A PRELIMINARY INVESTIGATION OF AN ONLINE VERSION OF THE VALUED LIVING QUESTIONNAIRE

by

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Acceptance and commitment therapy (ACT) is an empirically supported cognitive behavioral therapy. The ACT model is designed around a set of six core processes utilized to increase psychological flexibility. Engagement with values, one of the six core processes, is associated with several indicators of well-being. However, recent reviews of ACT values measures from experts in the field raised concerns that current instruments do not adequately assess the values process. The current study examined the structure and psychometric properties of a new values measure, titled the Valued Living Questionnaire—Online version (VLQ-O), that was developed from considerations raised in these reviews. The results of an EFA indicated that the VLQ-O produced a three-factor structure comprised of Values Flexibility, Values Inflexibility, and Values Obligations. The Activity and Preferred Activity scores did not load consistently onto any discernable factor. The subscales of the VLQ-O produced poor internal consistency. The scores for Activity and Values Flexibility subscales correlated positively with measures of well-being and negatively with measures of psychological distress. Additionally, these subscales were significantly positively related to MPFI Flexibility and VQ Progress and well as negatively related to MPFI Inflexibility and VQ Obstruction. Values Inflexibility and Values Obligation correlated positively with measures of psychological distress and negatively with measures of well-being. The Values Obligation subscale did not correlate with social desirability. Multiple subscales of the VLQ-O demonstrated significant correlations with

multiple subscales of the BFI. Additionally, the VLQ-O established predictive validity for measures of psychological distress and well-being. Further, it established improvements in predictive validity for flourishing and psychological distress when compared to the Valuing Questionnaire (VQ). Overall, the findings from this study provide some supportive preliminary evidence for the validity of the VLQ-O.

DEDICATION

This document is dedicated to my friends and to my family for their boundless love and support throughout this process. I also dedicate it to my partner and to my cohort for their unceasing encouragement and unwavering belief in me as a person and as a researcher.

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INTRODUCTION AND LITERATURE REVIEW

Acceptance and Commitment Therapy (ACT) is an empirically supported third wave cognitive behavioral therapy (A-Tjak et al., 2015). The primary aim of ACT is to guide individuals toward a more meaningful and fulfilling life, in part through offering them different ways to relate to emotions and experiences. In ACT, psychological flexibility, the ability to engage in valued action even in the presence of uncomfortable internal experiences (i.e., thoughts, feelings, and sensations), is developed through the implementation of six core skills or processes that comprise the hexaflex, or hexagon of psychological flexibility (Hayes et al. 2004). The skills are values, present moment awareness, cognitive defusion, self-as-context, acceptance, and committed action.

Although there is considerable overlap both conceptually and experientially among these six skills, values are readily conceptualized not just as an important clinical focus but also arguably as a prerequisite activity for many clinical activities. In the ACT literature, values have been defined as "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.64). In more colloquial terms, values are cognitive events that serve a motivational function for behavior. They also become co-occurring participants in subsequent behaviors and contribute to the reinforcing consequences of those behaviors. Behaviors that occur in the context of values are committed actions; therefore, valued action is engagement in behaviors that are evoked by values. Values are often referred to as "life directions" in the ACT literature (e.g., Hayes, Luoma, Bond, Masuda, & Lillis, 2006), a metaphor that distinguishes values from the transient,

cyclical nature of more basic motivations such as hunger or thirst; in this sense, values are distinguishable from goals, as a goal (e.g., getting married) can be accomplished and completed while a value (e.g., behaving lovingly toward someone) may impact patterns of behavior throughout the day, across multiple days, weeks, or months, and even over years and decades of life. No particular behavior is inherently a valued action; rather, values provide a context that determines if, when, and how any given behavior is relevant to one's values, including the behavioral repertoires designated by the other points of the Hexaflex (Hayes et al., 2006; see Figure 1).

The skill of *present moment awareness* involves coming into contact with what an individual is experiencing internally and externally in the moment while reserving judgement of the experience (Blackledge and Drake, 2013). Successful implementation of this skill is proposed to lead to more direct experiencing of the world and in more intentional behaviors in response to events that occur in the world. When individuals are more aware of their experience and the behaviors they are engaging in, it may allow them to lead a more intentional and values-based life. *Cognitive defusion* attempts to alter the way individuals interact with psychological events (especially language and cognition), as opposed to altering the events themselves (Hayes et al., 2006). Techniques such as labeling the process of thinking (i.e., adding "I am having the thought that I am a failure) can help to create distance from a thought in order to decrease its believability and the emotional attachments that come with it. This may lead to a distinction between the literal meaning and emotional significance of a given thought and the more basic sensory properties of experiencing it. Often, an individual's thoughts and other internal experiences can be experienced as barriers to engaging in valued action, as they are often associated with a certain amount of discomfort that can make it more difficult to engage values.

Defusing oneself from internal experiences allows an individual to disentangle themselves from the direct influence of thoughts and emotions and subsequently more able to engage in valued actions. *Self-as-context* refers to a broad and variable set of perspective taking repertoires (Blackledge and Drake, 2013). This skill entails interpersonal perspective taking skills as well as perspectives of and from the self. The former set may facilitate more effective social behavior while the latter may facilitate a broader and potentially even transcendent type of self-awareness. Self-as-context involves taking a step back psychologically and acting as an observer of one's experience and, even further, of one's observation of one's experience. This perspective taking ability is then utilized in the service of reducing the influence of unwanted thoughts and beliefs on behavior and cultivating a greater sense of freedom in choosing one's actions. Recognizing that thoughts, feelings, memories, and physical sensations can exist without changing or harming the self that contains them may lead to increased acceptance and a reduced need to rid oneself of these experiences to engage in valued action. *Acceptance* involves willingly embracing internal events, without attempting to change or alter them in any way (Hayes, Strosahl, & Wilson, 2012). Accepting internal events stands in contrast to investing time and energy into forcing change of internal events and may allow a person to utilize that time and energy move towards things they value. As previously stated, *committed action* involves engaging in values-consistent behaviors and building patterns of behaviors (Wilson & Dufrene, 2009). Values clarity provides direction for the selection of committed action, while present moment awareness, defusion, and self-as-context can make it more possible to engage in acceptance as one faces opportunities for committed action in the midst of disruptive and painful psychological or physiological events.

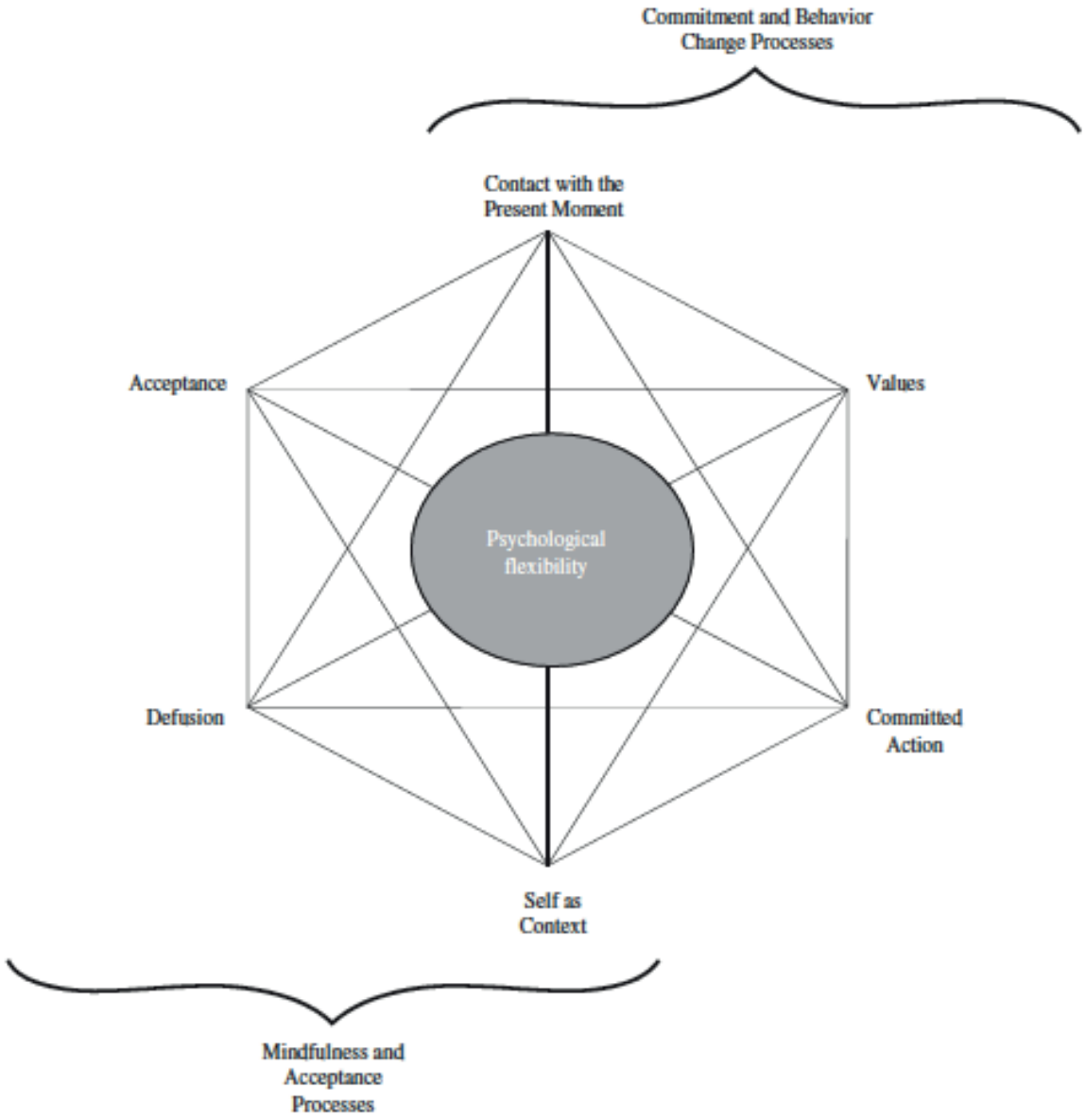

Figure 1. The ACT model of Psychological Flexibility (Hayes et al., 2006).

These six skills each entail an opposing skill that collectively may be said to represent psychological inflexibility; the six inflexibility repertoires are also known as the Inflexahex (Hayes et al, 2006; see Figure 2). These are referred to as lack of values clarity, lack of contact with the present moment, cognitive fusion, self-as-content, experiential avoidance, and inaction. *Lack of values clarity* refers to a dearth of or reduced awareness regarding what is personally important in one's life over time and across situations. *Lack of contact with the present moment*

refers to an excessive focus on the conceptualized past or future or a preoccupation with a context outside of the individual's current direct experience. This focus is often facilitated by *cognitive fusion*, which is the tendency to allow cognitive events (e.g., beliefs, evaluations, predictions) to dictate one's attention and behaviors (Gillanders, Sinclair, MacLean, & Jardine, 2015). *Self-as-content* refers to an objectifying sense of self that readily may lead to limitations and narrowing in one's view of self and others (Zettle et al., 2018). *Experiential avoidance* refers to attempts to change or control unwanted internal events, including sensations and cognitive events such as thoughts and emotions, and represents a motivation in direct conflict with values (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Inflexibility is also expressed as *inaction* or related deficiencies in committed action, which entails broad patterns of avoidance as well as a basic lack of engagement with valued behaviors (Wilson & Dufrene, 2009). Thus, psychological distress and dysfunction may be conceptualized as the domination of any or all of these six markers of psychological inflexibility; psychotherapy from an ACT perspective involves reducing these Inflexahex repertoires and increasing engagement with the flexible repertoires described by the Hexaflex.

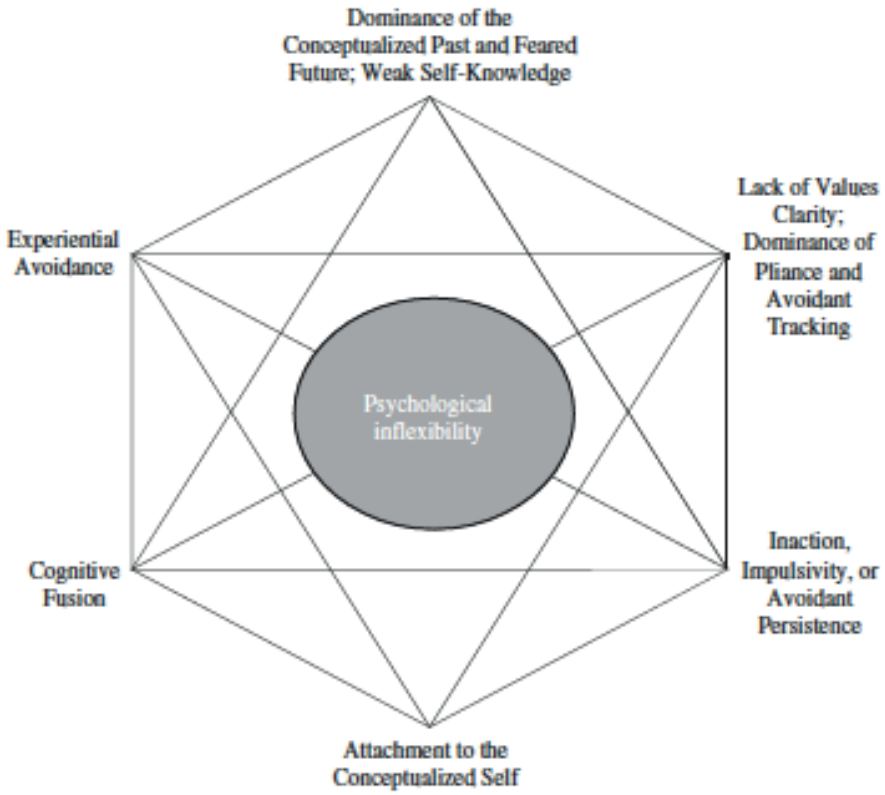

Figure 2. The ACT model of Psychological Inflexibility (Hayes et al., 2006).

Values Interventions in ACT

The process of occasioning and reinforcing valuing in a clinical context involves helping individuals in first identifying and clearly defining what is most important and meaningful to them (i.e., values clarification) and then helping to promote an environment in which the individual is more willing to come into contact with difficult internal experiences to move in a values consistent direction (Dahl, Plumb, Stewart, & Lundgren, 2009). Living in a way that is values consistent is associated with increased psychological well-being, life satisfaction, and vitality (Gloster et al., 2017; Sheldon & Elliot, 1999, Sheldon & Krieger, 2014; Wilson et al., 2010). Studies have also found a significant relationship between increased levels of valued action and decreased levels of depression and distress (Bramwell & Richardson, 2018; Bunting, 2011; Vowles and McCracken, 2008). Additionally, values interventions are associated with

decreased symptoms of burnout and higher pain tolerance (Branstetter-Rost, Cushing, & Douleh, 2009; Kinnunen, Puolakanaho, Tolvanen, Mäkikangas, & Lappalainen, 2019). Valued living is also strongly associated with improvement in functional and psychosocial outcomes in individuals who have experienced a traumatic brain injury (Pais et al., 2017).

A myriad of values interventions have been developed to identify, clarify, and increase engagement in values. One such example is written values interventions, which often involve individuals journaling or writing about their personal values (Hayes et al., 1999). In a study by Crocker et al. (2008), individuals were given a list of six values domains and instructed to write about their most important values, including why they are personally important and meaningful. The values affirmation condition reported experiencing significantly greater levels of positive emotions (e.g., grateful, love, empathetic) compared to the control. However, Wilson and Murrell (2004) noted that this often fails to reveal an individual's most meaningful values, as individuals tend to endorse more socially desirable values in this format. Wilson and Murrell (2004) suggested that the use of experiential exercises, such as a mindfulness and exposure, followed by an emotionally expressive writing exercise would increase the utility of this intervention and aid individuals in exploring their most deeply held values. In a study comparing values selection tasks, a values writing task resulted in stimuli that were reported as the most meaningful, evocative, and reminiscent of something that is truly important compared to a word selection, picture selection, and word generation task (Sandoz & Hebert, 2015). However, another group of researchers found that engagement in a values writing task did not significantly reduce anxiety experienced before or after a stress inducing speech task (Czech, Katz, & Orsillo, 2011). Interestingly, this study did find that individuals who reported currently living in a way that was more values consistent responded to the task with less anxiety, regardless of the

condition. Katz, Czech, and Orsillo (2014), however, found that values writing was related to positive emotion and insight, both of which were associated with lower levels of anxiety prior to a stressor task. Czech et al (2011) suggests that there is a need for further empirical evaluation in order to improve the efficacy of written values interventions.

