VALUES AND VALUING IN A COLLEGE POPULATION

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Values and valuing behavior have many conceptualizations. Despite how they are defined, values have a significant impact on behavior and are idiosyncratic in nature. The present study reviewed values research and sought to explore values identification and successful valued living among an archived sample of university students. Specifically, in a convenience sample of 282 undergraduate students, variables that affect values identification and behavior such as ethnicity, gender, psychological distress, and psychological flexibility were identified. Results indicated that university students identified with more than one valued living domain (as measured by the PVQ) and that contextual factors such as ethnicity, gender, age, and religiosity/spirituality were associated with specific values endorsed. Furthermore, psychological distress, including depression and anxiety (as measured by the DASS) was negatively correlated with values purity – the extent to which values are freely chosen. Finally, psychological flexibility (low experiential avoidance as measured by the AAQ-2), predicted values purity and successful living in accordance with identified values, and the relationship between these two variables was mediated by psychological flexibility.
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CHAPTER 1
INTRODUCTION

Values and Valuing in the College Population

_Values provide perspective in the best of times and the worst._

-Charles Garfield

Humans are willing to endure potentially difficult circumstances in order to live in their valued directions. As examples, lawyers are often willing to work long hours in order to become partners at their firms, teachers commit personal time and money for afterschool programs and classroom materials, graduate students dedicate a significant amount of their lives attending school and training, and individuals are facing their fears daily in order to move closer to what is important to them. Garfield described the act of valuing as the most powerful human motivator. He stated that if individuals do not have deep meaning and purpose in their work, their qualities of life will suffer as a result. “That’s what demotivates people – the absence of meaning, purpose, and pride” (Garfield, 1992, p. 50, 78-79). In the words of Nietzsche (1889), “He who has a why to live for can bear almost any how.”

One of the earliest definitions of values states: “A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the _desirable_, which influences the selection from available modes, means, and ends of action” (Kluckhohn, 1951, p. 395). According to Maslow (1954), values reflect an individual’s judgment and help us determine what is important in life. Throughout their lives, people strive to meet basic needs such as safety, survival, and belonging, as well as higher-level needs such as esteem and self-actualization. Maslow (1959) also distinguished “B-values” such as wholeness, justice, richness,
honesty, goodness, novelty, playfulness, truth, and independence as what ultimately defines our “Being.” In this respect, Maslow defined therapy as the search for value (Maslow, 1959). Allport (1961) emphasized that priorities related to values are the “dominating force in life” and direct an individual’s daily activities towards goals (p. 543). On the contrary, Skinner (1971) defined values in terms of contingencies and reinforcement. Through the mechanism of operant conditioning, values act as positive reinforcers for behavior (i.e., we perform certain behaviors because they were reinforced in a previous setting, not because of their inherent meaning to us). Modern clinical behavior analysis, specifically acceptance and commitment therapy (ACT), does not define a value as a goal to be obtained, but rather as an ongoing, active, generative direction in which an individual lives his or her life (Wilson & Murrell, 2004). As such, discussions of values and valuing behavior become a way to speak about reinforcement (Wilson, Sandoz, Kitchens, Roberts, 2010).

Clearly, values and valuing have been conceptualized in many ways. Whether values are viewed as internal forces or external reinforcers, they have a significant impact on behavior and vary from person to person. The question remains, how do people determine what is important to them? The present study presents a review of values research and seeks to explore values identification and valued living among university students.

Values and Valuing Defined

The Merriam-Webster Dictionary defines value as “something (as a principle or quality) intrinsically valuable or desirable” and valuing as “rating in usefulness, importance, or general worth.” As previously discussed, the field of psychology has conceptualized values and valuing
in a number of ways. Additionally, research has varied significantly in determining what people value.

In his personality theory, Allport (1961) described two types of forces that influence an individual’s behavior: genotypes and phenotypes. Genotypes are internal forces that relate to how a person takes in information and utilizes it to interact with the external world, while phenotypes are external forces in the environment that influence a person’s behavior. From this perspective, values are influenced by an individual’s environment and culture and serve as an important guide in explaining behavior.

