sample will therefore be an important step toward developing a tool that can be used in clinical research.

Temporal consistency was also examined, but with a relatively brief interval between administrations, because of the conceptualization of valued living as a dynamic pattern of responding. The valued living composite exhibited temporal consistency, both within and across domains, suggesting that with fairly brief intervals and no prescribed intervention, valued living remains relatively constant. It is likely that temporal consistency would decline with longer intervals, as valued living is conceptualized as a dynamic behavioral pattern, and an instrument designed to measure valued living should be sensitive to relatively small changes in that pattern over time.

Evidence regarding the instrument's validity, although supportive, was not as strong as would be desired. As hypothesized, scores on the VLQ were related to experiential avoidance, psychological distress (i.e., anxiety, depression, general pathology), social issues (i.e., lack of support and social functioning), mental health, and quality of life (i.e., vitality and low interference from emotional discomfort). However, the correlations observed were modest (.10–.20), suggesting that there are variables that account for variations in valued living better than psychological distress, social functioning, and quality of life. This could be attributable to the relatively low levels of reported distress; high levels of acceptance, social functioning, and quality of life; and the limited variability observed in this sample. As with the development of other attributes or process measures (e.g., community functioning), the lack of established criterion gold-standard measures of values made the process of establishing construct validity of the VLQ more difficult (Bellack et al., 2007). In short, further investigation is necessary to establish validity. Hopefully, interest in values will continue to grow, allowing for progress at the levels of both theoretical understanding and development of instrumentation.

The current studies had several limitations. For one, the samples were quite homogenous in the validity study. The majority of participants in that study were White, upper middle class women ages 18 to 22 in above-average physical and emotional health. Not surprisingly, they also reported, on average, a high level of valued living. The restriction of range in the predictors and the dependent variable may also account for the relatively small magnitude of the correlations. In addition, some participants may have had difficulty responding to items that referred to domains in which they were not currently engaged in much relevant activity (e.g., parenting, employment). A more heterogenous sample might provide more evidence for inter-item consistency and construct validity, as domains would be more clearly relevant to participants.

There are also problems with the VLQ itself due to the fact that it was designed for responses to be interpreted qualitatively, not for the computation of an overall valued living score. For one thing, the domains represented in the VLQ are not exhaustive and may not reflect the most important domains in some individuals' lives. Additionally, as is the case with many self-report measures, the items are face-valid and could be easily manipulated to form the impression of valued living. Instructions and structure do not prevent participants from giving all domains a rating of 10 in importance and consistency, which would be interesting in a clinical setting (e.g., might point to excessive concern with social desirability as a possible clinical focus) but most likely would be invalid for further interpretation or prediction or as a process measure. The current version of the VLQ does not allow for easy remediation of such issues. However, clinically, we have seen clients enter treatment rating values quite highly, seen these ratings decrease as clients make contact with ways in which they are not living consistently with their values, and, finally, watched them increase again as the clients improved in treatment. Such patterning of response is potentially interesting from both a clinical and a theoretical perspective.

It is also possible that some of the observed homogeneity of this sample was attributable to participants' tendency toward social desirability. Although participants who showed extreme patterns of response bias were eliminated

based on elevations of the VIR scale of the BTPI, it is likely that some less extreme patterns of social desirability were observed in the data that were analyzed. If this was common among participants and consistent across measures, it could complicate interpretation of the correlations observed. In fact, these participants did complete a measure of social desirability, the *Marlowe-Crowne Social Desirability Scale* (MCSD; Crowne & Marlowe, 1960), and scores correlated significantly with valued living, $r(248) = .25$, $p < .001$, and with nearly every measure of psychological distress, social functioning, and quality of life. How exactly this should affect interpretation is not clear. MCSD scores have been repeatedly associated with broad traits like extraversion, agreeableness, and conscientiousness and have been shown not to account for validity of self-ratings (Kurtz, Tarquini, & Iobst, 2008; McCrae & Costa, 1983). This suggests that scores on measures of social desirability should be considered not as indicative of the validity of the participant's self-report but as descriptive of clinically interesting tendencies, such as "need for approval." One approach to assessment of values, as seen in the Personal Values Questionnaire and the Social Values Survey, addresses this issue directly by assessing the "purity" of reported values or the extent to which they may function to gain others' approval (Blackledge & Ciarrochi, 2006).