Another ACT values clarification intervention is the ACT Matrix (Polk & Schoendorff, 2014), a tool that offers a simplified view of psychological flexibility and inflexibility. The matrix is implemented to assist individuals in identifying four basic categories of human experience: (1) who or what is important to you, (2) mental experiences that interfere with what is important, (3) actions taken to manage experiences that interfere with what is important, and (4) actions that could be taken that would be consistent with what is important. Categories 1 and 4 represent values and committed actions, respectively, while category 2 represents suffering items often expressed in instances of fusion and self-as-content, and category 3 represents experiential avoidance. Broadly speaking, Categories 1 and 4 reflect psychological flexiblity and categories 2 and 3 represent inflexibility. In this respect, the ACT Matrix includes values clarification but is done so in conjunction with other foci of interest, such as reducing experiential avoidance and increasing defusion. Suffering items and control solutions are characterized as "away" moves, as they often are obstacles to engaging in values, and values and value-oriented behaviors are characterized as "towards" moves. This intervention is often utilized to increase psychological flexibility and as an accessible means of discussing the core processes of ACT. Miller (2017) found that the ACT Matrix was efficacious when delivered in a group format with a variety of presenting problems. It was significantly related to improvements in process variables of acceptance, mindfulness, and valued action and subsequents improvements on symptom measures. A randomized control trial compared a mobile app

version of the ACT Matrix to a control condition of adults wanting to improve health behaviors (Levin, Pierce, & Schoendorff, 2017). The Matrix condition saw a significant increase in health behaviors compared to the control. Another RCT looking at the use of an app version of the Matrix found improvments in levels of distress, depression, anxiety, stress, and values progress compared to a control condition (Krafft, Potts, Shoendorff, & Levin, 2019). Primeaux (2019) examined the utility of the ACT Matrix and found that in comparison to a control condition, the Matrix led to significant improvements in valued action, values satisfaction, quality of life, and symptoms of psychopathology from baseline to follow-up one week later.

Values card sorts are another method of values identification and clarification. During this task, individuals sort through a number of cards displaying values that represent a variety of valued domains of living. While there are several different card sorts, few have been empirically evaluated. A card sort developed in the motivational interviewing field that has been empirically evaluated is the Personal Values Card Sort (Miller, C'de Baca, Matthews, & Wilbourne, 2001; Miller & Rollnick, 2013). The personal values card sort includes 83 different values cards; individuals sort these cards into five categories: *not important to me, somewhat important to me, important to me, very important to me,* and *most important to me* (Miller & Rollnick, 2013). The personal values card sort has been used primarily in conjunction with substance misuse treatment and is associated with increased abstinence, decreased drinking days, and inhibition of brain regions that respond to alcohol-related cues (Ewing, Filbey, Sabbineni, Chandler, & Hutchison, 2011; Graeber, Moyers, Griffith, Guajardo, & Tonigan, 2003). Sheehan and Schmidt (2015) found that this card sort was also correlated with an increase in both the understanding of an individual's values and the likelihood of using values to guide ethical decision making.

The Valued Actions Card Sort (VACS) was developed in a clinical context as a part of an ACT protocol that is under development at Southern Illinois Univeristy (Kimball, 2018; Clark, 2019). The card sort contains six cards for each of the 12 values domains utilized in an ACT-consistent measure of values known as the Valued Living Questionnaire, Verison 2 (VLQ-2; Wilson and Dufrene, 2009). The VACS also includes an additional 36 items characterizing a control agenda reflecting fusion and experiential avoidance (e.g., the desire to control one's thoughts, emotions, and sensations or the behaviors of other people). When completing this card sort, individuals sort the cards into three categories: *very important to me, somewhat important to me,* and *not at all important to me*. Cards from the *very important to me* pile are resorted until 15 or fewer cards remain. These final cards may then be organized in a variety of ways designed to enhance clarity and felt convictions about the content of the cards.

Refining the Construct Focus of Values Measures

Although values are an essential component of ACT, a recently published article surveying a sample of ACT experts revealed considerable dissatisfaction with the array of values measures currently available (Barney, Lillis, Haynos, Forman, & Juarascio, 2018). These experts participated in semi-structured phone interviews regarding their conceptualization of values in ACT, the implementation of values in a clinical context, and their opinions on the way the field currently measures values. The current understanding of values as outlined by the ACT experts surveyed is that valuing is a multifaceted therapeutic process with three essential components: values identification/construction, identification of values consistent behaviors, and active engagement in and awareness of values consistent behaviors. In regard to the available values measures, the general consensus among these experts was that no single measure adequately addresses all relevant aspects of values. Barney et al. (2018) outlined three major

limitations of current measures assessing values: over-simplification of the valuing process, no evaluation of an individual's experience of meaning when they are actively engaging in values consistent actions, and no recognition or proper evaluation of the individualized nature of this process.

Values-consistent behaviors are actions that guide an individual in a values-oriented direction and should therefore ideally evoke some feeling of personal meaningfulness. Many current values measures assess self-reported level of activity in valued domains. However, most do not ask individuals to consider the specific behaviors they engage in and the level of meaning experienced when engaging in these actions. Barney and colleagues suggested that values measures should inquire if the behaviors individuals identify as values-oriented occasion a sense of meaningfulness or fulfillment. The experts also called for a more in-depth exploration of values, such as why the values are meaningful to an individual or what kinds of behaviors they see as being values consistent.

Two additional fundamental qualities identified as under-represented in current measures are assessing for flexibility in an individual's values-consistent behaviors and in navigating the perceived barriers to engaging in these behaviors. The former of these refers to the possibility for rigidity in how an individual believes they can engage in values-consistent action. This inflexibility could lead to a set of narrowly defined behaviors and subsequently to values-inconsistent actions. To illustrate, an individual may have rigid thinking surrounding what fulfills their value of physical self-care; for example, one may prioritize physical exercise to such an extent that it interferes with sleep quality. Therefore, it is important in clinical practice to help individuals consider other values-consistent actions that can exist in different contexts. Current measures also do not adequately parse out whether behaviors are truly values consistent

in the way that ACT defines or if the behaviors are engaged in because individuals believe that they should value these things based on societal ideals. The second quality refers to the idea that it is important to differentiate between true barriers to valued action (i.e., lack of resources, physical barriers) and facets of inflexibility, such as experiential avoidance (i.e., emotional or mental barriers). However, one could also argue that individuals can find values-consistent behaviors in any situation if a value is truly important and meaningful.

Given the interrelated and dependent nature of the ACT processes, it is not therefore practical to assess for values as a single, independent process without also assessing for how it interacts with the other processes (Barney et al., 2018). Experts surveyed agreed that while it is important to bring attention to values-consistent activities that could be increased, it is also crucial to measure values as they relate to the other facets of ACT. Specifically, they noted the vital importance of present moment awareness while engaging in a value. This awareness may increase an individual's ability to link the behavior to the value in order to truly experience the reward that is inherent to the process (i.e., vitality, meaning). Consequently, awareness of this connection between behaviors and values is important to induce therapeutic changes. Researchers also specifically stressed the importance of measuring defusion and acceptance. It may be important to have awareness of the aforementioned perceived barriers to valued actions, such as the emotions or mental activities that make it difficult to engage in certain behaviors or with certain values. However, while current measures do not adequately provide a full picture of the values process, they maintain clinical utility as they provide important information to clinicians that can be built upon throughout therapy sessions.

Another major limitation in current measures is the lack of a clear and ACT consistent definition of values (Barney et al., 2018). Current measures provide little assistance in helping

respondents to provide information about values as they are conceptualized from an ACT perspective. Initially identifying true values is important as these values should be personally motivating and meaningful, otherwise what is measured next is not truly valid. Experts additionally suggest that providing predefined categories of values limits the generalizability, as individuals of different ages, developmental levels, and cultures may experience meaning differently, especially when it comes to collectivist versus individualistic cultures (Barney et al., 2018).

Existing Values Measures

Measures reviewed below are based on several recent review articles and meta-analyses empirically evaluating ACT-consistent values measures that have been used in at least one published empirical study outside of the initial validation study (Barney et al., 2018; Reilly et al., 2018; Serowik, LoCurto, & Orsillo, 2018). The measures will be reviewed with for psychometrics and subsequently with regards to the recent review articles (Barney et al., 2018; Reilly et al., 2018; Serowik et al., 2018).

Valuing Questionnaire. The VQ (Smout, Davies, Burns, & Christie, 2014) is a 10-item self-report that assesses values consistency on a Likert scale ranging from 0 (*Not at all true*) to 6 (*Completely true*). Instead of assessing and rating the values domains specifically, the measure assesses the general progress the individual has made towards living according to their values. This measure is made up of two subscales: Progress and Obstruction. The subscale measuring progress assesses the steps an individual has taken towards living in line with their values (e.g., "I made progress in the areas of my life I care most about") while obstruction assesses possible barriers that may keep an individual from valued living (e.g., "difficult thoughts, feelings, or memories go in the way of what I really wanted to do") (Reilly et al., 2018). With regards to

scoring, each subscale is added up, where higher scores on the progress subscale indicate higher levels of valued living and higher scores on the obstruction scale indicating perceived higher barriers to valued living. The VQ has generated good reliability estimates, with a Cronbach's alpha of 0.87 for the Progress subscale and 0.88 for Obstruction (Christie, Atkins, & Donald, 2017).

With respect considerations raised by Barney and colleagues (2019), the VQ does not define values or have individuals engage in any values identification or clarification. Additionally, some items refer to goals without reference to values (e.g., "I worked towards my goals even if I didn't feel motivated to"). The measure does appear to assess a lack of present moment awareness with one of the obstruction subscale questions (e.g., "I was basically on 'auto pilot' most of the time'), However, it assesses the awareness more generally and not in respect to the connection between the behavior and value, or the awareness of the meaning or fulfillment gleaned from that experience. A strength of the measure is that it is more generalizable because it asks about goals in general and does not provide a predefined set of values. However, this is also a potential weakness because the lack of domains coupled with the absence of an ACT-consistent definition of values may lead individuals to not understand what is meant by values, which is the basis of the measure. Another aspect of the VQ that is not assessed for in other values measures is some of the possible reasons that an individual's behaviors were not consistent with their values. The VQ also includes items that correlate with other parts of the hexaflex, such as defusion (e.g., "difficult thoughts, feelings or memories got in the way of what I really wanted to do") and committed action (e.g., "I worked towards my goals even if I didn't feel motivated to), but does not appear to assess for acceptance/willingness. Finally, the VQ

does not differentiate between true barriers to valued action, such as a lack of resources, and facets of inflexibility, such as fused beliefs about how to engage in values.

Engaged Living Scale-16. The Engaged Living Scale-16 (ELS-16; Trompetter et al., 2013) measures the process of valuing instead of measuring valued living in provided values domains. Individuals respond to 16 different statements on a Likert scale from 1 (*completely disagree*) to 5 (*completely agree*). These questions relate to two different subscales: Valued Living (e.g., I know what motivates me in life) and Life fulfillment (e.g., I live the way I always intended to live). This scale reports good internal consistency, with an overall Cronbach's alpha of 0.92 and alphas of 0.89 and 0.87 for the valued living and life fulfillment subscales, respectively (Trompetter et al., 2015). Trindade et al., 2016 removed highly correlated items from the full ELS to create the ELS-9. This study reports Cronbach's alphas of 0.88 for the total scale, 0.76 for valued living, and 0.89 for life fulfillment. However, this short-form has not been used in any other studies. Although sensitivity to change with treatment is a prized feature of clinical measures (Reilly et al., 2018), Trompetter et al. (2015) found that the ELS-16 is not sensitive enough to measure changes that take place pre to post ACT intervention, indicating a limitation for its use in research and clinical settings.

The ELS-16 sets itself apart from other ACT measures because it measures the other ACT processes (defusion, committed action, acceptance), as well as the awareness of the connection between behaviors and values. However, it does not assess for present moment awareness or the experience of meaningfulness, nor does it engage the individual in values clarification. The measure does define values; however, it does not give examples regarding what is meant by values in the ACT context, which is both a strength for generalizability and a weakness for ACT consistency. Unlike other measures, the ELS-16 assesses for engagement

with values and experience of meaning broadly across all areas of life instead of examining individual value domains. However, it also does not assess for fused beliefs about how one should value or what one should value (i.e., based on society or family pressure), nor does it assess for actual barriers to valued action (e.g., lack of money, resources, etc.).

Bull's-Eye Values Survey. The Bull's-Eye Values Survey (BEVS; Lundgren, Luoma, Dahl, Strosahl, & Melin, 2012) was created with the intent to develop a measure of values with better cross-cultural applicability. Individuals are given a description of four main values domains: work/education, leisure, relationships, and personal growth/health. Individuals are then provided with a definition of values, which differentiates between goals and values, and asked to describe their values in each of the provided four domains. The bull's-eye is split up into four quadrants, each representing a domain. Individuals are provided with the bull's-eye and asked to put an "X" in each quadrant. The placement of the "X" corresponds to how consistently they perceive that they live in that domain, with the center meaning that they are living perfectly consistent. The Bull's-eye has seven rings, with a mark in the center indicating a value of 7 and one point removed for each subsequent ring, with a value of 1 being given to the ring furthest from the center. This corresponds to the subscale of values attainment, with a higher score indicating higher values attainment, and lower scores indicate lower values attainment and more discrepancy. Individuals are then asked to list things that get in the way of their ability to follow their values. Then they rate how much these obstacles prevent them from values consistent living on a Likert-type scale ranging from 1 (*doesn't prevent me at all*) to 7 (*prevents me completely*). This generates a score for the persistence with barriers subscale, where items are reverse scored so higher scores indicate greater persistence with barriers. Finally, individuals are then asked to complete a valued action plan, where they plan one action they can take in each of

the four listed categories. This intervention piece within the measure is a consistent strength within several of the values measures currently in use. The BEVS has demonstrated good test-retest reliability for values attainment (r = 0.85) and excellent test-retest reliability for persistence with barriers (r = 0.89).

While the BEVS demonstrates substantial flexibility for an individualized assessment of one's valuing process, the categories are too broad, with several different values represented by the four domains. For example, the BEVS category of work/education encapsulates work, education, and community involvement. This may make it difficult to rate importance and consistency when the three values in that domain may conflict with one another. Additionally, the predefined list also limits generalizability, making the scope of the values in the BEVS simultaneously too narrow and too broad. The BEVS, however, does do an adequate job at explaining values in the ACT context. It also helps individuals identify barriers to their values as well as to develop a committed action plan. However, while some inflexibility may be assessed when identifying barriers, other ACT processes are not directly assessed, such as present moment awareness, acceptance, or fusion. Subsequently, the BEVS also does not assess for if the individual finds the experience personally meaningful while engaging in valued actions. Finally, while the BEVS gives an example of a valued behavior when defining values, it does not assess for the behaviors the individual engages in or if they are aware of the connection between their values and their behaviors.

The Evolution of the Valued Living Questionnaire

Valued Living Questionnaire. Arguably the first ACT-consistent measure of values was the Valued Living Questionnaire (VLQ: Wilson & Groom 2002; Wilson & Murrell, 2004; Wilson, Sandoz, & Kitchens, 2010). It is distinct from more contemporary values measures in

part because it is structured around 10 life domains. These domains were abstracted from the most frequently reported values topics discussed in the clinical experience of the authors of the measure as well as clinicians the authors consulted (Wilson et al., 2010). However, the developers of the VLQ acknowledged that the domains may not capture the most important domains in the lives of some individuals, and that the domains should not be presumed to be exhaustive. The VLQ is a 20-item measure comprised of two, 10-item subscales relevant to values: the importance of the value domain and the consistency of action in that domain during the past week. Each subscale offers items, accompanied by a Likert-type scale from 1 (*not at all important/not at all consistent*) to 10 (*extremely important/extremely consistent*), inquiring about the importance and consistency for the values domains of family, intimate relationships, parenting, friendships, work, education, recreation, spirituality/religion, community, and physical self-care. The measure specifies that not every domain will be relevant to the individual and that it may be more important at a different time in their lives. Individuals first rate importance and then consistency. The internal consistency for the importance and consistency subscales are 0.77 and 0.75, respectively,

The VLQ has been subjected to empirical scrutiny by multiple labs/researchers. Cotter (2012) compared a normative and a distressed sample of college students and found a significant difference between groups, with the normative group producing significantly higher scores on the composite score. The subscales also were significantly positively correlated with measures of adaptive functioning and significantly negatively correlated with measures assessing maladaptive functioning. Reliability estimates were comparable to those reported in Wilson et al. (2010), with an overall internal consistency between 0.72 and 0.79 and a test-retest reliability over three weeks of 0.74. Regarding subscales, the internal consistency for importance was

between 0.72 and 0.74 and between 0.71 and 0.79 for consistency, Another study has revealed concerns about the cross-cultural applicability of the measure (VanBuskirk et al. 2012). Although VanBuskirk and colleagues found good to excellent internal consistency (importance subscale $\alpha = 0.90$, consistency subscale $\alpha = 0.82$), analyses revealed that a two-factor model fit the data better in a more racially diverse sample. This is discrepant from the one-factor model found in Wilson et al. (2010), indicating that the measure may function differently across populations. Romero-Moreno, Gallego-Alberto, Márquez-González, & Losada, (2017) modified the VLQ, adding two additional "value" domains to assess valued living in caregivers of individuals with dementia: caring for their relatives and caring for oneself. Romero-Moreno and colleagues found that although the VLQ demonstrated acceptable psychometrics, it acknowledged that it did not appear to be able to adequately describe an individual's valuing experience, including the context and the individual's engagement with psychological flexibility and inflexibility processes. This study also found a two-factor structure fit the data better than the one-factor structure found by Wilson et al. (2010).

