University of Nevada, Reno

Values Across the Lifespan Questionnaire (VALQUEST): Development of a New Values Assessment Tool for Use with Older Adults

A dissertation submitted in partial fulfillment
of the requirements for the degree of Doctor of
Philosophy in Psychology

by

Casey C. Catlin

Steven C. Hayes, Ph.D.
Dissertation Advisor

December, 2018

N

We recommend that the dissertation
prepared under our supervision by

CASEY C. CATLIN

Entitled

**Values Across The Lifespan Questionnaire (VALQUEST): Development Of A New
Values Assessment Tool For Use With Older Adults**

be accepted in partial fulfillment of the
requirements for the degree of

DOCTOR OF PHILOSOPHY

Steven C. Hayes, Ph.D., Advisor

William C. Follette, Ph.D., Committee Member

Ramona A. Houmanfar, Ph.D., Committee Member

Barbara S. Kohlenberg, Ph.D., Committee Member

Markus Kemmelmeier, Ph.D., Graduate School Representative

David W. Zeh, Ph. D., Dean, Graduate School
December, 2018

Abstract

Human values are a perennially important and popular topic in psychology. In Acceptance and Commitment Therapy (ACT), values are one of the six core processes have been shown to contribute to psychological flexibility (the ability consciously to contact the present moment fully and without needless defense, and to persist in or change behavior(s) in pursuit of one's chosen values). Values in ACT may be conceptualized as a compass guiding a person's behaviors in a direction. Values are also an important topic in geropsychology, often in the context of healthcare values and preferences. Even outside of healthcare settings, the aging process itself makes values work relevant. As we age, we must adapt to changing environments, diminishing cognitive and physical abilities, shrinking social circles, inevitable losses, and increased exposure to ageism. As the population demographics of the U.S. and other nations continues to shift toward older ages, there is a growing need for better treatments and assessment tools related to values that are suitable for use with older adults.

The Values Across the Lifespan Questionnaire, or VALQUEST, was developed to explore a new and more concrete yet flexible approach for values assessment that could meet the needs of older adults specifically and adults more generally. The VALQUEST was administered to 488 adults (253 over the age of 55) along with other relevant measures. Factor analysis led to a reduction in items, an improved scoring system, and evidence for a three-factor structure consistent with the design of the measure. The VALQUEST showed compelling evidence of concurrent validity with its large correlations with a well-studied measure of values, the Valued Living Questionnaire

(VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). Construct validity was evidenced through VALQUEST's significant and consistent correlations with theoretically related measures of psychological flexibility, committed action, depression, and life satisfaction.

The VALQUEST adds the unique components of values identification (specifying and quantifying specific values from a provided list of exemplars) and assessment of the intrinsic or extrinsic motivation behind the values. In comparing the VALQUEST with the VLQ and measures of psychological flexibility and committed action as correlates of depression and life satisfaction, the VALQUEST was consistently related and often accounted for additional variance beyond well-established measures in these areas. Study limitations include collecting data at a single time point, leaving temporal reliability and measure reactivity unknown.

The VALQUEST is a viable measure that can be used now and can be easily modified for future purposes. The present study provides a "proof of concept" for the strategy deployed to create VALQUEST. While originally conceived with older adults as a special population of interest, the values measurement approach can readily be applied to values measurement development with other groups, such as specific cultural groups, military veterans, medical students, and so on. It could also be used to assess broad values, not separated by life domains; or many additional domains beyond the three in the current version. Subparts of the VALQUEST would be well-suited for use in time series designs assessing the dynamic interplay between values and other variables in daily life using ecological momentary assessment. The VALQUEST provides unique qualitative information about individual values while still maintaining a low response burden and collecting quantitative data, opening up many new areas of research into human values.

Acknowledgements

I first wish to express my appreciation to my advisor, Steve Hayes, for his support, encouragement, and guidance in this project. I am also deeply thankful for the mentorship of Jennifer Moye at the VA New England Geriatric Research Education and Clinical Center. They have both created contexts for me where I have been empowered to learn, follow my curiosity, and grow as a scientist and a person. I also thank my committee members and my colleagues at VA Boston and the Massachusetts Guardianship Policy Institute for their input into the project, and for the many wonderful teachers I have been fortunate to learn from.

Words can hardly express my gratitude to my husband Doug, my partner in all things. I thank my family and my friends who may as well be family for always being there for me and cheering me on. Especially I wish to thank my grandparents, who originally sparked my interest in aging, for the example they set of patience and love.

Table of Contents

List of Tables

List of Figures

CHAPTER ONE: INTRODUCTION

The world is currently undergoing a significant demographic shift towards an older population. In the United States, the number of people over the age of 65 is predicted to double by 2060. By then, those over 65 will make up 24% of the population, as opposed to 15% today (Mather, 2016). The trend is particularly true in developed countries but is observed worldwide: the percentage of adults over 65 is predicted to double from 8.5% to 17% by 2050 (He, Goodkind, & Kowa, 2016). This growth in older population is due to both increased longevity and decreased fertility rates. In the U.S. in particular, the "Baby Boomer" generation born between 1946-1964 was the largest cohort of its time and as of 2011 its members have begun turning 65. In the U.S. the older adult population is also becoming more ethnically and racially diverse, as Hispanic and Asian populations grow (U.S. Census Bureau, 2018).

These changing demographics mean that there is a growing need for treatments and services for older people. While later life tends to be the most mentally healthy and emotionally satisfying time in life (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000), there are still about one in four U.S. adults over age 65 who have a mental health disorder not related to aging (Centers for Disease Control and Prevention, 2013). Additionally, in nearly every country older adults are the age group with the highest rate of completed suicide (Stanley, Hom, Rogers, Hagan & Joiner, Jr., 2016). A large Gallup poll in 2015 found that 14% of Baby Boomers report currently being in treatment for depression and 21% reported having received a diagnosis of depression in their lifetime – the highest rates of any group (McCarthy, 2015). This new generation of older adults has more

exposure to mental health treatment and is likely to seek out more treatment than previous cohorts.

Fortunately, healthcare has now largely embraced a model of "patient-centered care" which seeks to respect each patient's unique needs and wishes. The 2001 Institute of Medicine report that described patient-centered care as means to improve healthcare also recommended that "Care is customized according to patient needs and values" (Committee on Quality of Health Care in America, 2001). This focus on values and patient-centered care will be helpful in tailoring treatments to meet the needs of the aging population. In psychology as well there has been increasing interest in using values in psychotherapy and studying the impact of values on wellbeing (Serowik, Khan, LoCurto, & Orsillo, 2018).

Values have long been considered important to personal growth in general and psychotherapy in particular. The English word "value" comes from the Latin "valere" meaning "to be strong, be well" and by the 14th century meant "degree to which something is useful or estimable" (Online Etymology Dictionary). In present day values discussions, psychotherapists may help clients discover what is personally important and meaningful in their lives.

Some of the earliest work in psychology on values was by Allport, Vernon, and Lindzey. Their Allport-Vernon-Lindzey Study of Values (first published 1931, later revised in 1951) investigated the six basic types of human values that had earlier been specified by the German psychologist Eduard Spranger in his book Types of Men (1928): theoretical (discovery of truth), economic (what is most useful), aesthetic (form, beauty,

and harmony), social (seeking love of people), political (power), and religious (unity) (Allport, Vernon, & Lindzey, 1960).

Milton Rokeach expanded on research into basic values. In his 1973 book The Nature of Human Values, he distinguished between "terminal values" (goals we hope to achieve in our lifetime, e.g., friendship, happiness, a sense of accomplishment) and "instrumental values" (preferable modes of behavior or means of achieving terminal values, e.g., ambition, courage, honesty). The Rokeach Value Survey (Rokeach, 1973) presents 18 terminal and instrumental values and asks the participant to rank order them, write about why, and reflect on what that means. The measure has been used in organizational (Tuulik, Õunapuu, Kuimet, & Titov, 2016) and consumer (Vinson, Munson, & Nakanishi, 1977) research.

Schwartz continued Rokeach's work by conducting surveys in over 80 countries seeking "universals in the content and structure of values" (Schwartz, 1992, p. 1). Schwartz posits that ten basic universal values exist across cultures, with some individual differences in how values are prioritized and given relative importance. Some values naturally conflict (e.g., benevolence and power) while others can work together (e.g., security and conformity). In this theory, values are considered to be goals that motivate action and guide decision-making (Schwartz, 2012).

In the field of positive psychology, which focuses on positive traits and experiences as opposed to psychopathology, Seligman and colleagues have also conceptualized values. The Values in Action Inventory of Strengths (VIA-IS; Peterson, Park, & Seligman, 2005) is a self-report questionnaire that measures six "universal virtues" and 24 commonly-appreciated "character strengths," such as creativity, bravery,

and kindness. "Character strengths" are qualities possessed by an individual in varying degrees and are considered the process and route to attaining the broader "virtues" (wisdom and knowledge, courage, humanity, justice, temperance, and transcendence; Peterson & Seligman, 2004).

The Self-Concordance Model provides another viewpoint on values and the "conative process" of setting, pursuing, and attaining or abandoning goals (Sheldon & Elliot, 1999). The model identifies factors that assist in goal setting and attainment and factors that link goal attainment to changes in wellbeing. Importantly, it's noted that a person's goals may not be consistent with their true or authentic values. Goals are considered "self-concordant" when they have been selected because of intrinsic motivation, as opposed to goals that are pursued because of external pressures or internal pressure in the form of anxiety or guilt. These concepts in turn draw on Self-Determination Theory (Deci & Ryan, 1985, 2000), which describes motivation in terms of intrinsic motivation and extrinsic motivation. In SDT extrinsic motivation is further broken down into four types of regulation, ranging from a fully external to fully internal locus of control.

Values in Psychotherapy

In Carl Rogers' client-centered therapy, drawing from Charles Morris' writing on values, there is a distinction between "operative values" (preference shown through behaviors) and "conceived values" (preference for a verbal construction; Morris, 1956, pp. 9-12). Through the therapist's "unconditional positive regard" for the client, the client learns to trust herself and to let experience guide valuing (Rogers, 1964). Motivational Interviewing (MI), drawing from Roger's influence, also adopts a stance of

empathy and nonjudgment (Miller & Rollnick, 2002). Clients are led to notice discrepancies between their actions and their goals and values. These discrepancies can illuminate what is truly important to the client and encourage her to behave in a values-consistent manner (Miller & Rollnick, 2002).

Values have recently been a topic of interest in Cognitive Behavior Therapy research as well (e.g., Vyskocilova, et al., 2016). In CBT values are considered from a more cognitive standpoint as "fundamental attitudes guiding our mental processes and behavior" (Vyskocilova, et al., 2015, p. 41). Clarification of personal values may certainly result from CBT and other types of psychotherapy, which encourage introspection and reflection in clients. However, values clarification is not an explicitly stated goal of treatment; nor are values a defined mechanism or process of CBT. Generally, CBT interventions have been designed to target a reduction in symptoms of formally classified disorders.

Values in Acceptance and Commitment Therapy

Rather than focusing on symptom reduction, Acceptance and Commitment Therapy (ACT) aims to increase psychological flexibility to improve quality of life. ACT is supported by an underlying science of Relational Frame Theory (RFT), a comprehensive theory of language and cognition, and grounded in functional contextualism, a pragmatic philosophy of science. ACT and RFT grew out of Skinner's Radical Behaviorism (Hayes, 1991; Hayes, Barnes-Holmes, & Roche, 2001).

Values are a key component of Acceptance and Commitment Therapy. The psychological flexibility model describes six processes that contribute to psychological

flexibility and wellbeing: acceptance, defusion, mindfulness, self-as-context, values, and committed action. The six processes fall into three basic response styles: open, centered, engaged (Hayes, Strosahl, & Wilson, 2012). The following definition of values is useful:

> "In ACT, values are freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself" (Wilson & DuFrene, 2009, p. 66).

Values are "freely chosen" in that they are selected by the individual as a whole person, rather than allowing social compliance, emotional avoidance, or fused rules or norms to dominate. Values are unique to the individual and can provide a sense of ownership of one's actions. Values are not "things" or objects that can be attained, nor are they goals that can be achieved. Rather, values can be conceived as a "compass" that help guide behavior. They are ongoing qualities of action. For example, a person may value compassion, which is not a single task that can be accomplished. The person who values compassion is presented with numerous opportunities every day to embody that value – through behaving in a compassionate way – which will look differently depending on the day and the person.

Values are verbal behavior that establish reinforcers intrinsic to action, which make behavior more likely to occur in the future. When a person has chosen and defined a value, and the person contacts the experience of "valuing," the person is more likely to engage in values-consistent behavior again in the future. Thus, in RFT, values are not themselves reinforcers, but are considered "augmentals" – verbal rules that establish other stimuli as reinforcers (Hayes, Strosahl, & Wilson, 2012, p. 94).

In ACT, values may also be broken down further into "values clarification" (or "values construction") and "valued living." Clinically, the therapist helps the client construct or define their values, and then look for ways to engage in behavior that is consistent with those values. This is closely connected to the foundational process of Committed Action, which refers to concrete efforts at behavior change and larger patterns of effective behavior working to meet values-consistent short, medium, and long term goals (Hayes, Strosahl, & Wilson, 2012).

Values are also distinct from feelings or emotional states. Values should represent qualities of action that can be engaged in the presence of various emotions. For example, if a student values education, ideally she will engage in education-related behaviors even if she is sad or anxious. Similarly, if she says she values "happiness," her therapist should help her to clarify this statement. Values are not a short-term goal or emotional state, but rather provide deeper meaning and guidance. Values could be better assessed by asking the client what she would do if she were happy, or what happiness might look like for her. For many people, this will lead to discussions of important behaviors they would like to engage in but may be putting off until they "feel better."

There are several contrasts between the ACT concept of values and other traditions. In ACT, values are not considered part of personality types or static traits but are chosen by the individual representing ongoing changing patterns of behavior. Values don't represent ideals or aspirations that may be consistent across culture. ACT takes a nonjudgmental stance and aims to help individuals articulate what matters to them. Another important difference about values in ACT is that values have a clearly articulated definition and are specified in the therapy model.

Values work can have a powerful impact on outcomes. In a recent ACT treatment study, reductions in depression were correlated with increases in defusion and values-based action (Bramwell & Richardson, 2018). Values work has been shown to improve therapeutic alliance (Wilson & Sandoz, 2008), PTSD symptoms, depression, panic disorder, stress response, and more. Among those who have been exposed to trauma, valued living was negatively correlated with symptoms of post-traumatic stress, depression, and anxiety-related functional impairment. Even after controlling for number of traumatic events, depression symptoms, and PTS symptoms, valued living predicted functional impairment (Donahue, Khan, Huggins, & Marrow, 2017). The discrepancy between values importance and action taken towards values was found to decrease during and after an ACT intervention for patients with treatment-resistant panic disorder. Patients with more severe pre-treatment panic symptomatology showed greater improvements in valued action relative to those with less severe pre-treatment symptomatology (Wersebe, et al, 2017).

Values work has also been shown to be helpful for improving workplace stress and workers' performance. A values clarification workshop for mental health workers was found to improve motivation for changed practice and implementation planning relative to a control training (Williams et al., 2016). Values and committed action trainings were also found to increase direct care workers' engagement with clients with severe developmental disorders (Castro, Rehfeldt, & Root, 2016).

In laboratory settings, values-affirmation interventions have been tested as a means of reducing stress and improving performance. Compared to a control task, a values-affirmation task led to a lower cortisol response to a stressful task (Creswell, et al,

2005). Writing about a personally important value, compared to an unimportant value, reduces defensiveness when faced with self-threatening information (McQueen & Klein, 2006). Subsequent research posited that this effect is due to self-transcendence – positive feelings towards others of love and connectedness, rather than positive or negative feelings about oneself or self-integrity (e.g., self-worth, self-image; Crocker, Niiya, & Mischkowski, 2008). The authors noted, "These studies raise the prospect that reminding people what they love or care about may enable them to transcend the self and may foster learning under difficult circumstances" (Crocker, Niiya, & Mischkowski, 2008, p. 746).

Having well-defined values and living in accordance with them are clearly important for psychological wellbeing. Values may also be a mechanism that help explain the benefits and behavior change from ACT. Rather than only focus on treatment outcomes, a progressive science should also uncover mechanisms of change. Psychological science is poised to move away from the medical model of the past, which focused on symptom reduction and proving efficacy of treatments, and focus on testing the underlying theory of an intervention (Follette, 2018; Hofmann & Hayes, 2018). More research is needed to better understand the relationships among values, psychological flexibility, depression, and other outcomes.

Values work appears to be especially helpful for those belonging to stigmatized or marginalized groups. Experiences of stigma and social ostracization can have harmful effects on mood, social isolation, and educational and occupational functioning (many examples can be found in the stereotype threat literature, e.g., Steele & Aronson, 1995). Having to deal with racism, sexism, discrimination, and other injustices can make it more difficult to connect with one's values and engage in values-consistent behavior (Sobczak

& West, 2013). Values interventions can help stigmatized persons clarify their values and validate their upsetting experiences (Graham, West, & Roemer, 2015; Sobczak & West, 2013). In a survey of African American college students, self-reported valued living was significantly negatively correlated with depressive symptoms, anxious arousal, and stress (Graham, West, & Roemer, 2015). In a college physics course, where gender stereotypes negatively affect women's performance, a brief values affirmation exercise, where students wrote about their most important values (or did not in the control condition) twice at the beginning of the 15-week class, substantially reduced the gender performance and learning gap and raised women's modal grades from a C to B (Miyake, Kost-Smith, Finkelstein, Pollock, Cohen, & Ito, 2010). A longitudinal study found that a brief values affirmation intervention for middle school students increased the likelihood of Latino and African American students entering a college prep track in high school or attending college (Goyer, et al., 2017).

Acceptance and Commitment Therapy interventions have been effective in reducing self-stigma and shame in the vulnerable populations of those struggling with substance use disorders (Luoma, Kohlenberg, Hayes, Bunting, & Rye, 2008) and obesity (Lillis & Kendra, 2014). Strengthening commitment to one's values seems to provide a protective buffer against the harmful effects of stigma.

Older adults also face stereotyping and prejudice in the form of ageism. The formal definition of ageism includes bias and discrimination against (or in favor of) someone because of chronological age, which can include biases against young people, but is most often observed and studied in terms of prejudice against older adults (Ayalon & Tesch-Römer, 2017). Older adults are often thought to be unhappy, ill, slow, forgetful,

curmudgeonly, and set in their ways (Palmore, 1999). Ageism may appear in explicit forms such as negative statements made about older people, jokes that deploy ageist stereotypes, or hiring practices that discourage hiring older people, among many other examples. Even more insidious is so-called implicit ageism – thoughts, feelings, and behaviors towards older people that arise without conscious thought or control (Levy & Banaji, 2002). Implicit association tests have demonstrated the strong association of "old" with "bad" in both younger and older adults (Axt, Ebersole, & Nosek, 2014). Ageism intersects with other social inequalities and is most pronounced towards older women, those of lower socioeconomic status, and those with dementia (Barnett, 2005; Rippon, et al., 2014).

Ageist beliefs and behaviors don't necessarily diminish once a person has reached old age themselves. A number of studies have found that younger adults tend to hold more ageist attitudes than older adults (Bell & Stanfield, 1973a, 1973b; Kalavar, 2001; Kogan & Shelton, 1962). However, one study found that older people were the most biased towards older people (Hellbusch, Corbin, Thorson, & Stacy, 1994) while another study found no age differences (Berg & Sternberg, 1992). Two meta-analyses did find a negative correlation between age and ageism (Gordon & Arvey, 2004; Kite & Stockdale, 2005), while the latter study evidenced a non-linear relationship: ageism peaked in middle age.

The older adults who do hold ageist attitudes likely suffer for it. A metanalysis of studies of age-based stereotype threat (37 studies, $N = 3,882$) found that when primed with ageist stereotypes older adults show a significantly reduced performance in cognitive tasks (Lamont, Swift, & Abrams, 2015). Another recent study found that ageist

older people are less optimistic about the future and believe that they have fewer opportunities and more restrictions (Barber & Tan, 2018). Ageist attitudes in older people have also been correlated with depressive symptoms (Kim, Noh, & Chun, 2016), particularly for those who see themselves as a burden (Bai, Lai, & Guo, 2016).

The potential impact of ageism on values construction and action has not been investigated. Given the wealth of research on how stigma negatively affects marginalized populations, it is conceivable that ageism could be a form of self-stigma that negatively impacts older people who hold ageist attitudes. Values work could be an avenue to reconnect older adults to what's most important and meaningful and to buffer against the harmful effects of ageism.

There have been several studies of ACT interventions used in older populations (e.g., Alonso, Lopez, Losada, & Gonzalez, 2013; Alonso-Fernandez, Lopez-Lopez, Losada, Gonzalez, & Wetherell, 2016; Davison, Eppingstall, Runci, & O'Connor, 2017). However, there is a dearth of literature focused on values from an ACT perspective in older people and how engagement with values may change over the lifetime.

Values in Later Life

For older adults, values can take on an even more vital and necessary role. With less time left to live, it may feel even more important to live life with integrity and meaning.

Socioemotional Selectivity Theory posits that as we age, our goals shift from the knowledge-seeking emphasis of youth to focus on emotion regulation and more emotionally satisfying goals (Carstensen, Isaacowitz, & Charles, 1999). In childhood and

young adulthood we tend to favor novelty, learning, meeting new people, and seeking out new experiences, which works well for the traditional path from education, work, dating, marriage, and forming a family. In contrast, older adults tend to prefer contact with emotionally close friends and family, and to engage in activities that are emotionally meaningful. Older adults hold goals that are more focused on emotions: regulating emotions, sensing the needs of others, contributing. It is not only chronological age that is behind this shift in preferences, but the perception of time. Carstensen and other researchers have shown that individuals of any age, when faced with a shortened time horizon due to serious or terminal illness (Baldensperger, Wiedemann, Wessel, Keilholz, & Knoll, 2018) or natural disaster such as the September 11th terrorist attacks in the U.S. or the SARS epidemic in Hong Kong (Fung & Carstensen, 2006), will behave as older adults do with respect to their values.

Remarkably, even though older people face inevitable physical and cognitive decline, the loss of friends and family, a smaller social network, and fewer activities they can engage in, they consistently report having a better mood and higher life satisfaction than younger adults (Carstensen, et al., 2011). Older adults even show a preference for attending to and remembering positive information, called the "positivity effect" (Mather & Carstensen, 2005; Kennedy, et al., 2004). For example, compared to younger adults, older adults direct their eye gaze towards positive images (Isaacowitz, Allard, Murphy, & Schlangel, 2009), recognize more positive and fewer negative images after exposure (Charles, Mather, & Carstensen, 2003; Mather & Knight, 2005), and even recall more positive events in their own lives (Kennedy, Mather, & Carstensen, 2004; Levine & Bluck, 1997). Once again, this difference in older adults cannot be attributed to physical

or cognitive changes that come with age, rather it is due to older adults' shortened time horizons. Studies which induce a shortened future in younger adults find the same positivity effect (Barber, Opitz, Martins, Sakaki, & Mather, 2016).

Paul and Margret Baltes also developed a theory to account for the changing of motivations and personal development across the lifespan. Their model of Selection, Optimization, and Compensation (SOC; Baltes & Baltes, 1990) holds that individuals at all ages organize their behavior through three processes: Selection (setting goals and preferences), Optimization (striving and working towards goals), and Compensation (adopting alternative means to achieve goals when previous means are unavailable). It can be seen as a way of organizing one's resources in order to meet one's goals. Because older adults face an inevitable decline in available resources, in order to thrive in later life they must successfully shift their strategies when needed. Older adults may alter their selection by choosing different goals – for example, rather than hoping to run a marathon as in the past, one could participate in a charity walk instead. Older adults may be able use optimization by growing their skills and knowledge throughout their life and developing helpful techniques. After all, although cognitive abilities decline, knowledge increases throughout life. Compensation strategies can help older adults when they compensate for a lost resource, such as using hearing aids to converse with loved ones. Data show that self-reported use of these SOC strategies is associated with greater wellbeing in old age, even when controlling for health, age, and personality factors (Freund & Baltes, 1998). Older adults who are not able to adjust to their changing circumstances and use these strategies may have difficulty in engaging in valued activities as well.

Much of the extant literature on "values" specifically for older adults focuses on values related to health care and end of life planning. Existing values tools assess older adults' preferences for medical treatments (Pearlman, et al, 1998), interactions with medical providers, and other issues that may arise in acute medical settings (Karel, Powell, & Cantor, 2004). Similarly, other tools assess preferences for physical environment, bathing, dressing, and other activities of daily living that are relevant for stays in nursing or rehabilitation facilities (Carpenter, et al., 2000). Still other questionnaires cover how much the older adult values life in general (Lawton, Moss, Hoffman, Kleban, Ruckdeschel, & Winter, 2001) and what specific activities or abilities are most important to them (Karel, Mulligan, Walder, Martin, Moye, & Naik, 2016).

It is indeed important for older adults to make their wishes known regarding treatment preferences – especially regarding invasive life-sustaining procedures common at end of life such as ventilation, a feeding tube, and cardiopulmonary resuscitation (CPR). Some values measures incorporate preferences for Advance Directives and instructions on how to name a legal proxy or surrogate decision-maker (who would step in if the individual loses decision-making capacity; Virginia Department for Aging and Rehabilitative Services, 2013). Additional research has examined what is important to individuals at the end of life and specific preferences for death and dying (Towsley, Hirschman, & Madden, 2015). Discussions with family and medical providers can be essential in allowing an individual to die with dignity.

Recently, the field of geriatric medicine has recognized the importance of values. "The Five M's of Geriatric Care" are "Mind, Mobility, Medications, Multi-complexity, and Matters Most." (Canadian Geriatrics Society, 2017). The last item, "matters most,"

calls for getting to know patients as individuals and learning what is most important to them. This is more from a medical and health care perspective on values and care preferences, but it is still an important shift towards patient-centered care and respect for patients' values.