Other approaches to assessment of valued living are emerging to address similar concerns. The *Bull's-Eye Instrument for Valued Life*, which was developed initially as a clinical intervention (Murrell, Coyne, & Wilson, 2004; Murrell & Wilson, 2002) and more recently as an assessment instrument (Lundgren, Dahl, & Melin, 2005), was developed for use when language capabilities affect measurement. The Bull's Eye allows for a visual representation of consistency in physical distance from the ideal valued action in different domains, and also assesses for persistence of valued living when obstacles arise. Others have developed measures of valued living specific to particular difficulties, such as the *Chronic Pain Values Inventory* (McCracken & Yang, 2006). The variability in approaches toward assessment of valued living, the researchers pursuing it, and the populations with which the research is done both reflect and facilitate continued interest in values as an important aspect of psychological functioning.

As the results of these different lines of research become more apparent, the refinement of the assessment of valued living and subsequent scientific progress in this area increase. Behavior therapy is in transition. There is an increasing interest in domains such as acceptance, present-moment focus, and values. These new directions in behavior therapy challenge us to develop theoretically coherent, practical, and psychometrically sound assessment strategies. Furthermore, although this study focused on values in terms of their clinical relevance, interest in valued living is extending into related disciplines (e.g., Cohen, Garcia, Apfel, & Master, 2006; Cresswell et al., 2005; Crocker, Niiya, & Michowski, 2008), and shared assessment strategies can facilitate communication and progress across these disciplines. Finally, the availability of appropriate instrumentation makes it more likely that the interest in values and related processes will continue to grow, and that progress in this area will accelerate. The VLQ is offered as a step in this direction.

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Appendix

Valued Living Questionnaire

Below are domains of life that are valued by some people. We are concerned with your subjective experience of your quality of life in each of these domains. One aspect of quality of life involves the importance one puts on the different domains of living. Rate the importance of each domain (by circling a number) on a scale of 1 to 10; 1 means that domain is not at all important, and 10 means that domain is very important. Not everyone will value all of these domains, or value all domains the same. Rate each domain according to *your own personal sense of importance*.

In this section, we would like you to give a rating of how *consistent* your actions are with each value. Everyone does better in some domains than others. We are NOT asking about your ideal in each domain. We want to know how you think you have been doing **during the past week**. Rate each item (by circling a number) on a scale of 1 to 10; 1 means that your actions have been fully inconsistent with your value, and 10 means that your actions have been fully consistent with your value.

During the past week

Domain	not at all important										extremely important
1. Family relations (other than marriage or parenting)	1	2	3	4	5	6	7	8	9	10	
2. Marriage/couples/ intimate relations	1	2	3	4	5	6	7	8	9	10	
3. Parenting	1	2	3	4	5	6	7	8	9	10	
4. Friendships/social relations	1	2	3	4	5	6	7	8	9	10	
5. Employment	1	2	3	4	5	6	7	8	9	10	
6. Education/training	1	2	3	4	5	6	7	8	9	10	
7. Recreation	1	2	3	4	5	6	7	8	9	10	
8. Spirituality	1	2	3	4	5	6	7	8	9	10	
9. Citizenship/ community life	1	2	3	4	5	6	7	8	9	10	
10. Physical well-being	1	2	3	4	5	6	7	8	9	10	

Domain	not at all consistent									extremely consistent
1. Family relations (other than marriage or parenting)	1	2	3	4	5	6	7	8	9	10
2. Marriage/couples/ intimate relations	1	2	3	4	5	6	7	8	9	10
3. Parenting	1	2	3	4	5	6	7	8	9	10
4. Friendships/social relations	1	2	3	4	5	6	7	8	9	10
5. Employment	1	2	3	4	5	6	7	8	9	10
6. Education/training	1	2	3	4	5	6	7	8	9	10
7. Recreation	1	2	3	4	5	6	7	8	9	10
8. Spirituality	1	2	3	4	5	6	7	8	9	10
9. Citizenship/community life	1	2	3	4	5	6	7	8	9	10
10. Physical well-being	1	2	3	4	5	6	7	8	9	10