Valued Time and Difficulties Questionnaire. The VTDQ (Drake & Keusch, 2012; Drake, 2017; Drake et al., 2018) was developed as a potentially more viable measure of values and related constructs for both clinicians and researchers. It includes the same 10 life domains as the VLQ, with 3 items per values domain. Thus, the VTDQ is a 30-item measure containing three, 10-item subscales pertaining to values. The first subscale of the VTDQ assesses the importance of personal engagement with the value domain (e.g., "How important is it to you to be in an intimate relationship?"), as opposed to the importance of the domain itself (e.g., "intimate relationships"). Importance is rated on a Likert-type scale ranging from 0 (*not at all important*) to 10 (*extremely important*); in contrast to the 1-10 scales of the VLQ, 0 was included

in scaling of the VTDQ to allow for a more face valid estimate of non-importance, to facilitate a 0-100 possible range of scores, and to offer a median value of 5 for each item. Instead of assessing consistency of engagement with a domain, the VTDQ time subscale measures the amount of time the individual was engaged with each value in the past week (e.g., "In the last week, how much time have you spent working toward or participating in an intimate relationship?"). Time is rated on a Likert-type scale ranging from 0 (*no time at all*) to 10 (*a lot of time*). The measure also includes a difficulty subscale in order to assess for psychological inflexibility that may interfere with the ability to engage in a particular value domain (e.g., "In the last week, how difficult was it to work toward or participate in an intimate relationship because of unpleasant thoughts, feelings, memories, or bodily sensations?"). Difficulty is rated on a scale from 0 (*not at all difficult*) to 10 (*extremely difficult*). Each subscale is subsequently summed with scores that fall between 0 and 100, with scores on the higher end indicating a greater level of importance, time, and difficulty. Drake and colleagues (2019) reported Cronbach's alphas for an American sample of college undergraduates of 0.71, 0.55, and 0.84 for importance, time, and difficulty, respectively. Although the time subscale does not have adequate internal consistency, Drake and colleagues found that scores on the time and difficulty subscales do appear to predict levels of psychological distress and experiential avoidance.

Valued Living Questionnaire, Version 2. The VLQ-2 (Wilson & Dufrene, 2009) represented an effort to expand upon the range of possible values domains and to address additional issues of potential clinical importance. The measure added the environment and aesthetics to the list of values domains, increasing the total to 12 domains. The measure also incorporated several items about these domains, including the possibility of meaning in that domain, the current importance, overall importance in their life as a whole, action in this domain

over the past week (which replaced consistency), satisfaction with the amount of action engaged in the past week, and concern about lack of progress in that domain. Individuals rate their values in these categories on a scale from 1 to 10, with higher scores indicating higher estimates of possibility, current importance, overall importance, action, satisfaction with action, and concern. After rating these domains, individuals are asked to choose five of the twelve domains that they would like to work on, then three, followed by narrowing it down to one. The VLQ-2 was developed to account for the possible sources of variability that could be attributed to the interpretation of the wording on the VLQ and reports promising initial evidence of convergent validity of its subscales; however, the psychometric properties of this measure have not yet been thoroughly examined or validated, limiting its use in research (Flynn, Wilson, Kellum, & Sandoz, 2009). Incidentally, Cotter (2012) cited limited examination of psychometrics as justification for using the VLQ instead the VLQ-2 for their study.

Valued Action and Satisfaction Questionnaire. The Valued Action and Satisfaction Questionnaire (VASQ; Primeaux, 2019; Kelly, Lyons, & Drake, in preparation) was developed as a potential improvement over the VTDQ and is structured very similarly. The VASQ is a 30-item measure, which assesses the 10 values domains used in the VLQ and VTDQ, with three subscales per values domain. The first subscale, similar to the VTDQ, assesses the importance of engagement with the value domain (e.g., "How important is it for you to work toward or to be in an intimate relationship?") on a Likert-type scale ranging from 0 (*not at all important*) to 10 (*extremely important*). The second subscale assesses the individual's activity in the value domain over the last week (e.g., "In the last week, how active were you in this area of life?"). Activity level replaced time because of the poor internal consistency obtained for time by Drake and colleagues (2019), and also because activity emphasizes active behavior more concretely

than time. This subscale is rated on a scale from 0 (*not at all active*) to 10 (*extremely active*). The final subscale assesses an individual's personal satisfaction with their engagement in the domain over the last week (e.g., "In the last week, how satisfied were you with your engagement in this area of life?") on a scale from 0 (*not at all satisfied*) to 10 (*extremely satisfied*). Satisfaction was included as a rough estimate of perceived functioning and a potential means of detecting clinically relevant change over time. As with the VTDQ, each subscale of the VASQ is summed, resulting in scores from 0 to 100, with higher scores indicating higher levels of importance, activity, and satisfaction. Kelly, Lyons, and Drake (in preparation) found internal consistency of 0.77 for importance, 0.74 for activity, and 0.76 for satisfaction. Researchers also found that both the action and satisfaction subscales were positively correlated with markers of psychological well-being, including life satisfaction, flourishing, and quality of life. Additionally, a negative relationship was found between these subscales and psychological inflexibility, experiential avoidance, and psychopathology.

Evaluating the VLQ and Derivatives

A distinguishing feature of the VLQ and its iterations centers on the potentially more comprehensive approach to values assessment with the inclusion of 10 (or more) life domains. Psychological flexibility may be quite context-specific; individuals may be more or less flexible across different domains or different environments, and the practical impact of inflexibility within any given domain conceivably might be a function of the importance of that domain to the individual. Clinicians often find themselves addressing behavioral deficits in one area of life (e.g., intimate relationships) that are not so apparent in another (e.g., work). However, this potential has not been examined empirically to date, as all iterations of the VLQ are scored in a manner that includes all domains regardless as to their rated importance individually.

With regards to the considerations elaborated by Barney (2018), these measures do not provide a clear definition of values in the ACT context before asking individuals to identify their values. Additionally, a theme consistent across measures is that they do not assess for present moment awareness or the experience of meaningfulness in the context of consistency, time, or activity level with respect to each domain. Another component missing is items examining what behaviors individuals believe are values consistent and awareness of the connection between actions and values. Finally, the measures reviewed above do not assess for fusion to how one should value or what they should value based on societal or social pressures. Perhaps it is time for the development of a new values measure that meets the criteria outlined by Barney et al. (2018).

The Current Study

The current study will be a preliminary investigation of the Valued Living Questionnaire-Online (VLQ-O), a new iteration of the VLQ measurement paradigm (Wilson & Groom 2002; Wilson & Murrell, 2004; Wilson, Sandoz, & Kitchens, 2010). Arguably a defining feature of the VLQ measures is the inclusion and focus on life domains; the VLQ-O maintains that tradition, including ten values domains labeled as community life/public service, education/training, family, friendships/social life, health/physical self-care, intimate/romantic relationships, parenting/care of children, recreation/leisure, spirituality/religious life, and work/chores. Unlike previous measures, and largely due to the capabilities of an online administrative format, the VLQ-O will assess functioning only in regard to the respondent's 5 most important of these 10 domains; this format is based on a hypothesis that this more idiographic approach will allow for a more appropriate construct focus of the measure, as well as better psychometric properties and clinical utility.

In addition to domain focus of the measure, the item content and focus was developed from experience with the previous VLQ iterations and from consideration of the recommendations offered by ACT experts in Barney et al. (2018). The measure provides an ACT-consistent definition of values, followed by a description of each of the ten domains. Researchers wanted to preserve the original ten domains; however, while attending to the individualized nature of the values process (Barney et al., 2018), researchers recognize that not all ten domains may be important to everyone. Kimball (2019) found that the average number of domains valued by individuals was five. Therefore, after the description of the domains, individuals are asked to identify five domains that are the most important to them and the subsequent questions concern only those five domains. The VLQ-O includes flexibility and inflexibility subscales with items that directly address many of the limitations identified in current measures by Barney et al. (2018). The VLQ-O includes items on the flexibility subscale assessing present moment awareness while engaging in values (e.g., "I was aware in the moment of how important it is to me."), experience of meaning (e.g., "It felt meaningful."), and perception of competency (e.g., "I felt competent."). Concerning flexibility, the VLQ-O also includes items that measure fusion and experiential avoidance (e.g., "Unwanted thoughts or feelings made it difficult to engage in this area of my life") and items aimed at assessing actual and perceived barriers to engaging in valued action (e.g., "I didn't have enough money or other things I would need to engage in this area of my life."). Consistent with Barney and colleagues (2018), the measure includes items on the inflexibility subscale that assess for reasons for over or under-engagement in a certain value or value domain, Finally, it assesses for engagement in a domain because of the expectations of other people (e.g., "I was active in this area of my life because of the needs or expectations of other people.").

Primary Aims & Hypotheses

Primary Aim: To examine the psychometric properties of the proposed measure.

Specific aim 1. To establish validity of the measure, as defined by acceptable internal consistency and structural and construct validity.

Hypothesis 1.1. The VLQ-O generates five scores across five different domains: activity level, preferred activity level, the absolute value of preferred activity level, values flexibility, and values inflexibility. Through an exploratory factor analysis, it will be demonstrated that the data will load onto four separate factors: Activity, Preferred Activity, Values Flexibility, and Values Inflexibility. Items that do not contribute to the scale and are not otherwise meaningful will be removed/omitted.

Hypothesis 1.2. Each of the VLQ-O subscale scores will exhibit acceptable internal consistency.

Hypothesis 1.3. Preferred activity level will reveal a curvilinear relationship with other measures. Positive and negative deviations from zero will correspond with low scores on measures of the presence of meaning (Meaning in Life Questionnaire), flourishing (Flourishing Scale), values progress (Valuing Questionnaire), life satisfaction (Riverside Life Satisfaction Scale), and psychological flexibility (Multidimensional Psychological Flexibility Inventory), and with high scores on measures of psychological distress (Depression Anxiety Stress Scale-21), psychological inflexibility (Multidimensional Psychological Flexibility Inventory), search for meaning (Meaning in Life Questionnaire) and values obstruction (Valuing Questionnaire); scores near zero on the VLQ-O will correspond to higher scores on measures of the presence of meaning (Meaning in Life Questionnaire), flourishing (Flourishing Scale), values progress (Valuing Questionnaire), life satisfaction (Riverside Life Satisfaction Scale), and psychological

flexibility (Multidimensional Psychological Flexibility Inventory), and to lower scores on measures of psychological distress (Depression Anxiety Stress Scale-21), psychological inflexibility (Multidimensional Psychological Flexibility Inventory), search for meaning (Meaning in Life Questionnaire), and values obstruction (Valuing Questionnaire).

Hypothesis 1.4. Values Flexibility and Activity will correlate positively with measures of the presence of meaning (Meaning in Life Questionnaire), flourishing (Flourishing Scale), values progress (Valuing Questionnaire), life satisfaction (Riverside Life Satisfaction Scale), and psychological flexibility (Multidimensional Psychological Flexibility Inventory), and will correlate negatively with measures of psychological distress (Depression Anxiety Stress Scale-21), psychological inflexibility (Multidimensional Psychological Flexibility Inventory), search for meaning (Meaning in Life Questionnaire), and values obstruction (Valuing Questionnaire).

Hypothesis 1.5. Values Inflexibility will significantly and positively correlate with measures of psychological distress (Depression Anxiety Stress Scale-21), values obstruction (Valuing Questionnaire), search for meaning (Meaning in Life Questionnaire), and psychological inflexibility (Multidimensional Psychological Flexibility Inventory) and significantly and negatively correlate with measures of the presence of meaning (Meaning in Life Questionnaire), flourishing (Flourishing Scale), values progress (Valuing Questionnaire), life satisfaction (Riverside Life Satisfaction Scale), and psychological flexibility (Multidimensional Psychological Flexibility Inventory).

Hypothesis 1.6. The VLQ-O subscales will not significantly correlate with the subscales of the Big Five Inventory.

Hypothesis 1.7. The VLQ-O items 10 (“During the past week, I was active in this area of my life because of the needs or expectations of other people.”) and 11 (“During the past week, I

was active in this area of my life because I felt it had to be done whether or not I wanted to do it.") were included as potential contributors to the assessment of Values Inflexibility, but could also be expected to reflect social desirability. Thus, for Hypothesis 1.7., scores for items 10 and 11 will correlate with scores on the SDS-17.

Specific aim 2. To establish the increased utility of the proposed measure through establishing incremental validity compared to the VQ.

Hypothesis 2.1. It is predicted that the VLQ-O would demonstrate incremental predictive validity compared to the Valuing Questionnaire (VQ). The Values Flexibility subscale will explain significantly more variance in presence of meaning (Meaning in Life Questionnaire), flourishing (Flourishing Scale), and life satisfaction (Riverside Life Satisfaction Scale) while controlling for variance explained by the VQ values progress subscale. The VLQ-O Values Inflexibility subscale will explain significantly more variance in psychological distress (Depression Anxiety Stress Scale-21) and search for meaning (Meaning in Life Questionnaire) while controlling for variance explained by the VQ values obstruction subscale.

CHAPTER 2

METHOD

Participants

The participants in this study were residents of the United States who were at least 18 years of age. Participants for this study were recruited through Amazon MTurk and SONA during the spring semester of 2020 ($N = 168$). Amazon Mechanical Turk (MTurk) is a paid, crowdsourcing internet platform that can be used for data collection. MTurk connects internet users who are willing to complete tasks for accommodation with individuals who have the desire to access that resource, referred to as "workers." MTurk ensures high data quality through allowing the requesters of the data to reject work and not pay the workers and giving them the ability to block the workers from future work. Therefore, workers are motivated to do well on each HIT so they will have access to a wide variety of future HITs. Through these methods, the company has garnered individuals who tend to pay attention and are motivated to follow instructions (Horton, Rand, & Zeckhauser, 2011). A HIT includes a short description of the task, along with the approximate completion time and compensation. MTurk also allows researchers to set limitations or qualifying factors (i.e., inclusion and exclusion criteria) for who can complete their studies, such as a country of residence or a certain education level. For the purpose of this study, sampling of MTurk workers was restricted to the United States. With regards to generalizability of samples drawn from MTurk, studies have found that these samples are more diverse and similar to the general population than samples drawn from other internet sources or college classrooms (Behrend, Sharek, Meade, & Wiebe, 2011; Casler, Bickel, & Hackett, 2013; Gosling, Vazire, Srivastava, & John, 2004). Additionally, Horton, Rand, & Zeckhauser (2011) found that data collected from MTurk was as valid, both internally and

externally, as data collected in other kinds of experiments, including laboratory research. Further, Buhrmester et al. (2011) found that workers on Mturk produced data that was psychometrically acceptable, with a mean internal consistency in the good range ($\alpha = 0.87$). Researchers in this study also found very high test-retest reliability (r = 0.80-0.94; mean r = 0.88). Both internal consistency and test-retest reliability in these samples are comparable to those in traditional methods of data collection. Undergraduate participants were recruited from Southern Illinois University Introduction to Psychology courses through the SIU SONA system. MTurk and SONA participants must be 18 or older to use the services; therefore, all participants in this study were at least 18 years of age. Previous researchers have demonstrated that measures of values are valid in undergraduate samples (Hernandez, 2015). Therefore, undergraduates are an appropriate sample for this type of study.

Regarding exclusionary criteria, two individuals were excluded due to too much missing data to be imputed, 35 participants were excluded for missing attention check items, and one MTurk worker was excluded for participating in the study twice. Participants included in the final analyses were between the ages of 18 and 67 (M_{age} = 31.30, *SD* = 11.76). The participants were primarily female (*n* = 91; 53.5%), then male (*n* = 73; 42.9%), and non-binary/third gender (*n* = 2; 1.2%). Regarding race/ethnicity, participants identified primarily as White (*n* = 121; 71%), followed by Black/African American (*n* = 27; 15.9%), Asian (*n* = 13; 7.6%), Hispanic/Latino/Latina (*n* = 11; 6.5%), Native American/Alaskan Native (*n* = 7; 4.1%), Other (*n* = 5; 2.9%), Native Hawaiian or another Pacific Islander (*n* = 3; 1.8%), and Indian (*n* = 2; 1.2%).

Procedure

Participants on SONA selected the study out of a pool of research studies that included a description of the study, the approximate completion time, and the number of SONA credits

given for completion. Similarly, participants on MTurk also chose the study from a list of HITs that included a description of the HIT, approximate completion time, and the amount of compensation. The HIT and SONA description for this study was "A study looking at your day to day experiences and how you spend your time." When participants selected the study, they were then taken to a link to the survey, which brought them to the Qualtrics website. The participants were initially given the informed consent (Appendices J & K) to participate in the study, which they had to complete before they were allowed to participate. Participants read the informed consent and agreed to it by checking a box that then allowed them to move on to complete the survey. The entire survey took approximately 30 minutes to complete. Qualtrics administered the surveys in a randomized order, with that half of participants responding to the VLQ-O first and the other half responding to it second-to-last (the demographics form was always administered last to avoid any potential priming effects with this content).