The following section presents a summary of existing values measures.

Review of existing values measures

Values measures in ACT

1. Valued Living Questionnaire (Wilson, Sandoz, Kitchens, & Roberts, 2010). For 10 life domains, it assesses on a 1-10 scale the importance of each valued area and the consistency of one's behavior with the value over the past week. There are two subscale scores (importance and consistency) and a composite score calculated from the mean of the products of the importance and consistency scores for each value. The measure has shown good reliability and validity (Wilson, Sandoz, Kitchens, & Roberts, 2010). However, it is not ideal for use with older adults because it was normed on a sample of college students and the 10 life domains are not all immediately relevant to older adults (e.g., employment, education, parenting).

2. Valuing Questionnaire (Smout, et al., 2014). This questionnaire is 10 items rated on a 0-6 scale. It assesses valued behavior in the past week, such as working on goals, feeling a sense of purpose, or giving up (reverse scored). This measure was also normed on a college student population. Because it is not broken up into

valued areas of living, it provides only broad-level information about valued behavior.

3. Personal Values Questionnaire II (Blackledge, Ciarrochi, & Bailey, 2010). This is a lengthier questionnaire. It covers 9 values domains (such as friendships, work, health) and for each domain the respondent is asked to write a free response statement of values. Then respondents rate the value's importance, their success in living in accordance with the value, and why the value is important to them (for example, "I would feel guilty or ashamed if these values were not important to me" and "Living consistently with these values makes my life more meaningful"). There has been no peer-reviewed validation study examining the measure's psychometrics. The free response items create a higher response burden than free response and make data analysis more difficult.

4. Bull's Eye Values Survey (Lundgren, Luoma, Dahl, Strosahl, & Melin, 2012). This tool covers four areas of living (work/education, leisure, relationships, personal growth/health). Respondents write a free response values statement about each domain. Then they mark a spot on an image of a bull's eye to represent how "on target" they are in living consistently with each value. Then, in more free response sections, respondents identify obstacles and write a valued action plan for each value. Similar versions of this instrument exist that allow the respondent to choose their own specific valued areas. The tool was first studied in a sample of patients with epilepsy and a university student population (Lundgren, Luoma, Dahl, Strosahl, & Melin, 2012). Because the tool requires several sections of free response writing where the respondent must reflect on

personal goals, obstacles, and an action plan, it is likely best used with participants who have some exposure to values work through psychotherapy, a workshop, bibliotherapy, or other exposure. The visual metaphor of a bull's eye can be a powerful tool, but the context needed and the free response writing gives this measure a high response burden, making it less ideal for use with older adults.

5. The BULLs-eye Instrument about valued life Primary Care Version (Lundgren & Robinson, 2007). This is similar to the Bull's Eye survey above but has been modified and developed for use in primary care settings. It assesses consistency in valued action in three areas (love, work, and play) and the ability to persist through challenges. Like the other Bull's Eye measures, this measure is less than ideal for use with older adults.

6. Engaged Living Scale (Trompetter, et al., 2013). This scale includes 16 items rated on a 5 point Likert scale. Statements relate to valued living and life fulfillment, e.g. "I have values that give my life more meaning" and "I feel that I am living a full life." It has been studied in a sample of chronic pain patients with an average age of 53. This measure doesn't assess what specific values are important to the respondent, and respondents may not all have the same understanding of "values" as assessed here.

7. Social Values Survey (Blackledge & Ciarrochi, 2005). This measure was developed to assess social, family, and couples relationship values and was designed for use in a brief intervention for adolescents. There is not yet a published validation study so no psychometrics are currently known. It is also limited to one specific area of values.

8. Survey of Life Principles (Ciarrochi & Bailey, 2008). This survey aims to measure four behavioral dimensions targeted by ACT and relevant to values: importance, pressure (or pliance), activity (number of principles in play), and success. Respondents rate each of the four dimensions for 58 values, drawn from previous work by Schwartz and Rokeach. The SLP has been tested with university students and each dimension was found to correlate with related outcomes (Ciarrochi, 2008; Frearson & Ciarrochi, 2008; Stefanic & Ciarrochi, 2008). This survey provides useful information on values importance, engagement, and behaviors, but is quite long and complex at 174 questions (with 58 questions having two parts), making it less practical for use with older adults or repeated use in clinical settings.

9. The Survey of Guiding Principles questionnaire and card sort (Ciarrochi & Bailey, 2012). These tools were designed for use in ACT or CBT to foster values-driven behavior in clients. They built upon the Survey of Life Principles described above. While a card sort task can be a valuable exercise in a psychotherapy or workshop setting, it is unfortunately less practical for research. This survey has also not been normed on older adults and remains lengthy.

10. Chronic Pain Values Inventory (McCracken & Yang, 2006). This survey is 12 items and designed for use with patients experiencing a chronic pain condition. For six value domains (family, intimate relations, friends, work, health, and growth or learning), respondents rate the degree of importance of the value and how successful they are in following their values. The measures has shown good internal consistency (Cronbach's alpha =.82) and evidence of construct validity as

demonstrated by relevant correlations with avoidance, acceptance, and pain-related disability. However because it is specific to chronic pain, it is not adequate for general values assessment with the elderly.

11. Valued Living Questionnaire Adapted to Dementia Caregiving (Romero-Moreno, Gallego-Alberto, Márquez-González, & Losada, 2017). This measure was developed for caregivers of someone with dementia, a population under significant stress. The researchers found two factors "commitment to own values" and "commitment to family values" which explain 43% of the variance. It is encouraging to see another values questionnaire adapted to fit a specific population that is relevant to the elderly, but dementia caregivers are not themselves necessarily elderly and the population is too specialized in this case. For the purposes of the present study, we are interested in creating a measure suitable for any older adult.

Values measures in Geropsychology

1. Valuation of Life Scale (Lawton 1999/2001; Gitlin, et al., 2016). This is a 13-item self-report measure designed to assess how much older adults value their lives. While related to wellbeing and meaning, this construct of valuation of life is conceptually different from the construct of values as applied in the present study.

2. Preferences for Everyday Living Inventory (Carpenter, et al., 2000). This is a detailed assessment of preferences for the physical environment, activities, daily routines, and other aspects of daily living that may arise for someone living in a

nursing home or similar environment. It would not be appropriate for use with older adults living in the community. We will be sampling from that population and our questionnaire is intended to cover it.

3. Values History (Doukas & McCullough, 1991). This self-report assessment was designed to help older adults clarify their wishes for advanced directives and healthcare. It has one section on broad values and quality of life and another section on advanced directives regarding specific medical interventions. The values assessed in this measure are more related to medical care than the broader areas of life we are interested in for the present study.

4. Values History (University of New Mexico Center for Health Law and Ethics). This tool is also geared to help older adults understand their values as they relate to medical care and end of life planning. It is a series of free response questions on topics such as health, relationships, fears, important activities, relationships with doctors, plans for finances and funeral arrangements, and information about various legal documents. It yields no quantitative data and was not developed with psychometrics or scientific use in mind.

5. Values History Form – Virginia Public Guardian and Conservator Program (Virginia Department for Aging and Rehabilitative Services, 2013). This form was designed for use by state-appointed guardians and conservators in Virginia; the guardian uses it as a guide to interview the impaired person they have been appointed to represent. It covers preferences for every day living, social relationships, and spirituality. It is not appropriate for use as a self-report measure.

6. Values and Preferences Scale (Whitlach, Feinberg, & Tucke, 2005). This is a 24-item measure that assesses everyday care preferences of persons with cognitive impairment, covering domains of social network, personal autonomy, and environment. It does not assess values from the same theoretical framework as the present study, and was not developed for use in community-dwelling, cognitively healthy older adults.

7. Your Life, Your Choices (Pearlman, Starks, Cain, Rosengreen, & Patrick, 1998). This is less an assessment measure and more a comprehensive workbook to help older adults understand and communicate their values, beliefs, and preferences related to medical care, including "who should speak for me" and "what makes your life worth living." This resource seems to be helpful clinically but would not be useful nor broadly applicable from a research perspective.

8. Your Values and Your Health Care Decisions: A Values Discussion Guide (Karel, Powell, & Cantor, 2004). Similarly, this resource is also more of a discussion guide than a values measure. It provides ten questions to stimulate discussion about values related to health care. In the present study we are not interested in health care values specifically, and more general domains are unassessed.

Other values measures

1. Study of Values (Allport, Vernon, & Lindzey, 1960). With 45 self-report items, this groundbreaking values survey has fallen out of use since the 1980's, due to outdated language and a lack of religious inclusivity (Kopelman, Rovenpor, & Guan, 2003).

2. Rokeach Value Survey (Rokeach, 1973). This self-report measure asks respondents to rank order 18 "terminal values" and 18 "instrumental values" in order of importance. Terminal values are end states of existence (e.g., friendship, freedom, wisdom) while instrumental values are qualities of behavior that will help achieve terminal values (e.g., courage, cheerfulness, ambition). However, the survey is limited by not including how well the respondent is actually doing at living these values. The rankings may also become meaningless if many of the listed values are not very important to the person.

3. Schwartz's Value Survey (Schwartz, 1992), Short Schwartz's Value Survey (Lindeman & Verkasalo, 2005), and Portrait of Values Questionnaire (Schwartz, 2013). In Schwartz's theory, values are beliefs linked to affect and referring to goals that motivate action. Schwartz and colleagues have identified ten universal values that exist in all cultures to varying degrees: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism. In the first two surveys listed, words or statements from each values category are presented and respondents rate how important they find this value in their life. The Portrait of Values Questionnaire was developed for use with children (and has also been used with adults) and presents descriptions of 40 different people and asks how much alike the respondent is to the person. Schwartz's approach does not suit the current study because we are interested in values in areas of daily living identified by the person, not universally pre-determined values. We are also interested in assessing valued living and motivation, which is not examined.

Limitations of existing values measures

Though there has recently been greater interest in assessment of values in ACT and several self-report measures have been developed, they do have some shortcomings. ACT values questionnaires generally require a working knowledge of values from an ACT perspective. A therapist or facilitator must spend time orienting the person to definitions and purpose, which may be acceptable in some clinical settings but is not helpful for research. Additionally, several existing ACT measures require long free response answers to describe one's values. This places a higher assessment burden on the participant and may further increase confusion about what values are. Other questionnaires that do not have free response questions unfortunately miss out on rich qualitative information about unique individual values. Most of the measures are also lengthy, covering up to 10 life domains.

A recent thorough review of extant values measures noted several limitations in generalizability: most measures were validated with college students (not clinical populations even though they are primarily used in clinical settings) and mostly White participants (Serowik, Khan, LoCurto, & Orsillo, 2018). Additionally, many measures use Likert scales that are bipolar and don't have a neutral option, which may force ambivalent participants to choose a direction arbitrarily (Spector, 1992), leading to extreme responding (e.g., Weijters, Cabooter, & Schillewaert, 2010).

Several ACT based values measures have been developed for special populations (chronic pain, adolescents), but none have been created for or normed on an older population. Outside of ACT, a few tools exist to assess values in older adults, but these

measures have their own limitations. These assessments have more of a medical focus and mostly cover values related to health care and end of life planning. Currently there are no measures developed for older adults that assess values in a range of areas for a range of elderly persons from an ACT or any other psychotherapy tradition. Older adults deserve special consideration in measure development. Items on questionnaires normed on younger adults may not be as relevant for older populations (e.g. items about career, educational goals) or may tap into a different construct than intended. For example, some items included on measures of depression or anxiety describe physical symptoms that may appear in a depressed or anxious younger adult but may be part of a healthy older adult's day to day experience (e.g., shortness of breath, trembling, dry mouth as listed on the DASS-21: Antony, Bieling, Cox, Enns, & Swinson, 1998).

Another concern is that some means of values expression and assessment may have reactivity effects. For example, some studies instruct participants to write about a time their values made them feel good about themselves (e.g., Cohen, Aronson, & Steele, 2000, Study 1); it would not be surprising for this to induce a positive mood given the extensive literature on values writing and values affirmation (e.g., for a review see Harris & Epton, 2009). Especially for persons who may have never before articulated their values, the experience of values clarification may be enlightening, energizing, and powerful. This could possibly contribute to behavior change in valued direction which would be personally helpful but problematic for use of the measure involved in research or program and clinical evaluation.

CHAPTER TWO: METHODS

Overview of the current study

Rationale and aims of proposed study

The present study proposed a new measure of values to address the limitations of existing measures just described. We have sought to demonstrate that this measure is suitable for use with older adults as well as younger and middle-aged adults. This self-report questionnaire is easy to complete with no expert supervision, making it suitable for research or clinical practice.

The measure assessed four domains of living that are known to be key to quality of life outcomes: relationships, recreation / leisure, spirituality / religion, and health / physical wellbeing (e.g., Holt-Lunstad, Smith, & Layton, 2010; Smith-MacDonald, Norris, Raffin-Bouchal, & Sinclair, 2017; Wensley & Slade, 2012; Schilling, Deeg, & Huisman, 2018). These domains have been used in other values measures (e.g., the Valued Living Questionnaire, Wilson, Sandoz, Kitchens, & Roberts, 2010; the Bull's Eye Values Survey, Lundgren, Luoma, Dahl, Strosahl, & Melin, 2012; and the Personal Values Questionnaire-II, Blackledge, Ciarrochi, & Bailey, 2010) and appear to be most relevant for older adults, who are less likely to be working, in school, or actively parenting. Efforts were made to keep the measure brief and easy to understand, so separate domains like friendships vs. family relationships vs. romantic relationships were collapsed into a single relationships category.

The domain approach was selected to make the measure easier to complete, even for respondents not exposed to values work or psychotherapy. Broad questions about overall life values and principles can be challenging; giving more concrete examples through domains helps orient the older participant. The first question in each domain serves as a prompt, which the subsequent multiple-choice responses help narrow and clarify. Multiple-choice responses were chosen over free response to reduce assessment burden. Multiple-choice also allow for easier data analysis than qualitative coding of narrative responses. The specific response options to describe values were chosen from existing tools: Personal Values Card Sort from the University of New Mexico (Miller, C'de Baca, Matthews, & Wilbourne, 2001) and a values checklist from Russ Harris' The Happiness Trap program (Harris, 2010). Eight words were chosen for each area of valued living, so as to offer a range of choices while also not overwhelming older participants with too many options. Further research could be done in the future to better refine which specific words are included as descriptor options. For the purposes of this study, the focus was less on the topography of what values participants choose and more on the number of descriptors chosen and the responses to the other items on values importance, motivation, and valued action.

Participants were instructed to choose one to three words that describe their values in each domain. There was also the option to write in a word or words not listed. The sum of the number of values identified was collected in the Values Identification Score.

The measure also assessed the importance of the chosen values in each domain through rating a 5-point Likert scale. The sum of all importance ratings will be the Importance Score.

Next participants were asked why the value(s) is(are) important to them. Here the aim was to understand the function of the value for the person, beyond the topography of the value. Informed by Self Determination Theory, response items correspond to "intrinsic" and "extrinsic" values – that is, whether the motivation for the value was coming from within the person or from outside. This also maps on to the literature on psychological flexibility: the response options investigate whether a participant is behaving in a freely chosen, flexible way; whether she is escaping or avoiding; whether she is being coerced or is pursuing an appetitive. The number of intrinsic and extrinsic items endorsed were each summed for an Intrinsic Motivation Score and Extrinsic Motivation Score.

Finally, each domain ended with a question about how consistently the participant has been living their chosen values in the past week on a 5-point Likert scale. This type of question has also been included in existing values measures (PVQ, VLQ). The Consistent Living Score was obtained by summing the score from this question in each domain.

A summary score was obtained as an overall measure of values. This was obtained by adding the Values Identification Score, the Importance Score, the Intrinsic Motivation Score, and the Consistent Living Score. The Intrinsic Motivation Score is included because intrinsic motivation has been found to contribute more to wellbeing than extrinsic motivation (Ciarrochi et al., 2011; Emmons, 2003a, 2003b; Sheldon &

Kasser, 1998) and would theoretically be more related to a psychologically flexible approach to valued living.

After an initial draft of the VALQUEST measure was created, an informal focus group was convened with two geropsychologists and two gerontologists. Their feedback was sought, particularly with regards to the feasibility of the measure for use with older adults in clinical and research settings. Based on their input, several questions and response options were re-phrased for clarity, and the number of multiple-choice response options were reduced (from 12 items to 8 on the values identification questions and from 8 to 4 items on the motivation questions) to lower the cognitive burden of considering many options at once. They also offered advice on the life domains selected (helping to choose the four most relevant from a longer list of 10) and in the ordering of items.

Aims and Hypotheses

Aim 1: Demonstrate concurrent validity of the VALQUEST.

Hypothesis 1: The VALQUEST Importance Score will highly correlate with the importance ratings from the Valued Living Questionnaire (VLQ).

Hypothesis 2: The VALQUEST Consistent Living Score will highly correlate with the consistency ratings from the VLQ.

Aim 2: Demonstrate the construct validity of the VALQUEST.

Hypothesis 1: Psychological inflexibility on the AAQ will negatively correlate with VALQUEST Consistent Living Score.

Hypothesis 2: Depression on the PHQ-9 will negatively correlate with VALQUEST

Consistent Living Score and Importance Score.

Hypothesis 3: Committed action on the CAQ-8 will correlate with VALQUEST

Consistent Living Score.

Hypothesis 4: Life satisfaction will positively correlate with VALQUEST Total Score.

Aim 3: Identify differences among older and younger adults' responding.

Hypothesis 1: Older adults will have higher VALQUEST Intrinsic Motivation scores.

Hypothesis 2: Older adults will have higher scores in VALQUEST Consistent Living

Scores.

Hypothesis 3: Older adults will engage in more SOC strategies than younger adults.

Hypothesis 4: Older adults will experience lower depression on the PHQ-9 than younger

adults.

Aim 4: Explore the relationship among values, SOC, and psychological flexibility.

Hypothesis 1: SOC scores will positively correlate with VALQUEST Valued Living.

Hypothesis 2: SOC scores will negatively correlate with psychological flexibility on the

AAQ.

Aim 5: Understand the effect of ageism on values.

Hypothesis 1: Ageism scores will negatively correlate with VALQUEST Total Score.

Methods

      Participants. Participants were recruited online through Amazon Mechanical Turk (AMT) or "M Turk." https://www.mturk.com/. AMT is a system which allows people around the world to sign up to complete human intelligence tasks for payment. AMT has become a popular tool for psychologists to collect data in recent years due to its speed, efficiency, and access to a broad, diverse subject pool. If desired, researchers can select for participants based on age and various other criteria. In 2014, AMT was reported to host over 500,000 active workers from over 190 countries completing thousands of tasks every day (Paolacci & Chandler, 2014). Data collected from AMT have replicated effects seen in controlled laboratory settings (Pauszek, Sztybel & Gibson, 2017; Crump, McDonnell, & Gureckis, 2013). The platform has even been used successfully to recruit large samples of older adults (e.g., Durbin and colleagues recruited 292 older adults and 285 younger adults; Durbin, Barber, Brown & Mather, 2018). AMT will allow for the recruitment of a large sample with diversity in terms of age, ethnicity, and level of education. Because the survey will be completed entirely online with no guidance or orientation needed, there would likely be no benefit to recruiting participants in person or having them complete the measures in a laboratory setting.

      Inclusion criteria included: proficiency in English, at least 18 years of age.

      Participants who failed one or more validity test questions were excluded from the sample. (These participants still received compensation for their time.)

Measures

1) Demographics. Created for this study, the six items assess age, gender, ethnicity, employment status, marital status, and level of education. This allowed us to describe the sample.

2) Values Across the Lifespan Questionnaire (VALQUEST). This is the new measure under development in the present study. As described above, it contains 16 items across four valued domains.

3) Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). As described earlier, an existing values questionnaire from an ACT perspective. It has demonstrated good test-retest reliability and validity (Wilson, Sandoz, Kitchens, & Roberts, 2010). It assesses values importance and values-based action rated from 1-10 across 10 life domains.

4) Acceptance and Action Questionnaire (AAQ-II; Bond, et al, 2011). This is a widely used measure of psychological inflexibility. It consists of seven questions rated on a 7-point Likert scale. It has demonstrated reliability and validity in large samples.

5) Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001). This is a self-report measure of depression severity, with nine questions, rated from 0-3. It assesses the frequency of problems over the last two weeks. It has demonstrated sensitivity and specificity of 88% for major depression (Kroenke, Spitzer, & Williams, 2001).

6) SOC short form (Baltes, Baltes, Freund, & Lang, 1999). This is a self-report measure of Selection, Optimization, and Compensation (SOC) strategies. It

consists of 12 items derived from the original longer version. It showed a strong correlation to the original, ranging from 0.79 to 0.87 in each of the four subscales (Baltes, Baltes, Freund, & Lang, 1999).

7) Future Time Perspective Scale (Carstensen & Lang, 1996). Carstensen and colleagues have developed this measure to assess one's perspective on how much time is left in life. It has been shown to be better at predicting behavior than chronological age alone. Younger adults tend to behave more like older adults with respect to goals, attention, and emotion regulation when they are experimentally induced to think about a foreshortened future, or when their future actually is shorter due to serious illness, a natural disaster, or terrorist attack (Baldensperger, Wiedemann, Wessel, Keilholz, & Knoll, 2018; Fung & Carstensen, 2006). In the proposed large diverse sample, we won't know if the younger participants are terminally ill or what circumstances they are facing in their home country. This scale will allow us to see who theoretically should behave like an older adult with respect to values. This measure is 10 items rated on a 7-point Likert scale and has been used with younger and older adults.

8) Committed Action Questionnaire (CAQ-8: McCracken, Chilcot, & Norton, 2015). This is an 8-item self-report measure of committed action, which is related to values as one of the core components of Acceptance and Commitment Therapy. We hypothesize that the VALQUEST's Consistent Living score will correlate with committed action as measured on the CAQ-8.

9) Fraboni Scale of Ageism (Fraboni, Saltstone, Cooper, & Hughes, 1990). A 29-item self-report measure of ageism. Participants are asked how much they agree

(on a 1-4 scale) with various statements; several items are reverse-scored. The

original authors posited a three-factor structure covering affective and cognitive

aspects of ageism: antilocution, avoidance, and discrimination. Fraboni and

colleagues demonstrated FSA scores to have adequate internal-consistency

reliability with a Cronbach's alpha coefficient of .86. Evidence for construct

validity was provided by showing that scores on the FSA were significantly

negatively correlated with the Facts on Aging Quiz (−.28) and the Acceptance of

Others Scale (−.22) (Fraboni, Saltstone, Cooper, & Hughes, 1990).

10) Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). This is a

brief 5-item measure of global satisfaction with one's life, unrelated to

positive/negative affect or mood. It has been shown to have convergent validity

with other assessments of subjective wellbeing and discriminant validity from

measures of emotional wellbeing (Pavot & Diener, 1993). It has also been

successfully used in a range of age groups from younger to older adults (Pavot,

Diener, Colvin, & Sandvik, 1991).

Additionally, validity checks were embedded throughout the measures to test for

participants' attention and accurate responding – for example, "If you are reading this

question, please select the number 4 as your answer." Participants were excluded from

the sample if they failed any of these questions. This screening method has been

employed by numerous studies using Amazon Turk for recruitment (e.g., Durbin, Barber,

Brown & Mather, 2018). Durbin and colleagues used one validation question and the

median completion time was 17.9 minutes (and participants were paid $2.00). For the

present study, which we estimate will take participants about thirty minutes to complete, two embedded validation questions were be used.

  Procedure. Two task postings were made concurrently on MTurk. One recruited 250 adults of any age, the other recruited 250 adults aged 55 and older only, for a total of 500 participants. Participants completed all measures, in the same order. After completion, the participants were compensated $5.00 through the MTurk platform.

Data analysis

  Measuring the construct of "values" is no simple task. As noted in Serowik and colleagues' (2018) recent review of values measures, there is substantial variability in the dimensions of values assessed by different measures, with values importance and behavioral consistency in engaging with values being the most common. Some measures also assess barriers to valued living. Other researchers have noted the importance of measuring the motivation of each stated value (e.g., Ciarrochi et al., 2011; Crocker, et al., 2010; Ferssizidis et al., 2010; Kasser and Ryan, 1996; Kasser, 2004; Sheldon & Kasser 2001; Sommet & Elliot, 2017, Veage et al., 2011), as research shows intrinsic motivation to be associated with wellbeing (Ciarrochi et al., 2011; Emmons, 2003a, 2003b; Sheldon & Kasser, 1998) and extrinsic motivation to be linked with depression and anxiety (e.g., Dittmar, Bond, Hurst & Kasser, 2014, e.g., Kasser & Ryan 1996).