Upon completion of the study, participants were debriefed. On MTurk, they were provided with a code indicating successful completion of the study. Participants were redirected to the MTurk website where their completion code was entered in order to receive compensation. Consistent with past research that suggests moving MTurk compensation closer to minimum wage, recruited participants received $2 for participating in this study (i.e., Rouse 2020). Participants in SONA closed the website window after completing the survey and received course credit for their participation. Qualtrics is a survey software website that is owned and operated by a company based in the United States. This company meets the "Safe-Harbor" requirements necessary for the protection of data in the United States and European Union. Additionally, data security was maintained using Transport Layered Security (TLS), a cryptographic protocol designed for the purpose of maintaining secure internet based

communication. Therefore, data was transferred and stored while maintaining confidentiality of the participants, assigning each participant's data a number.

In order to maintain high quality data, this study included four attention check questions. Several items were added throughout the measure battery to assess for attention to the items (e.g., "Please select 'agree' for this question"). In the MTurk sample, if participants failed to attend to and follow any of the four attention check questions, participation in the survey was terminated and a screen providing an explanation for termination was provided. For workers on MTurk, this excluded workers from compensation. This is in congruence with the MTurk Participation Agreement 3.b.vi., which states that individuals requesting data may "reject Tasks you perform for good cause." Inattention to measures results in data that are not usable, therefore qualifying as a "good cause." For SONA, respondents' participation was not terminated for missing attention checks, but their data were excluded from final analyses.

Measures

Big Five Inventory (BFI; John, Donahue, & Kentle, 1991; see Appendix A). The BFI is a 44-item self-report measuring five facets of personality: extraversion, conscientiousness, openness to experience, agreeableness, and neuroticism. This measure is based on the five-factor model of personality (Costa & McCrae, 1992). Participants rate items based on how well a statement applies to them on a Likert-type scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). This measure results in five subscales, one for each trait. For the purpose of online administration, the BFI instructions were adjusted from "Please write a number next to each statement" to "Please pick a number for each statement…." The BFI has good internal consistency, with a Cronbach's alpha of 0.81 (John et al., 2008). Additionally, the subscales correlate strongly with alternative measures of the same factors, with validity coefficients of 0.83

for extraversion, 0.95 for conscientiousness, 0.90 for openness, 0.98 for agreeableness, and 0.93 for neuroticism.

Depression Anxiety Stress Scale-21. (DASS-21; Lovibond & Lovibond, 1995; see Appendix B). The DASS-21 is a 21-item self-report scale that assesses the negative emotional states of depression, anxiety, and stress. The DASS is rated on a Likert-type scale, ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). This measure generates a separate score for each of the scales, with seven items in each scale, and summing the scores for each scale to produce a composite score is acceptable (Antony, Bieling, Cox, Enns, & Swinson, 1998). For the purpose of online administration, the DASS-21 instructions were adjusted from "…circle a number…" to "…pick a number…." The DASS-21 has good to excellent internal consistency for each of its scales, with Cronbach's alphas of the Depression, Anxiety, and Stress scales at 0.94, 0.87, and 0.91, respectively, and .095 for the total score (Antony, Bieling, Cox, Enns, & Swinson, 1998; Johnson et al., 2016).

Flourishing Scale (FS; Diener et al., 2010). The FS is a brief, 8-item scale, which measures an individual's perception of their own success, with items looking at positive relationships, feelings of competence, and perception of meaning and purpose in life. A well-being score is generated from a Likert-type scale where participants rate the items from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Higher scores mean participants view themselves positively in the important areas of functioning that make up the well-being score. The FS has an internal consistency in the good range (Cronbach's $\alpha = 0.87$).

Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006; see Appendix C). The MLQ is a 10-item self-report measure, assessing two dimensions of meaning in an individual's life: Presence of Meaning (i.e., amount of meaning individuals report their

lives already have) and Search for Meaning (i.e., amount of meaning and understanding individuals strive to obtain). Participants rate items on the MLQ using a Likert-type scale ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*), where a higher score indicates an increased level of meaning in life for the individual. Kiang and Fuligni (2010) report excellent internal consistency for the MLQ subscales, with a Cronbach's alpha of 0.91 for Presence and 0.90 for Search.

Multidimensional Psychological Flexibility Inventory (MPFI; Rolffs et al., 2016; see Appendix D). The MPFI is a 60-item measure that assesses six aspects of psychological flexibility (i.e., present moment awareness, values, defusion, self-as-context, acceptance/willingness, and committed action) and six aspects of psychological inflexibility (i.e., lack of contact with present moment, values inaction, fusion, self-as-content, experiential avoidance, and inaction), as delineated by the ACT Hexaflex (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Participants rate items on a six-point Likert-type scale, which ranges from 1 (*never true*) to 6 (*always true*), based on their experience in the last two weeks. This measure was developed from validated subscales of psychological flexibility and inflexibility (Rolffs et al., 2016). The results of this development study indicated that the MPFI has an internal consistency in the excellent range, with a Cronbach's alpha of 0.96 to 0.97 for flexibility and 0.95 to 0.97 for inflexibility, regardless of demographics.

Riverside Life Satisfaction Scale. (RLSS; Margolis, Schwitzgebel, Ozer, & Lyubomirsky, 2018; see Appendix E). The RLSS is a 6-item self-report measure assessing direct and indirect indicators of life satisfaction. The RLSS rated using a Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The developers report excellent

internal consistency for the RLSS, with an omega coefficient (ω_t) of 0.91, and demonstrates high test-retest reliability.

Social Desirability Scale-17 (SDS-17; Stöber, 1999; Stöber, 2001; see Appendix F). The SDS-17 is a 16-item measure that assesses an individual's tendency towards socially desirable responding for impression management. Participants respond to a series of statements (e.g., I occasionally speak badly of others behind their back) with "true" (1) or "false" (0), with items 1, 5, 6, 10, 14, and 16 reverse coded. The SDS-17 results in a summed total from 0-16, with higher scores indicating a higher level of socially desirable responding. The SDS-17 has good internal consistency, with a Cronbach's alpha of 0.80 (Stöber, 2000).

Valuing Questionnaire (VQ; Smout, Davies, Burns, & Christie, 2014; see Appendix G). The VQ is a 10-item measure, which assesses progress in valued living and obstruction to valued living. Participants rate items on a Likert-type scale from 0 (*not at all true for me*) to 6 (*completely true*) based on how true an item has been for them in the past week. The VQ produces scores for two domains: Progress in valued living and Obstruction to valued living. For the purpose of online administration, the instructions on the VQ were adjusted from "…circle the number…" to "…choose the number…." The VQ reports good subscale internal consistency, with a Cronbach's alpha of 0.87 for the Progress scale and 0.88 for the Obstruction scale (Christie et al., 2017). Additionally, Brassington et al. (2016) reported excellent internal consistency for the VQ total score, with a Cronbach's alpha of 0.94.

Valued Living Questionnaire-Online (VLQ-O; see Appendix H). The VLQ-O is an online measure assessing an individual's values in the ACT context. When beginning the measure, respondents are provided with a definition of values and descriptions of each of the ten life domains: community life/public service, education/training, family, friendships/social life,

health/physical self-care, intimate/romantic relationships, parenting/care of children, recreation/leisure, spirituality/religious life, and work/chores. Subsequently, respondents choose their five most important domains and then rank them in order from most to least important. This ranking determines the order of the five subsequent pages of questions, which contains the same set of questions for each life domain. All items utilize an 11-point, Likert-type scale. Respondents first rate their activity level in the past week from 0 (*not at all active*) to 10 (*extremely active*), followed by a rating of the activity level they would have preferred for the past week from -5 (*much less*) to +5 (*much more*), with a score of 0 signifying that their level of activity was *just right*. Then respondents rate three items reflective of psychological flexibility for the life domain (e.g., "I was aware in the moment of how important it is to me."), followed by six items reflective of psychological inflexibility for the life domain (e.g., "Unwanted thoughts or feelings made it difficult to engage in this area of my life."). The rating scale for these items was 0 (*not at all true*) to 10 (*extremely true*). In order to account for missing data, as individuals will not respond to items for all ten domains, the responses to the measure will be moved into a separate file by order of importance (i.e., all of the responses for individual's most important value, followed by second most important, etc.). From here, scores will be averaged across rankings to create the subscales and complete analyses.

Demographics Questionnaire (Appendix I) Participants will complete a demographics questionnaire including items for age, ethnicity, gender, socioeconomic status, and level of education.

Data Analytic Plan

Structural validity is the degree to which scores of a measure accurately reflect the dimensions of the constructs being measured (Carnovale, Sellbom, & Bagby, 2020). In order to

examine the structural validity of the VLQ-O, Exploratory Factor Analyses (EFA) with principle axis factoring and direct oblimin rotations were conducted to examine the underlying factor structure of the items on the VLQ-O. Direct oblimin rotations allow for underlying variables that are related.

Internal consistency is an important type of reliability that evaluates the degree to which items in a measure or subscales of a measure correlate (Almomani, Avi-Itzhak Demeter, Josman, & Al-momani, 2018). Internal consistency was established using Cronbach's Alpha (α), a correlation coefficient, which measures the degree to which the items within each subscale of the measure as established by the above EFA correlate with one another. Items in each subscale should produce a higher coefficient, indicating a higher level of agreement among the scores on items.

It was also hypothesized that positive and negative deviations from zero in Preferred Activity would reveal a curvilinear relationship with other relevant measures. The relationship between Preferred Activity and measures of interest was examined using a serious of curve estimation regressions testing linear and quadratic fits. The linear model was included in analyses as a comparison in order to demonstrate where a quadratic model better described the relationship between Preferred Activity and relevant outcome variables. The adjusted R^2 for each model was subsequently examined in order to identify which model, linear or curvilinear, better fit the data.

Construct validity refers to the degree to which a theoretical concept is represented or measured by the items in a measure (Carnovale, Sellbom, & Bagby, 2020). Construct validity can be established through the two subcategories of this type of validity: convergent validity and discriminate validity. Convergent validity is the agreement between ratings where measures

should theoretically be related. It was hypothesized that Values Flexibility and Activity would significantly positively correlate with measures of psychological wellbeing and significantly negatively correlate with measures of psychological distress. It was additionally hypothesized that Values Inflexibility and Preferred Activity would significantly positively correlate with measures of psychological distress and significantly negatively correlate with measures of psychological well-being. In order to examine convergent validity, bivariate Pearson correlations were conducted to demonstrate convergent validity between the Activity, Preferred Activity, Values Flexibility, and Values Inflexibility subscales and measures of meaning (MLQ), flourishing (FS), life satisfaction (RLSS), psychological distress (DASS-21). Additionally, concurrent validity was examined, a type of validity examining the relationship among measures that should be examining the same or similar concepts. To examine concurrent validity, bivariate Pearson correlations were conducted between the subscales of the VLQ-O and values progress (VQ), values obstruction (VQ), psychological flexibility (MPFI), and psychological inflexibility (MPFI).

Discriminant validity is the absence of a strong relationship among measures that should be theoretically unrelated. In order to establish discriminant validity, bivariate correlations were conducted to demonstrate discriminate validity between the Activity, Preferred Activity, Values Flexibility, and Values Inflexibility subscales and all five scales of the BFI.

Taking into consideration the importance of distinguishing the proposed measure from existing measures, it was important to examine incremental predictive power to assess the potential greater utility for research and clinical work. This type of validity measures the additional variance explained by a predictor variable that is not accounted for by an existing measure (Martens, Rettenberger, & Eher, 2017). Concerning the current measure, it was

expected that the VLQ-O Flexibility and Inflexibility subscales would explain significantly more variance in measures of well-being and psychological distress, respectively, when controlling for the VQ subscales (i.e., Values Progress and Obstruction). The VQ was utilized for this analysis over the values subscales of the MPFI as the VQ was discussed in the literature review and more directly addresses the other processes in relation to values rather than just contact or lack of contact with values. Incremental validity was examined with hierarchical linear regressions, a statistical analysis utilized to assess the amount of variability explained by predictor variables while controlling for another predictor variable.

CHAPTER 3

RESULTS

Preliminary Analyses

The data were cleaned and screened for outliers and missing data points as well as checked for skewness and kurtosis before running main analyses. Outliers were defined by two standard deviations above or below the mean. All outliers were valid cases and therefore not eliminated from the analyses (Orr, Sackett, & Dubois, 1991). An analysis of skewness and kurtosis revealed that all scales had minimal skew ($\leq |1.19|$) and kurtosis ($\leq |2.07|$). This is considered within normal limits for sample sizes between 50 and 300 (Kim, 2013). Descriptive statistics for the sample are detailed in Table 1. After importing the data from the Qualtrics website, any items that needed recoding or reverse coding were coded appropriately. All analyses were conducting through the use of SPSS version 25 (IBM Corporation, 2017). Missing data were deleted case wise from each of the final analyses.

Table 1.

Descriptive Statistics for the Sample (n = 168).

Measure	*M*	*SD*
MPFI Flexibility	3.96	1.00
MPFI Inflexibility	2.97	1.05
Flourishing Scale	43.12	8.93
DASS-21 Total	34.92	30.80
MLQ Presence of Meaning	24.56	7.68
MLQ Search for Meaning	24.93	6.03
RLSS	26.00	9.26
SDS-17	9.11	3.64
VQ Values Obstruction	17.23	7.68
VQ Values Flexibility	24.15	6.44
BFI Extraversion	3.09	.96
BFI Agreeableness	3.73	.76
BFI Conscientiousness	3.73	.78
BFI Neuroticism	2.86	1.03
BFI Openness	3.62	.75

Abbreviations: MPFI, Multidimensional Psychological Flexibility Inventory; DASS-21, Depression Anxiety Stress Scale -21; MLQ, Meaning in Life Questionnaire; RLSS, Riverside Life Satisfaction Scale; VQ, Valuing Questionnaire; BFI, Big Five Inventory.

Structure of the VLQ-O

It was hypothesized that the VLQ-O items would load onto four factors: Activity, Preferred Activity, Values Flexibility, and Values Inflexibility. In order to explore this hypothesis and to establish a scale structure to provide a basis for examining subsequent hypotheses, an exploratory factor analysis (EFA) was conducted using principle axis factoring and a direct Oblimin rotation to examine the underlying factor structure of the VLQ-O. When examining the items as a 55-item measure, an EFA indicated 16 underlying factors, which was highly discrepant from our expectations. Scrutinization of the loading patterns in this analysis indicated that the level of importance might lead to the same items functioning differently across the five ranked domains. Therefore, separate EFAs were conducted for each level of importance (1-5) to examine if a comparable factor structure could be obtained across importance levels.

Items 1 ("During the past week, how active were you in this area of your life?") and 2 ("How active would you have preferred to be?") were excluded from the EFAs as these items did not load consistently across importance levels. For importance level one, when suppressing factor loadings below .4 (Kline, 2015), eigenvalues indicated that two factors should be extracted. These two factors were consistent with the two proposed factors for these items: Values Flexibility ($\lambda = 44.03$) and Values Inflexibility ($\lambda = 23.33$). Values Flexibility was composed of items 3-5 and Values Inflexibility was composed of items 6-11, a pattern that is consistent with the original factor structure hypothesis. The two extracted factors accounted for 67.35% of the variance in the observed variables. The factor loadings are detailed in Table 2.

Table 2.

EFA Factor Loadings for the VLQ-O Importance Domain 1a

Items	Factor 1	Factor 2
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.03	**.78**
4. While engaging in this area of my life during the past week, it felt meaningful	.01	**.88**
5. While engaging in this area of my life during the past week, I felt competent	-.10	**.85**
6. During the past week, I didn't have enough time to engage in this area of my life.	**.65**	-.19
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.74**	-.07
8. During the past week, I was unsure how I could engage in this area of my life.	**.85**	-.13
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.71**	-.23
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	**.61**	.18
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	**.55**	.12

Note. Numbers bolded are loadings of .4 or higher.

Conversely, eigenvalues for the EFA on importance level two indicated that three factors should be extracted. When suppressing loadings below .4, the three factors that emerged were: items 6-9 ($\lambda = 40.10$), items 3-5 ($\lambda = 24.07$), and items 10-11 ($\lambda = 14.56$). The three extracted factors accounted for 78.73% of the variance in the observed variables. The factor loadings are detailed in Table 3.

Table 3.

EFA Factor Loadings for the VLQ-O Importance Domain 2

Items	Factor 1	Factor 2	Factor 3
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.02	**.79**	-.05
4. While engaging in this area of my life during the past week, it felt meaningful	-.01	**.91**	.07
5. While engaging in this area of my life during the past week, I felt competent	-.03	**.82**	-.06
6. During the past week, I didn't have enough time to engage in this area of my life.	**.81**	.03	.14
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.80**	.04	.01
8. During the past week, I was unsure how I could engage in this area of my life.	**.70**	-.15	-.16
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.60**	-.12	-.33
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	.12	.10	**-.78**
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	-.10	-.03	**-.94**

Note. Numbers bolded are loadings of .4 or higher.