  In the present study, we conceptualized values in four dimensions: the qualitative description of each value and number of words chosen to describe it, the importance of each value, the motivation behind each value (intrinsic or extrinsic), and the behavioral

consistency in engaging with the value. These dimensions touch on each part of the definition of values we used earlier:

> "freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself" (Wilson & DuFrene, 2009, p. 66)

Each of these dimensions was measured as they occur in four domains of valued living: social relationships, recreation/leisure, spirituality/religion, and health/wellbeing. Theoretically, each domain may be independent from the others – ratings in one area of life may be different than the other areas. Values in different life areas may even be conceptualized as different constructs, which has led to the creation of domain-specific measures like the Social Values Survey (Blackledge & Ciarrochi, 2005)

There is no clear answer from theory or the literature as what to expect from a factor analysis of the new VALQUEST. Item Response Theory was considered as an analytical strategy, but it assumes that there is one dominant latent trait that influences the survey responses. Research with the Valued Living Questionnaire has revealed two factors of values importance and consistency (VanBuskirk, West, Malcarne, Afari, Liu, Petkus, & Wetherell, 2012) or a single factor of the composite score (Wilson, Sandoz, Kitchens, & Roberts, 2010. Thus, it was most appropriate to begin with an exploratory factor analysis (EFA) to provide information about the number of factors required to represent the data. Half of the participants were randomly sorted to be included in the first EFA. Using SPSS, the appropriateness of the data for EFA will be assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (with values above 0.5

considered acceptable, 0.7 and above good, and above 0.9 superb, Hutcheson & Sofroniou, 1999) and Bartlett's test of sphericity (which should have a significance value of less than 0.05). The correlation matrix (correlations between all pairs of measure items) was examined to show how well the variables correlated with each other and detect possible multicollinearity. If the average communality is greater than 0.6, all factors with an eigenvalue above 1 will be retained (Kaiser, 1960). The scree plot's point of inflection was used as another indicator of number of factors. Factor rotation was utilized to provide better model fit; in all cases the Varimax orthogonal rotation was superior.

The first EFA was followed by a second EFA using the other half of the sample. In this analysis, the number of factors required was specified as drawn from the first EFA. The second EFA provided a confirmation of the results of the first EFA.

We also examined the validity of the VALQUEST by conducting correlations and regressions with relevant measures, as were noted in the Aims and Hypotheses above.

Power estimate

The application G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) was used to calculate the sample size needed to achieve adequate power given a set effect size. To conduct a correlation, two-tailed, with a medium effect size, $\alpha=0.05$, and power of 0.95, the required sample size is 134. To conduct a linear multiple regression, with a single regression coefficient, with two predictors, a medium effect size, $\alpha=0.05$, and power of 0.95, the required sample size is 89. To conduct a linear multiple regression, fixed model, r^2 increase, a medium effect size, with $\alpha=0.05$ and power of 0.95, with two tested

predictors, the required sample size is 107. With 10 tested predictors the required sample size increases to 172. Thus, a total of 500 participants (proposed, 488 actual) was adequate to test our hypotheses with correlations and regressions.

Estimating the sample size needed for factor analysis is less clear-cut. One often-used rule of thumb for measure development is to recruit 10 participants for each item on the measure (e.g., Nunnally, 1967; Gagné & Hancock, 2006). In the present study, the VALQUEST contained 16 items which would require 160 participants, for which our proposed sample of 250 in each group for 500 total (488 actual) was adequate.

CHAPTER 3: RESULTS

Sample

Five hundred and four participants were initially recruited through Amazon Mechanical Turk. Two postings were made – one for adults of all ages, and one that would only appear to adults age 55 and older. Both postings were limited to adults residing in the United States of America or Canada. A feature on Qualtrics was utilized to prevent a person at the same IP address from completing the survey twice. While this may have hindered different persons from the same household or community living environment from participating, we considered it more important to limit the same participants from taking the survey multiple times for payment.

Participants were excluded from the sample if one of the following conditions were met: 1) failing an attention check question, 2) over 50% of item responses missing, 3) three or more VALQUEST items missing. Two participants were excluded because they did not pass the attention checks (one of those also had over 50% missing responses), and one participant was excluded because three questions on the VALQUEST were left blank.

Response time was also examined for improbable speed. Qualtrics provides the duration of time participants spend on the survey. After the three participants above were excluded, the average response time for participants was 22.8 minutes. 13 participants completed the survey in less than five minutes. It is not likely that they meaningfully engaged with the survey in such a short time. This segment made up 2.5 percent of the sample. In a normal distribution, 95 percent of the sample falls within two standard

deviations of the mean in either direction (that is, a width of four standard deviations). In this case the upper 2.5 percent of the sample – those who spent a long time completing the survey – are not a concern because they were spending time with the material. Because these 13 participants make up the lower end of the distribution, and we wish to interpret the most meaningful data, they were excluded from the study sample. After excluding a total of 16 participants, the study sample was 488.

Demographics

Age. The sample ranged in age from 20 to 80 years old. The average age was 49.4 with a standard deviation of 16.0. 253 participants were over the age of 55, while 234 participants ranged in age from 20 to 54. One participant left the age item blank. For all analyses the cutoff between the "younger" and "older" groups was set at less than age 55, versus greater than or equal to age 55.

The mean age for the younger adult group was 34.2 (with a standard deviation of 7.7) and for the older adult group was 63.5 (with a standard deviation of 4.9). Age and the rest of the demographic variables are presented in Table 1 below. Note that in some categories, percentages do not total 100% due to missing data. In the ethnicity category, percentages sum to greater than 100% because participants could choose more than one ethnicity label.

Table 1. Participant demographics. (n=488)

Demographic characteristic	Frequency	Percentage
Age		
Younger (20-54)	234	48.0
Older (55-80)	253	51.8
Gender		
Female	245	50.2

Male	240	49.2
Transgender	1	0.2
Ethnicity		
Asian	21	4.3
Black / African American	43	8.8
Hispanic / Latinx	16	3.3
Middle Eastern or North African	1	0.2
Native American	9	1.8
Pacific Islander	0	0
White / Caucasian	411	84.2
Other	3	0.6
Multi-racial (more than one category chosen)	16	3.3
Country of residence		
United States of America	473	97.0
Canada	2	0.4
Occupational status		
Student	0	0
Home-maker	9	1.8
Working full-time	273	55.9
Working part-time	86	17.6
Unemployed	27	5.5
Disabled or unable to work	9	1.8
Retired	83	17.0
Marital status		
Single (never married)	171	35.0
Married or in a domestic partnership	217	44.5
Widowed	20	4.1
Divorced	72	14.8
Separated	6	1.2
Education level		
Less than high school	1	0.2
High school or equivalent	71	14.5
Some college	108	22.1
Associate's or 2-year degree	77	15.8
Bachelor's or 4-year degree	171	35.0
Master's degree	46	9.4

Professional degree	8	1.6
Doctoral degree	5	1.0

Factor Analysis

The sample was split into two separate groups of 244 participants each for the exploratory and confirmatory factor analysis. Because it seemed important to ensure that age was distributed in these two groups similarly, the dataset of all 488 participants was sorted by age and each participant in the sorted file was given a sequential number. The odd and even case numbers were then separated into two files for the exploratory and confirmatory factor analysis. This stratified quasi-random approach seemed more defensible than drawing randomly from the two recruited groups since one recruited group included some older participants, and purely random selection processes could have led to more older persons in one group than the other. The average age of the two groups were 49.3 and 49.5 so the group creation process appears to have been successful.

Exploratory Factor Analysis. Using SPSS version 24.0, an exploratory factor analysis was conducted using one of the groups of 244. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy assesses the proportion of variance in the variables that may be caused by underlying factors. Values above 0.5 indicate factor analysis may be suitable. Bartlett's test of sphericity tests whether the variables are unrelated and unsuitable for the detection of factor structure. A significance level below 0.05 indicates a factor analysis may be useful (Cooper & Schindler, 2014). Here both measures show that factor analysis is suitable for this dataset.

The analysis yielded five factors with an Eigenvalue greater than 1, which is the suggested cutoff (Cooper & Schindler, 2014). The five factors accounted for 63.59

percent of the variance. To interpret the factors, the Varimax orthogonal rotation was utilized. Motivation items loaded on to the first factor, Value Identification items mostly loaded on to the second factor (although Spirituality loaded more strongly on to the fifth factor), Importance mostly loaded on to the fourth factor (though again, the Spirituality item loaded on to the fifth factor). These factors are not consistent with our hypotheses and are difficult to interpret theoretically.

Table 2. Factor loadings based on a principal components analysis with varimax rotation for the 16 items of the VALQUEST (n=244).

	1	2	3	4	5
Recreation Importance	.04	.29	.30	**.47**	.10
Social Relationships Importance	.13	.17	**.60**	.02	.24
Spirituality Importance	-.01	-.11	.19	.11	**.86**
Health Importance	.01	.06	.05	**.81**	.10
Recreation Consistency	.17	-.06	**.60**	**.44**	-.16
Social Relationships Consistency	.068	.04	**.86**	.07	.03
Spirituality Consistency	.08	-.15	**.53**	.39	.14
Health Consistency	.03	.06	.13	**.77**	-.02
Recreation Values Identification	.05	**.74**	-.12	.14	.03
Social Values Identification	.19	**.75**	.21	-.14	-.05
Spirituality Values Identification	-.03	.43	.08	.01	**.72**
Health Values Identification	.10	**.77**	.03	.17	.11
Recreation Motivation	**.82**	.10	.20	.01	-.06
Social Motivation	**.85**	.13	.15	-.06	.02
Spirituality Motivation	**.61**	-.04	-.07	.02	**.59**
Health Motivation	**.72**	.12	.02	.15	.04

Note. Factor loadings > .4 are bolded.

Spirituality items appeared to be especially incongruent. Examining the qualitative results of the optional "other" free response category on the values identification item revealed interesting findings. Sixty-four participants (13.1%) added their own word or words. Many participants described themselves as atheists and several expressed negative attitudes towards religion, including responses such as "I don't really value spirituality/religion" and "bound, punishment, stifling" and "NO NO NO." Other participants had more positive reactions and listed words describing their specific religious beliefs, such as "Jesus" and "knowledge that there is a 'supreme being,' guiding me through tough times," and "LOVE." Thus, it appears that the domain of Spirituality/Religion elicited very different responses across participants. None of the other domains elicited any significant negative reactions in the "other" comments.

Because it may not be statistically or theoretically meaningful to include results for a domain which many found to be unimportant or even upsetting spirituality items were removed and the exploratory factor analysis with Varimax rotation was run again. This time, four factors emerged, as hypothesized, and they accounted for 63.50 percent of the variance. However, items still didn't load onto the four factors in a theoretically consistent way. Values Identification and Motivation loaded onto separate factors well, but the Importance and Consistency items were split across two factors.

Table 3. Factor loadings based on a principal components analysis with varimax rotation on 12 items from the VALQUEST (Spirituality items removed) (n=244).

	1	2	3	4
Recreation Values Identification	-.02	.07	**.79**	-.10
Social Values Identification	.30	-.14	**.71**	.18
Health Values Identification	.14	.16	**.76**	.07
Recreation Importance	-.01	**.44**	.34	.40

Social Importance	.14	.04	.13	**.74**
Health Importance	.05	**.79**	.07	.09
Recreation Consistency	.19	**.53**	-.15	**.47**
Social Consistency	.10	.15	-.03	**.82**
Health Consistency	.07	**.80**	.05	.05
Recreation Motivation	**.80**	.07	.16	.14
Social Motivation	**.80**	-.11	.07	.29
Health Motivation	**.73**	.35	.12	-.08

Note. Factor loadings > .4 are bolded.

A possible solution to better address the Importance and Consistency areas is suggested by the literature. An established measure of values in an ACT context administered in this study, the Valued Living Questionnaire (Wilson, Sandoz, Kitchens, & Roberts, 2010), also assesses values importance and consistency. The authors devised a composite score that is the product of importance and consistency, so as to better capture the full concept of engagement with values. The highest scores indicate that an individual is behaving consistently with values they rate as having high importance. Behaving consistently with values of low personal importance is less important and yields lower value in the composite. The authors consider the isolated scores of importance and consistency to be less relevant and recommend utilizing the composite score for both research and clinical contexts (Wilson, Sandoz, Kitchens, & Roberts, 2010).

Taking Wilson and colleagues' approach, a composite score was devised for the VALQUEST, defined as the Importance score multiplied by the Consistent Living. Each domain had a composite score, as with the Values Identification and Motivation scores. The Exploratory Factor Analysis was conducted again, with Composite scores replacing the separate Importance and Consistency items.

The KMO and Bartlett's test again indicated the data was suitable for factor analysis. Three factors emerged with Eigenvalues greater than 1, accounting for 63.45 percent of the variance. Visual inspection of the Scree plot of Eigenvalues supported the extraction of three factors (Figure 1).

Figure 1. Scree plot of Eigenvalues from exploratory factor analysis of the 12-item VALQUEST.
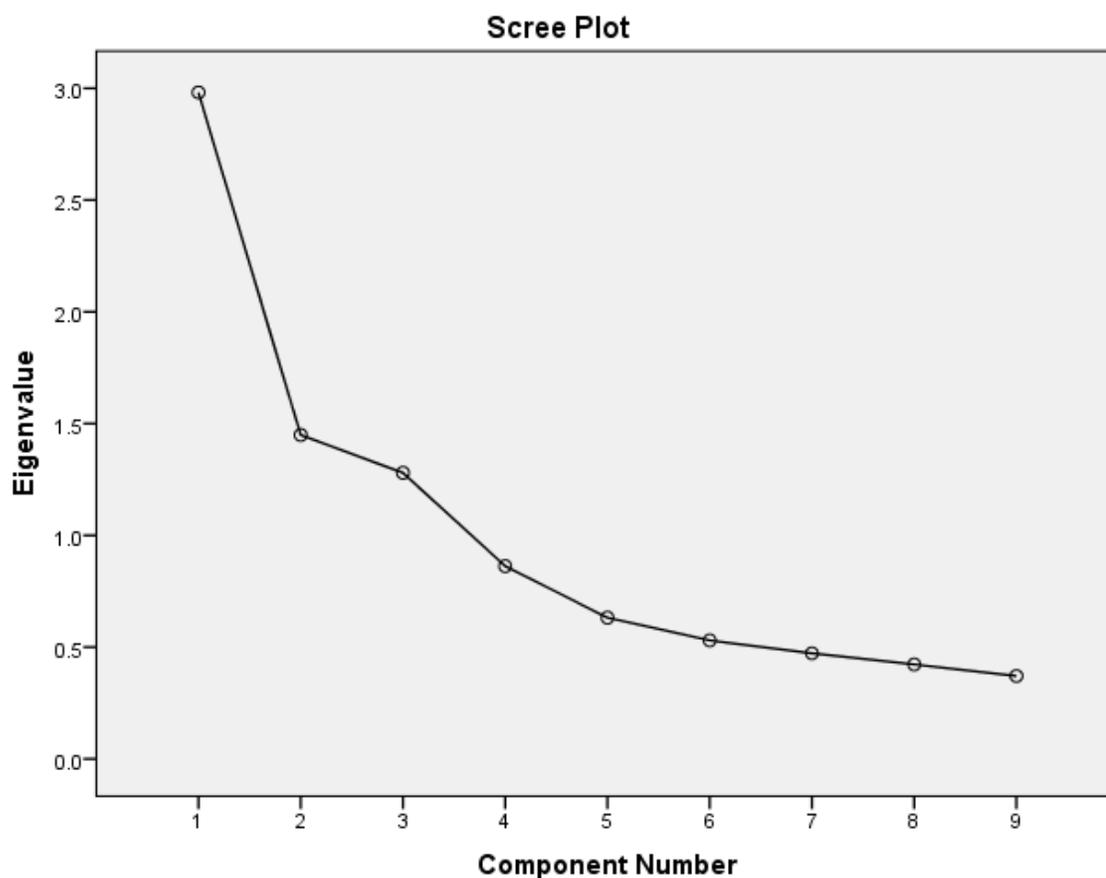
Items loaded well onto the three factors. Motivation items loaded onto factor 1, Value Identification onto factor 2, and Composite scores onto factor 3.

Table 4. Factor loadings based on a principal components analysis with varimax rotation on 9 items from the VALQUEST (Composite scores replacing Importance and Consistency items) (n=244).

	1	2	3
Recreation Composite	.17	.07	**.82**
Social Composite	.39	.03	**.55**
Health Composite	-.03	.09	**.83**
Recreation Values Identification	-.05	**.80**	.04
Social Values Identification	.36	**.72**	-.03
Health Values Identification	.13	**.78**	.19
Recreation Motivation	**.79**	.17	.12
Social Motivation	**.88**	.04	.02
Health Motivation	**.63**	.14	.25

Note. Factor loadings > .4 are bolded.

These results are a marked improvement from the previous analyses. Another exploratory factor analysis was conducted using the composite scores and retaining Spirituality domain items, but the same pattern of inconsistent factor loading emerged.

Because the VALQUEST was developed specifically with older adults in mind, an exploratory factor analysis was conducted using only the older participants (age 55 and older, n=253). Eliminating Spirituality items and using the composite scores in the analysis also yielded a three factor structure, with related items neatly loading onto the three factors.

Table 5. Factor loadings based on a principal components analysis with varimax rotation on 9 items from the VALQUEST in the older adult sample (n=253).

	1	2	3
Recreation Values Identification	.03	-.13	**.64**
Social Values Identification	.10	.17	**.80**
Health Values Identification	.05	.17	**.84**
Recreation Motivation	**.86**	.04	.05
Social Motivation	**.86**	.12	.04
Health Motivation	**.71**	.24	.09
Recreation Composite	.17	**.75**	.13

Social Composite	.16	**.74**	-.02
Health Composite	.05	**.80**	.05

Note. Factor loadings > .4 are bolded.

An exploratory factor analysis was also conducted with the older subgroup using the composite scores and also retaining Spirituality items. This EFA yielded four factors and items did not load in a theoretically consistent manner, just as in the previous EFA with participants of all ages. This provides some evidence that the Spirituality items were an issue for older adults as well, not just the younger participants, and should be removed from the VALQUEST.

Based on the strength of these results, a second exploratory factor analysis on the second sample was used to test the new model, eliminating Spirituality items and using Composite scores.

Second Exploratory Factor Analysis

A confirmatory factor analysis using Structural Equation Modeling (SEM) would require specifying all known factors and the inter-relations among items and factors. Because of the exploratory nature of this study and a desire to be guided by the data, SEM was not used and a second exploratory factor analysis was conducted using the other stratified quasi-randomized sample of 244 participants in order to confirm the results from the first sample. Three factors were specified and the Varimax orthogonal rotation was utilized.

Three factors obtained Eigenvalues greater than one, and together they accounted for 61.38 percentage of the variance. Subscale items loaded well onto one factor each.

Table 6. Factor loadings from principal components analysis with varimax rotation on 9 items from the VALQUEST (n=244).

	1	2	3
Recreation Composite	**.79**	.13	.05
Social Composite	**.81**	.13	.15
Health Composite	**.73**	.25	.00
Recreation Values Identification	-.10	.08	**.70**
Social Values Identification	.30	.03	**.63**
Health Values Identification	.07	.06	**.79**
Recreation Motivation	.15	**.82**	.06
Social Motivation	.09	**.83**	.05
Health Motivation	.27	**.71**	.10

Note. Factor loadings > .4 are bolded.

The communalities table shows how much each item correlates with all other items. Items that have lower values (0-0.4, Cooper & Schindler, 2014) may be less related to the other items and have difficulty loading on to any of the factors. Here every item showed a correlation greater than 0.4, confirming each item's ability to load onto a common factor.

Table 7. Communalities from a principal components analysis with varimax rotation on 9 items of the VALQUEST (n=244).

	Initial	Extraction
Recreation Composite	1.00	.64
Social Composite	1.00	.70
Health Composite	1.00	.60
Recreation Values Identification	1.00	.50
Social Values Identification	1.00	.48
Health Values Identification	1.00	.63
Recreation Motivation	1.00	.70
Social Motivation	1.00	.70
Health Motivation	1.00	.59

The second exploratory factor analysis provides strong evidence for a three-factor structure of the VALQUEST: Importance-Consistency Composite, Values Identification,

and Motivation. These three factors will serve as subscales for the measure, with both empirical evidence and a theoretical rationale. Although a four-factor structure was initially hypothesized, combining the Importance and Consistency subscales in a composite provides three subscales that better fit the data and provide a more holistic conceptualization of valued living. Removing the Spirituality items from the measure also allowed for a clear factor structure to emerge. Importantly, the overall structure of the VALQUEST was retained.

VALQUEST Scoring

Reflecting the improvements to the VALQUEST through the process of factor analysis, a revised scoring system was developed. The four spirituality items were removed from all subsequent analyses (Spirituality values identification, importance, consistency, and motivation) and from the Total Score. The new VALQUEST Total Score was obtained by summing the averages of each subscale: the average Values Identification, average Intrinsic Motivation score, and average Composite score. Using the average of each subscale rather than the total scores was chosen because the averages will provide a smaller and more intuitive range of scores, and the Total Score will be an interval/ratio scale (Cooper & Schindler, 2014). This scoring approach also gives each subscale and each domain an equal weight in the total, which is desirable since at present there is no theoretical grounds for giving a stronger weight to one of the subscales.

VALQUEST Total Score

Possible VALQUEST Total Scores range from 2 to 31. In this sample, participants scored an average of 18.89, with a standard deviation of 5.01. The lowest

score was 5.67 and the highest was 30.00. Scores are presented in the figure below,

which show that the data follow a normal distribution.

Figure 2. Distribution of VALQUEST Total Scores across the sample (n=488)

Histogram

Mean = 18.89
Std. Dev. = 5.007
N = 486

VALQUEST Total Score
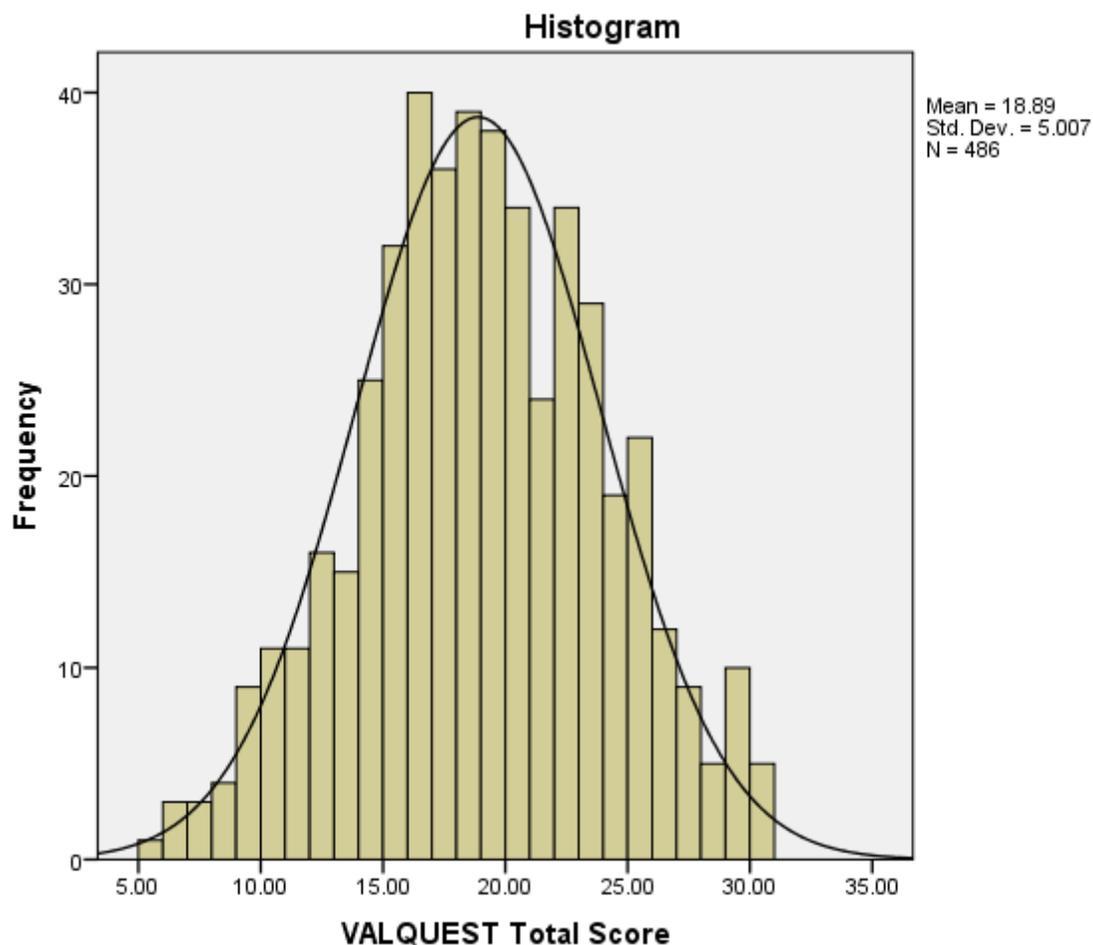
In all analyses, effects were interpreted only if the alpha level was .05 or less (two

tailed). In line with the descriptive cutoffs suggested by Cohen (1988) correlations are

described using the terms "small" (r = .10 to .29), "moderate" (r = .30 to .49), and "large"

(r = .50 or larger). Additionally, attention was paid to the relative magnitude of

hypothesized, theoretically relevant correlations as compared to the magnitude of other possible correlations.

Correlations Among Subscales

The VALQUEST subscales had significant positive correlations with each other and with the total score. In the following table we also include Importance and Consistency, though these have been collapsed into the Composite subscale for scoring. Importance, Consistency, and Composite scores all had significant large correlations with the Total Score, while Values Identification and Motivation had significant moderate correlations.

Table 8. Pearson correlations among VALQUEST Total Score and subscales (Importance, Consistency, Motivation, and Composite).

	1	2	3	4	5	6
1. VALQUEST Total	1					
2. VALQUEST Importance	.85** (n=486)	1				
3. VALQUEST Consistency	.89** (n=486)	.55** (n=486)	1			
4. VALQUEST Composite	.99** (n=486)	.85** (n=486)	.90** (n=486)	1		
5. VALQUEST Values Identification	.31** (n=486)	.22** (n=487)	.15** (n=487)	.22** (n=486)	1	
6. VALQUEST Motivation	.47** (n=486)	.35** (n=487)	.33** (n=487)	.38** (n=486)	.25** (n=488)	1

Note. ** = $p < .01$ (2-tailed).