Eigenvalues indicated that three factors should be extracted in an EFA examining the third level of importance. The EFA resulted in three factors: items 6-9 ($\lambda = 33.77$), items 3-5 ($\lambda = 31.09$), and items 10-11 ($\lambda = 13.53$). The three factors accounted for 78.39% of the variance in

the observed variables. The factor loadings are detailed in table three. One item cross loaded, which was "During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life." This item loaded onto the first factor and third factor. The factor loadings are detailed in Table 4.

Table 4.

EFA Factor Loadings for the VLQ-O Importance Domain 3

Items	Factor 1	Factor 2	Factor 3
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.04	**.85**	-.01
4. While engaging in this area of my life during the past week, it felt meaningful	.01	**.88**	-.00
5. While engaging in this area of my life during the past week, I felt competent	-.01	**.88**	-.06
6. During the past week, I didn't have enough time to engage in this area of my life.	**.75**	-.03	.12
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.77**	.12	.01
8. During the past week, I was unsure how I could engage in this area of my life.	**.84**	-.08	-.18
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.42**	-.18	**-.49**
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	.02	.07	**-.81**
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	-.10	.07	**-.80**

Note. Numbers bolded are loadings of .4 or higher.

Eigenvalues examined in an EFA for the fourth level of importance indicated that three factors should be extracted. The three factors were items 6-9 ($\lambda = 36.64$), items 3-5 ($\lambda = 27.24$), and items 10-11 ($\lambda = 14.07$), which accounted for 77.95% of the variance in the observed variables. The factor loadings are detailed in Table 5.

Table 5.

EFA Factor Loadings for the VLQ-O Importance Domain 4

Items	Factor 1	Factor 2	Factor 3
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.05	**.85**	.02
4. While engaging in this area of my life during the past week, it felt meaningful	.00	**.93**	-.01
5. While engaging in this area of my life during the past week, I felt competent	-.06	**.86**	-.06
6. During the past week, I didn't have enough time to engage in this area of my life.	**.65**	.01	.09
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.91**	.03	.11
8. During the past week, I was unsure how I could engage in this area of my life.	**.68**	-.09	-.19
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.58**	-.05	-.29
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	.06	.05	**-.85**
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	-.05	.01	**-.84**

Note. Numbers bolded are loadings of .4 or higher.

In an EFA examining the fifth level of importance, eigenvalues indicated that three factors should be extracted. The EFA resulted in the three factors observed in the other levels of importance; however, the order of variance explained was different for the fifth level: items 6-9 ($\lambda = 14.81$), items 3-5 ($\lambda = 32.66$), and items 10-11 ($\lambda = 30.32$). The three factors accounted for 77.79% of the variance in the observed variables. The factor loadings are detailed in Table 6.

Table 6.

EFA Factor Loadings for the VLQ-O Importance Domain 5

Items	Factor 1	Factor 2	Factor 3
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.06	**.77**	.03
4. While engaging in this area of my life during the past week, it felt meaningful	.02	**.94**	-.03
5. While engaging in this area of my life during the past week, I felt competent	-.11	**.80**	-.08
6. During the past week, I didn't have enough time to engage in this area of my life.	**.73**	.05	.13
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.74**	.03	.09
8. During the past week, I was unsure how I could engage in this area of my life.	**.75**	-.09	-.14
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.74**	-.07	-.30
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	.09	.08	**-.84**
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	-.07	.03	**-.85**

Note. Numbers bolded are loadings of .4 or higher.

The EFAs conducted across importance levels two through five consistently produced the same three factors comprised of the same items: items 6-9, items 3-5, and items 10-11. Given this consistent structure, importance level one was reexamined. Although eigenvalues indicated that two factors should be extracted from importance level one, the eigenvalue for factor number three was .98, just below the theoretical cut off of 1.00. Additionally, examination of the scree plot indicated that a three factor solution may be extracted. When force extracting three factors and suppressing loadings below .4, the three factors that emerged were consistent with those for the other levels of importance: items 6-9 ($\lambda = 44.03$), items 3-5 ($\lambda = 23.33$), and items 10-11 (λ

= 10.93). The three extracted factors accounted for 78.28% of the variance in the observed variables. The factor loadings of the three extracted factors for importance level one are detailed in Table 7. Given the consistency of the three factors across levels of importance, these were the final subscales included in the analyses of the measure. These subscales were labeled Values Inflexibility (items 6-9), Values Flexibility (items 3-5), and Values Obligations (items 10-11). Item nine cross loads on importance level three onto both the Values Flexibility and Values Obligations factors. Although the item loads slightly stronger onto the Values Obligations subscale, the item will remain in the Values Inflexibility subscale to maintain consistency with the VLQ-O subscales at other levels of importance. Items 1 and 2 asking respondents about the level of activity in a value and their preferred level of activity were not included in any of the subscales. However, they were determined to be important factors to examine and were kept in the measure and included in the analyses below. Hypothesis 1.1 was partially supported, albeit only after a substantial modification to the proposed analytic plan. When analyzing the ranked domains separately, the Values Flexibility subscale was comprised of the items hypothesized for each ranked domain; however, the originally proposed Values Inflexibility subscale loaded instead onto two separate factors: Inflexibility and Obligations. Additionally, Preferred Activity and Activity did not cluster as independent subscales as hypothesized, but instead loaded inconsistently with a variety of factors in the EFAs.

Table 7.

EFA Factor Loadings for the VLQ-O Importance Domain 1b

Items	Factor 1	Factor 2	Factor 3
3. While engaging in this area of my life during the past week, I was aware in the moment of how important it is to me.	.01	**.77**	-.06
4. While engaging in this area of my life during the past week, it felt meaningful	.08	**.93**	.04
5. While engaging in this area of my life during the past week, I felt competent	-.10	**.83**	-.02
6. During the past week, I didn't have enough time to engage in this area of my life.	**.79**	-.05	.07
7. During the past week, I didn't have enough money or other things I would need to engage in this area of my life.	**.88**	.09	.03
8. During the past week, I was unsure how I could engage in this area of my life.	**.81**	-.03	-.13
9. During the past week, unwanted thoughts or feelings made it difficult to engage in this area of my life.	**.51**	-.22	-.28
10. During the past week, I was active in this area of my life because of the needs or expectations of other people.	.03	.05	**-.78**
11. During the past week, I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.	-.02	-.01	**-.74**

Note. Numbers bolded are loadings of .4 or higher.

Internal Consistency

Given the results of the factor analyses, analyses of subsequent hypotheses were adjusted as needed to accommodate the unexpected factor structure. Composite scores were calculated across the five most important life domains, which were averages of all relevant items of all domains. Therefore, a mean score was computed for Activity, Preferred Activity, Values Flexibility, Values Inflexibility, and Values Obligations. All subscales result in a score between 0 and 10, with a higher score indicating greater levels of the construct, with the exception of Preferred Activity. Preferred Activity ranges from -5 to 5, with scores at 0 indicating the perfect

level of activity, scores above 0 indicating the desire for more activity, and scores below 0 indicating a desire for less activity in the value domain. The mean composite score for the Activity item of the VLQ-O for this population was 6.60 (*SD* = 1.53) and the mean for Preferred Activity was 2.10 (*SD* = 1.31). The mean composite score for the Values Flexibility subscale of the VLQ-O was 7.20 (*SD* = 1.73), Values Inflexibility was 3.73 (*SD* = 2.47), and Values Obligations was 4.3 (*SD* = 2.48). Descriptive statistics for each importance domain are depicted in Table 8.

Table 8.

Means and Standard Deviations for Scores on Each Level of Importance (n=168).

	1		2		3		4		5	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Activity	7.37	2.29	6.95	2.40	6.81	2.59	6.18	2.86	5.69	2.96
Preferred Activity	1.98	2.12	2.42	1.97	1.91	2.22	2.25	2.18	1.93	2.37
Values Flexibility	7.82	1.92	7.65	2.10	7.11	2.42	6.91	2.55	6.50	2.79
Values Inflexibility	3.18	2.78	3.61	2.83	3.74	2.84	4.01	2.92	4.09	2.92
Values Obligations	4.68	2.92	4.40	3.37	4.53	3.38	4.07	3.25	3.82	3.34

Hypothesis 1.2 stated that each of the VLQ-O subscale scores would exhibit acceptable internal consistency. The Values Inflexibility subscale produced an alpha of .67, indicating questionable internal consistency. The items in this subscale produced moderate to strong inter-item correlations across importance levels, ranging from .35 to .73, indicating good agreement among the items in this subscale. The Cronbach's alpha did not increase for this subscale with the removal of any of the items. The Values Flexibility subscale had questionable internal

consistency, with an alpha of .63. The items in this subscale produced strong inter-item correlations ranging from .62 to .82, indicating good agreement amongst items on this subscale. The internal consistency was not improved with the removal of any item in this subscale. The Values Obligations subscale produced an alpha of .50, indicating poor internal consistency. The items in this subscale produced strong inter-item correlations, which ranged from .58 to .75, indicating good agreement between the items that make up this scale. The Cronbach's alpha for this subscale was not improved with the removal of any items in this subscale. The Activity and Preferred Activity subscales demonstrate unacceptable internal consistency, with alphas of .10 and .08, respectively. Inter-item correlations for the individual subscales for each domain are noted in Tables 9 through 13. Hypothesis 1.2 was partially supported.

Table 9.

Inter-item Correlations for the Subscales of the VLQ-O Importance Level 1 (n = 168).

Item	1	2	3	4	5	6	7	8	9	10	11
1	1.00										
2	-.23**	1.00									
3	.52**	-.09	1.00								
4	.53**	-.02	.71**	1.00							
5	.54**	-.09	.65**	.78**	1.00						
6	-.34**	.33**	-.24**	-.28**	-.31**	1.00					
7	-.11	.17*	-.15*	-.16*	-.24**	.69**	1.00				
8	-.16*	.20*	-.19*	-.24**	-.37**	.65**	.72**	1.00			
9	-.18*	.16*	-.29**	-.32**	-.42**	.55**	.53**	.75**	1.00		
10	.08	-.04	.03	.00	-.02	.27**	.34**	.45**	.42**	1.00	
11	.11	-.04	.02	-.07	-.05	.27**	.32**	.36**	.40**	.58**	1.00

** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Table 10.

Inter-item Correlations for the Subscales of the VLQ-O Importance Level 2 (n = 168).

Item	1	2	3	4	5	6	7	8	9	10	11
1	1.00										
2	-.15*	1.00									
3	.49**	.10	1.00								
4	.52**	.03	.72**	1.00							
5	.57**	-.05	.64**	.75**	1.00						
6	-.30**	.27**	-.12	-.21**	-.19*	1.00					
7	-.16*	.19*	-.16*	-.22**	-.13	.64**	1.00				
8	-.24**	.14	-.27**	-.33**	-.30**	.56**	.59**	1.00			
9	-.05	.19*	-.17*	-.30**	-.27**	.48**	.56**	.73**	1.00		
10	.32**	-.08	.09	-.04	.07	.16*	.30**	.36**	.44**	1.00	
11	.29**	-.04	.00	-.10	.02	.06	.16*	.28**	.44**	.73**	1.00

** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Table 11.

Inter-item Correlations for the Subscales of the VLQ-O Importance Level 3 (n = 168).

Item	1	2	3	4	5	6	7	8	9	10	11
1	1.00										
2	-.29**	1.00									
3	.53**	.03	1.00								
4	.45**	.10	.75**	1.00							
5	.58**	-.05	.71**	.76**	1.00						
6	-.28**	.38**	-.14	-.13	-.20**	1.00					
7	.02	.14	-.00	-.06	.03	.54**	1.00				
8	-.06	.27**	-.13	-.18*	-.17*	.62**	.68**	1.00			
9	.05	.14	-.12	-.10	-.12	.41**	.40**	.65**	1.00		
10	.32**	-.03	.20**	.22**	.23**	.08	.23**	.34**	.48**	1.00	
11	.40**	-.02	.25**	.20**	.27**	-.00	.14	.22**	.40**	.66**	1.00

** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Table 12.

Inter-item Correlations for the Subscales of the VLQ-O Importance Level 4 (n = 168).

Item	1	2	3	4	5	6	7	8	9	10	11
1	1.00										
2	-.36**	1.00									
3	.42**	.04	1.00								
4	.48**	.03	.78**	1.00							
5	.58**	-.05	.74**	.82**	1.00						
6	-.35**	.41**	-.18*	-.15	-.16*	1.00					
7	.18*	.22**	-.16*	-.21**	-.25**	.60**	1.00				
8	-.22**	.19*	-.17*	-.25**	-.26**	.44**	.61**	1.00			
9	-.09	.20*	-.09	-.19*	-.19*	.35**	.54**	.63**	1.00		
10	.35**	-.05	.06	.14	.14	.13	.17*	.33**	.40**	1.00	
11	.32**	.06	.08	.10	.13	.05	.10	.26**	.34**	.73**	1.00

** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Table 13.

Inter-item Correlations for the Subscales of the VLQ-O Importance Level 5 (n = 168).

Item	1	2	3	4	5	6	7	8	9	10	11
1	1.00										
2	-.29**	1.00									
3	.45**	.16*	1.00								
4	.42**	.19*	.72**	1.00							
5	.50**	.13	.62**	.80**	1.00						
6	-.31**	.48**	.00	-.08	-.17*	1.00					
7	-.16*	.34**	-.08	-.09	-.11	.62**	1.00				
8	-.14	.24**	-.10	-.12	-.21**	.49**	.52**	1.00			
9	.02	.22**	-.03	-.07	-.15	.47**	.51**	.76**	1.00		
10	.45**	.03	.21**	.28**	.26**	.09	.08	.24**	.38**	1.00	
11	.53**	-.04	.15	.25**	.27**	-.04	.02	.12	.26**	.75**	1.00

** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Preferred Activity

Regressions examining the fit of a linear and quadratic relationship were conducted to examine the relation between Preferred Activity scores and measures of psychological well-being and distress. Results indicated a statistically significant linear relationship between Preferred Activity and Presence of meaning, $F(1, 147) = 7.28$, $p = .008$. Although the quadratic model was statistically significant, $F(2, 146) = 3.60$, $p = .032$, the predictors were not significant, $ps > .05$, indicating that the significance of the model was driven by the constant, which is not meaningful. Therefore, the linear model is a better fit for Preferred Activity and Presence of meaning. Concerning Preferred Activity and Values Obstruction, the linear regression was significant, $F(1, 147) = 7.76$, $p = .007$, which suggests a statistically significant positive

relationship between Preferred Activity and Values Obstruction, (R^2 = 29.60%), p = .007. However, the quadratic regression was also statistically significant, $F(2, 146) = 6.46$, p = .003. In this model, the quadratic predictor was statistically significant, p = .032. However, the linear predictor was not, p = .217. This finding suggests that the quadratic regression explains 37.30% of the covariance between preferred activity level and values obstruction. Therefore, the relationship between Preferred Activity and Values Obstruction can be modeled as quadratic and linear. However, the quadratic model explains more variability, suggesting that a quadratic model better explains the data. Regarding Preferred Activity and Values Progress, a linear model demonstrated a statistically significant positive relationship, $F(1, 147) = 4.08$, p = .047. However, the quadratic relationship was not statistically significant, ps > .05. This analysis indicates that a linear relationship exists between Preferred Activity and Values Progress. All other tests were non-significant, ps > .05.

These analyses suggest that, contrary to what was hypothesized, Preferred Activity scores demonstrated a quadratic curvilinear relationship with exclusively the Values Obstruction subscale. Additionally, the results demonstrated a linear relationship with Presence of Meaning and Values Progress. Preferred Activity was included in the bivariate correlations below in order to further examine the relationship between this variable and other constructs of interest.

Scale Validity

Table 14 shows the correlations between subscale scores of the VLQ-O and the subscales of the Valuing Questionnaire (VQ) and the Multidimensional Psychological Flexibility Inventory (MPFI), which measure similar constructs. Activity level demonstrated strong and moderate positive correlations with VQ progress and the MPFI Flexibility scales, respectively. The Preferred Activity subscale demonstrated a small positive relationship with the Values

Obstruction subscale of the VQ. The VLQ-O Values Flexibility subscale demonstrated strong positive correlations with the VQ Values Progress subscale and the Flexibility subscale on the MPFI, indicating evidence of good concurrent validity. Additionally, the two VLQ-O subscales looking at inflexibility processes (Values Inflexibility and Values Obligation) correlated with the VQ Values Obstruction subscale, $r = .71$; $r = .44$, and the Inflexibility subscale of the MPFI, $r = .68$; $r = .46$, indicating additional evidence for concurrent validity with measures examining similar processes. These correlations were significant at the, $p < .001$, level.

Table 14.

Bivariate Correlation Analysis of the VLQ-O Scores and Measures of Concurrent Validity (n = 168).