Concurrent Validity

In order to assess the concurrent validity of the VALQUEST was compared with a widely used measure of values from an ACT context, the Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). The VLQ has two subscales – Importance and Consistency – and a Composite score which serves as the total score. The VLQ covers 10 domains. The total VLQ score was compared with the sum of VALQUEST's Importance items, Consistent living items, Importance-Consistency Composite subscale, and the VALQUEST Total Score. VALQUEST scores showed significant positive correlations with the relevant VLQ scales. The VALQUEST Total Score and Composite showed large significant correlations with the VLQ Composite score. VALQUEST Importance had a moderate and significant correlation with VLQ Importance, and VALQUEST Consistency had a large and significant correlation with VLQ Consistency. All of these relationships were as predicted and show that the VALQUEST performs similarly to the VLQ in this sample.

Table 9. Pearson correlations among VALQUEST Total Score, VALQUEST Importance, VALQUEST Consistency, VALQUEST Composite subscale, VLQ Importance, VLQ Consistency, and VLQ Composite.

	1	2	3	4	5	6	7
1. VALQUEST Total	1						
2. VALQUEST Importance	$.85^{**}$ (n=486)	1					
3. VALQUEST Consistency	$.89^{**}$ (n=486)	$.56^{**}$ (n=486)	1				
4. VALQUEST Composite	$.99^{**}$ (n=486)	$.85^{**}$ (n=486)	$.90^{**}$ (n=486)	1			
5. VLQ Importance	$.44^{**}$ (n=486)	$.48^{**}$ (n=487)	$.31^{**}$ (n=487)	$.43^{**}$ (n=486)	1		

6. VLQ Consistency	.45**	.25**	.53**	.47**	.35**	1
	(n=486)	(n=487)	(n=487)	(n=486)	(n=488)	
7. VLQ Composite	.572**	.461**	.534**	.577**	.829**	.762**	1
	(n=486)	(n=487)	(n=487)	(n=486)	(n=488)	(n=488)	

Note. ** = p < .01 (2-tailed).

Construct Validity

The construct validity of the VALQUEST was examined by considering its relationship to theoretically related variables as suggested by the theory underlying ACT. The VALQUEST was related to the concept of committed action as measured by the Committed Action Questionnaire (CAQ-8: McCracken, Chilcot, Norton, 2015). VALQUEST Total Score showed a significant moderate positive correlation with the CAQ-8 (r = .44, p <.01). This result was hypothesized and fits with the theoretical conceptualization of the interrelatedness of values and committed action as core processes in ACT.

VALQUEST Total Score also related to life satisfaction, depression and psychological flexibility as hypothesized. The VALQUEST Total Score was moderately and significantly negatively correlated (r = -.38, p < .01) with psychological inflexibility as measured by the AAQ-II (Bond, et al, 2011) and with depression (r = -.37, p < .01) as measured on the PHQ-9 (Kroenke, Spitzer, & Williams, 2001). VALQUEST Total Score also had a significant small positive correlation (r = .29, p < .01) with global life satisfaction as measured on the Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985).

Although not the focus of the present study it should be mentioned that psychological inflexibility and depression showed a significant large positive correlation

(r = .72, p <.01), as fits with other findings in the literature (e.g., Fledderus, Oude Voshaar, ten Klooster, & Bohlmeijer, 2012). Life satisfaction and depression had a significant moderate negative correlation (r = -.34, p <.01) as expected for those constructs.

VALQUEST Subscales

Values Identification: Sum. The Values Identification score is the total number of values words endorsed in each domain. What this dimension of the VALQUEST examines is simply whether having more selected values of importance is predictive of functioning.

A small number of participants (from 5 to 24 per domain) selected more than the instructed three words and one optional self-specified word. To eliminate outliers while not further decreasing the sample size, a Winsorization approach (Dixon, 1960) was utilized to re-code extreme responses at the highest acceptable response: any responses greater than 4 were re-coded as 4. The modal response for each category was 3.

Here we present the average number of value words endorsed in each domain, as well as the average Values Identification summary score (the total for all three domains), by age group and full sample. An independent samples t-test revealed that there was not a statistically significant difference in Values Identification scores between the younger and older subgroups.

Table 10. Average number of values words endorsed.

	Total sample	Younger adults	Older adults
Recreation/leisure	2.85	2.80	2.91
Social relationships	2.90	2.88	2.92

Health/physical well-being	2.90	2.86	2.93
Values Identification score	8.65	8.54	8.76

The Values Identification score showed a small significant correlation with committed action ($r = .14$, $p = .01$). Higher numbers of values selected were associated with higher committed action. Other correlations with life satisfaction, depression, and psychological flexibility did not achieve statistical significance.

Values Identification: Qualitative labels. In each domain, to describe their values participants chose 1-3 words from a list of 8 words, with an option to add an additional word of their choice. In this section we present how frequently each option was selected. The words are presented in the order they appeared to participants in the survey. The Spirituality domain is included in this section to share the qualitative data, but Spirituality items were excluded from other analyses and subscales.

Table 11. Frequency with which each value label was selected within the total sample and younger and older subgroups.

	Total sample (%)	Younger adults (%)	Older adults (%)
Recreation domain			
Pleasure	351 (71.9%)	180 (76.6%)	171 (67.6%)
Friendship	240 (49.2%)	114 (48.5%)	126 (49.8%)
Solitude	185 (37.9%)	79 (33.6%)	106 (41.9%)
Service	58 (11.9%)	20 (8.5%)	38 (15.0%)
Creativity	235 (48.2%)	94 (40.0%)	141 (55.7%)
Passion	147 (30.1%)	102 (43.4%)	45 (17.8%)
Mastery	58 (11.9%)	30 (12.8%)	28 (11.1%)
Hope	78 (16.0%)	28 (11.9%)	50 (19.8%)
Other	48 (9.8%)	15 (6.4%)	33 (13.0%)
Social domain			
Excitement	29 (5.9%)	24 (10.2%)	5 (2.0%)
Honesty	266 (54.5%)	126 (53.6%)	140 (55.3%)
Kindness	212 (43.4%)	97 (41.3%)	115 (45.5%)

Trust	353 (72.3%)	168 (71.5%)	185 (73.1%)
Safety	36 (7.4%)	18 (7.7%)	18 (7.1%)
Fun	152 (31.1%)	79 (33.6%)	73 (28.9%)
Supportiveness	244 (50.0%)	110 (46.8%)	134 (53.0%)
Reliability	161 (33.0%)	72 (30.6%)	89 (35.2%)
Other	8 (1.6%)	2 (0.9%)	6 (2.4%)
Spirituality domain			
Peace	283 (58.0%)	124 (52.8%)	159 (62.8%)
Hope	223 (45.7%)	96 (40.9%)	127 (50.2%)
Tradition	80 (16.4%)	46 (19.6%)	34 (13.4%)
Family	130 (26.6%)	60 (25.5%)	70 (27.7%)
Humility	91 (18.6%)	54 (23.0%)	37 (14.6%)
Growth	162 (33.2%)	81 (34.5%)	81 (32.0%)
Forgiveness	162 (33.2%)	67 (28.5%)	95 (37.5%)
Flexibility	49 (10.0%)	25 (10.6%)	24 (9.5%)
Other	65 (13.3%)	26 (11.1%)	39 (15.4%)
Health domain			
Active	233 (47.7%)	114 (48.5%)	119 (47.0%)
Comfort	149 (30.5%)	77 (32.8%)	72 (28.5%)
Independence	246 (50.4%)	83 (35.3%)	163 (64.4%)
Self-care	297 (60.9%)	153 (65.1%)	144 (56.9%)
Love	68 (13.9%)	44 (18.7%)	24 (9.5%)
Fitness	220 (45.1%)	112 (47.7%)	108 (42.7%)
Challenge	42 (8.6%)	30 (12.8%)	12 (4.7%)
Freedom	176 (36.1%)	70 (29.8%)	106 (41.9%)
Other	11 (2.3%)	3 (1.3%)	8 (3.2%)

Value Label Associations

Chi square analyses were conducted to assess the relationships among the 24

value labels in VALQUEST with depression, psychological inflexibility, age, and

ageism. Twenty-three statistically significant associations were found, but the lambda, a

measure of the strength of the association, indicated that the associations were weak.

Lambda ranges between 0 to 1, with values closer to 1 suggesting a stronger relationship;

values above 0.6 is the suggested cutoff for interpreting an association as strong and

meaningful (Cooper & Schindler, 2014). It appears that the specific value labels chosen

do not have a clear relationship to other variables. In other words, specific value labels

do not help predict outcomes on other measures.

Table 12. Chi square associations of VALQUEST value labels with participant
depression, psychological inflexibility, age, and ageism.

Value labels (domain)	Depression	Psychological inflexibility	Age	Ageism
Friendship (Recreation)			$X^2 = 8.57$ $p<.001$ $\lambda = 0.00$	
Solitude (Recreation)		$X^2 = 6.41$ $p= .01$ $\lambda = 0.00$		$X^2 = 4.08$ $p=.04$ $\lambda = 0.05$
Pleasure (Recreation)			$X^2 = 4.77$ $p=.03$ $\lambda= 0.03$	
Service (Recreation)			$X^2 = 4.86$ $p=.03$ $\lambda = 0.00$	
Creativity (Recreation)			$X^2 =$ 11.79 $p<.001$ $\lambda = 0.12$	$X^2 = 4.55$ $p=.03$ $\lambda = 0.04$
Passion (Recreation)			$X^2 =$ 38.41 $p<.001$ $\lambda = 0.24$	$X^2 = 4.09$ $p=.04$ $\lambda = 0.05$
Hope (Recreation)			$X^2 = 5.49$ $p=.02$ $\lambda = 0.01$	
Excitement (Social)			$X^2 =$ 14.88 $p<.001$ $\lambda = 0.08$	
Honesty (Social)		$X^2 = 5.83$ $p= .02$ $\lambda = 0.00$		
Safety (Social)		$X^2 = 16.00$ $p< .001$ $\lambda = 0.02$		
Trust (Social)				$X^2 = 7.94$ $p=.01$

$\lambda = 0.09$

Active (Health)	$X^2 = 13.21$			
	p=.01			
	$\lambda = 0.00$			
Comfort (Health)	$X^2 = 11.50$	$X^2 = 5.96$		$X^2 = 6.36$
	p=.02	p=.02		p=.01
	$\lambda = 0.00$	$\lambda = 0.00$		$\lambda = 0.07$
Fitness (Health)	$X^2 = 14.31$			
	p=.01			
	$\lambda = 0.00$			
Independence (Health)			$X^2 = 40.48$	
			p<.001	
			$\lambda = 0.26$	
Love (Health)			$X^2 = 8.79$	
			p<.001	
			$\lambda = 0.085$	
Challenge (Health)			$X^2 = 10.07$	
			p<.001	
			$\lambda = 0.077$	
Freedom (Health)			$X^2 = 7.56$	
			p=.01	
			$\lambda = 0.07$	

Values Identification: Other category. For each domain, participants had the option to add their own word(s) to describe their values in that area. A majority of participants did not add an optional response, but between 1.6 to 13.3 percent did, depending on domain. In the tables that follow, different responses were combined when the only difference was capitalization (e.g., "family" and "Family").

Table 13. Recreation/leisure other values identified. (n=48)

	Frequency	Percent	Cumulative Percent
No optional response	440	90.2	90.2
Affordability	1	.2	90.4

Challenge	1	.2	90.6
Christianity	1	.2	90.8
companionship	1	.2	91.0
Discovery	2	.4	91.4
Enjoyable	1	.2	91.6
Enrichment	1	.2	91.8
Entertainment	2	.4	92.2
escaping reality, learning	1	.2	92.4
Family	7	1.4	93.9
family bonding	1	.2	94.1
growth	1	.2	94.3
Health	1	.2	94.5
Inspired	1	.2	94.7
interested/learning	1	.2	94.9
learning	2	.4	95.3
Meditation	1	.2	95.5
Nature	2	.4	95.9
pets	1	.2	96.1
Prayer	1	.2	96.3
Reading	1	.2	96.5
Relax, Reflect and Re-energize	1	.2	96.7
Relaxation	10	2.0	98.8
renewal of spirit	1	.2	99.0
Rest	2	.4	99.4
self-assessment; physical and mental improvement	1	.2	99.6
Socializing	1	.2	99.8
Study	1	.2	100.0

Table 14. Social relationships other values identified. (n=7)

	Frequency	Percent	Cumulative Percent
No optional response	481	98.6	98.6
belonging	1	.2	98.8
devotion	1	.2	99.0
diversity	1	.2	99.2
honor; imparting morals	1	.2	99.4
lack of aggravation	1	.2	99.6

Sharing	2	.4	100.0

The spirituality/religion domain had the most optional responses, with 13.1 percent of the sample adding their own value word(s). Notably, many of the responses related to atheism or a disinterest in organized religion. Other responses were more positive and spoke of specific religious beliefs or spiritual experiences.

Table 15. Spirituality/religion other values identified. (n=64)

	Frequency	Percent	Cumulative Percent
No optional response	424	86.9	86.9
Appreciation	1	.2	87.1
Atheism	2	.4	87.5
Atheist	1	.2	87.7
bound, punishment, stifling	1	.2	87.9
Christ Ressurection and promise	1	.2	88.1
Connectedness	1	.2	88.3
Connection	1	.2	88.5
curiosity	1	.2	88.7
Enlightenment	2	.4	89.1
Follow Christ	1	.2	89.3
Freedom	1	.2	89.5
gratitude, truth	1	.2	89.8
guidance	1	.2	90.0
Harmless	1	.2	90.2
I am an Atheist	1	.2	90.4
I am not religious	1	.2	90.6
I don't really value sprituality/religion	1	.2	90.8
I'm not religious at all	1	.2	91.0
Inner peace	1	.2	91.2
Jesus	1	.2	91.4

knowledge that there is a "supreme being," guiding me through tough times.	1	.2	91.6
LOVE	1	.2	91.8
music	1	.2	92.0
N/A	2	.4	92.4
NO NO NO	1	.2	92.6
no religion	1	.2	92.8
None	11	2.2	95.1
none i am not religious and do not consider it at all in my life	1	.2	95.3
Not	1	.2	95.5
not applicable	1	.2	95.7
Not religious	2	.4	96.1
Nothing	7	1.4	97.5
nothing, I'm not at all religious	1	.2	97.7
reality	1	.2	98.0
Relationship	1	.2	98.2
Reliability	1	.2	98.4
serenity	2	.4	98.8
sociability	1	.2	99.0
Strength	1	.2	99.2
Tolerance	1	.2	99.4
understanding	3	.6	100.0

Table 16. Health/physical well-being other values identified. (n=11)

	Frequency	Percent	Cumulative Percent
No optional response	477	97.7	97.7
being healthy	1	.2	98.0
companionship	1	.2	98.2
Eat well and a Good nights sleep	1	.2	98.4
healthy	1	.2	98.6
Longevity	2	.4	99.0
mobility	1	.2	99.2
My mental well-being	1	.2	99.4
Nutrition	1	.2	99.6

preventative	1	.2	99.8
saving money	1	.2	100.0

Values Identification by Domain

The relationship between total number of values chosen in each domain

(Recreation, Social, and Health) and depression, psychological flexibility, and life

satisfaction was examined. Three statistically significant correlations emerged, a small

negative correlation between Social Values Identification and depression, and small

positive correlations between both Social Values Identification and Health Values

Identification with committed action.

Table 17. Pearson correlations among VALQUEST Values Identification by domain and
measures of committed action, life satisfaction, depression, and psychological
inflexibility.

	Committed Action	Life Satisfaction	Depression	Psychological Inflexibility
Recreation Values Identification	.06 (n=485)	-.06 (n=484)	.05 (n=473)	.00 (n=488)
Social Values Identification	.13** (n=485)	-.04 (n=484)	-.13** (n=473)	-.08 (n=488)
Health Values Identification	.12* (n=485)	.05 (n=484)	-.08 (n=473)	-.05 (n=288)

Note. * = p <.05 (2 tailed), ** = p < .01 (2-tailed).

Values Importance

The Importance score is the sum of importance ratings for each domain. The

average Importance score in the total sample was 14.87 with a standard deviation of 2.75.

The importance rating of each domain was examined along with psychological inflexibility, committed action, and life satisfaction. Several significant correlations emerged, with the direction of the relationships consistent with hypotheses. All importance domains were positively correlated with committed action, and Recreation and Social were positively correlated with life satisfaction. All three domains were negatively correlated with psychological inflexibility and Social and Health were negatively correlated with depression. Rating values as important on the VALQUEST is associated with several important indicators of wellbeing.

Table 18. Pearson correlations among VALQUEST Values Importance ratings by domain and measures of psychological inflexibility, depression, committed action, and life satisfaction.

	Psychological inflexibility	Depression	Committed Action	Life Satisfaction
Recreation Importance	$-.10^*$	$-.08$	$.17^{**}$	$.12^{**}$
	(n=488)	(n=473)	(n=485)	(n=484)
Social Importance	$-.26^{**}$	$-.23^{**}$	$.30^{**}$	$.29^{**}$
	(n=488)	(n=473)	(n=485)	(n=484)
Health Importance	$-.14^{**}$	$-.15^{**}$	$.26^{**}$	$.07$
	(n=487)	(n=472)	(n=485)	(n=483)

Note. * = p <.05 (2 tailed), ** = p < .01 (2-tailed).

Values Importance did not significantly change with chronological age. It had a significant moderate positive correlation with time perspective (r = .323, p <.01), such that importance ratings increased with a longer time horizon, which was not hypothesized. Future Time Perspective results will be discussed further in the section on aging processes.

Motivation Subscale: Intrinsic Motivation

Intrinsic Motivation was calculated by summing the total number of intrinsic items endorsed in each motivation question in the three domains (range 0-6). The intrinsic items were "I think it is important" and "I find it enjoyable or rewarding." The average number of Intrinsic Motivation items endorsed was used for the VALQUEST Total Score. Intrinsic Motivation was associated with several measures of interest as predicted. Endorsing more Intrinsic Motivation items was associated with higher life satisfaction (significant small positive correlation), higher Committed Action (significant small positive correlation), lower depression (significant small negative correlation), and lower psychological inflexibility (significant small negative correlation).

Table 19. Pearson correlations among Intrinsic Motivation and measures of life satisfaction, committed action, depression, and psychological inflexibility.

	1	2	3	4	5
1. Intrinsic Motivation	1				
	(n=488)				
2. Life Satisfaction	.11*	1			
	(n=484)	(n=484)			
3. Committed Action	.25**	.37**	1		
	(n=485)	(n=481)	(n=485)		
4. Depression	-.25**	-.34**	-.54**	1	
	(n=473)	(n=470)	(n=470)	(n=473)	
5. Psychological Inflexibility	-.22**	-.41**	-.68**	.72**	1
	(n=488)	(n=484)	(n=485)	(n=473)	(n=488)

Note. * = p <.05 (2 tailed), ** = p < .01 (2-tailed).

Motivation Subscale: Extrinsic Motivation

Extrinsic Motivation was calculated by summing the number of extrinsic items in the motivation questions in the three domains (range 0-6). The extrinsic items were "Other people expect me to value this" and "I feel that I have to." Extrinsic Motivation had significant small correlations with life satisfaction (negative), committed action (negative), depression (positive), and psychological inflexibility (positive). These results are consistent with hypotheses.

Table 20. Pearson correlations among Extrinsic Motivation and measures of life satisfaction, committed action, depression, and psychological inflexibility.

	1	2	3	4	5
1. Extrinsic Motivation	1 (n=488)				
2. Life Satisfaction	-.10[*] (n=484)	1 (n=484)			
3. Committed Action	-.19[**] (n=485)	.37[**] (n=481)	1 (n=485)		
4. Depression	.20[**] (n=473)	-.34[**] (n=470)	-.54[**] (n=470)	1 (n=473)	
5. Psychological Inflexibility	.19[**] (n=488)	-.41[**] (n=484)	-.68[**] (n=485)	.72[**] (n=473)	1 (n=488)

Note. * = p <.05 (2 tailed), ** = p < .01 (2-tailed).

Motivation Across Domains

The average scores of Intrinsic and Extrinsic Motivation in each domain are presented below. In each domain, more Intrinsic than Extrinsic items were endorsed on

average. Average Intrinsic Motivation was calculated across domains to be included in the Total Score. This score did not statistically differ between the young and old subgroups.

Table 21. Average Internal and External Motivation scores by domain. (n=488)

	Mean	Std. Deviation
Recreation Internal Motivation	1.31	.52
Recreation External Motivation	.08	.29
Social Intrinsic Motivation	1.23	.57
Social Extrinsic Motivation	.16	.40
Health Intrinsic Motivation	1.22	.57
Health Extrinsic Motivation	.33	.55

Extrinsic Motivation was not included in the Total Score because it is not theoretically believed to be indicative of freely chosen, personally meaningful values. Values that are motivated by extrinsic factors such as pressure from others or societal expectations are hypothesized to be less important to wellbeing compared to values driven by personal autonomy and intrinsic factors. In the Discussion section this choice and possible alternative scoring methods that would better capture the impact of Extrinsic Motivation will be considered.

VALQUEST Consistent Living

Consistent Living or Consistency was calculated by summing the consistency questions in the three domains ("In the past week, how consistent have your actions been with your values in this area?"). These items are scored on a 1-5 Likert scale. Consistent Living related to other measures as predicted: it had a significant moderate negative correlation with psychological inflexibility ($r = -.41$, $p < .10$) and depression ($r = -.40$, p

<.10), a significant moderate positive correlation with committed action (r = .42, p <.10), and a significant small positive correlation with life satisfaction (r = .28, p <.10).

Consistency ratings for each domain are presented below, showing a similar pattern of responding across the measure.

Table 22. VALQUEST Consistency ratings in each domain. (n=488)

	Mean	Std. Deviation
Recreation Consistency	3.60	.930
Social Consistency	3.82	.993
Health Consistency	3.51	.995

VALQUEST Composite Subscale

The Composite Subscale was devised as the product of Importance and Consistency scores. The average Composite across the three domains is included in the VALQUEST Total Score. Like the Importance and Consistency items separately, Composite scores were also related to measures of interest in directions consistent with theory. The average Composite score had moderate negative correlations with psychological inflexibility (r = -.38, p <.10) and depression (r = -.37, p <.10), a moderate positive correlation with committed action (r = .44, p <.10), and a small positive correlation with life satisfaction (r = .30, p <.10).

The Composite scores in each domain all showed significant correlations in the same direction as the overall Composite average.

Table 23. Pearson correlations among VALQUEST Composite scores by domain with measures of psychological inflexibility, depression, committed action, and life satisfaction.

	Psychological Inflexibility	Depression	Committed Action	Life Satisfaction

Recreation Composite	$-.23^{**}$	$-.24^{**}$	$.27^{**}$	$.19^{**}$
	(n=487)	(n=472)	(n=484)	(n=483)
Social Composite	$-.36^{**}$	$-.33^{**}$	$.41^{**}$	$.33^{**}$
	(n=488)	(n=473)	(n=485)	(n=484)
Health Composite	$-.29^{**}$	$-.30^{**}$	$.34^{**}$	$.16^{**}$
	(n=487)	(n=472)	(n=485)	(n=483)

Note. ** = $p < .01$ (2-tailed).

VALQUEST Domains

To examine responding across domains of life, a summary score was calculated for each domain, summing: Values Identification, Importance, Motivation, and Consistency. The lowest possible score is 3 and the highest is 16. These summary scores were not used in calculating the VALQUEST Total Score, but are examined here to investigate any significant difference in responding in the different domains. As the table below shows, overall responses in each domain were similar.

Table 24. VALQUEST domain summary scores. (n=488)

	Minimum	Maximum	Mean	Std. Deviation
Recreation Domain Total	6.00	16.00	11.62	1.85
Social Domain Total	4.00	16.00	11.75	2.23
Health Domain Total	5.00	16.00	11.80	2.02

VALQUEST and Aging Processes

Future Time Perspective. VALQUEST Total Score showed no relationship with chronological age, and showed a significant positive correlation ($r = .40$, $p < .01$) with future time perspective as measured on the Future Time Perspective Scale

(Carstensen & Lang, 1996). With increasing perceived time left to live, engagement with values increased, which was not hypothesized. Other research has indicated that having less perceived time left to live can affect attention and motivation (Carstensen et al., 2011). Additionally, as age increases, psychological functioning tends to be higher (Carstensen, Isaacowitz, & Charles, 1999), so it was hypothesized that older individuals and those with perceived less time left to live would be more engaged with values.

Future Time Perspective (FTP) negatively correlated with age ($r = -.24$, $p < .01$), as expected. Barring unusual circumstances such as life-threatening illness, future time perspective tends to decrease with age. In the present study FTP was also associated with depression and psychological inflexibility: FTP had significant moderate negative correlations with both (depression: $r = -.41$, $p < .01$; psychological inflexibility: $r = -.47$, $p < .01$). As perceived time horizons lengthened, depression and psychological inflexibility decreased. This association likely explains the finding that longer time perspective is associated with higher engagement with values on the VALQUEST. After controlling for depression, the correlations between FTP and VALQUEST Total Score and FTP and psychological inflexibility became non-significant.

Future time perspective had a significant small positive correlation with average Motivation scores on the VALQUEST ($r = .18$, $p < .01$). Those with longer time horizons tended to report higher Intrinsic Motivation. This is in keeping with other findings in the literature. One study found that higher scores on FTP (longer time horizons) were associated with greater intrinsic motivation in high school and college students (De Bilde, Vansteenkiste, & Lens, 2011). This finding is also likely impacted by FTP's association with depression and psychological inflexibility.

Selection, Optimization, and Compensation. VALQUEST's Total Score

related to processes of Selection, Optimization, and Compensation (SOC) in a way

consistent with the literature. The SOC short form (Baltes, Baltes, Freund, & Lang,

1999) has a total score and four subscales: Elective Selection, Loss-based Selection,

Optimization, and Compensation. VALQUEST Total had significant positive

correlations with endorsement of Optimization and Compensation strategies, as well as

the total score of the SOC short form. The magnitudes of these correlations were all

small. The subscales of Elective Selection and Loss-based Selection were not

significantly related to VALQUEST Total Scores.

Table 25. Pearson correlations among VALQUEST Total Score and the Selection,
Optimization, and Compensation (SOC) short form questionnaire.

	1	2	3	4	5	6
1. VALQUEST Total	1 (n=488)					
2. Elective Selection	.05 (n=485)	1 (n=487)				
3. Loss-based Selection	-.02 (n=485)	.44** (n=486)	1 (n=487)			
4. Optimization	.28** (n=485)	.17** (n=486)	.06 (n=486)	1 (n=487)		
5. Compensation	.24** (n=486)	.08 (n=487)	.03 (n=487)	.50** (n=487)	1 (n=488)	
6. SOC Total	.21** (n=483)	.69** (n=485)	.58** (n=485)	.68** (n=485)	.62** (n=485)	1 (n=485)

Note. ** = p < .01 (2-tailed).

Selection, Optimization, and Compensation (SOC) processes related to other measures of interests generally in line with hypotheses. Generally, higher utilization of SOC strategies was associated with better psychological functioning as indicated by greater psychological flexibility, committed action, quality of life, and lower depression. Specific SOC strategies that had the strongest associations were Optimization and Compensation. The correlation of greatest magnitude was between Optimization and committed action. The subscale of Elective Selection did not have any significant correlations with other measures, and the Loss-based Selection subscale had small significant negative correlations with committed action and life satisfaction. In other analyses Loss-base Selection was shown to correlate with a shortened time horizon and depression, so this may explain the subscale's negative relationship to committed action and life satisfaction.

Table 26. Pearson correlations among the subscales and total score of the Selection, Optimization, and Compensation short form questionnaire with measures of psychological flexibility, depression, committed action, and life satisfaction.

	Psychological Inflexibility	Depression	Committed Action	Life Satisfaction
Elective Selection	-.07	-.06	.09	-.05
	(n=487)	(n=472)	(n=484)	(n=483)
Loss-based Selection	.07	.07	-.10*	-.12**
	(n=487)	(n=472)	(n=484)	(n=483)
Optimization	-.45**	-.39**	.65**	.29**
	(n=487)	(n=473)	(n=484)	(n=483)
Compensation	-.32**	-.29**	.46**	.25**
	(n=488)	(n=473)	(n=485)	(n=484)
SOC Total	-.30**	-.27**	.44**	.15**

	(n=485)	(n=471)	(n=482)	(n=481)

Note. * = p <.05 (2 tailed), ** = p < .01 (2-tailed).

Age and Future Time Perspective had a relationship with some SOC subscales. Optimization increased with age (significant small positive correlation). Optimization and Compensation had significant moderate positive correlations with future time perspective, and the SOC total score had a small significant positive correlation with FTP. As FTP increased, so did utilization of these SOC strategies. This finding was not predicted. In this sample FTP was related to depression, so that may explain why participants with lower FTP tended to use SOC strategies less.

Table 27. Pearson correlations among age, future time perspective, and Selection, Optimization, and Compensation short form subscales and total score.

	Age	Future Time Perspective
Elective Selection	-.07	.01
	(n=486)	(n=486)
Loss-based Selection	-.04	-.09
	(n=486)	(n=486)
Optimization	.18**	.33**
	(n=486)	(n=487)
Compensation	-.03	.34**
	(n=487)	(n=487)
SOC Total	.02	.23**
	(n=484)	(n=485)

Note. ** = p < .01 (2-tailed).

Ageism

Ageism was measured on the Fraboni Scale of Ageism (FSA: Fraboni, Saltstone, Cooper, & Hughes, 1990). Ageism had a significant moderate negative correlation with chronological age, such that ageism declined as age increased. Ageism had a significant

small negative correlation with the VALQUEST Total Score, indicating that as engagement with values increased, ageism decreased. This was consistent with our hypothesis that ageism would be associated with lower engagement with values. A causal relationship cannot be conferred from this correlation, but this result suggests that the VALQUEST could be helpful for use with older adults who hold ageist attitudes and that future research could explore this relationship.

Table 28. Pearson correlations among ageism, age, future time perspective, and VALQUEST Total Score.

	1	2	3	4
Ageism	1			
	(n=486)			
Age	-.35**	1		
	(n=485)	(n=487)		
Future Time	-.18**	-.24**	1	
Perspective	(n=485)	(n=486)	(n=487)	
VALQUEST Total	-.27**	.01	.40**	1
	(n=484)	(n=485)	(n=485)	(n=486)

Note. ** = p < .01 (2-tailed).

Future time perspective had a small negative correlation with ageism, such that a longer future time perspective was associated with lower values of ageism. Longer time perspectives were also related to lower depression, which may explain this relationship. Ageism was also related to depression and psychological flexibility, as hypothesized. Ageism had significant moderate positive correlations with depression ($r = .30$, $p < .01$) and psychological inflexibility ($r = .33$, $p < .01$).

Within the older adult subgroup, ageism was only related to psychological flexibility and not to depression. Ageism had a significant small positive correlation with

psychological inflexibility (r = .19, p <.01) and no significant correlation with depression. In other words, older adults who are more psychologically inflexible tend to be more ageist, but their level of depression has no impact on their ageism. In the older subgroup, psychological inflexibility and depression had a significant large positive correlation (r = .64, p <.01) as in the total sample.

In the full sample, ageism did not have a relationship with the total score of the Selection, Optimization, and Compensation short form, but it did have small significant correlations with the subscales. Loss-based selection was positively correlated with ageism while Optimization and Compensation were negatively correlated. The correlation with Elective Selection was too small in magnitude to meaningfully interpret. These correlations show that individuals who are more ageist tend to endorse more Loss-based Selection and fewer Optimization and Compensation strategies.

In the older subgroup, the ageism and SOC relationships were very similar. Ageism was not significantly correlated with the SOC total score, Elective Selection, or Loss-based Selection, but had small significant correlations with Optimization (r = -.15, p <.05) and Compensation (r = -.16, p <.05). This is consistent with other findings in the literature that Optimization and Compensation are predictive of wellbeing in older adults and can even be used to buffer against the negative effects of having diminished resources in older age (Jopp & Smith, 2006).

Younger and Older Subgroup Differences

Independent samples t-tests were used to test differences in means in the older and younger adult subgroups. These analyses were conducted to confirm other findings

about lifespan developmental changes and potentially provide information about older

adults' unique patterns of responses on the VALQUEST. The following table presents

the significant results. A positive mean different in this table indicates the younger adults

scored higher on the measure of interest compared to older adults. Younger adults had

greater Extrinsic Motivation, psychological inflexibility, depression, future time

perspective, and ageism. Older adults had greater levels of committed action and SOC

Optimization. The difference with the greatest effect size, measured by Cohen's d, was

the difference in ageism. These findings are broadly consistent with the literature on age

differences.

Table 29. Paired sample t-test comparisons of younger and older subgroups on measures of VALQUEST Extrinsic Motivation, psychological inflexibility, committed action, depression, future time perspective, SOC Optimization, and ageism.

	Group	N	M	SD	Mean difference	t	p	df	Effect size
VALQUEST Extrinsic Motivation	Younger	234	0.68	0.94					
	Older	253	0.45	0.84	0.23	2.90	.004	485	0.26
Psychological Inflexibility	Younger	234	19.64	10.88					
	Older	253	16.85	9.05	2.79	3.09	.002	485	0.28
Committed Action	Younger	234	32.10	9.47					
	Older	250	35.07	7.79	-2.97	3.78	<.001	482	0.34
Depression	Younger	229	5.58	6.41					
	Older	243	3.98	4.73	1.61	3.11	.002	470	0.28
Future Time Perspective	Younger	234	4.66	1.45					
	Older	252	3.99	1.52	0.67	4.98	<.001	484	0.45
SOC Optimization	Younger	234	2.14	1.10					
	Older	252	2.47	0.96	-0.33	3.56	<.001	484	0.32
Ageism	Younger	234	58.49	12.87					
	Older	251	52.00	9.26	6.49	6.41	<.001	483	0.58

Younger and older adults did not statistically differ on life satisfaction. There

were no significant differences between older and younger adults on the other

VALQUEST items: Values Identification, Importance, Intrinsic Motivation, Consistent

Living, or Total Score. Significant differences also did not emerge on the SOC total score or its other subscales: Elective Selection, Loss-based Selection, and Compensation.

Older Adult Subgroup Analyses

Within the older subgroup (those aged 55 and over), VALQUEST Total Score had significant correlations with other measures that were consistent with hypotheses. VALQUEST Total Score had a moderate positive correlation with life satisfaction and Committed Action, a small negative correlation with psychological inflexibility, and a moderate negative correlation with depression.

Table 30. Pearson correlations among VALQUEST Total Score, psychological inflexibility, committed action, depression, and life satisfaction in the older subgroup.

	1	2	3	4	5
1. VALQUEST Total	1 (n=252)				
2. Psychological Inflexibility	-.29** (n=252)	1 (n=253)			
3. Committed Action	.31** (n=250)	-.60** (n=250)	1 (n=250)		
4. Depression	-.32** (n=242)	.64** (n=243)	-.42** (n=240)	1 (n=243)	
5. Life Satisfaction	.30** (n=249)	-.52** (n=250)	.43** (n=247)	-.45** (n=240)	1 (n=250)

Note. ** = $p < .01$ (2-tailed).

Among older adults, VALQUEST Total Score was not significantly correlated with age, and had a significant moderate positive correlation with future time perspective ($r = .36$, $p < .01$). This relationship was not hypothesized. As noted earlier, future time perspective did have a relationship with depression and psychological inflexibility.

Higher scores on the VALQUEST were associated with higher scores in Optimization and Compensation (significant small positive correlations) suggesting that older adults who are high in values engagement are also utilizing SOC strategies. SOC processes did not correlate with chronological age within the older subgroup, so SOC usage did not increase or decrease with advanced age.

As future time perspective increased within the older subgroup, Optimization and Compensation were more utilized (significant moderate and small correlations), and Loss-based Selection decreased (significant small negative correlation). Loss-based selection strategies involve shifting strategies and priorities when one is no longer able to achieve the same results as before, so this would theoretically be a helpful strategy towards the end of life.

Table 31. Pearson correlations among Selection, Optimization, and Compensation strategies and age, future time perspective, and VALQUEST Total Scores in the older adult subgroup.

	Age	Future Time Perspective	VALQUEST Total
Elective Selection	.11	-.07	-.08
	(n=253)	(n=252)	(n=252)
Loss-based Selection	.09	-.13*	-.10
	(n=252)	(n=251)	(n=251)
Optimization	.10	.32**	.21**
	(n=252)	(n=252)	(n=251)
Compensation	.02	.27**	.17**
	(n=253)	(n=252)	(n=252)
SOC Total	.12	.15*	.06
	(n=251)	(n=251)	(n=250)

Note. * = p <.05 (2-tailed), ** = p < .01 (2-tailed).

In the older adult subgroup, VALQUEST scores were significantly correlated with the existing values measure, the Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). As in the total sample, VALQUEST subscales had high correlations with corresponding subscales on the VLQ, and the total scores had a significant large correlation. These analyses provide evidence that the VALQUEST is performing similarly to the VLQ for older adults.

Table 32. Pearson correlations among the Valued Living Questionnaire and its subscales and VALQUEST and its subscales in the older subgroup.

	1	2	3	4	5	6	7
1. VLQ Composite	1 (n=253)						
2. VLQ Importance	.82** (n=253)	1 (n=253)					
3. VLQ Consistency	.74** (n=253)	.30** (n=253)	1 (n=253)				
4. VALQUEST Total	.55** (n=252)	.40** (n=252)	.43** (n=252)	1 (n=252)			
5. VALQUEST Values Identification	.15* (n=253)	.20** (n=253)	.05 (n=253)	.27** (n=252)	1 (n=253)		
6. VALQUEST Motivation	.16* (n=253)	.21** (n=253)	.06 (n=253)	.41** (n=252)	.18** (n=253)	1 (n=253)	
7. VALQUEST Composite	.56** (n=252)	.38** (n=252)	.44** (n=252)	.99** (n=252)	.19** (n=252)	.32** (n=252)	1 (n=252)

Note. * = p <.05 (2-tailed), ** = p < .01 (2-tailed).

Each of the analyses described in this section was repeated for the subgroup of younger adults. In general, the results were the same as with the total sample and very similar to the older adult sample, in terms of the significance and direction of the correlations among relevant measures. There were several age-related differences as noted in the section previously (e.g., compared to older adults, younger adults reported

higher levels of extrinsic motivation on the VALQUEST). Because a primary goal of this study was developing the VALQUEST for use with older adults, these results for the younger subgroup will not be presented here. The VALQUEST did appear to be useful for adults across the age range of this sample.

Does the VALQUEST Add to Other Psychological Flexibility Measures?

Other than the VLQ, which will be addressed below, two other measures of aspects of psychological flexibility were used in the present study: the AAQ as a general measure that emphasizes acceptance and defusion and the CAQ as a measure of committed action. In order to see if the VALQUEST added to the ability of those psychological flexibility measures to explain variance in the mental health and quality of life measures used, linear regressions were conducted with depression and life satisfaction as the dependent variables and in each case entering AAQ, CAQ, and VALQUEST in a forward stepwise fashion. On depression as measured by the PHQ-9, the AAQ entered the model first with an R^2 value of .51 (F Change $(1,467) = 485.91$, p < .001). The VALQUEST Total then entered with an R^2 change value of .01 (F Change $(1,466) = 12.56$, p < .001). Committed Action did not enter the model. For life satisfaction as measured by the SWLS, the AAQ entered the model first with an R^2 value of .17 (F Change $(1,478) = 97.70$, p < .001). The VALQUEST Total then entered with an R^2 change value of .02 (F Change $(1,477) = 12.15$, p < .001). Finally, the CAQ then entered with an R^2 change value of .01 (F Change $(1,476) = 4.51$, p = .034). Thus, the VALQUEST did add significantly to the ability of the psychological flexibility measures available (other than the VLQ) to account for the variance in the mental health and

quality of life measures used in this study, but the percent of additional variance accounted for ranged from 1.3 to 2.1 percent.

Comparing the VALQUEST and VLQ

A final area of analysis was to assess whether the VALQUEST added to the ability of the VLQ Composite to explain variance in the mental health and quality of life measures available. VALQUEST and VLQ were first entered alone and in combination into a series of linear regression models with depression and life satisfaction as the dependent variable. In this way, we can see how much power each questionnaire has in accounting for the variance in depression or life satisfaction scores.

In the total sample with depression as the dependent variable, entering the VLQ Composite alone in a linear regression produced an R^2 value of .13 (F $(1,471)$ = 72.35, p < .001); entering the VALQUEST Total Score alone yielded an R^2 value of .14 (F Change $(1,469)$ = 76.26, p < .001). When the VLQ Composite and VALQUEST Total were entered together in a stepwise linear regression, the VALQUEST Total entered the model first (with values as just specified) and the VLQ Composite then entered with an R^2 change value of .03 (F Change $(1,468)$ = 18.58, p < .001). The total R^2 value of the combined model was .17, which accounted for 4% more of the variance than the VLQ alone and 3.3% more than the VALQUEST alone.

The same process of studying the impact of VLQ Composite and VALQUEST Total Score was employed with life satisfaction as a dependent variable. Individually, the VLQ had an R^2 value of .19, (F $(1,482)$ = 111.73, p <.001) and the VALQUEST Total yielded an R^2 of .08 (F $(1,480)$ = 43.04, p <.001). When adding the VALQUEST Total to

the regression with VLQ, the VALQUEST was not a significant predictor and did not add to the model. The VALQUEST is a significant predictor on its own, but does not add any predictive utility above the VLQ in predicting life satisfaction.

Because the VALQUEST was designed with older adults in mind, these analyses were repeated on the older adult subgroup. A similar trend emerged. VLQ and VALQUEST Total were both significant predictors of depression individually. The VLQ attained an R^2 value of .10 ($F (1,241) = 26.36$, $p < .001$) and the VALQUEST Total had an R^2 value of .10 ($F (1,240) = 27.75$, $p < .001$). When the VALQUEST Total and the VLQ were entered together in a stepwise linear regression, the VALQUEST Total entered the model first (with values as specified) and the VLQ Composite then entered with an R^2 change value of .03 (F Change $(1,239) = 6.84$, $p < .001$). The combined model attained an R^2 value of .13, which accounted for 3 percent more of the variance than the VLQ alone and 2.5 percent more than the VALQUEST alone.

Life satisfaction also followed a similar pattern to the overall group. The VLQ Composite and VALQUEST Total were individually significant predictors of life satisfaction. The VLQ obtained an R^2 value of .21, ($F (1,248) = 67.12$, $p < .001$) and the VALQUEST had an R^2 value of .09, ($F (1,247) = 24.63$, $p < .001$). When the VLQ and VALQUEST were added into a stepwise linear regression together, the VALQUEST was non-significant and did not add to the model. The VALQUEST Total did not add any more power to explain the variance in life satisfaction for older adults beyond the VLQ's ability to do so.

A final set of analyses examined all available measures of psychological flexibility processes (the AAQ, CAQ, VLQ, and VALQUEST Total) in a series of

stepwise linear regressions on depression and life satisfaction. This essentially asks whether the VALQUEST adds anything to the best established values measures in ACT, in the context of the most widely used measure of the overall concept (the AAQ) and a measure of a flexibility process closely tied to values, namely, committed action.

In the area of depression, the AAQ was a significant predictor, with an R^2 value of .51, (F (1,471) = 491.46, p <.001). The CAQ was also significant, an R^2 value of .29, (F (1,468) = 189.62, p <.001). As noted in the previous analysis, the VLQ and VALQUEST were both significant independent predictors, accounting for 13.3 percent and 14.0 percent of the variance, respectively. With all four independent variables entered in a stepwise linear regression, a model emerged including the AAQ and VALQUEST with an R^2 value of .52 (F (1,466) = 255.25, p <.001). The AAQ entered the model first and the VALQUEST then entered with an R^2 change of .01 (F Change (1,466) = 12.56, p < .001). Thus, in predicting depression, the VALQUEST performed better than the CAQ and VLQ. Together with the AAQ, the VALQUEST explained 52.3 percent of the variance in depression.

This process was repeated with life satisfaction as a dependent variable. The AAQ was a significant predictor, yielding an R^2 value of .17, (F (1,482) = 97.93, p <.001). CAQ was also significant, with an R^2 value of .14, (F (1,479) = 75.89, p <.001). As noted previously, the VLQ and VALQUEST were both individually significant predictors, with R^2 value values of .21 and .09 respectively. When all four variables were entered into a stepwise linear regression, the VLQ and AAQ both the model with a total R^2 value of .26 (F (1,477) = 81.57, p <.001). The VALQUEST and CAQ were excluded

from the model because they were non-significant. Once again, the VALQUEST appears to be less effective than the VLQ in explaining variation in life satisfaction.

Once again, these regressions were repeated with the older adult subgroup. For older adults' depression scores, the AAQ was a significant predictor with an R^2 value of .41, (F (1,482) = 97.93, p <.001) and the CAQ was significant with an R^2 value of .18, (F (1,238) = 51.26, p <.001). The VLQ and VALQUEST were each significant predictors when entered into a regression alone, each with R^2 values of .10. With the AAQ, CAQ, VLQ, and VALQUEST Total entered into a stepwise linear regression, the VALQUEST entered after the AAQ, with an R^2 change of .02 (F change (1,237) = 8.44, p <.001). The total model had an R^2 value of .43, which accounted for 33.3 percent more of the variance in depression in older adults than the VLQ alone.

In predicting life satisfaction in older adults, the AAQ was a significant predictor and attained an R^2 value of .27 (F (1,248) = 92.23, p <.001), while the CAQ was also significant and had an R^2 value of .19 (F (1,245) = 56.23, p <.001). As noted before, the VLQ and VALQUEST were both significant predictors individually of life satisfaction, with R values of .21 and .09 respectively. Entering the AAQ, CAQ, VLQ, and VALQUEST Total into a stepwise linear regression yielded a model with an R^2 value of .35 and included the AAQ and VLQ. The VALQUEST and CAQ were not included because they were not significant. The VLQ was superior to the VALQUEST in predicting life satisfaction in older adults, though the VALQUEST was still a significant predictor on its own.[1]

---

[1] In all of the linear regressions described in this section, collinearity statistics were run in SPSS to detect potential problems with high correlations among predictor variables. In each case, the Tolerance and VIF statistics indicated that multicollinearity was not high and not a cause for concern.

CHAPTER FOUR: DISCUSSION

Human values are an important topic in psychology. Over the course of its entire history they have been commented on by many major figures. William James emphasized that the topic is of interest to scientific psychology, specifically noting that he thought that "scientific loyalty to facts," can be harmonized with "confidence in human values" (1907, p. 17). Values have been defined, measured, theorized about, and researched by every wing and faction. Social psychology, positive psychology, industrial/organizational psychology, humanistic psychology, behavioral psychology, applied psychology, and so on have all examined values as a topic of empirical and theoretical importance. For example, B. F. Skinner wrote in Beyond Freedom and Dignity that "Things themselves are studied by physics and biology usually without reference to their value but the reinforcing effects of things are the province of behavioral science, which to the extent that it is concerned with operant reinforcement, is a science of values" (1971, p. 99). The idea from several quarters that human values can and should be the topic of scientific study has propelled the field forward.

In Acceptance and Commitment Therapy, values are one of the six core processes (along with acceptance, cognitive defusion, present moment awareness, self as context, and committed action) that have been shown to contribute to psychological flexibility (the ability to willingly fully contact the present moment and persist in or change behavior(s) in pursuit of one's chosen values). Values work involves several processes:

choosing and clarifying values, identifying possible behaviors that would be consistent

with those values, and engaging in those valued behaviors. Values are not an end goal to

be achieved, but rather help to guide behavior in a more valued direction. Empirical

studies have shown that values can be a mechanism of change: changes in valued living

have been associated with reductions in depression (Bramwell & Richardson, 2018),

workplace stress (Williams et al., 2016), and other meaningful outcomes. Other studies

have conceptualized increases in valued living as an outcome in itself (e.g., Lundgren,

Dahl, & Hayes, 2008; Vowles & McCracken, 2008). Two recent review papers have

called for improved values assessment tools (Barney, Lillis, Haynos, Formana, &

Juarascioa, 2018; Serowik, Khan, LoCurto, & Orsillo, 2018).

Values are also an importance concept in geropsychology. In the geropsychology

and geriatric medicine literature, values measures, studies, and methods are often related

specifically to values around healthcare or end of life care (Carpenter, et al., 2000;

Doukas & McCullough, 1991; Karel, Powell, & Cantor, 2004; Pearlman, Starks, Cain,

Rosengreen, & Patrick, 1998). While understanding and documentation of such

preferences and values can make a large difference in quality of life and quality of care

for the elderly, values work is important for older people outside of medical issues.

Indeed, qualitative studies have found that one area where the elderly and geriatric care

staff have differing views of the elements contributing quality of life in the elderly, is that

older people put greater emphasis the importance of living a values-based life (Berglund

& Ericsson, 2003). As we age, we must adapt to changing environments, diminishing

cognitive and physical abilities, shrinking social circles, inevitable losses, and increased

exposure to ageism. Values work is relevant to all of these areas. Large research studies

have found that values change across the lifespan as a result of such factors (Gouveia, Milfont, & Fischer, 2015). For example, when losses occur in a given valued area, older people are challenged to consider other ways these values may be satisfied, or how other valued domains that might now become the focus of activity. For all these reasons as the population demographics of the U.S. and other nations continues to shift toward older ages, there is a growing need for better treatments and assessment tools touching on values that are suitable for use with older adults.

The Values Across the Lifespan Questionnaire, or VALQUEST, was developed to explore a new and more concrete yet flexible approach for values assessment that could meet the needs of older adults specifically and adults more generally. VALQUEST drew elements from existing questionnaires and tools, while adding an arguably simplified structure. Respondents are asked to describe their values in three domains of life relevant to older or younger adults (recreation/leisure, social relationships, and health/physical well-being) by choosing up to 3 words from a list of 8 words or optionally adding their own word. This approach provided qualitative information about the respondent's unique personal values without the response burden of a free-response writing prompt. Choosing from a list of possible words may also help respondents clarify their values, especially if they are not familiar with the concept of values, and also makes the approach arguably less abstract, and more able to be focused on special populations. After having chosen words for their values, respondents rate the importance of this value to them, the motivation behind this value (drawing on the literature on extrinsic and intrinsic motivation), and how consistent their actions have been with this value during the last week.

In constructing this measure, it was hoped that a factor structure would emerge that would justify the use of a total score that could quickly and accurately summarize a person's values in particular domains. If that was possible, the resulting measure could be explored for is validity.

Factor Analysis

To ascertain its factor structure and test its validity, The VALQUEST was administered to 488 participants recruited online through Amazon Mechanical Turk. Half of the sample was 55 years of age or older.

Internal consistency of the VALQUEST was not calculated; factor analysis was utilized instead. Internal consistency measures the degree to which items designed to measure the same latent variable produce the same scores (through calculating the correlations among specified items; Cronbach, 1951). In VALQUEST's case, the related items across the three domains (identification, importance, motivation, and consistency) are not theoretically expected to have significant correlations. Ratings in each domain are independent – for example, the importance of recreation values is not conceptually expected to relate to the importance of health values. For this reason, internal consistency of the VALQUEST would not provide meaningful information about the measure's reliability, validity, or utility.

Separate first and second EFA samples were assembled using a stratified quasi-random process that equated for age distribution. An exploratory factor analysis was performed on one of the stratified samples, and a second exploratory factor analysis with

a specified number of factors was performed on the other in order to confirm the results of the first.