Measure	VQ Progress	VQ Obstruction	MPFI Flexibility	MPFI Inflexibility
VLQ-O Activity	.54**	.08	.46**	.06
VLQ-O Preferred Activity	.08	.22**	.05	.16*
VLQ-O Values Flexibility	.63**	-.21**	.51**	-.17*
VLQ-O Inflexibility	-.13	.71**	-.15	.68**
VLQ-O Obligations	.18*	.44**	.11	.46**

Abbreviations: VQ-Valuing Questionnaire; MPFI, Multidimensional Psychological Flexibility Inventory
** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Table 15 shows the correlations between the VLQ-O composite scores and clinically relevant outcomes. The Activity scores demonstrated moderate positive relationships with flourishing, life satisfaction, and Presence of meaning and a small correlation with Search for meaning. Preferred Activity scores demonstrated a small correlation with DASS-21 scores and

did not significantly correlate with any other measures. The VLQ-O Values Flexibility subscale demonstrated a small negative correlation with DASS-21 total scores. Additionally, the Values Flexibility subscale demonstrated a strong correlation with flourishing (FS) scores and a moderate correlation with life satisfaction (RLSS). Values Flexibility correlated positively with both Presence of meaning and Search for meaning on the MLQ, demonstrating moderate and small relationships, respectively. The Values Inflexibility and Obligations subscales demonstrated strong and moderate relationships with DASS-21 total scores, respectively. Additionally, the Values Inflexibility subscale demonstrated a moderate negative correlation with flourishing (FS) and life satisfaction (RLSS) scores. Values Inflexibility demonstrated a small negative correlation with Presence of Meaning but did not demonstrate a significant correlation with Search for meaning. These correlations are significant at the, $p < .001$, level and are good evidence for convergent validity.

Table 15.

Bivariate Correlation Analysis of the VLQ-O Scores and Measures of Convergent Validity (n = 168).

Measure	DASS-21	FS	RLSS	MLQ-P	MLQ-S
VLQ-O Activity	.06	.42**	.31**	.38**	.23**
VLQ-O Preferred Activity	.20**	.04	.02	.11	.15
VLQ-O Values Flexibility	-.27**	.62**	.45**	.47**	.22**
VLQ-O Inflexibility	.77**	-.35**	-.43**	-.25**	.08
VLQ-O Obligations	.47**	-.01	-.16	.02	.15

Abbreviations: VQ-Valuing Questionnaire; MPFI, Multidimensional Psychological Flexibility Inventory; DASS-21, Depression Anxiety Stress Scales-21; FS, Flourishing Scale; RLSS, Riverside Life Satisfaction Scale; MLQ-P, Meaning in Life Scale, Presence; MLQ-S, Meaning in Life, Search.
** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Correlations between the composite scores of the VLQ-O and facets of personality are listed in Table 16. It was hypothesized that the VLQ-O subscales would not significantly correlate with the subscales of the BFI. There were no significant correlations found between the Preferred Activity subscale or Values Obligations and any of the BFI subscales. Activity scores demonstrated small relationships with the BFI constructs of Conscientiousness and Neuroticism and a moderate correlation with Extraversion. Moderate correlations were found on the, $p <$ .001, significance level between Values Flexibility and Extraversion, Agreeableness, Conscientiousness, and Neuroticism. Moderate correlations were found on the, $p < .001$, significance level between Values Inflexibility and BFI facets of Agreeableness and Neuroticism and a strong correlation was demonstrated with Conscientiousness. No significant correlation

was found between Values Flexibility and Inflexibility and the BFI construct of Openness, p = .001. This hypothesis was partially supported.

Table 16.

Bivariate Correlation Analysis of the VLQ-O scores and BFI (n = 168).

Measure	BFI-E	BFI-A	BFI-C	BFI-N	BFI-O
VLQ-O Activity	.42**	.03	.29**	-.28**	.14
VLQ-O Preferred Activity	.08	-.06	-.12	.10	.16
VLQ-O Flexibility	.34**	.32**	.44**	-.45**	.19
VLQ-O Inflexibility	-.23*	-.43**	-.57**	.40**	-.08
VLQ-O Obligations	.17	-.20	-.012	.03	.02

Abbreviations: BFI-E, Big Five Inventory, Extraversion; BFI-A, Big Five Inventory, Agreeableness; BFI-C, Big Five Inventory, Conscientiousness; BFI-N, Big Five Inventory, Neuroticism; BFI-O, Big Five Inventory, Openness.
** Correlation is significant at the .001 level.
* Correlation is significant at the .05 level.

Social Desirability

In order to examine if participants' pattern of responding was related to a desire to respond in a way that is concurrent with societal values, a bivariate correlation was estimated between items 10 and 11 (now established as the Values Obligations subscale) and SDS-17 scores. No significant correlation was found between scores on the SDS-17 and scores on the Obligations subscale. Hypothesis 1.7, which proposed that there would be a significant correlation between scores on Values Obligations and SDS-17 scores, was not supported.

Incremental Validity

A hierarchical linear regression examining differencing in flourishing predicted by the VLQ-O Values Flexibility scale while controlling for the VQ Progress scale found that Values Flexibility explained a significant proportion of additional variance in flourishing, $\Delta R^2 = .053$, Cohen's $f^2 = .111$, on the, $p < .001$, significance level. Results also suggested that the Values Flexibility subscale did not explain additional variance in life satisfaction, $\Delta R^2 = -.004$, while controlling for VQ Progress scores, $p > .05$. Additionally, when examining variance explained in presence of meaning, there was not additional variance explained by the VLQ-O, $\Delta R^2 = .001$, when controlling for VQ Progress scores, $p > .05$. When examining Values Inflexibility, this subscale predicted significantly more variance in DASS-21 scores, $\Delta R^2 = .085$, Cohen's $f^2 = .301$, $p < .001$, when controlling for the VQ Values Obstruction scale. However, when examining VQ Obstruction and VLQ-O Values Inflexibility and the variability explained in search for meaning, there was no significant change found in search for meaning scores for either measure. These results provide evidence for increased predictive validity for psychological distress when utilizing the VLQ-O Values Inflexibility subscale compared to the variance explained by the VQ Values Obstruction subscale. However, neither scale was predictive of search for meaning scores.

Table 17.

Hierarchical Linear Regression Examining Variability Explained in Flourishing, Life Satisfaction, and Presence of Meaning by the VLQ-O Flexibility Subscale While Controlling for the VQ Progress Subscale (n = 168).

	DASS-21					
Variables	Step 1 (Control)			Step 2 (Values Flexibility)		
	B	*SE B*	β	*B*	*SE B*	β
VQ Progress	0.95	0.08	.689*	0.69	0.10	.497*
Values Flexibility				1.57	0.36	.303*
Adjusted R^2			.471			.524
F for change in R^2			149.67*			19.35*
	Life Satisfaction					
Variables	Step 1 (Control)			Step 2 (Values Flexibility)		
	B	*SE B*	β	*B*	*SE B*	β
VQ Progress	0.81	0.12	.587*	0.73	0.16	.528*
Values Flexibility				0.41	0.56	.085
Adjusted R^2			.337			.333
F for change in R^2			48.24*			.53
	Presence of Meaning					
Variables	Step 1 (Control)			Step 2 (Values Flexibility)		
	B	*SE B*	β	*B*	*SE B*	β
VQ Progress	0.78	0.07	.662*	0.71	0.09	.604*
Values Flexibility				0.40	0.34	.093
Adjusted R^2			.435			.436
F for change in R^2			114.83*			1.39

Note. *$p < .001$

Table 18.

Hierarchical Linear Regression Examining Variability Explained in Psychological Distress (DASS-21) and Search for Meaning by the VLQ-O Inflexibility Subscale While Controlling for the VQ Obstruction Subscale (n = 168).

	DASS-21					
Variables	Step 1 (Control)			Step 2 (Values Inflexibility)		
	B	*SE B*	β	*B*	*SE B*	β
VQ Obstruction	3.18	0.18	.797*	1.99	0.23	.499*
Values Inflexibility				5.18	0.73	.417*
Adjusted R^2			.633			.718
F for change in R^2			287.34*			50.40*
	Search for Meaning					
Variables	Step 1 (Control)			Step 2 (Values Inflexibility)		
	B	*SE B*	β	*B*	*SE B*	β
VQ Obstruction	0.15	0.06	.200	0.23	0.08	.298
Values Inflexibility				-0.33	0.26	-.136
Adjusted R^2			.034			.037
F for change in R^2			6.88			1.56

Note. *$p < .001$

CHAPTER 4

DISCUSSION

The current study examined the factor structure and psychometric properties of a newly proposed values measure, the VLQ-O. The VLQ-O was developed in response to several recent articles that reviewed the limitations of current values measures (Barney et al., 2018; Reilly et al., 2018; Serowik et al., 2018). Specifically, it was developed to address the need for a values measure that better assessed the valuing process, such as assessing if an individual's values are personally motivating and how their experience with values relates to other psychological flexibility and inflexibility processes. It also addresses the need for a values measure that provides a more comprehensive view than has been unavailable to date into the valued actions available throughout a variety of life domains while simultaneously being brief enough for practical use. One means of shortening a values measure that was embraced by the VLQ-O was assessing only the most important domains of an individual's life. Previous versions of the VLQ have individuals respond to a number of items on all ten domains of valuing (Drake et al., 2019; Kelly et al., in preparation; Wilson et al., 2010); however, a recent study with a VLQ-inspired values clarification activity found that individuals tend to prioritize an average of five life domains (Kimball, 2019). Therefore, the current measure had individuals identify their five most important value domains and rank them in order to narrow the construct focus and determine the order of administration of the items for each domain. Further, the use of an online format offered an easier means to administer and score the measure.

VLQ-O Factor Structure

The first hypothesis stated that in an EFA, the items of the VLQ-O would load onto four separate factors, which were proposed to be Activity, Preferred Activity, Values Flexibility, and

Values Inflexibility. In the initial EFA including the full 55-item scale, 16 factors were extracted. Thus, the pattern of item clustering among all the items across each values domain in the measure did not conform well with the original hypothesis. In particular, the Activity and Preferred Activity scores demonstrated inconsistent loadings and were removed from the subsequent analytic strategy focusing solely on items 3-11 in each rated life domain. Items 3-11 were hypothesized to generate two factors, one for psychological flexibility and one for inflexibility. However, the results of the revised strategy supported a three-factor interpretation: Values Flexibility, Values Inflexibility, and Values Obligations. Although this is discrepant from what was hypothesized, the pattern of loadings suggested that the rated level of importance may have introduced unexpected noise into efforts to evaluate the factor structure. The results of five additional EFAs, each of them limited to items within a ranked domain, revealed a relatively consistent pattern of loadings obtained amongst items within levels of importance. The sole exception was for the most important ranked values domain, which produced two factors: one comprised of the Values Flexibility items (items 3-5) and one comprised of both the Values Inflexibility and Obligations items (item 6-10). The eigenvalue of the third factor for the first level of importance was .98, which is just below the proposed Kaiser rule theoretical cut off of 1.0 (Floyd and Widaman, 1995). Additionally an inspection of the scree plot indicated that three factors were also acceptable, which would render a common and consistent 3-factor structure across all five ranked values domains. Thus, the measure was reconceptualized to consistent of five subscales: Activity Level (item 1), Preferred Activity Level (item 2), Values Flexibility (items 3-5), Values Inflexibility (items 6-9), and Values Obligations (items 10 and 11). Although Activity and Preferred Activity were removed from analyses of the factor structure, their similarity to items used in previous iterations of the VLQ have suggested that they may be

useful metrics for some aspects of valued living; retaining them for their conceptual and clinical relevance could allow for future works to further examine their usefulness.

The modification to the approach of exploring the factor structure was based in part on a hypothesis that importance level could introduce some variability in how participants were responding to the same items across different life domains. Importance level has been shown to influence responding to other values measures. Cotter et al. (2012) examined the validity of the VLQ in a follow-up study. In an EFA, researchers found three and four underlying factors in a normative and distressed sample, which were comprised of three to four different groupings of the two items (importance and consistency) according to certain value domains. This finding supports the assertion that the same items may function differently across an individual's values. While several of the values measures reviewed in this study have individuals report the importance of each value (e.g., BEVS, VLQ, VASQ), little research exists further examining this variable of importance. Rolffs et al. (2018) theorized that individuals appear to experience different levels of flexibility and inflexibility across different values but did not speculate on how importance may mediate or moderate this relationship. The current study indicates that the field may benefit from additional research on the function and the internal processes of values relative to their importance.

Generally, these results suggest that the items that comprise the VLQ-O function somewhat differently across levels of importance. A consistent factor structure across the rated domains was obtained only after modifying the initial analytic strategy and force extracting three factors from the first importance level. Additionally, although the third level of importance produced a similar three factor structure, it also included an item that cross-loaded onto two factors. Therefore, the factor structure of the VLQ-O warrants further examination.

Unexpectedly, the last two items of what was originally proposed to be the Values Inflexibility subscale loaded onto a separate distinct factor, subsequently labeled Values Obligations. This suggests that these items may be functionally distinct from the inflexibility items included in the measure. This subscale was further examined with subsequent hypotheses examining how Values Obligations relates to constructs of interest.

VLQ-O Internal Consistency

Hypothesis 1.2 proposed that the subscales of the VLQ-O would produce adequate internal consistency. Results failed to support this hypothesis and indicated that the subscales of the VLQ-O produced unacceptable to questionable internal consistency. Other VLQ iterations have demonstrated some poor estimates of internal consistency as well, including the VLQ (Wilson et al., 2010), VTDQ (Drake et al., 2019), and the VASQ (Kelly et al., in preparation). Researchers in the original VLQ study theorized that this low internal consistency was not relevant conceptually, stating that individuals should not be expected to engage consistently across value domains (Wilson et al. 2010). Thus, this varying relationship and interaction with each value results in a lower than ideal internal consistency. The VLQ-O subscales with the lowest internal consistency were Activity and Preferred Activity, which are each comprised of one item across the five values. Internal consistency decreases as a function of the number of items in a subscale (Cronbach, 1951). This is also consistent with what was proposed by Wilson et al (2010) regarding individuals engaging inconsistently across valued domains. This is especially true given the nature of the measure, which assesses state engagement with values (i.e., over the past two weeks) instead of trait engagement with these valued domains. The Values Obligations subscale also produced poor internal consistency. This subscale was unanticipated during the development of the VLQ-O and may benefit from further examination.

This subscale may also benefit from additional items to more adequately assess this identified component of values, which may subsequently contribute to improved internal consistency. Additionally, the internal consistency for other subscales may be improved by revising existing or adding additional items to the domains identified in the factor analysis.

Preferred Activity Level

Hypothesis 1.3 asserted that Preferred Activity would demonstrate a curvilinear relationship with other measures. Specifically, scores above and below zero were proposed to associate with increased psychological distress and decreased well-being. Scores closer to zero were proposed to relate positively with well-being and negatively with psychological distress. The results partially supported this hypothesis. In a series of regressions, Preferred Activity demonstrated a significant quadratic curvilinear relationship with Values Obstruction, but did not demonstrate this relationship with any other measure. This indicates that positive and negative deviations from zero are predictive of higher levels of Values Obstruction. Thus, individuals who are engaging too much or too little with a value experience higher levels of barriers to engaging in their values as a whole. This may mean that certain values are taking up too much time, which does not leave time for other important values and it also may mean that there are other barriers (e.g., psychological inflexibility) that may be resulting in over or under activity in certain values. Under-engagement in values has been associated with psychological inflexibility in the literature but little research has examined over-engagement in certain values as a predictor of greater inflexibility or distress (Hayes et al, 2006; Mosher et al., 2017).

Preferred Activity demonstrated a positive linear relationship with Values Progress and Presence of meaning but did not demonstrate this relationship with other measures. This indicates that increases in scores on the Preferred Activity score predict increases in Values

Progress and Presence of meaning. Thus, the desire for more activity in a value domain is predictive of meaning in life and progress with values. While initially an unpredicted relationship, this is in some respects consistent with the psychological flexibility model, as an individual who is aware of what is important to them and brings their life meaning may continue to strive for more time spent working towards those values (Hayes et al., 2012).

Preferred Activity was included in correlation analyses to further examine the relationship with this component of the measure and other constructs of interest. Preferred Activity demonstrated significant positive relationships with DASS-21, MPFI Inflexibility, and Values Obstruction scores. This indicates that under-engagement in values (i.e., higher scores in Preferred Activity) correlates significantly with psychological distress, which is congruent with the current literature (Wilson & Murrell, 2004). However, Preferred Activity was not significantly related to other measures of well-being.

As a whole, these results indicate greater deviations from zero may be a predictor of greater values obstruction but are not significantly predictive of higher levels of psychological distress. Additionally, results indicate that, contrary to what was hypothesized, negative deviations from zero are not indicative of higher levels of distress, as Preferred Activity demonstrated positive linear relationships with Values Progress and Presence of Meaning. Therefore, under-engagement in values is indicative of psychological distress and over engagement is indicative of greater progress with values and higher levels of meaning in life. Additionally, results demonstrate that Preferred Activity scores correlate with measures of psychological distress and demonstrates good convergent validity. Overall, however, these results indicate that the Preferred Activity subscale requires additional examination in order to further conceptualize its relationship with measures of interest.