Factor analysis helped devise a better scoring system than originally proposed. Composite scores – the product of Importance and Consistency scores – were added to replace Importance and Consistency as individual subscales. This provided a much better fit for the data and reflects the theoretical understanding that values importance and consistency are related and are more meaningful examined together. Valued action is most impactful when it occurs in a highly valued area. Using composite scores also has a precedent in the literature, as the Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010) utilizes the same type of importance and consistency composite score.

Another important change to the VALQUEST that emerged from factor analysis was removing the four items from the originally proposed Spirituality/Religion domain. Even with Composite scores, the items from this domain did not load onto factors like the related items from the other domains. Examining the responses on the Values Identification optional "other" item was revealing. The Spirituality/Religion item had more responses than the other domains and many had a decidedly negative tone suggesting the domain had an aversive quality for some participants. Many responses stated that the participant was atheist, not interested in spirituality or religion, or didn't feel the question was relevant or applicable, while others went as far as "bound, punishment, stifling" and "NO NO NO." Other participants did not appear to have a negative reaction and listed values and beliefs specific to their religion, such as "Follow

Christ" and "knowledge that there is a 'supreme being,' guiding me through tough times."

Participants clearly had a variety of sometimes strong reactions to being asked about their values in the domain of "spirituality/religion." Given the wide range of free responses, and the irregular behavior of the rest of the items in the domain, the Spirituality/Religion items were removed from VALQUEST.

One possible way to understand some of the responses to the Spirituality/Religion items may be through the lens of stigma and stereotype threat. There is a well-established literature on stigma around gender and race negatively affecting relevant performance when the stigma is primed (e.g., Steele & Aronson, 1995). Ageism is another form of stigma we have reviewed in this paper. Another area deserving of attention is the bias against atheism. Even though church attendance and religious affiliation have been declining in the U.S. for years, negative judgment towards atheists and atheism remains persistent (Edgell, Hartmann, Stewart, & Gerteis, 2016). Anti-atheist attitudes likely stem from both moral concerns about atheism and beliefs that religiosity is good and is part of being a U.S. citizen (Edgell, Hartmann, Stewart, & Gerteis, 2016). People may feel uncomfortable about not knowing an atheist's belief system or code of ethics. Indeed, recent empirical research has found that people will judge atheists even more harshly than members of stigmatized religions (Muslims) or other stigmatized groups (gay men, people with AIDS; Cook, Cottrell, & Webster, 2015). The moral disgust at atheists also often extends to those who are "spiritual but not religious" (abbreviated as SBNR in the literature), likely for similar reasons of discomfort at not understanding the person's belief system and moral code (Edgell, Hartmann,

Stewart, & Gerteis, 2016). Previous research from 2006 had found that Americans most prefer to distance themselves (such as by expressing a preference that one's children not marry someone from that group, among other measures) from atheists compared to any other stigmatized group: Muslims, homosexuals, recent immigrants, Jews, African Americans, Hispanics, Asian Americans, conservative Christians, White Americans (Edgell, Gerteis, & Hartmann, 2006). Given these strong and enduring beliefs, it is likely that American atheists and SBNRs have experienced some level of bias, discrimination, and discomfort.

Spirituality does have strong evidence for its association with wellbeing, including later in life (Idler et al., 2003; Koenig, McCullough, & Larson, 2001). The majority of people, even atheists and agnostics, report having spiritual experiences of some sort, which can include experiences outside of religion such as transcendental experiences of nature or music (Preston, & Shin, 2017). Ideally, a future version of the VALQUEST should develop a way of assessing spirituality in a way that is not offensive and is non-threatening.

One way might be to simply change the over-arching label for the values words so as to make room for any belief or lack of belief and affirm all as legitimate. In that context, it should be noted that the VLQ asks only about the domain of "spirituality" – it never uses the term "religion." In hindsight, it may have been wiser to adopt that approach because it is more flexible across audiences. Religious persons would likely interpret the single term "spiritually" to cover religion, but the label "spirituality / religion" might be associated with concerns over those who claim to be spiritual but not religious. The same could be true, through a different path, for non-religious persons.

They may be perfectly fine discussing spirituality so long as it is not confused with religion, while the over-arching label "spirituality / religion" might lead them to worry that others will think their answers could be seen as an endorsement of religion. If this is the source of the problem a very ready solution is available: change the overarching label to parallel that used in the VLQ. This finding from the present study is a reminder that the specific choice of wording when assessing values can be crucial to the respondent's interpretation and reaction.

Validity

With its subscales and scoring method set, the VALQUEST was compared with eight other measures of relevant constructs in addition to demographics. Three of these were measures in the general area of psychological flexibility: the Acceptance and Action Questionnaire-II (Bond et al, 2011), Committed Action Questionnaire (CAQ-8: McCracken, Chilcot, & Norton, 2015), and Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). Two were measures of mental health or quality of life: the Patient Health Questionnaire (PHQ-9: Kroenke, Spitzer, & Williams, 2001), and Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985). Three were measures relevant to aging: Future Time Perspective Scale (FTPS: Carstensen & Lang, 1996), Selection Optimization and Compensation Short Form (Baltes, Baltes, Freund, & Lang, 1999), and Fraboni Scale of Ageism (FSA: Fraboni, Saltstone, Cooper, & Hughes, 1990).

Compelling evidence for concurrent validity was found in the large correlations between VALQUEST and VLQ scores. VALQUEST Total Score correlated with VLQ's

composite score, and VALQUEST importance and consistency items correlated with the corresponding domains in the VLQ. These correlations were significant, in the predicted direction, and of relatively greater magnitude than other possible correlations that would not be consistent with theory. The VALQUEST also added unique information both by design, with qualitative words chosen in Values Identification and information about extrinsic and intrinsic motivations in the Motivation subscale, and in fact given that the VALQUEST added significant additional information beyond the VLQ in stepwise regressions targeting mental health or quality of life measures. This finding also shows some degree of incremental validity for the instrument.

Evidence for the construct validity of the VALQUEST also emerged. The VALQUEST showed significant negative correlations with depression and psychological inflexibility and a positive correlation with life satisfaction. Additionally, each subscale was found to relate to these relevant measures as predicted. These relationships were true for both the total sample and the older adult subgroup.

Additional incremental validation was also shown by the ability in stepwise regressions for the VALQUEST to add to other psychological flexibility measures as a set in examining mental health or quality of life. When combined with a generic measure of psychological flexibility (the AAQ) and a measure of Committed Action (the CAQ-8), the VALQUEST accounted for variability in depression above and beyond those measures. This shows that the VALQUEST can be used as part of a set of measures assessing the facets and features of psychological flexibility.

An additional finding of interest from the stepwise regression models with VALQUEST and VLQ was that the VALQUEST performed better in predicting

depression, while the VLQ was superior in predicting life satisfaction. This may be because the VLQ is broader in scope than the VALQUEST, covering 10 domains of life, which may help the VLQ tap into life expansion and global satisfaction. Conversely, the VALQUEST's three domains – recreation, social relationships, and health – are especially relevant to symptoms of depression (i.e., loss of interest and pleasure in activities, social isolation, fatigue and somatic symptoms, among others). Depending on a researcher's goals, either the VALQUEST or VLQ could be preferable; even in its current state of development the present study suggests that the VALQUEST may be better suited than the VLQ for clinical trials treating depression, while the VLQ would be more useful if life satisfaction and wellbeing was the outcome of interest. If this accounts for the obtained differences the VALQUEST could be modified to meet the needs of research or clinical work directed at life satisfaction by expanding its structure to duplicate the VLQ's 10 domains, or indeed domains specific to the interests of a certain population (e.g., environmental concerns; animal rights; art and aesthetics).

These results provide some support for the concept of quantifying values identification with the number of value words chosen in the multiple-choice format. The sum of the number of values chosen was significantly correlated with committed action on the CAQ-8. It's possible that choosing a higher number of values reflects a greater fluency in and understanding of one's values. In the process of articulating one's values and then enacting them behaviorally, there is a step in between where it is helpful to envision what valued action might look like. Every moment provides a new opportunity to engage with values, and valued action can take many forms. The process of

identifying value words could be similar to the process of envisioning valued behavior, which would fit with the correlation between Values Identification and committed action.

VALQUEST's Composite score, the product of Importance and Consistency scores, proved to be a useful subscale. Importance and Consistency scores both correlated significantly with relevant measures as predicted. Just as the VLQ's Composite score was determined to be preferable to individual Importance and Consistency scores, the VALQUEST Composite score both provided a much better fit for the factor structure of the measure and yielded more consistent correlations to the separate measures of functioning. Considering the importance of a value and the degree of consistent living with that value together makes sense theoretically. Values that are of high importance where an individual is behaving very consistently should lead to the highest overall scores, while a highly important value with low consistent behavior would be a sign for potential intervention. Considering the two scores separately loses the interconnectedness of this relationship.

The Motivation subscale is a unique contribution from the VALQUEST. The decision to only include intrinsic motivation items in the calculation of VALQUEST's total score was based on the definition of values from the ACT perspective being meant to include values freely chosen by the individual (rather than forced by others or imposed by society or expectations). There is also a wealth of research showing the importance of personal autonomy and implicit motivation to wellbeing. The Self-Concordance Model (Sheldon & Elliot, 1999) describes values as "self-concordant" if they are truly chosen by the person and are consistent with their own authentic values. Self-Determination Theory (Deci & Ryan, 1985, 2000) also describes values as being driven by intrinsic or extrinsic

motivation, and conceptualizes motivation as being on a continuum from an internal to external locus of control. Other values measures that do not assess motivation miss this important piece. A value on the VLQ could be rated as very important for reasons that are entirely extrinsic (for example, rating work as highly important because of a pressure to provide financially for one's family and fear of losing one's job) with no understanding of why the value is important or how it functions in the person's daily life.

Intrinsic and Extrinsic Motivation on the VALQUEST were significantly related to depression, life satisfaction, psychological flexibility, and committed action. Younger adults were also found to report significantly higher Extrinsic Motivation. There may be ways for the Motivation subscale to be improved and Extrinsic Motivation given weight to the VALQUEST Total Score. That might add to the unique variance of the VALQUEST as compared to other values measures. For example, the Motivation subscale could be scored as a ratio or proportion of Intrinsic Motivation compared to Extrinsic Motivation. It could also use a total sum of items endorsed and contain negative values if greater extrinsic motivation is endorsed. Further research will be needed to explore these possibilities but the present study provides a clear "proof of concept." A future version of the VALQUEST could also add additional questions or response options to assess other aspects of intrinsic and extrinsic motivation.

Age

VALQUEST shows promise as a measure that will be useful for older adults. A total of 253 adults over the age of 55 completed the measure in this study. While the total score did not correlate with chronological age, one age difference in VALQUEST

responding emerged. Younger adults endorsed significantly more Extrinsic Motivation items, suggesting younger adults are subjected to more external pressures and drives compared to older adults. This would be consistent with a lifespan development perspective that sees adults gaining more independence and self-knowledge across the lifespan.

Numerous age differences emerged on the other measures. Older adults had greater psychological flexibility, lower depression, higher committed action, and lower ageism. These results are in line with a wealth of other research showing that old age tends to be the most psychologically healthy overall.

When entered into a partial correlation the VALQUEST weakened several theoretically meaningful correlations (e.g., between depression and life satisfaction), albeit not significantly. In general, although the differences were too small to be significant in a sample of this size, the VALQUEST reduced such correlations more than the VLQ in older people while the reverse was true in younger people. It could be that the mere mention of a domain, as is done with the VLQ, is more flexible and useful than having suggested words as in the VALQUEST until older person begin to need more concrete intellectual support. If that is so, a much larger sample of much older people will be needed to determine if the VALQUEST has such advantages. There is considerably additional precision and flexibility afforded by the VALQUEST structure however. A very similar structure could also be used with cognitively impaired populations, with the very young, with illiterate populations using pictures instead of words, with specific cultural groups using terms common to them, or with specific populations that have characteristic but idiosyncratic terms for events of importance (e.g.,

the military). Thus, the success of the VALQUEST structure may facilitate measurement development in several needed areas. I will return to them later in the discussion.

Future Time Perspective

Future time perspective (FTP) refers to how much time one perceives to have left in life and how many opportunities await. Research has shown that it tends to decrease across the lifespan, as one's "time horizon" shortens (Carstensen, Isaacowitz, & Charles, 1999). FTP may also be reduced in younger people when someone is experiencing a terminal illness or life-threatening disaster (Fung & Carstensen, 2006).

In the present study, FTP was measured on the Future Time Perspective Scale (Carstensen & Lang, 1996). Older adults had a significantly lower score on the measure compared to younger adults, even when controlling for VALQUEST Total Score. Contrary to hypotheses, FTP correlated positively with VALQUEST Total Score: as perceived time left to live increased, engagement with values increased. It was hypothesized that because older adults tend to have higher psychological functioning and wellbeing, and FTP tends to negatively correlate with age, that FTP would be associated with higher engagement with values. But after controlling for depression, the correlation between FTP and VALQUEST became insignificant. FTP had significant negative correlations with depression and psychological inflexibility: as FTP increased, depression and psychological inflexibility decreased. It appears that the Future Time Perspective Scale was tapping into aspects of depression in this sample. An examination of the items on the FTPS suggests why. The measure includes statements such as "Many opportunities await me in the future" and "I could do anything I want in the future,"

which could conceivably be impacted by feelings of pessimism and low mood characteristic of depression. In the subgroup of older adults, FTP had a significant large positive correlation with life satisfaction (r = .57, p < .001); the same was true in the total sample, with a correlation of slightly smaller magnitude (r = .45, p <.001).

Very similar findings were identified in the literature outside of Socioemotional Selectivity Theory. A recent study found that future time perspective had a negative correlation with depressive symptoms and loneliness in a sample of middle older adults aged 50-67 (Bergman & Segel-Karpas, 2018). There are also several other versions of future time perspectives scales aside from the one developed by Carstensen and colleagues (e.g., Zimbardo, 1990; Zimbardo, Keough, & Boyd, 1997); Strathman, Gleicher, Boninger, & Edwards, 1994) and the construct has been used in younger, middle aged, and older adults as a predictor of life satisfaction (Azizli, Atkinson, Baughman, & Giammarco, 2015), suicidality (Chin & Holden, 2013), student achievement (Simons, Vansteenkiste, Lens & Lacante, 2004; De Bilde, Vansteenkiste, & Lens, 2011), and risky driving behavior (Zimbardo, Keough, & Boyd, 1997), among other outcomes.

Ageism

Ageism, as measured on the Fraboni Scale of Ageism (FSA: Fraboni, Saltstone, Cooper, & Hughes, 1990), declined with chronological age in the sample, consistent with other research (Gordon & Arvey, 2004; Kite & Stockdale, 2005). Ageism also related to depression and psychological flexibility as predicted, with higher ageism being associated with greater levels of depression and psychological inflexibility. After

controlling for VALQUEST Total Score, the correlations were no longer significant. Engagement with values may be helpful in managing the negative effects of the stigma of ageism.

Ageism was negatively correlated with the VALQUEST, meaning those scoring high on values tended to have lower ageist attitudes. Future time perspective also had a small negative correlation with ageism, whereby longer time perspectives were associated with lower ageism. However, when depression was controlled for, the correlation was no longer significant.

The FSA is a measure of ageism as a stigmatizing attitude. Values may be of more direct relevance as a prophylactic process to help dampen the impact of self-stigma and of the impact of enacted ageism – the actual experience of receiving unfair treatment due to one's age. Future research should examine this relationship, using a different measure. Empirical research has indicated a stereotype threat response where older adults primed with ageist stereotypes perform worse on cognitive tasks (Lamont, Swift, & Abrams, 2015). Other research has shown that values and other psychological flexibility processes help reduce the psychological harm from self-stigma and enacted stigma in areas such as drug problems or sexual orientation (Luoma, Kohlenberg, Hayes, Bunting, & Rye, 2008; Yadavaia, Hayes, 2012). Values affirmation exercises, where participants write about important values, can act as a buffer against the impact of enacted stigma. Brief values affirmation interventions led to improvement in grades for women in a science course (Miyake, Kost-Smith, Finkelstein, Pollock, Cohen, & Ito, 2010) and led to higher rates of college enrollment in Latino and African American

students (Goyer, et al., 2017). It seems quite possible that the same would apply to the elderly as a stigmatized group.

Selection, Optimization, and Compensation

Utilizing processes of Selection, Optimization, and Compensation (SOC) was associated with higher engagement with values on the VALQUEST. This fits with the literature on the use of SOC strategies being associated with successful functioning across the lifespan, particularly in old age (Freund & Baltes, 1998; Jopp & Smith, 2006). The subscales of the SOC, measuring specific processes, also had significant correlations with psychological flexibility, depression, life satisfaction, and committed action. Older adults were more likely to report using Optimization strategies.

Limitations

This study has several limitations. Because data were collected at a single time point, the temporal reliability of the VALQUEST is not known. The VALQUEST was designed in the hopes that it would be sensitive to changes over time and would thus be useful for tracking client progress in clinical settings. Additionally, intervention studies would benefit from a values assessment tool that is sensitive to change so that values could be assessed as a potential outcome or mediator of change. The present study helped refine and improve the VALQUEST so that future studies can assess its reliability and sensitivity to change.

Another impact of a single time point assessment is the reactivity of the VALQUEST is not known. Values affirmation exercises have broad effects in several

areas (e.g., as was cited above they have been utilized as effective buffer against the negative effects of enacted stigma). Taking the VALQUEST is not as potent, lengthy, or in-depth as a values affirmation exercise, but it is an empirical question as to whether and how it may affect participants in the moment. Future studies could also include a pre- and post-test to assess for reactivity effects of the values assessment, and its impact on distress, experience of stigma, mood, intentions and similar areas. Related to reactivity, any possible sequence effects of the measures employed in the study are not known. The measures were administered in the same order for every participant; if there were any sequence effects, all participants were equally exposed. Future studies with the VALQUEST using a battery of measures could randomize the order in which participants complete them.

The present study did not assess whether participants had any exposure to ACT treatment, workshops, or books. Participants might respond differently to the VALQUEST and other measures if they already have knowledge of ACT concepts or if they have already done values work in therapy. We hope that the VALQUEST's structure of guiding participants to choose words to describe their values could be especially helpful to those who are new to values work, but this remains an empirical question. Future studies should assess prior exposure to and knowledge of ACT so that it can be included in analyses.

Caution should be taken in generalizing the results of the present study. Participants were from only the United States and Canada, so the findings are not necessarily generalizable to other countries and cultures. Research has indicated that important values vary by culture (Schwartz, 1992; Schwartz, 2012) so the present sample

was intentionally restricted so as not to introduce confounding cultural variables. The sample was also one of convenience, drawn from a website used by the general public. The majority of the sample was not distressed: 80.3 percent scored below the suggested cutoff for depression on the PHQ-9. It is not yet known how the VALQUEST would perform with a clinical sample.

While the factor analysis proved helpful in eliminating poorly performing items and creating a new subscale, factor analysis has some limitations. This study used exploratory factor analysis, which is considered less ideal because it lets data dictate the structure and not theory-driven *a priori* predictions as with confirmatory factor analysis. However, it should be noted that the structure obtained was in line with the design of the instrument and the rationale behind it.

The VALQUEST is unique compared to other self-report questionnaires. Rather than have each item scored on the same scale, items have different types of responses. Values Identification and Motivation are sums (the number of items endorsed) and Importance and Consistency use ratings on 5-point Likert scales. Likert scales may be considered ordinal variables, but they may be used as interval variables in this case as they have a midpoint and meaningful distances between values (Norman, 2010; Sullivan & Artino Jr., 2013). Sums may also be considered interval as they are a count variable with equally-spaced units. Using a sum, rather than examining each choice qualitatively, provides an aggregate that leads to a loss of granularity in the data. But the sum of values endorsed and intrinsic motivation endorsed are theoretically important and allow for interval variables. It is important that all variables be considered interval, as factor analysis relies in correlations, which cannot be carried out on categorical variables.

To address the loss of detail by analyzing only the sums of number of values endorsed, analyses were conducted examining associations with each of the 24 values words in the measure and other outcomes. However, no results were statistically significant. The specific words participants chose were not related to their depression, life satisfaction, psychological flexibility, age, or ageism. While the assumptions of psychometrics are that each item means the same thing to each respondent, behavior analytic assumptions dictate that the same word can function differently for each respondent based on his or her unique learning history. In the case of the VALQUEST, the same value label may mean different things across participants. For example, someone who chooses "freedom" for a health value may be thinking about taking care of her physical health so that she can continue to be independent and "free," while another may be thinking of the boundless energy and "freedom" he experiences when exercising and taking care of his health.

The lack of significant associations with the value words in the VALQUEST is not necessarily a limitation of the measure. The overall structure of the VALQUEST has been shown to be feasible and stable. Future research could replace the specific value words or domains of the VALQUEST with different items depending on the theories and goals of the researchers. One theory holds that values may be categorized as "self-transcendent" – meaning interpersonal and prosocial – or "nontranscendent" meaning self-focused values of money and power (Crocker, Niiya, & Mischkowski, 2008; Kang, et al, 2017). While some words on the VALQUEST may be considered more self-transcendent than others, the transcendent framework does not follow the same definition of values in ACT and the VALQUEST was not designed with these concepts in mind.

Future research could add self-transcendent and nontranscendent value words to the structure of the VALQUEST to test for associations between the words selected and outcomes of interest.

Implications and Future Directions

Values have been shown to be a process of change in intervention studies (e.g., Bramwell & Richardson, 2018), but studying change processes based on group averages depends on implausible "ergodic assumptions" of inter-individual homogeneity in change trajectories. Relationships that are shown at the level of the group can be completely different than those shown at the level of the individual. For example, any large and diverse group will likely contain typists at various levels of expertness. In all such groups, higher typing speed will be correlated with fewer typing errors on relative basis, simply because beginning typists are slow and make relatively more errors while experts are fast and make relatively fewer errors. The consistency of that relationship at the level of the group (faster typing – fewer errors) does not alter the fact that virtually every person at every level of ability makes more errors when typing faster. This example shows that it is possible for virtually every large group to show that two variables relate in one way while the exact opposite is true for every individual in those groups.

The point this makes is that if assessment devices are to be applied to the identification and measurement of processes of change within individuals, new methods of assessment development will be needed that establish assessment quality and function at the level of individuals first, collecting them into nomothetic generalizations without ever treating differences between individuals as "error."

Said in another way, process-oriented research needs to be built atop the analysis of many, many individuals examined one at a time, for statistical reasons that have long been known and can no longer be avoided when process of change are the focus (Hayes et al., in press). Cattell (1952; 1963), one of the major figures in the development of factor analysis, understood this issue and even published early forms of methods that allowed such studies (his "p-technique" – see Cattell, Cattell, & Rhymer, 1947). More recently, complex network and dynamical system models have been developed to understand how variables relate to each other over time within persons considered as individuals (Epskamp et al., 2018) which can then be gathered into a nomothetic model through innovative statistical methods such as Group Iterative Multiple Model Estimation (Gates & Molenaar, 2012).

VALQUEST is positioned to be part of such a line of research in part because its simplicity allows items from the VALQUEST to be put into a brief ecological momentary assessment device that could assess values importance and consistency multiple times each day. This could be used to better understand how values relate to other issues in in daily life, ne person as a time. For example, how do values relate to depressed mood in an individual over time? Does an increase in depression lead to a decline in valued living, and/or does an increase in valued living lead to a decline in depression?

The VALQUEST could also be further developed as a measure that does not include specific domains. Specifying domains can be a way to orient respondents to different areas of life and possible values, especially with the list of words in each domain of the VALQUEST. But the domain approach can also be limiting. There are

many values which would not fit into only one domain. In ACT, values are often described as potentially "qualities of action." For example, if someone values compassion, she could strive to behave compassionately every day, in any situation. What domain would compassion fall under? One of the benefits of conceptualizing a value as a quality of action is that it offers the person unlimited avenues of pursuing the value behaviorally. A future version of the VALQUEST could easily be constructed without domains, allowing respondents to select or generate important value words and then rate the importance, consistent living, and motivation of each word.

This study also naturally leads to further work in developing a values assessment tool that can be used with older adults with cognitive and functional impairments. A suitable tool for this population would be adapted for use with the person and a trusted friend or caregiver, who could guide the person through the assessment as much as needed. Older adults with cognitive impairment are at risk for receiving care that is not in line with their values and preferences. They may have difficulty expressing themselves verbally and they may have lost the legal right to make decisions on their own. Persons under plenary (or full) legal guardianship are reliant on their guardians to manage every aspect of life, from finances to healthcare and even to personal decisions like marriage. Those under legal guardianship must rely on their guardians to assess their values and advocate for them. But it can be difficult for professional guardians or even family members to broach the topic of values. Existing tools focus mostly on healthcare values and specific end of life preferences, and are likely administered once and not frequently revisited. A values assessment tool that covers broad life values and what makes a person unique is needed for this population. Ideally it should also be able to be

administered continually, as care preferences and goals often change over time as the person's health changes. It would be very helpful for guardians, families, and medical professionals to know more about the person's broad values, rather than only a few specific preferences, as a way of making principle-based decisions. As noted above if even words as items are too abstract, there is no reason pictures could not be substituted, although additional validation would be needed.

Finally it is worth noting that the success of the present study in validating a new way to assess values provides a kind of "proof of concept" that could open up the field to the ready creation of many specific values-assessment tools to fit particular clinical or research needs. That has already occurred in other areas of the assessment of psychological flexibility processes. For example, the most popular general version of the AAQ emphasizes feelings in general, and common experiences of anxiety, depressed mood, or critical thoughts, but dozens of versions of the AAQ have appeared targeting specific areas such as pain (Fish, McGuire, Hogan, Morrison, & Stewart, 2010), diabetes (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007), or substance abuse (Luoma, Drake, Kohlenberg, & Hayes, 2011). In virtually all studies with specific problems or populations, versions of the AAQ that are targeted to that area work better than generic versions (e.g., Gregg et al., 2007).

In a similar manner, the VALQUEST can easily be modified to fit values assessment to specific cultures, language communities, problem areas, settings, and generations, with the expectation that these specific tools might be more useful than generic ones. Focus groups or other qualitative and quantitative methods could identify not just how people in that group talk about values, but which terms are most frequently

used. For example, knowledge of the most common terms for values used by Native Americans could readily lead to a VALQUEST version adapted to that cultural and ethnic group. The same might apply to military veterans, medical students, persons with spinal cord injuries, and so on. If this is true the VALQUEST may open the door to needed values research in many specific areas. Furthermore, because of the specific terms used, the precision of knowledge about what people value will be much greater than with domain terms alone.

Conclusion

The Values Across the Lifespan Questionnaire, or VALQUEST, was developed for use with adults across the lifespan. VALQUEST evidenced a three-factor structure with three subscales of Values Identification, Motivation, and a Values Importance-Consistency Composite. VALQUEST demonstrated concurrent validity by performing similarly to a widely used measure of values, the Valued Living Questionnaire (VLQ: Wilson, Sandoz, Kitchens, & Roberts, 2010). Construct validity was demonstrated through correlations with relevant constructs: VALQUEST related to psychological flexibility, committed action, depression, and life satisfaction as hypothesized. The VALQUEST provides qualitative information about unique personal values while still maintaining a low response burden and quantitative data analytic strategies. The process of designing the measure to be useable by older adults seems to have led to a measure that will be useful for adults of all ages. This first successful version of the VALQUEST provides a proof of concept for a new way forward in values assessment that is both more

specific and more flexible, opening up values assessment research to a larger number of

new areas.

References

Allport, G. W., Vernon, P. E., & Lindzey, G. (1960). Study of values. Oxford, England: Houghton Mifflin.

Alonso, M. A., Lopez, A., Losada, A., & Gonzalez, J. L. (2013). Acceptance and Commitment Therapy and selective optimization with compensation for older people with chronic pain: A pilot study. Behavioral Psychology / Psicologia Conductual, 21, 59-79.

Alonso-Fernández, M., López-López, A., Losada, A., González, J. L, & Wetherell, J. L. (2016). Acceptance and Commitment Therapy and Selective Optimization with Compensation for institutionalized older people with chronic pain. Pain Medicine, 17, 264-277.

Antony, M.M., Bieling, P.J., Cox, B.J., Enns, M.W., & Swinson, R.P. (1998). Psychometric properties of the 42-item and 21-item versions of the depression anxiety stress scales in clinical groups and a community sample. Psychological Assessment, 10, 176–181.

Ayalon, L. & Tesch-Römer, C. (2017). Taking a closer look at ageism: self- and other-directed ageist attitudes and discrimination. European Journal of Ageing, 14, 1–4.

Azizli, N., Atkinson, B. E., Baughman, H. M., & Giammarco, E. A. (2015). Relationships between general self-efficacy, planning for the future, and life satisfaction. Personality and Individual Differences, 82, 58 – 60. http://dx.doi.org/10.1016/j.paid.2015.03.006

Bai, X., Lai, D. W. L., & Guo, A. (2016). Ageism and depression: Perceptions of older people as a burden in China. Journal of Social Issues, 72(1), 26–46. https://doi.org/10.1111/josi.12154

Baldensperger, L., Wiedemann, A. U., Wessel, L., Keilholz, U., & Knoll, N. (2018). Social network, autonomy, and adherence correlates of future time perspective in patients with head and neck cancer. Psycho-Oncology, 27(6), 1545–1552. https://doi.org/10.1002/pon.4690

Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), Successful aging: Perspectives from the behavioral sciences (pp. 1–34). New York: Cambridge University Press.

Baltes, P.B., Baltes, M.M., Freund, A.F., & Lang, F. (1999). The measurement of selection, optimization, and compensation (SOC) by self-report: Technical report.

Barber, S. J., & Tan, S. C. (2018). Ageism affects the future time perspective of older adults. GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry, 31(3), 115–126. https://doi.org/10.1024/1662-9647/a000189

Barnes-Holmes, D., Barnes-Holmes, Y., Power, P., Hayden, E., Milne, R., & Stewart, I. (2006). Do you really know what you believe? Developing the Implicit Relational Assessment Procedure (IRAP) as a direct measure of implicit beliefs. The Irish Psychologist, 32, 169–177.

Barnett, R.C. (2005). Ageism and sexism in the workplace. Generations, 29(3), 25–30.

Bell, B. D., & Stanfield, G. G. (1973a). The aging stereotype in experimental perspective. Gerontologist, 13, 341–344.

Bell, B. D., & Stanfield, G. G. (1973b). Chronological age in relation to attitudinal judgments: An experimental analysis. Journal of Gerontology, 28, 491–496.

Berg, C. A., & Sternberg, R. J. (1992). Adults' conceptions of intelligence across the life span. Psychology and Aging, 7, 221–231.

Berglund, A. & Ericsson, K. (2003). Different meanings of quality of life: A comparison between what elderly persons and geriatric staff believe is of importance. International Journal of Nursing Practice, 9, 112-119. doi:10.1046/j.1322-7114.2003.00414.x

Bergman, Y.S. & Segel-Karpas, D. (2018). Future time perspective, loneliness, and depressive symptoms among middle-aged adults: A mediation model. Journal of Affective Disorders, 241, 173-175.

Blackledge, T., Ciarrochi, J., & Bailey, A. (2010). Personal Values Questionnaire II. Unpublished Manuscript.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionniare - II: A revised measure of psychological flexibility and experiential avoidance. Behavior Therapy, 42, 676-688.

Bramwell, K. & Richardson, T. (2018). Improvements in depression and mental health after Acceptance and Commitment Therapy are related to changes in defusion and values-based action. Journal of Contemporary Psychotherapy, 48(1): 9–14.

Carstensen, L., Isaacowitz, D.M., & Charles, S.T. (1999). Taking time seriously: A theory of socioemotional selectivity. American Psychologist, 54(3), 165-181.

Carstensen, L. L., & Lang, F. R. (1996). Future Orientation Scale. Unpublished manuscript, Stanford University.

Carstensen, L.L., Pasupathi, M., Mayr, U., & Nesselroade, J.R. (2000). Emotional experience in everyday life across the adult life span. Journal of Personality and Social Psychology, 79, 644-655.

Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., … Nesselroade, J. R. (2011). Emotional experience improves with age: evidence based on over 10 years of experience sampling. Psychology & Aging, 26(1), 21–33. https://doi.org/10.1037/a0021285

Castro, M., Rehfeldt, R.A., & Root, W.B. (2016). On the role of values clarification and committed actions in enhancing the engagement of direct care workers with clients with severe developmental disorders. Journal of Contextual Behavioral Science, 5(4), 201-207.

Cattell, R.B. (1952). The three basic factor-analytic research designs: Their interrelations and derivatives. Psychological Bulletin, 49, 499–520.

Cattell, R.B. (1963). The structuring of change by P-technique and incremental R-technique. In C. W. Harris (Ed.), Problems in measuring change (pp. 167–198). Madison: University of Wisconsin Press.

Cattell, R.B., Cattell, A.K.S., & Rhymer, R.M. (1947). P-technique demonstrated in determining psychophysical source traits in a normal individual. Psychometrika, 12, 267–288.

Centers for Disease Control and Prevention. The State of Aging and Health in America 2013. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2013.

Charles, S. T., Mather, M., & Carstensen, L. L. (2003). Aging and emotional memory: The forgettable nature of negative images for older adults. Journal of Experimental Psychology: General, 132, 310–324.

Chase, J.A., Houmanfar, R., Hayes, S.C., Ward, T.A., Plumb Vilardaga, J., & Follette, V. (2013). Values are not just goals: Online ACT-based values training adds to goal setting in improving undergraduate college student performance. Journal of Contextual Behavioral Science, 2, 79–84

Chin, J. & Holden, R.H. (2013). Multidimensional future time perspective as moderators of the relationships between suicide motivation, preparation, and its predictors. Suicide & life-threatening behavior, 43(4), 395-405. DOI: 10.1111/sltb.12025

Ciarrochi, J. (2008). Behavioral activation and values clarification package: A compilation of resources for clinicians. Unpublished manuscript, University of Wollongong.

Ciarrochi, J. & Bailey, A. (2008). A CBT-Practicioner's Guide to ACT: How to Bridge the Gap Between Cognitive Behavioral Therapy and Acceptance and Commitment Therapy. New Harbinger Publications, Inc.: Oakland, CA.

Ciarrochi, J., Fisher, D., & Lane, L. (2011). The link between value motives, value success, and well-being among people diagnosed with cancer. Psycho-Oncology, 20, 1184–1192.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Committee on Quality of Health Care in America. (2001). Institute of Medicine report. Crossing the quality chasm: A new health system for the 21st century. Retrieved from:http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2001/Crossing-the-Quality-Chasm/Quality%20Chasm%202001%20%20report%20brief.pdf

Cooper, D.R. & Schindler, P.S. (2014). Business research methods (12th ed.). New York, NY: McGraw-Hill.

Creswell, J. D., Welch, W. T., Taylor, S. E., Sherman, D. K., Gruenewald, T. L., & Mann, T. (2005). Affirmation of personal values buffers neuroendocrine and psychological stress responses. Psychological Science, 16(11), 846-851.

Crocker, J., Canevello, A., Breines, J. G., & Flynn, H. (2010). Interpersonal goals and change in anxiety and dysphoria in firstsemester college students. Journal of Personality and Social Psychology, 98, 1009–1024. https://doi.org/10.1037/a0019400.

Crocker, J., Niiya, Y., & Mischkowski, D. (2008). Why does writing about important values reduce defensiveness? Self-affirmation and the role of positive other-directed feelings. Psychological Science, 19, 740-747.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297–334.

Crump, M. J. C., McDonnell, J. V., & Gureckis, T. M. (2013). Evaluating Amazon's Mechanical Turk as a tool for experimental behavioral research. PLoS ONE, 8(e57410), 1–18. doi:10.1371/journal. pone.0057410

Davison, T. E., Eppingstall, B., Runci, S., & O'Connor, D. W. (2017). A pilot trial of acceptance and commitment therapy for symptoms of depression and anxiety in older adults residing in long-term care facilities. Aging & Mental Health, 21, 766-773.

De Bilde, J., Vansteenkiste, M., & Lens, W. (2011). Understanding the association between future time perspective and self-regulated learning through the lens of self-determination theory. Learning and Instruction, 21, 332-344.

Deci, E.L. & Ryan, R.M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Deci, E.L. & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11(4), 227–68.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49, 71-75.

Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. Journal of Personality and Social Psychology, 107, 879–924.

Donahue, J.J., Khan, H., Huggins, J., & Marrow, T. (2017). Posttraumatic stress symptom severity and functional impairment in a trauma-exposed sample: A preliminary examination into the moderating role of valued living. Journal of Contextual Behavioral Science, 6(1), 13-20.

Doukas, D. J., & McCullough, L. B. (1991). The values history: The evaluation of the patient's values and advance directives. The Journal of Family Practice, 32, 145-153.

Durbin, K. A., Barber, S. J., Brown, M., & Mather, M. (2018). Optimism for the Future in Younger and Older Adults. The Journals of Gerontology Series B, Psychological Sciences and Social Sciences, 0(0), 1-10. doi:10.1093/geronb/gbx171

Edgell, P., Gerteis, J., & Hartmann, D. 2006. Atheists as 'Other': Moral boundaries and cultural membership in American society. American Sociological Review, 71(2), 211–34.

Emmons, R. A. (2003a). Personal goals, life meaning, and virtue: Wellsprings of a positive life. In Flourishing: Positive psychology and the life well-lived (pp. 105–128). Washington, DC: American Psychological Association.

Emmons, R. A. (2003b). The psychology of ultimate concerns. New York: The Guilford Press.

Epskamp, S., van Borkulo1, C.D., van der Veen, D.C., Servaas, M.N., Isvoranu1, A., Riese, H., & Cramer, A.O.J. (2018). Personalized network modeling in psychopathology: The importance of contemporaneous and temporal connections. Clinical Psychological Science, 6(3), 416–427.

Ferssizidis, P., Adams, L. M., Kashdan, T. B., Plummer, C., Mishra, A., & Ciarrochi, J. (2010). Motivation for and commitment to social values: The roles of age and gender. Motivation and Emotion, 34, 354–362. https://doi.org/10.1007/s11031-010-9187-4.

Fish, R. A., McGuire, B., Hogan, M., Morrison, T. G., & Stewart, I. (2010). Validation of the Chronic Pain Acceptance Questionnaire (CPAQ) in an internet sample and development and preliminary validation of the CPAQ-8. Pain, 149, 435-443.

Fitzpatrick, M., Henson, A., Grumet, R., Poolokasingham, G., Foa, C., Comeau, T., & Prendergast, C. (2016). Challenge, focus, inspiration and support: Processes of values clarification and congruence. Journal of Contextual Behavioral Science, 5, 7–15.   http://doi.org/10.1016/j.jcbs.2016.02.001

Fledderus, M., Oude Voshaar, M.A.H., ten Klooster, P.M., & Bohlmeijer, E.T. (2012). Further evaluation of the psychometric properties of the Acceptance and Action Questionnaire–II. Psychological Assessment, 24(4), 925-936. http://dx.doi.org/10.1037/a0028200

Follette, W.C. (2018). Pseudoscience persists until clinical science raises the bar. The Behavior Therapist, 41(1), 24-31.

Fraboni, M., Saltstone, R., Cooper, D., & Hughes, S. (1990). The Fraboni Scale of Ageism. Canadian Journal on Aging, 9(1), 56-66

Freund, A. M., & Baltes, P. B. (1998). Selection, optimization, and compensation as strategies of life management: Correlations with subjective indicators of successful aging. Psychology and Aging, 13(4), 531–543. https://doi.org/10.1037/0882-7974.13.4.531

Fung, H.H. & Carstensen, L.L. (2006). Goals change when life's fragility is primed: Lessons learned from older adults, the September 11 Attacks and Sars. Social Cognition, 24(3), 248-278. https://doi.org/10.1521/soco.2006.24.3.248

Gordon, R. A., & Arvey, R. D. (2004). Age bias in laboratory and field settings: A meta-analytic investigation. Journal of Applied Social Psychology, 34, 1–27.

Gouveia, V.V., Vione, K.C., Milfont, T.L., & Fischer, R. (2015). Patterns of value change during the life span: Some evidence from a functional approach to values. Personality and Social Psychology Bulletin, 41(9), 1276-1290.

Goyer, J. P., Garcia, J., Purdie-Vaughns, V., Binning, K. R., Cook, J. E., Reeves, S. L., & ... Cohen, G. L. (2017). Self-affirmation facilitates minority middle schoolers' progress along college trajectories. Proceedings of The National Academy of Sciences of the United States of America, 114(29), 7594-7599. doi:10.1073/pnas.1617923114

Graham, J.R., West, L.M., & Roemer, L. (2015). A preliminary exploration of the moderating role of valued living in the relationships between racist experiences and anxious and depressive symptoms. Journal of Contextual Behavioral Science, 4(1), 48-55.

Gregg, J.A., Callaghan, G.M., Hayes, S.C., & Glenn-Lawson, J.L. (2007). Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. Journal of Consulting and Clinical Psychology, 75(2), 336-343. doi: 10.1037/0022- 006X.75.2.336

Harris, P.R. & Epton, T. (2009). The impact of self-affirmation on health cognition, health behaviour and other health-related responses: A narrative review. Social and Personality Psychology Compass, 3(6), 962-978.

Harris, R. (2010). A quick look at your values. The Happiness Trap supplemental materials. Retrieved from: https://thehappinesstrap.com/upimages/Complete_Worksheets_2014.pdf

Hayes, S. C. (1991). A relational control theory of stimulus equivalence. In L. J. Hayes & P N. Chase (Eds.), Dialogues on verbal behavior: The first international institute on verbal relations (pp. 19-40). Reno, NV: Context Press.

Hayes, S. C., Barnes-Holmes, D., & Roche, B. (Eds.). (2001). Relational frame theory: A post-Skinnerian account of human language and cognition. New York, NY: Kluwer Academic/Plenum Publishers.

Hayes, S. C., Hofmann, S. G., Stanton, C. E., Carpenter, J. K., Sanford, B. T., Curtiss, J. E., & Ciarrochi, J. (in press). The role of the individual in the coming era of process-based therapy. Behaviour Research and Therapy. DOI: 10.1016/j.brat.2018.10.005

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

He, W., Goodkind, D., & Kowa, P. (2016). An aging world 2015: International population reports. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2016/demo/p95 -16-1.pdf

Hellbusch, J. S., Corbin, D. E., Thorson, J. A., & Stacy, R. D. (1994). Physicians' attitudes towards aging. Gerontology and Geriatrics Education, 15(2), 55–65.

Hofmann, S.G. & Hayes, S.C. (2018). The future of intervention science: Process-based therapy. Clinical Psychological Science, https://doi.org/10.1177/2167702618772296

Holt-Lunstad, J., Smith, T.B., & Layton, J.B. (2010). Social relationships and mortality risk: a meta-analytic review. PLoS Med., 7(7): e1000316. doi: 10.1371/journal.pmed.1000316.

Idler, E. L., Musick, M. A., Ellison, C. G., George, L. K., Krause, N., & Ory, M. G. (2003). Measuring multiple dimensions of religion and spirituality for health research: Conceptual background and findings from the 1998 general social survey. Research on Aging, 25(4), 327–365. doi:10.1177/0164027503025004001

Isaacowitz, D. M., Allard, E. S., Murphy, N. A., & Schlangel, M. (2009). The time course of age-related preferences toward positive and negative stimuli. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 64(2), 188– 192. https://doi.org/10.1093/geronb/gbn036

James, W. (1907). Pragmatism: A new name for some old ways of thinking. New York, NY: Longman, Green, & Co.

Jöreskog, K. G. (1969).A general approach to confirmatory maximum likelihood factor analysis. Psychometrika, 34, 183-202.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. Educational and Psychological Measurement, 20, 141–151. http://dx.doi.org/10.1177/001316446002000116

Kalavar, J. M. (2001). Examining ageism: Do male and female college students differ? Educational Gerontology, 27, 507–513.

Karel, M.J., Mulligan, E.A., Walder, A., Martin, L.A., Moye, J., & Naik, A.D. (2016). Valued life abilities among veteran cancer survivors. Health Expectations, 19(3), 679-90.

Karel, M.J., Powell, J., & Cantor, M. (2004). Using a values discussion guide to facilitate communication in advance care planning. Patient Education and Counseling, 55, 22-31.

Kasser, T. (2004). The good life or the goods life? Positive psychology and personal well-being in the culture of consumption. In P. A. Linley, S. Joseph, P. A. Linley, S. Joseph (Eds.) Positive Psychology in Practice (pp. 55–67). Hoboken, NJ, US: John Wiley & Sons Inc.

Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. Personality and Social Psychology Bulletin, 22, 280–287.

Katz, A. M., Czech, S. J., & Orsillo, S. M. (2014) Putting values into words: An examination of the text characteristics of values articulation. Journal of Contextual Behavioral Science, 3, 16-20.

Kennedy, Q., Mather, M., & Carstensen, L. L. (2004). The role of motivation in the age-related positivity effect in autobiographical memory. Psychological Science, 15(3), 208–214.

Kim, I.-H., Noh, S., & Chun, H. (2016). Mediating and moderating effects in ageism and depression among the Korean elderly: The roles of emotional reactions and coping responses. Osong Public Health and Research Perspectives, 7(1), 3–11. https://doi.org/10.1016/j.phrp.2015.11.012

Kite, M.E., Stockdale, G.D., Whitley, B.E., & Johnson, B.T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. Journal of Social Issues, 61, 241–266.

Koenig, H. G., McCullough, M. E., & Larson, D. (2001). Handbook of religion and health. New York, NY: Oxford University Press.

Kogan, N., & Shelton, F. C. (1962). Images of "old people" and "people in general" in an older sample. The Journal of Genetic Psychology, 100, 3–21.

Kopelman, Richard & Rovenpor, Janet & Guan, Mingwei. (2003). The Study of Values: Construction of the fourth edition. Journal of Vocational Behavior, 62, 203-220.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. Journal Of General Internal Medicine, 16(9), 606–613.

Lamont, R. A., Swift, H. J., & Abrams, D. (2015). A review and meta-analysis of age-based   stereotype threat: Negative stereotypes, not facts, do the damage. Psychology & Aging, 30, 180–193. doi: 10.1037/a0038586.

Lawton, M. P., Moss, M., Hoffman, C., Kleban, M. H., Ruckdeschel, K., & Winter, L. (2001). Valuation of life: A concept and a scale. Journal of Aging and Health, 13(1), 3–31.

Levine, L. J., & Bluck, S. (1997). Experienced and remembered emotional intensity in older adults. Psychology and Aging, 12, 514-523.

Levy, B.R., and Banaji, M.R. 2002. Implicit Ageism. In T.D. Nelson (Ed.), Ageism: Stereotyping and Prejudice against Older Persons. Cambridge. MA: The MIT Press.

Lillis, J. & Kendra, K.E. (2014). Acceptance and Commitment Therapy for weight control: Model, evidence, and future directions. Journal of Contextual Behavioral Science, 3(1): 1–7.

Lundgren, T., Dahl, J., & Hayes, S. C. (2008). Evaluation of mediators of change in the treatment of epilepsy with acceptance and commitment therapy. Journal of Behavioral Medicine, 31(3), 225–235.

Lundgren, T., Luoma, J.B., Dahl, J., Strosahl, K., & Melin, L. (2012). The Bull's-Eye Values Survey: A psychometric evaluation. Cognitive and Behavioral Practice, 19, 518-26.

Lundgren, T. & Robinson, (2007). The BULLs-eye Instrument about valued life Primary Care Version (BULLI-PC). Retrieved from: https://contextualscience.org/values_bulls_eye

Luoma, J.B., Drake, C.E., Kohlenberg, B.S., & Hayes, S.C. (2011). Substance abuse and psychological flexibility: The development of a new measure. Addictions Research and Theory, 19, 3-13. doi: 10.3109/16066359.2010.524956

Luoma, J.B., Kohlenberg, B.S., Hayes, S.C., Bunting, K., & Rye, A.K. (2008). Reducing self-stigma in substance abuse through acceptance and commitment therapy: Model, manual development, and pilot outcomes. Addiction Research & Theory, 16(2), 149–165.

Mather, M. (2016). Population Reference Bureau Fact sheet: Aging in the United States. Retrieved from: https://www.prb.org/aging-unitedstates-fact-sheet/

Mather, M., & Knight, M. (2005). Goal-directed memory: The role of cognitive control in older adults' emotional memory. Psychology and Aging, 20, 554 –570.

McCarthy, J. (2015). Reports of depression treatment highest among baby boomers. Retrieved from: https://news.gallup.com/poll/181364/reports-depression-treatment-highest-among-baby-boomers.aspx

McCracken, L., Chilcot, J., & Norton, S. (2015). Further development in the assessment of psychological flexibility: a shortened Committed Action Questionnaire (CAQ-8). European Journal of Pain, 19(5), 677-85.

McCracken, L. M. & Yang, S. (2006). The role of values in a contextual cognitive-behavioral approach to chronic pain. Pain, 123, 137-145.

McQueen, A., & Klein, W.M.P. (2006). Experimental manipulations of self-affirmation: A systematic review. Self and Identity, 5, 289– 354.

Miller, W.R., C'de Baca, J., Matthews, D.B., & Wilbourne, P.L. (2001). Personal Values Card Sort. University of New Mexico. Retrieved from: http://www.motivationalinterviewing.org/sites/default/files/valuescardsort_0.pdf

Miyake, A., Kost-Smith, L.E., Finkelstein, N.D., Pollock, S.J., Cohen, G.L. & Ito, T.A. (2010). Reducing the gender achievement gap in college science: a classroom study of values affirmation. Science, 330(6008), 1234-7. doi: 10.1126/science.1195996.

Norman, G. (2010). Likert scales, levels of measurement and the laws of statistics. Advances in Health Sciences Education, 15(5), 625-632.

Palmore, E. (1999). Ageism: Negative and positive (2nd ed.). New York: Springer-Verlag.

Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. Current Directions in Psychological Science, 23, 184–188. doi:10.1177/0963721414531598

Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on Amazon Mechanical Turk. Judgment and Decision Making, 5, 411–419.

Pauszek, J. R., Sztybel, P., & Gibson, B. S. (2017). Evaluating Amazon's Mechanical Turk for psychological research on the symbolic control of attention. Behavior Research Methods, 49(6), 1969-1983. doi:10.3758/s13428-016-0847-5

Pavot, W. G., & Diener, E. (1993). Review of the Satisfaction with Life Scale. Psychological Assessment, 5, 164-172.

Pavot, W. G., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the Satisfaction with Life Scale: Evidence for the cross-method convergence of well-being measures. Journal of Personality Assessment, 57, 149-161.

Pearlman, R., Starks, H., Cain, K., Rosengreen, D., & Patrick, D. (1998). Your life, your choices—Planning for future medical decisions: How to prepare a personalized living will. Springfield, VA: U.S. Department of Commerce, National Technical Information Service. Retrieved from: http://www.rihlp.org/pubs/Your_life_your_choices.pdf

Peterson, C., Park, N., & Seligman, M.E. P. (2005). Assessment of character strengths. In G. P. Koocher, J.C. Norcross, & S. S. Hill III (Eds.), Psychologists' desk reference (2nd ed., pp. 93–98). New York: Oxford University Press.

Peterson, C. & Seligman, M.E.P. (2004). Character strengths and virtues: A handbook and classification. Washington, DC: American Psychological Association.