VLQ-O Activity and Flexibility

It was proposed that Values Flexibility and Activity scores would positively correlate with measures of well-being and negatively correlate with measures of psychological distress. The results supported this hypothesis. Regarding concurrent validity measures, Values Flexibility demonstrated significant positive correlations with VQ Progress and MPFI Flexibility and significant negative correlations with Values Obstruction and MPFI Inflexibility. Activity demonstrated significant positive correlations with Values Progress and MPFI Flexibility scores. This indicates that higher reported activity was related to greater progress with an individual's values and greater psychological flexibility, which is consistent with what was found in the original VLQ study (Wilson et al., 2010). Therefore, these subscales of the VLQ-O demonstrated good concurrent validity with measures examining similar constructs.

Regarding convergent validity, Values Flexibility demonstrated significant positive correlations with scores on flourishing, life satisfaction, and presence of meaning. Additionally, Values Flexibility demonstrated a significant negative correlation with psychological distress, as measured by DASS-21 scores. Surprisingly, however, the Values Flexibility subscale displayed a small significant positive correlation with Search for meaning, which was originally proposed as a measure of psychological distress. While this finding is discrepant from the theorized relationship, the original validation study of the MLQ found that the Presence and Search for meaning subscales were independent of one another (Steger et al., 2006). This indicates that Presence and Search, much like psychological flexibility and inflexibility, are not mutually exclusive. Additionally, researchers in the MLQ study theorized that Search for meaning may be reflective of seeking a deeper understanding of what brings meaning to one's life. Further, Baumeister (1991) found that individuals who obtain meaning from multiple sources in their

lives may experience greater well-being, which Steger and colleagues (2006) proposed may lead to individuals seeking additional meaning. Thus, an individual can perceive that they have meaning in their life and continue to search for an enhanced sense of meaning. This is reflective of the process of values, which are treated more as continuous life directions than goals to complete (Hayes et al., 1999). Therefore, an individual can experience meaning through coming into contact with what is important to them and still continue to strive to experience more meaning by continuing to seek new ways to engage with and understand a particular value.

Activity scores demonstrated significant positive correlations with flourishing, life satisfaction, and Presence of meaning. The Activity subscale did not demonstrate a significant relationship with DASS-21 scores, indicating that the amount of engagement was not correlated with symptoms of psychological distress. However, this finding could be attributed to the use of a non-clinical sample with generally lower levels of reported psychological distress. Additionally, given that psychological flexibility and inflexibility have been found to be distinguishable if not distinct constructs, a more flexible process such as valued activity, a component of committed action, may be more related to well-being than psychological distress (Rolffs et a., 2018). Further, similar to Values Flexibility, Activity scores demonstrated a small but significant correlation with Search for meaning. This indicates that Search for meaning, similar with what was theorized above, may be more indicative of a continued engagement in important values, than a lack of meaning in one's life.

In sum, analyses indicated that Values Flexibility and Activity were significantly positively related to indicators of well-being and psychological flexibility and significantly negatively related to indicators of psychological distress and psychological inflexibility. The relationship between Search for meaning and Activity and Values Flexibility subscales was

unexpected but may suggest a more nuanced understanding of the Search for meaning subscale. The Search for meaning scale may be more related to indices of well-being than distress, which would support the relationship observed in the current and subsequent analyses. However, while it was unrelated to measures of distress in the current study, the MLQ validation study found a relationship between Search for meaning and negative affect and depression (Steger et al., 2006). Without knowledge of the motivation behind search for meaning, it is difficult to determine the true function of the construct. Therefore, in some cases it could be conceptualized as approaching the meaning gleaned from one's values or as a means to escape suffering experienced when one experiences symptoms of psychological distress. Nevertheless, while the Search for meaning subscale indicates a need for further examination, the Values Flexibility and Activity subscales of the VLQ-O demonstrated good concurrent and convergent validity.

VLQ-O Inflexibility and Obligations

It was originally hypothesized that items 6-11 across each life domain would emerge as a Values Inflexibility subscale; however, factor analyses resulted in two distinguishable factors among these items. The unexpected factor was labeled Values Obligations because of the social demand ingredient of the two items in this subscale. Another proposed outcome was that Values Inflexibility and Values Obligations would correlate positively with measures of psychological distress and negatively with measures of well-being. Regarding concurrent validity measures, Values Inflexibility significantly positively correlated with Values Obstruction and MPFI Inflexibility but was not significantly related to Values Progress or MPFI Flexibility. Regarding measures included to examine convergent validity, Values Inflexibility demonstrated a significant, strong positive relationship with DASS-21 scores. This indicates that higher levels of inflexibility pertaining to values is related to greater levels of psychological distress. The

Values Inflexibility scale also demonstrated significant negative relationships with flourishing, life satisfaction, and Presence of meaning. Notably, the Values Inflexibility subscale did not demonstrate a significant relationship with Search for meaning, which is congruent with the adjusted interpretation of this subscale detailed above.

The Values Obligations subscale demonstrated significant positive correlations with the VQ Values Obstruction subscale and a small but significant correlation with the VQ Progress subscale. Values Obligations did not significantly correlate with MPFI flexibility; however, it did significantly positively correlate with the MPFI Inflexibility subscale and the VLQ-O Values Inflexibility subscale, indicating that Values Obligations is relevant to inflexibility if not entirely consonant with it. Regarding the relationship observed between Values Progress and the Values Obligations subscale, the observed relationship may be related to actions taken towards an identified value that may be experienced as aversive or time and energy consuming but obligatory. For example, if parenting is a value, play time with one's child in service of that value may be to easier to engage in; however, patiently teaching a child math or changing diapers may feel more like a necessary obligation than a meaningful activity, even though it still serves the value of parenting. Therefore, the Values Obligations subscale for the most important values may function as an indicator of the actions one takes towards a value that may not always feel meaningful but are unavoidable. This may also explain this subscale's relationship with psychological inflexibility and Values Obstruction, as it may feel more difficult or more effortful to engage in these actions that feel less meaningful when unpleasant internal experiences exist. Further, values are of social origin, which inherently includes some degree of adherence to social norms, expectations, and demands, all of which are included in the items examining the subscale of Values Obligations. Additionally, while values are generally personally chosen, a myriad of

motivations can contribute to their development and they are often socially encouraged. Therefore, it can be difficult to parse apart when valued actions are authentically personally chosen and when they socially incentivized, as often both are involved at different time points. However, these results suggest that this subscale may contribute to further investigation of these processes.

Concerning convergent validity, Values Obligations scores demonstrated a significant positive relationship with DASS-21 scores but did not correlate with measures of well-being. This indicates that while the Obligations subscale may be related to psychological distress, it measures something quantifiably different than the Inflexibility subscale. Similar to Values Inflexibility, Values Obligations did not significantly correlate with Search for meaning scores. While the lack of a relationship between these two scales (Obligations and Inflexibility) and MPFI Flexibility scales may seem counterintuitive, Rolffs et al. (2018) demonstrated that psychological flexibility and inflexibility and their facets are not opposite ends of the same spectrum. In this study, researchers observed that decreases in inflexibility were not directly correlated with increases in flexibility, indicating that these processes are more complicated than two extreme ends of a spectrum. Therefore, it is possible that an individual can exhibit both flexibility and inflexibility simultaneously, as the processes are not directly related. This supports the findings of the current study that the Values Inflexibility and Obligations subscales of the VLQ-O were not significantly related to indices of flexibility.

These results indicate that the Values Inflexibility and Values Obligations subscales correlate with measures of similar constructs and psychological distress and demonstrate good concurrent and convergent validity. These measures did not significantly correlate with measures of well-being; however, this is consistent with the current literature that indicates that

psychological flexibility and inflexibility appear to be independent processes, as opposed to two ends of a continuum (Rolffs et al., 2018). Additionally, these results add some clarification to the possible function of the additional factor of Values Obligations observed in the factor analysis.

Discriminate Validity

To examine discriminate validity, it was hypothesized that the scores on the VLQ-O would not significantly correlate with subscales of the BFI. Although predicting null findings is not a common practice in hypothesis testing, the number of significant relationships between the VLQ-O scores and BFI subscales suggest that the hypothesis was not supported. Even if the significant relationships with neuroticism were ignored, the number of significant relationships is remarkable. Analyses revealed significant negative correlations between neuroticism and Values Flexibility and Activity and a positive correlation with Values Inflexibility. These correlations are theoretically consistent (and, in hindsight, would have been predictable correlates of flexibility and inflexibility), as neuroticism is a well-established risk factor for psychological distress, which is indicative of higher psychological inflexibility and lower psychological flexibility (Jardine, Martin, Henderson, 1984; Navrady et al., 2017; Wilson & Murrell, 2004).

Both extraversion and conscientiousness correlated significantly in a positive direction with Activity and Flexibility and a negative direction with Values Inflexibility. Finally, agreeableness significantly correlated with Values Flexibility in a positive direction and Values Inflexibility in a negative direction. There is an established association between extraversion and agreeableness and increased well-being (Lian & Guo, 2017; Margolis & Lyubomirsky, 2020). Further, Smith, Ryan, and Röcke (2013) found that conscientiousness was related to greater life satisfaction and positive affect. Thus, although not entire consistent with the initial hypothesis,

the observed positive relationship with the indicators of well-being and Values Flexibility and negative relationship with Values Inflexibility is relatively consistent with the current literature. Further, it appears that individuals who engage in more action towards their values are more extraverted and conscientious, meaning that they are more assertive and enthusiastic as well as are responsible and dependable (John et al., 1998). Therefore, it appears that enthusiasm and reliability are useful traits for valued action. This is perhaps especially true with respect to the domains included in the measure, which are more social in nature and oriented towards responsibilities and social interactions.

Still, while 11 of 25 possible correlations were significant (five BFI subscales and five VLQ-O subscales), these correlations were relatively small to moderate, with the exception of the strong negative relationship between Values Inflexibility and Conscientiousness. Further, the significant relationships were not clustered with respect to only one BFI trait or VLQ-O subscale. The BFI subscale of openness did not significantly correlate with any scores on the VLQ-O, indicating that the VLQ-O is not measuring the construct of openness. Additionally, Preferred Activity and Values Obligations did not significantly correlate with any subscales of the BFI. These results indicate preliminary evidence for discriminant validity. However, the VLQ-O does demonstrate significant correlations with subscales of the BFI and may benefit from additional examination with other measures to further evaluate discriminant validity.

Social Desirability

Scores on the Obligation subscale were predicted to significantly correlate with social desirability scores on the SDS-17. This hypothesis was not supported. This suggests that, for the top five values, individuals are not engaging in these values to fulfill expectations of other people. This fits with what was found in the original VLQ study examining social desirability in

values (Wilson et al., 2010). Additionally, this indicates that the Values Obligations subscale is not measuring social desirability and further supports the theorized conceptualization of the scale outlined above.

Predictive Validity

Lastly, it was predicted that the VLQ-O Flexibility and Inflexibility scores would demonstrate a significant increase in predictive validity compared to the Progress and Obstruction subscales of the VQ, respectively. This hypothesis was partially supported by the results. Values Flexibility was predicted to explain greater variance in well-being scores and Values Inflexibility was predicted to explain greater variance in psychological distress. The Values Flexibility subscale demonstrated an increase in predictive validity for flourishing scores but not life satisfaction or presence of meaning. However, the results indicate comparable predictive validity to that of the VQ Progress scale for life satisfaction and Presence of meaning. Additionally, the Values Inflexibility subscale demonstrated increased predictive validity for DASS-21 total scores. Analyses indicated that neither the Values Obstruction nor the Values Inflexibility subscale explained significant variability in Search for meaning. This is congruent with what was found with earlier hypotheses regarding an adjusted operational definition of Search for meaning.

Overall, the results indicate that the VLQ-O demonstrates an incremental increase in predictive validity compared to the VQ for flourishing and psychological distress. Further, it demonstrates comparable predictive validity to the VQ for Presence of meaning and life satisfaction.

Limitations and Future Directions

The current study includes several limitations that should be taken into consideration when examining the results. To accommodate online administration, all aspects of the study were measured using self-report instruments. Future studies may benefit from using multiple methods of data collection, such as including behavioral assessments, which may allow for additional support for the findings in this study. Focusing on more objective measures may help to eliminate threats to validity that are proposed by self-reports, such as biased reporting. Additionally, any replication of the current study, including a longitudinal design to assess test-retest reliability, would further provide support for the findings of this study.

The present study examined the psychometrics of the VLQ-O, a newly proposed ACT values measure. The value domains represented in the VLQ-O were adopted from earlier iterations of the measure, the VLQ. The domains were not developed empirically and instead were developed from values often represented in practice, indicating that they may not represent an exhaustive list (Wilson et al., 2010). This may be a limitation if one of an individual's most valued domains is not represented. Additionally, in order to increases efficiency of this measure, individuals only responded to the items for the five most important value domains. However, these results indicate that it may be important to include all ten domains to gather additional useful information for the preliminary analysis of this measure. Additionally, it would allow for a more empirical examination of the optimal number of values domains to include in the measure.

Generalizability may be limited due to characteristics of the convenience sample utilized for this study. While MTurk allows access to a wider geographic region of participants, the undergraduate sample is from introductory psychology students a small, midwestern university,

which is not necessarily representative of the general population. Additionally, the combined sample was primarily white (n = 121), single, never married (n = 97), and straight (n = 127), with almost half having at least a bachelor's degree (n = 80), indicating a need for replication with more diverse populations. Regarding diagnoses, only 20 percent of the sample reported a previous mental health diagnosis. An examination of DASS-21 scores also indicated that the sample on average did not report clinically significant levels of distress (M = 34.92; SD = 30.80), as the cut-off is total scores at or greater than 60 (Beaufort, De Weert-Van Oene, Buwalda, de Leeuw, & Goudriaan, 2017). While ACT processes do not require clinically significant levels of distress to be useful (Wilson & Murrell, 2004), it would be important to assess these processes in a clinical population to determine if the measure performs differently in this population. Relatedly, it would be important to also examine how this measure performs in the treatment context and assess if it is sensitive to change.

Another potential limitation is the use of this measure in a population where insight and mental health literacy was not assessed. Individuals with less insight into their internal experiences may unintentionally bias responding and lead to underreporting of psychological distress. Given this, the VLQ-O may produce slightly varied results in clinical setting where insight can be assessed and further developed with a clinician.

The VLQ-O is a more comprehensive measure of the values process developed in response to several recent reviews of ACT values measures. The current study focused on addressing the concerns raised by a particular article that surveyed ACT experts and gathered a consensus for what needs to be addressed in future values measures. The VLQ-O addressed one of the biggest limitations identified, which was a lack of assessment for other skills contributing to the values process. However, the measure demonstrates poor internal consistency and may

benefit from additional flexibility and inflexibility items as well as further examination and development of the Values Obligations subscale. Finally, it would also be important to further examine and replicate the factor structure obtained in the current study with other methods of exploratory factor analysis or examine model fit with a confirmatory factor analysis.

Summary and Conclusions

These efforts have provided a mixture of findings, some supportive and others less so. The factor structure of the measure did not conform to the initial hypotheses. Further, the factor structure that was obtained after modifying the proposed analytic strategy appears to be promising but would benefit from additional examination. Overall, this form of the VLQ-O did not produce adequate subscale internal consistency and would benefit from additional consideration in future studies. Still, some of the subscales appear to have functioned as intended; Activity and Values Flexibility scores correlated in the expected directions with measures of well-being and psychological distress, demonstrating supportive evidence for convergent validity. Further, the Values Inflexibility, Values Obligations, and Preferred Activity also correlated in expected directions with measures of psychological distress and well-being. However, Values Obligations displayed a small positive correlation with Values Progress, indicating that this subscale requires additional examination for further conceptualization. Further, several VLQ-O subscale scores obtained significant correlations with subscale scores on the BFI, although these correlations were relatively small. Lastly, this study assessed the predictive validity of the VLQ-O compared to an established ACT values measure, the VQ. The Values Flexibility subscale demonstrated improved predictive validity for flourishing and comparable predictive validity for life satisfaction and Presence of meaning. Values Inflexibility demonstrated improved predictive validity for psychological distress; however, congruent with

what was found in correlation analyses, neither subscale (i.e., Values Inflexibility or VQ Obstruction) was predictive of Search for meaning. Although not without limitations, the VLQ-O provides a method of examining values in a more wholistic and comprehensive manner, providing an opportunity to examine components of valued living that are largely unstudied. Therefore, it exhibits much potential for researchers and clinicians to improve the field's knowledge and understanding of the highly contextual process that is valued living.

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Vowles, K. E., & McCracken, L. M. (2008). Acceptance and values-based action in chronic pain: A study of treatment e ectiveness and pro- cess. Journal of Consulting and Clinical Psychology, 76, 397–407.

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Wilson, K. G., & Groom, J. (2002). The valued living questionnaire. MS: Department of Psychology, University of Mississippi, University.

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 and acceptance: Expanding the cognitive-behavioral tradition (pp. 120–151). New York: Guilford Press.

Wilson, K. G., Sandoz, E. K., Kitchens, J., & Roberts, M. (2010). The Valued Living Questionnaire: Defining and measuring valued action within a behavioral framework. The Psychological Record, 60(2), 249–272.