Plumb, J. C., Stewart, I., Dahl, J., & Lundgren, T. (2009). In search of meaning: Values in modern clinical behavior analysis. The Behavior Analyst, 32, 85-103.

Preston, J. L., & Shin, F. (2017). Spiritual experiences evoke awe through the small self in both religious and non-religious individuals. Journal of Experimental Social Psychology, 70, 212–221. https://doi.org/10.1016/j.jesp.2016.11.006

Rippon, I., Kneale, D., de Oliveira, C., Demakakos, P., Steptoe, A. (2014). Perceived age discrimination in older adults. Age & Ageing, 43(3), 379–386.

Romero-Moreno, R., Gallego-Alberto, L., Márquez-González, M., & Losada, A. (2017). Psychometric properties of the Valued Living Questionnaire Adapted to Dementia Caregiving, Aging & Mental Health, 21(9), 983-990. DOI: 10.1080/13607863.2016.1191055

Sandoz, E. K. & Hebert, E. R. (2015). Meaningful, reminiscent, and evocative: An initial examination of four methods of selecting idiographic values-relevant stimuli. Journal of Contextual Behavioral Science, 4, 277–280. http://doi.org/10.1016/j.jcbs.2015.09.001

Schilling, O. K., Deeg, D. J. H., & Huisman, M. (2018). Affective well-being in the last years of life: The role of health decline. Psychology and Aging, 33(5), 739–753.

Schwartz, S. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. Advances in Experimental Social Psychology, 25, 1-65.

Schwartz, S. H. (2012). An overview of the Schwartz Theory of Basic Values. Online Readings in Psychology and Culture, 2(1). https://doi.org/10.9707/2307-0919.1116

Serowik, K.L., Khan, A.J., LoCurto, J., & Orsillo, S.M. (2018). The conceptualization and measurement of values: A review of the psychometric properties of measures developed to inform values work with adults. Journal of Psychopathology and Behavioral Assessment. https://doi.org/10.1007/s10862-018-9679-1\

Sheldon, K.M. & Elliot, A.J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The Self-Concordance Model. Journal of Personality and Social Psychology, 76(3), 482-497.

Sheldon, K. M., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress, but not all progress is beneficial. Personality and Social Psychology Bulletin, 24(12), 1319–1331.

Sheldon, K. M., & Kasser, T. (2001). Goals, congruence, and positive well-being: New empirical support for humanistic theories. Journal of Humanistic Psychology, 41, 30–50. https://doi.org/10.1177/0022167801411004.

Skinner, B.F. (1971). Beyond freedom and dignity. Indianapolis, IN: Hackett.

Smith-MacDonald, L., Norris, J. M., Raffin-Bouchal, S., & Sinclair, S. (2017). Spirituality and mental well-being in combat veterans: A systematic review. Military Medicine, 182(11–12), e1920–e1940. https://doi.org/10.7205/MILMED-D-17-00099

Smout, M., Davies, M., Burns, N., & Christie, A. (2014). Development of the Valuing Questionnaire (VQ). Journal of Contextual Behavioral Science, 3, 164-72.

Sobczak, L. R., & West, L. M. (2013). Clinical considerations in using mindfulness- and acceptance-based approaches with diverse populations: Addressing challenges in service delivery in diverse community settings. Cognitive and Behavioral Practice, 20(1), 13–22. https://doi.org/10.1016/j.cbpra.2011.08.005

Sommet, N., & Elliot, A. J. (2017). Achievement goals, reasons for goal pursuit, and achievement goal complexes as predictors of beneficial outcomes: Is the influence of goals reducible to reasons? Journal of Educational Psychology, 109, 1141–1162. https://doi.org/10.1037/edu0000199.

Spector, P. E. (1992). Summated rating scale construction. Thousand Oaks, CA: Sage.

Stanley, H., Hom, M.A., Rogers, M.L., Hagan, C.R., & Joiner, T.E. Jr. (2016). Understanding suicide among older adults: a review of psychological and sociological theories of suicide. Aging & Mental Health, 20(2), 113-22. doi: 10.1080/13607863.2015.1012045.

Steiger, J.H. & Lind, J. (1980). Statistically-based tests for the number of common factors. Paper presented at the Annual spring meeting of the psychometric society, Iowa City.

Steele, C.M. & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. Journal of Personality and Social Psychology, 69(5), 797-811.

Sullivan, G. & Artino Jr., A. R. (2013). Analyzing and interpreting data from Likert-type scales. Journal of Graduate Medical Education. 5(4), 541-542.

Towsley, G.L., Hirschman, K.B., & Madden, C. (2015). Conversations about end of life: Perspectives of nursing home residents, family, and staff. Journal of Palliative Medicine, 18(5), 421-428.

Trompetter, H.R., ten Klooster, P.M., Schreurs, K.M.G., Fledderus, M., Westerhof, G.J., & Bohlmeijer, E.T. (2013). Measuring values and committed action with the Engaged Living Scale (ELS): Psychometric evaluation in a nonclinical and chronic pain sample. Psychol Assess, 25, 1235-46.

Tuulik, K., Õunapuu, T., Kuimet, K., & Titov, E. (2016). Rokeach's instrumental and terminal values as descriptors of modern organization values. International Journal of Organizational Leadership, 5, 151–161.

U.S. Census Bureau. (2018). Midwest home to most of the counties with decreases in median age. Retrieved from: https://www.census.gov/newsroom/press-releases/2018/popest- characteristics.html

VanBuskirk, K., West, L., Malcarne, V., Afari, N., Liu, L., Petkus, A., & Wetherell, J. L. (2012). Confirmatory factor analysis of the Valued Living Questionnaire in a Black American sample: Implications for cognitive research and practice. Cognitive Therapy and Research, 36(6), 796–805.

Veage, S., Ciarrochi, J., & Heaven, P.C.L. (2011). Importance, pressure, and success: Dimensions of values and their links to personality. Personality and Individual Differences, 50, 1180-1185.

Vinson, D.E., Munson, J.M., & Nakanishi, M. (1977). An investigation of the Rokeach Value Survey for consumer research applications. In William D. Perrault, Jr.

(Ed.), Advances in Consumer Research, Volume 4 (pp. 247-252). Atlanta, GA: Association for Consumer Research.

Vowles, K. E., & McCracken, L. M. (2008). Acceptance and values-based action in chronic pain: A study of treatment effectiveness and process. Journal of Consulting and Clinical Psychology, 76(3), 397.

Vyskocilova, J., Praskp. J., Ociskova, M., Sedlackova, Z., & Mozny, P. (2015). Values and values work in cognitive behavioral therapy. Act Nerv Super Rediviva, 57(1–2), 40–48.

Vyskocilova, J., Prasko, J., Ociskova, M., Sedlackova, Z., Marackova, M., Holubova, M., Hruby, R., & Slepecky, M. (2016). Values and values work in cognitive behavioral therapy. European Psychiatry, 33, S456-S457.

Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. International Journal of Research in Marketing, 27, 236–247. https://doi.org/10.1016/j.ijresmar.2010.02.004.

Wensley, R., & Slade, A. (2012). Walking as a meaningful leisure occupation: The implications for occupational therapy. The British Journal of Occupational Therapy, 75(2), 85–92. https://doi.org/10.4276/030802212X13286281651117

Wersebe, H., Lieb, R., Meyer, A.H., Hoyer, J., Wittchen, H., & Gloster, A.T. (2017). Changes of valued behaviors and functioning during an Acceptance and Commitment Therapy Intervention. Journal of Contextual Behavioral Science, 6, 63–70.

Whitlatch, C. J., Feinberg, L. F., & Tucke, S. S. (2005). Measuring the values and preferences for everyday care of persons with cognitive impairment and their family caregivers. The Gerontologist, 45, 370-380.

Williams, V., Deane, F. P., Oades,L., Crowe, T., Ciarrochi, J., and Andersen, R. (2016). A cluster-randomized control trial of values-based training to promote autonomously held recovery values in mental health workers. Implementation Science 11(13), 1-11.

Wilson, K. G., & DuFrene, T. (2009). Mindfulness for two: An Acceptance and Commitment Therapy approach to mindfulness in psychotherapy. Oakland, CA: New Harbinger.

Wilson, K. G., Sandoz, E. K., & Kitchens, J. (2010). The valued living questionnaire: Defining and measuring valued action within behavioural framework. The Psychological Record, 60, 249–272.

Yadavaia, J. E., & Hayes, S. C. (2009). Values in Acceptance and Commitment Therapy: A comparison with four other approaches. Hellenic Journal of Psychology, 6, 244-272.

Yadavaia, J. E., & Hayes, S. C. (2012). Acceptance and commitment therapy for self-stigma around sexual orientation: A multiple baseline evaluation. Cognitive and Behavioral Practice, 19(4), 545-559.

Zimbardo, P. G. (1990). Shyness: What it is, what to do about it. Cambridge, MA: Da Capo Press.

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. Journal of Personality and Social Psychology, 77, 1271–1288. http://dx.doi.org/10.1037/0022-3514.77.6.1271

Zimbardo, P. G., Keough, K. A., & Boyd, J. N. (1997). Present time perspective as a predictor of risky driving. Personality and Individual Differences, 23, 1007–1023. http://dx.doi.org/10.1016/S0191-8869(97)00113-X

Appendix A: Values Across the Lifespan Questionnaire (VALQUEST) – Original Version

We would like to know about what is important to you in different parts of life. Everyone is different, and there are no wrong answers. Please answer the following questions about how you have been feeling over the last week.

<u>Recreation / Leisure</u>

1) What is important to you about how you spend your free time in recreation and leisure activities? Choose up to three words or add your own.

Pleasure   Friendship
Solitude   Service
Creativity   Passion
Mastery   Hope   Other: _____

2) How important are hobbies or recreation to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

3) Why are the values you chose above important to you? Select all that apply.
   a. I think it is important
   b. Other people expect me to value this
   c. I find it enjoyable or rewarding
   d. I feel that I have to

4) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent consistent	Slightly	Somewhat	Very	Completely

<u>Social Relationships</u>

5) What is most important to you about your personal relationships with others? Choose up to three words or add your own.

Excitement   Honesty
Kindness   Trust
Safety   Fun
Supportiveness   Reliability   Other: _____

6) How important are social relationships to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

7) Why are the values you chose above important to you? Select all that apply.
    a. I think it is important
    b. Other people expect me to value this
    c. I find it enjoyable or rewarding
    d. I feel that I have to

8) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent consistent	Slightly	Somewhat	Very	Completely

Spirituality / Religion

9) What is important to you about spirituality or religion? Choose up to three words or add your own.

Peace   Hope
Tradition   Family
Humility   Growth
Forgiveness   Flexibility   Other: _____

10) How important to you is spirituality or religion? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

11) Why are the values you chose above important to you? Select all that apply.
   a. I think it is important
   b. Other people expect me to value this
   c. I find it enjoyable or rewarding
   d. I feel that I have to

12) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent	Slightly	Somewhat	Very	Completely
consistent				

Health / Physical Well-being

13) What is important to you about your taking care of your physical health and well-being? Choose up to three words or add your own.

Active	Comfort
Independence	Self-care
Love	Fitness
Challenge	Freedom

Other: _____

14) How important is health or physical wellbeing to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

15) Why are the values you chose above important to you? Select all that apply.
   a. I think it is important
   b. Other people expect me to value this
   c. I find it enjoyable or rewarding

    d. I feel that I have to

16) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent consistent	Slightly	Somewhat	Very	Completely

Scoring

Values Identification Score: Sum the number of values identified in each domain (#1, #5, #9, and #13). Range 4-12.

Importance Score: Sum the importance score of each domain (#2, #6, #10, and #14). Range 4-20.

Motivation Score: For questions #3, #7, #11, and #15:
   Intrinsic Motivation: a and c are intrinsic. Sum the number of times a and c are endorsed. Range 0-8.
   Extrinsic Motivation: b and d are extrinsic. Sum the number of times b and d are endorsed. Range 0-8.

Valued Living Score: Sum the consistent valued living score of each domain (#4, #8, #12, and #16)). Range 4-20.

Overall Values Score: Sum the Values Identification Score, the Importance Score, the Intrinsic Motivation Score, and the Valued Living Score. Range 12-60.

Appendix B: Values Across the Lifespan Questionnaire (VALQUEST) – Final Revised Version

We would like to know about what is important to you in different parts of life. Everyone is different, and there are no wrong answers. Please answer the following questions about how you have been feeling over the last week.

<u>Recreation / Leisure</u>

1) What is important to you about how you spend your free time in recreation and leisure activities? Choose up to three words or add your own.

Pleasure   Friendship
Solitude   Service
Creativity   Passion
Mastery   Hope   Other: _____

2) How important are hobbies or recreation to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

3) Why are the values you chose above important to you? Select all that apply.
   a. I think it is important
   b. Other people expect me to value this
   c. I find it enjoyable or rewarding
   d. I feel that I have to

4) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent consistent	Slightly	Somewhat	Very	Completely

<u>Social Relationships</u>

5) What is most important to you about your personal relationships with others? Choose up to three words or add your own.

Excitement   Honesty
Kindness   Trust
Safety   Fun
Supportiveness   Reliability   Other: _____

6) How important are social relationships to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

7) Why are the values you chose above important to you? Select all that apply.
    a. I think it is important
    b. Other people expect me to value this
    c. I find it enjoyable or rewarding
    d. I feel that I have to

8) In the past week, how consistent have your actions been with your values in this area?
Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent consistent	Slightly	Somewhat	Very	Completely

Health / Physical Well-being

9) What is important to you about your taking care of your physical health and well-being? Choose up to three words or add your own.

Active   Comfort
Independence   Self-care
Love   Fitness
Challenge   Freedom   Other: _____

10) How important is health or physical wellbeing to you? Rate by choosing a number from 1-5, where 1 is not at all important and 5 is extremely important.

1	2	3	4	5
Not at all	Slightly	Somewhat	Very	Extremely

11) Why are the values you chose above important to you? Select all that apply.
   a. I think it is important
   b. Other people expect me to value this
   c. I find it enjoyable or rewarding
   d. I feel that I have to

12) In the past week, how consistent have your actions been with your values in this area?
   Rate yourself by choosing a number from 1-5, where 1 is not at all consistent with your values and 5 is completely consistent.

1	2	3	4	5
Not at all consistent	Slightly	Somewhat	Very	Completely
consistent				

Scoring

Values Identification Score: Sum the number of values identified in each domain (#1, #5, and #9). Range 3-12.

Importance Score: Sum the importance rating in each domain (#2, #6, and #10). Range 3-15.

Motivation Score: For questions #3, #7, and #11:
   Intrinsic Motivation: a and c are intrinsic. Sum the number of times a and c are endorsed. Range 0-6.
   Extrinsic Motivation: b and d are extrinsic. Sum the number of times b and d are endorsed. Range 0-6.

Consistent Living Score: Sum the consistent valued living score of each domain (#4, #8, and #12). Range 3-15.

Composite Score: Compute the product of Importance x Consistent Living in each domain, then take the average of the three domains for the overall Composite Score.

Total Score: Sum of the average Composite Score, the average Values Identification Score, and the average Intrinsic Motivation Score. Range 2-31.

Appendix C: Demographics Questionnaire

1) What is your age? ___

2) What is your gender?
   - o Male
   - o Female
   - o Transgender
   - o Nonbinary
   - o Other: ___

3) How do you identify your ethnicity? Select all that apply.
   - o Asian
   - o Black / African
   - o Hispanic / Latinx
   - o Middle Eastern or North African
   - o Native American
   - o Pacific Islander
   - o White / Caucasian
   - o Other: _____

4) What is your current country of residence? _____

5) What is your occupational status?
   - o Student
   - o Home-maker
   - o Working full time
   - o Working part time
   - o Unemployed
   - o Disabled / unable to work
   - o Retired

6) What is your current marital status?
   - o Single (never married)
   - o Married, or in a domestic partnership
   - o Widowed
   - o Divorced
   - o Separated

7) What is your highest level of education?
   - o Less than high school
   - o High school diploma or equivalent (e.g., GED)
   - o Some college, no degree

- o Associates degree (e.g., AA, AS)
- o Bachelor's degree (e.g., BA, BS)
- o Master's degree (e.g., MA, MS, MEd)
- o Professional degree (e.g., JD, MD, DDS)
- o Doctoral degree (e.g., PhD, EdD

Appendix D: Acceptance and Action Questionnaire (AAQ-II)

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1. My painful experiences and memories make it difficult for me to live a life that I would value. 1 2 3 4 5 6 7

2. I'm afraid of my feelings. 1 2 3 4 5 6 7

3. I worry about not being able to control my worries and feelings. 1 2 3 4 5 6 7

4. My painful memories prevent me from having a fulfilling life. 1 2 3 4 5 6 7

5. Emotions cause problems in my life. 1 2 3 4 5 6 7

6. It seems like most people are handling their lives better than I am. 1 2 3 4 5 6 7

7. Worries get in the way of my success. 1 2 3 4 5 6 7

This is a one-factor measure of psychological inflexibility, or experiential avoidance. Score the scale by summing the seven items. Higher scores equal greater levels of psychological inflexibility.

Appendix E: Committed Action Questionnaire (CAQ-8)

Directions: Below you will find a list of statements. Please rate the truth of each statement as it applies to you by circling a number. Use the following rating scale to make your choices. For instance, if you believe a statement is "Always True", you would circle the 6 next to that statement.

0	1	2	3	4	5	6
Never True	Very Rarely True	Seldom True	Sometimes True	Often True	Almost Always True	Always True

1. I can remain committed to my goals even when there are times that I fail to reach them
2. When a goal is difficult to reach, I am able to take small steps to reach it
3. I prefer to change how I approach a goal rather than quit
4. I am able to follow my long terms plans including times when progress is slow
5. I find it difficult to carry on with an activity unless I experience that it is successful*
6. If I feel distressed or discouraged, I let my commitments slide*
7. I get so wrapped up in what I am thinking or feeling that I cannot do the things that matter to me*
8. If I cannot do something my way, I will not do it at all*

* Items marked with an asterisk are negatively keyed and need to be reversed before creating summary scores.

Appendix F: Fraboni Scale of Ageism (FSA)

Next to each item, place the number that best describes your answer based on the following scale:
1= strongly disagree
2= disagree
3= agree
4= strongly agree
* Items are reverse-scored.

1. Teenage suicide is more tragic than suicide among the old.
2. There should be special clubs set aside within sports facilities so that old people can compete at their own level.
3. Many old people are stingy and hoard their money and possessions.
4. Many old people are not interested in making new friends preferring instead the circle of friends they have had for years.
5. Many old people just live in the past.
6. I sometimes avoid eye contact with old people when I see them.
7. I don't like it when old people try to make conversation with me.
*8. Old people deserve the same rights and freedoms as do other members of our society.
9. Complex and interesting conversation cannot be expected from most old people.
10. Feeling depressed when around old people is probably a common feeling.
11. Old people should find friends their own age.
*12. Old people should feel welcome at the social gatherings of young people.
13. I would prefer not to go to an open house at a senior's club, if invited.
*14. Old people can be very creative.
15. I personally would not want to spend much time with an old person.
16. Most old people should not be allowed to renew their driver's licenses.
17. Old people don't really need to use our community sports facilities.
18. Most old people should not be trusted to take care of infants.
19. Many old people are happiest when they are with people their own age.
20. It is best that old people live where they won't bother anyone.
*21. The company of most old people is quite enjoyable.
*22. It is sad to hear about the plight of the old in our society these days.
*23. Old people should be encouraged to speak out politically.
*24. Most old people are interesting, individualistic people.
25. Most old people would be considered to have poor personal hygiene.
26. I would prefer not to live with an old person.
27. Most old people can be intimidating because they tell the same stories over and over
28. Old people complain more than other people do.
29. Old people do not need much money to meet their needs.

Appendix G: Future Time Perspective Scale

Read each item and, as honestly as you can, answer the questions: "How true is this of you?" Choose the appropriate number on the scale, where 1 means the statement is very untrue for you and 7 means that the statement is very true for you.

1	2	3	4	5	6	7
Very Untrue						Very True

1. Many opportunities await me in the future.

2. I expect that I will set many new goals in the future.

3. My future is filled with possibilities.

4. Most of my life lies ahead of me.

5. My future seems infinite to me.

6. I could do anything I want in the future.

7. There is plenty of time left in my life to make new plans.

8. I have the sense time is running out.

9. There are only limited possibilities in my future.

10. As I get older, I begin to experience time as limited.

Appendix H: Patient Health Questionnaire (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

Not at all	Several days	More than half the days	Nearly every day
0	1	2	3

1. Little interest or pleasure in doing things

2. Feeling down, depressed, or hopeless

3. Trouble falling or staying asleep, or sleeping too much

4. Feeling tired or having little energy

5. Poor appetite or overeating

6. Feeling bad about yourself — or that you are a failure or have let yourself or your

family down

7. Trouble concentrating on things, such as reading the newspaper or watching television

8. Moving or speaking so slowly that other people could have noticed? Or the opposite —

being so fidgety or restless that you have been moving around a lot more than usual

9. Thoughts that you would be better off dead or of hurting yourself in some way

Appendix I: Satisfaction With Life Scale (SWLS)

Instructions: Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

Scoring:
Though scoring should be kept continuous (sum up scores on each item), here are some cut-offs to be used as benchmarks.

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20 Neutral
- 15 - 19 Slightly dissatisfied
- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Appendix J: Selection, Optimization, and Compensation Short Form

We are very interested in learning about how you decide which things in life are important for you and how you go about accomplishing what you want in life.
In the following, we present examples of two different ways people might behave.
Imagine there are two people talking about what they would do in a particular situation.
We would like you to decide which person is most similar to you – in other words, which one behaves most like the way you probably would.
Now, think about your life overall, including how things are going, think about your goals – that is, both things that you want to improve and things that you are satisfied with and want to maintain.

1a) I concentrate all my energy on a few things.
1b) I divide my energy among many things.

2a) I always focus on the one most important goal at a given time.
2b) I am always working on several goals at once.

3a) When I think about what I want in life, I commit myself to one or two important goals.
3b) Even when I really consider what I want in life, I wait and see what happens instead of committing myself to just one or two particular goals.

4a) When things don't go as well as before, I choose one or two important goals.
4b) When things don't go as well as before, I still try to keep all my goals.

5a) When I can't do something important the way I did before, I look for a new goal.
5b) When I can't do something important the way I did before, I distribute my time and energy among many other things.

6a) When I can't do something as well as I used to, I think about what exactly is important to me.
6b) When I can't do something as well as I used to, I wait and see what comes.

7a) I keep working on what I have planned until I succeed.
7b) When I do not succeed right away at what I want to do, I don't try other possibilities for very long.

8a) I make every effort to achieve a given goal.
8b) I prefer to wait for a while and see if things will work out by themselves.

9a) If something matters to me, I devote myself fully and completely to it.
9b) Even if something matters to me, I still have a hard time devoting myself fully and completely to it.

10a) When things don't go as well as they used to, I keep trying other ways until I can achieve the same result I used to.
10b) When things don't go as well as they used to, I accept it.

11a) When something in my life isn't working as well as it used to, I ask others for advice or help.
11b) When something in my life isn't working as well as it used to, I decide what to do about it myself, without involving other people.

12a) When it becomes harder for me to get the same results, I keep trying harder until I can do it as well as before.
12b) When it becomes harder for me to get the same results as I used to, it is time to let go of that expectation.

Appendix K: Valued Living Questionnaire (VLQ)

Below are areas of life that are valued by some people. We are concerned with your quality of life in each of these areas. One aspect of quality of life involves the importance one puts on different areas of living. Rate the importance of each area (by circling a number) on a scale of 1-10. 1 means that area is not at all important. 10 means that area is very important. Not everyone will value all of these areas, or value all areas the same.

Rate each area according to **your own personal sense of importance**.

Area		not at all									
extremely											
		important									
		important									
1.	Family (other than marriage or parenting)	1	2	3	4	5	6	7	8	9	10
2.	Marriage/couples/intimate relations	1	2	3	4	5	6	7	8	9	10
3.	Parenting	1	2	3	4	5	6	7	8	9	10
4.	Friends/social life	1	2	3	4	5	6	7	8	9	10
5.	Work	1	2	3	4	5	6	7	8	9	10
6.	Education/training	1	2	3	4	5	6	7	8	9	10
7.	Recreation/fun	1	2	3	4	5	6	7	8	9	10
8.	Spirituality	1	2	3	4	5	6	7	8	9	10
9.	Citizenship/Community life	1	2	3	4	5	6	7	8	9	10
10.	Physical self care (diet, exercise, sleep)	1	2	3	4	5	6	7	8	9	10

In this section, we would like you to give a rating of how consistent your actions have been with each of your values. We are **not** asking about your ideal in each area. We are also **not** asking what others think of you. Everyone does better in some areas than others. People also do better at some times than at others. **We want to know how you think you have been doing during the past week.** Rate each area (by circling a number) on a scale of 1-10. 1 means that your actions have been completely inconsistent with your value. 10 means that your actions have been completely consistent with your value.

During the past week

Area	not at all
extremely	
	important
	important

1.	Family (other than marriage or parenting)	1	2	3	4	5	6	7	8	9	10
2.	Marriage/couples/intimate relations	1	2	3	4	5	6	7	8	9	10
3.	Parenting	1	2	3	4	5	6	7	8	9	10
4.	Friends/social life	1	2	3	4	5	6	7	8	9	10
5.	Work	1	2	3	4	5	6	7	8	9	10
6.	Education/training	1	2	3	4	5	6	7	8	9	10
7.	Recreation/fun	1	2	3	4	5	6	7	8	9	10
8.	Spirituality	1	2	3	4	5	6	7	8	9	10
9.	Citizenship/Community life	1	2	3	4	5	6	7	8	9	10
10.	Physical self care (diet, exercise, sleep)	1	2	3	4	5	6	7	8	9	10