Zettle, R. D., Gird, S. R., Webster, B. K., Carrasquillo-Richardson, N., Swails, J. A., & Burdsal, C. A. (2018). The self-as-context scale: Development and preliminary psychometric properties. Journal of Contextual Behavioral Science, 10, 64–74. https://doi-org.proxy.lib.siu.edu/10.1016/j.jcbs.2018.08.010

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APPENDIX A

THE BIG FIVE INVENTORY (BFI)

The following provides an example of the BFI, including the instructions, the Likert scale used to rate the items, and an item from each of the five scales. For the complete scale, please refer to the following work:

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The Big Five Inventory--Versions 4a and 54. Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1	2	3	4	5

I see Myself as Someone Who...

____1. Is talkative
____2. Is helpful and unselfish with others
____3. Is a reliable worker
____4. Worries a lot
____5. Values artistic, aesthetic experiences

Extraversion: 1
Agreeableness: 2
Conscientiousness: 3
Neuroticism: 4
Openness: 5

APPENDIX B

DEPRESSION ANXIETY STRESS SCALE-21 (DASS-21)

DASS 21

The following provides an example of the DASS-21, including the instructions, the Likert scale used to rate the items, and an item from each of the three scales. For the complete scale, please refer to the following work:

Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.) Sydney: Psychology Foundation.

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1. I couldn't seem to experience any positive feeling at all 0 1 2 3
2. I was worried about situations in which I might panic and make a fool of myself 0 1 2 3
3. I found it difficult to relax 0 1 2 3

Depression: 1
Anxiety: 2
Stress: 3

APPENDIX C

MEANING IN LIFE QUESTIONNAIRE (MLQ)

The following provides an example of the MLQ, including the instructions, the Likert scale used to rate the items, and an item from each of the two scales. For the complete scale, please refer to the following work:

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*, 80-93.

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ___ I understand my life's meaning.
2. ___ I am looking for something that makes my life feel meaningful.

Presence: 1 Search: 2

APPENDIX D

MULTIDIMENSIONAL PSYCHOLOGICAL FLEXIBILITY INVENTORY (MPFI)

The following provides an example of the MPFI, including the instructions, the scale used to rate the items, and an item from each of the 12 scales. For the complete scale, please refer to the following work:

Rolffs, J. L., Rogge, R. D., & Wilson, K. G. (2018). Disentangling components of flexibility via the hexaflex model: Development and validation of the Multidimensional Psychological Flexibility Inventory (MPFI). Assessment, 25(4), 458–482. https://doi-org.proxy.lib.siu.edu/10.1177/1073191116645905

FLEXIBILITY SUBSCALES						
IN THE LAST TWO WEEKS…	**Never TRUE**	**Rarely TRUE**	**Occasi-onally TRUE**	**Often TRUE**	**Very Often TRUE**	**Always TRUE**
1. I was receptive to observing unpleasant thoughts and feelings without interfering with them.	O	O	O	O	O	O
2. I was in tune with my thoughts and feelings from moment to moment	O	O	O	O	O	O
3. Even when I felt hurt or upset, I tried to maintain a broader perspective	O	O	O	O	O	O
4. was able to let negative feelings come and go without getting caught up in them	O	O	O	O	O	O
5. My deeper values consistently gave direction to my life	O	O	O	O	O	O
6. Even when life got stressful and hectic, I still worked toward things that were important to me	O	O	O	O	O	O
INFLEXIBILITY SUBSCALES						
IN THE LAST TWO WEEKS…	**Never TRUE**	**Rarely TRUE**	**Occasi-onally TRUE**	**Often TRUE**	**Very Often TRUE**	**Always TRUE**
7. I tried to distract myself when I felt unpleasant emotions	O	O	O	O	O	O
8. I did most things mindlessly without paying much attention.	O	O	O	O	O	O

9. I thought some of my emotions were bad or inappropriate and I shouldn't feel them	O	O	O	O	O	O
10. It was very easy to get trapped into unwanted thoughts and feelings.	O	O	O	O	O	O
11. My priorities and values often fell by the wayside in my day to day life	O	O	O	O	O	O
12. Negative experiences derailed me from what's really important	O	O	O	O	O	O

1. Acceptance
2. Present Moment Awareness
3. Self as Context
4. Defusion
5. Values Contact
6. Committed Action
7. Experiential Avoidance
8. Lack of Contact with the Present Moment
9. Self as Content
10. Fusion
11. Lack of Contact with values
12. Inaction

APPENDIX E

RIVERSIDE LIFE SATISFACTION SCALE (RLSS)

The following provides an example of the RLSS, including the instructions, the scale used to rate the items, and two items from the scale. For the complete scale, please refer to the following work:

Margolis, S., Schwitzgebel, E., Ozer, D. J., & Lyubomirsky, S. (2018). A new measure of life satisfaction: The riverside life satisfaction scale. Journal of Personality Assessment. https://doi-org.proxy.lib.siu.edu/10.1080/00223891.2018.1464457\

Please rate your agreement with each of the statements below. Use the 7-point scale provided.

1: Strongly disagree

2: Moderately disagree

3: Slightly disagree

4: Neither agree nor disagree

5: Slightly agree

6: Moderately agree

7: Strongly agree

1. ___ I like how my life is going.

2. ___ If I could live my life over, I would change many things.

Item 2 is reverse coded.

APPENDIX F

SOCIAL DESIRABILITY SCALE-17 (SDS-17)

The following provides an example of the SDS-17, including the instructions, the options for response to items, and two items from the scale. For the complete scale, please refer to the following work:

Stöber, J. (2001). The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant validity, and relationship with age. *European Journal of Psychological Assessment*, *17*, 222-232.

Below you will find a list of statements. Please read each statement carefully and decide if that statement describes you or not. If it describes you, check the word "true"; if not, check the word "false".

1. I sometimes litter. true false

2. I always admit my mistakes openly and face the potential negative consequences. true false

Scoring:
A “true” response on item 2 and a “false” response on items 1 are be awarded 1 point. Then points are summed across items.

APPENDIX G

VALUING QUESTIONNAIRE (VQ)

The following provides an example of the VQ, including the instructions, the scale used to rate the items, and an item from each of the two scales. For the complete scale, please refer to the following work:

Smout, M., Davies, M., Burns, N., & Christie, A. (2014). Development of the Valuing Questionnaire (VQ). *Journal of Contextual Behavioral Science*, *3*(3), 164–172. https://doi-org.proxy.lib.siu.edu/10.1016/j.jcbs.2014.06.001

Please read each statement carefully and then circle the number which best describes how much the statement was for you DURING THE PAST WEEK, INCLUDING TODAY

Not at all True of me						Completely True
0	1	2	3	4	5	6

1. I worked toward my goals even if I didn't feel motivated to

2. When things didn't go according to plan, I gave up easily

Progress subscale: items 1
Obstruction subscale: item 2

APPENDIX H

VALUED LIVING QUESTIONNAIRE-ONLINE (VLQ-O)

Values are personally chosen, deeply meaningful directions for one's life.
Values are unique to each person. However, when discussing their own values, people often refer to one or more of the areas of life listed below.
Please take a moment to review these ten areas of life - in a moment you will get to select the areas of life that are most important to you.

Community Life/ Public Service	This refers to your relationship to a cherished group or to a cause you consider important. Some common examples include voluntary work, military service, membership in a club or organization, social/political activism, as well as many others.
Education/Training	This refers to efforts to acquire more knowledge and skill. This may be in a formal educational setting (school, college, etc.) or through your own personal efforts.
Family	This refers to any of your relationships with parents, siblings, or other relatives (such as grandparents, aunts and uncles, cousins, nephews and nieces). These people may be related to you biologically, or through marriage or adoption, or can be whoever you consider to be your family.
Friendships/ Social Life	This refers to your relationships with friends and acquaintances. This may involve efforts to develop new friendships or to maintain or enhance existing friendships.
Health/Physical Self-Care	This refers to efforts to improve or maintain one's physical health. This includes but is not limited to topics such as diet, exercise, and sleep.
Intimate/Romantic Relationships	This refers to your participation in a romantic relationship (or relationships). This may involve efforts to develop a new relationship or to maintain or enhance an existing relationship.
Parenting/ Care of Children	This refers to efforts to care for children - your own or others.
Recreation/Leisure	This refers to any activities that you enjoy doing during your free time.
Spirituality/ Religious Life	This refers to one's efforts to participate in spiritual or religious practices and activities, in any manner that is consistent with one's views about the matter.
Work/Chores	This refers to one's routine jobs and/or responsibilities. They may involve activities for an employer or activities associated with one's home and property.

Which of these areas of life are MOST IMPORTANT TO YOU in your CURRENT LIFE?

Please select the FIVE areas that are most important to you at this time in your life.

- Community Life/Public Service
- Education/Training
- Family
- Friendships/Social Life
- Health/Physical Self-Care
- Intimate/Romantic Relationships
- Parenting/Care of Children
- Recreation/Leisure
- Spirituality/Religious Life
- Work/Chores

Below are the five areas of living that you selected as most important in your current life.

Now rank them from MOST IMPORTANT TO LEAST IMPORTANT. Place the most important area of living at the top.

1. Community Life/Public Service
2. Education/Training
3. Family
4. Friendships/Social Life
5. Health/Physical Self-Care

Community Life/Public Service refers to your relationship to a cherished group or to a cause you consider important. Some common examples include voluntary work, military service, membership in a club or organization, political activism, as well as many others.

During the past week, how active were you in this area of your life?

Not at all active Extremely active

0 1 2 3 4 5 6 7 8 9 10

How active would you have preferred to be?

Much less Just right Much more

-5 -4 -3 -2 -1 0 1 2 3 4 5

Community Life/Public Service refers to your relationship to a cherished group or to a cause you consider important. Some common examples include voluntary work, military service, membership in a club or organization, political activism, as well as many others.

While engaging in this area of my life during the past week:

I was aware in the moment of how important it is to me.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

It felt meaningful.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

I felt competent.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

Community Life/Public Service refers to your relationship to a cherished group or to a cause you consider important. Some common examples include voluntary work, military service, membership in a club or organization, political activism, as well as many others.

During the past week:

I didn't have enough time to engage in this area of my life.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

I didn't have enough money or other things I would need to engage in this area of my life.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

I was unsure how I could engage in this area of my life.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

Unwanted thoughts or feelings made it difficult to engage in this area of my life.

Not at all true Extremely true

0 1 2 3 4 5 6 7 8 9 10

I was active in this area of my life because of the needs or expectations of other people.

Not at all true										Extremely true
0	1	2	3	4	5	6	7	8	9	10

I was active in this area of my life because I felt it had to be done whether or not I wanted to do it.

Not at all true										Extremely true
0	1	2	3	4	5	6	7	8	9	10

APPENDIX I

DEMOGRAPHICS QUESTIONNAIRE

1. Age (in years):
2. Country of Origin (the country you regard as your home):
    - United States
    - Other (please specify):
3. Which state do you currently call home?
4. Gender
    - Male
    - Female
    - Non-binary/third gender
    - Prefer to self-describe:
    - Prefer not to say
5. Which of the following groups best describes your ethnicity? (select all that apply)
    - White, non-Hispanic
    - Hispanic or Latino/Latina
    - Black or African American
    - Asian
    - Indian
    - Native Hawaiian or another Pacific Islander
    - Native American/Alaskan Native
    - Other (please specify)
6. Political Affiliation (select the party that you most identify with):
    - Democrat
    - Republican
    - Other (please specify)
7. Marital Status
    - Single, never married
    - Married, or in a domestic partnership
    - Separated
    - Divorced
    - Widowed
8. Highest Education Level
    - Do not know
    - Some elementary school
    - Some middle school
    - Some high school
    - High School Diploma or equivalent
    - Some college
    - Technical or Associates Degree
    - Bachelor's Degree
    - Master's Degree
    - Doctoral Degree
    - Professional Degree (e.g., JD or MD)
10. Current work status
    - Not currently employed
    - Employed part-time
    - Employed full-time

11. Current school status
    - Not currently in school
    - Part-time
    - Full-time
12. Current Occupation (please specify the general area, not the specific title):
    - Unemployed
    - Student
    - Other (please specify)
16. Yearly Personal Income - total amount of income that only you make:
    - Less than $10,000
    - $10,000 to $29,999
    - $30,000 to $49,999
    - $50,000 to $79,999
    - $80,000 to $99,999
    - $100,000 to $149,999
    - $150,000 to $199,999
    - $200,000 or more
16. Yearly Household Income - total combined amount of income that all members of your household make:
    - Less than $10,000
    - $10,000 to $29,999
    - $30,000 to $49,999
    - $50,000 to $79,999
    - $80,000 to $99,999
    - $100,000 to $149,999
    - $150,000 to $199,999
    - $200,000 or more
19. Have you ever been diagnosed with a mental illness:
    - No
    - Yes:
20. Sexual Identity:
    - Straight
    - Gay or Lesbian
    - Bisexual
    - Prefer to self-describe:
    - Prefer not to say
21. Religion (select the category that you most identify with):
    - Agnostic (undecided as to the existence of God or an afterlife)
    - Atheist (do not believe in the existence of God or an afterlife)
    - Buddhist
    - Christian
    - Hindu
    - Jewish
    - Muslim
    - Other (please specify):

APPENDIX J

INFORMED CONSENT (FOR MTURK)

This study was developed by researchers affiliated with Southern Illinois University. It involves research designed to increase our knowledge of the ways people think and behave, and their emotional experiences. Participants must be at least 18 years of age to participate in this study.

I understand that as a participant in this study, I will be asked to complete an online survey to answer questions about how I think, behave, and feel. I understand that the questions asked will at times be personal and sensitive. It is possible that I may find some of the questions uncomfortable and I may refuse to answer or withdraw from the study at any time without penalty. If I have any questions about this study, I may contact the primary investigator Amanda Chamberlain at Amanda.chamberlain@siu.edu, 618-453-3544, or 1125 Lincoln Drive, Life Science II Building, Carbondale, IL 62901. Additionally, I may contact the faculty supervisor Dr. Chad Drake at 618-453-4533 or 1125 Lincoln Drive, Life Science II Building, Carbondale, IL 62901 for more information.

This study will require approximately 30 minutes of my time. For my participation, I will receive $2 (USD). Furthermore, I understand that all material received from my participation will be kept confidential and that my name/identity will in no way be connected with my answers. Instead, only an assigned subject number will be used in association with my answers. My participation is voluntary, and I understand that I am free to withdraw from the study at any time (without compensation). Payment may also be denied for the following reasons:

- Failure to complete the full survey
- Inattentive responding

By continuing with the survey and checking the box below you acknowledge that you have read and understand the information above.

☐ I agree that I have read and understand the above information and am willingly choosing to participate in the study.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the committee chairperson, Office of Research Compliance, SIUC, Carbondale, IL 62901- 4344. Phone (618)-453-4533. E-mail: siuhsc@siu.edu

APPENDIX K

INFORMED CONSENT (FOR SONA)

This study was developed by researchers affiliated with Southern Illinois University. It involves research designed to increase our knowledge of the ways people think and behave, and their emotional experiences. Participants must be at least 18 years of age to participate in this study.

I understand that as a participant in this study, I will be asked to complete an online survey to answer questions about how I think, behave, and feel. I understand that the questions asked will at times be personal and sensitive. It is possible that I may find some of the questions uncomfortable and I may refuse to answer or withdraw from the study at any time without penalty. If I have any questions about this study or I wish to withdraw, I may contact the primary investigator Amanda Chamberlain at Amanda.chamberlain@siu.edu, 618-453-3544, or 1125 Lincoln Drive, Life Science II Building, Carbondale, IL 62901. Additionally, I may contact the faculty supervisor Dr. Chad Drake at 618-453-4533 or 1125 Lincoln Drive, Life Science II Building, Carbondale, IL 62901 for more information.

I understand that my participation in this research is voluntary and that I may withdraw from the study at any time, without penalty. This study will require approximately 30 minutes of my time. For my participation, I will receive .5 research credits for SONA. Furthermore, I understand that all material received from my participation will be kept confidential and that my name/identity will in no way be connected with my answers. Instead, only an assigned subject number will be used in association with my answers.

By continuing with the survey and checking the box below you acknowledge that you have read and understand the information above.

☐ I agree that I have read and understand the above information and am willingly choosing to participate in the study.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the committee chairperson, Office of Research Compliance, SIUC, Carbondale, IL 62901- 4344. Phone (618)-453-4533. E-mail: siuhsc@siu.edu

APPENDIX L

VERIFICATION FAILED – END OF SURVEY MESSAGE (FOR MTURK)

Thank you for participating in our survey. You are seeing this message because you are not eligible to complete this study and receive compensation. This is due to the following reason:

-You failed to answer a question correctly that was included to determine if you were reading and answering the questions carefully

This is in concordance with Amazon Mechanical Turk Participation Agreement 3.b.vi, which states that "Requesters may reject Tasks you perform for good cause".

You may close this window or use your explorer bar to navigate back to the Amazon Mechanical Turk website.

VITA

Graduate School
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