In order to examine this theory, Allport and his colleagues developed the Allport-Vernon Lindzey Study of Values (SOV; Allport, Vernon, & Lindzey, 1960). This measure was designed to assess to what extent individuals endorse six value directions: (1) theoretical (discovery of truth), (2) economic (what is most useful), (3) esthetic (form, beauty, and harmony), (4) political (power), (5) social (seeking love of people), and (6) religious (unity). The measure was used in educational, research, and counseling settings (Allport, 1961); however, it is no longer in print today.

Rokeach (1973) defined values as “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence” and characterized a values system as “an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance” (1973, p. 5). As such, all individuals have a relatively small number of values that serve as reference points to formulate attitudes, opinions, and behavior. Additionally, he posited that these values are universal and can be rank ordered to predict a variety of behavior. Rokeach distinguished between terminal values, which refer to an
individual’s preferred end-state of existence, and instrumental values, which refer to behaviors that are necessary to attain the desired end-state of existence. Instrumental values tend to either focus on competence or integrity. According to this theory, when inconsistencies between instrumental values and terminal values are identified, behavior change can occur (Rokeach, 1973).

To examine this theory, the Rokeach Value Survey (RSV; Rokeach, 1973) was designed to assess the importance of terminal values and instrumental values. There were 18 terminal values: a comfortable life, equality, an exciting life, family security, freedom, health, inner harmony, mature love, national security, pleasure, salvation, self-respect, a sense of accomplishment, social recognition, true friendship, wisdom, a world at peace, and a world of beauty. There were also 18 instrumental values: ambitious, broad-minded, capable, clean, courageous, forgiving, helpful, honest, imaginative, independent, intellectual, logical loving, loyal, obedient, polite, responsible, and self-controlled. While this measure was frequently used in research settings, its validity was often questioned because it was normed using an analysis of ipsative (comparing two or more desirable options and picking the one which is most preferred) data rather than normative data (Thompson, Levitov, Miederhoff, 1982).

A more accepted measure of values, which is still often used for research purposes, is the Schwartz Value Survey (SVS; Schwartz, 1992, 2005). The measure is based on Schwartz’s theory (described in detail below) that states values are related to motivation. The SVS breaks down values into two lists; the first list is comprised of 30 items that describe desirable end-states and the second list is comprised of 26 items that describe ways of acting. For each value, the motivational goal is expressed along with a phrase that explains it. For example, ‘pleasure’ (gratification of desires) is a hedonism item. Respondents rate the importance of each value
based on how much they act as if it is a guiding principle in their lives on a 9-point Likert-like scale ranging from supreme importance to opposed to my values with high scores indicating greater importance. While the SVS is a cumbersome measure, it has been translated into 47 languages (Schwartz, 1992, 2005a) and has yielded information about values from cross-cultural and social-learning perspectives.

Schwartz’s (1992) theory of basic human values derived from social learning and social cognitive theory has gained considerable notice in the field of social psychology (Bilsky & Koch, 1996). According to Schwartz (1992), values can be conceptualized according to their motivational content. He defined values as “desirable transitional goals, varying in importance, which serve as guiding principles in the life of a person or other social entity” (Schwartz, 1992, p. 21). Furthermore, values are beliefs viewed as goals that motivate action, judge and justify action, and are acquired through socialization as well as unique learning experiences (Schwartz, 1994). Within this framework, Schwartz (1992) organized values by importance relative to one another in a two-dimensional bipolar model with ‘openness to change versus conservation’ at one end and ‘self-transcendence versus self-enhancement’ at the other (1992).

Schwartz (1994) identified three universal requirements that all individuals and societies had to cope with: “needs of individuals as biological organisms, requisites of coordinated social interaction, and requirements for the smooth functioning and survival of groups” (p. 21). From this, ten types of values were identified: achievement (personal success), benevolence (preservation and enhancement of those close), conformity (restraint of actions/impulses that could disrupt social norms), hedonism (pleasure and sensuous gratification for oneself), power (social status and prestige), security (safety, harmony, and stability of society, relationships, and self), self-direction (independent thought, creating, exploring), stimulation (excitement, novelty,
challenge in life), tradition (respect, commitment, and acceptance of traditional culture or religion), and universalism (understanding, appreciation, tolerance, protection for welfare of all people and nature). Each of these value types includes with it a motivational goal as well as specific values prototypic of that value; there are 56 single values that contribute to the 10 value types (Schwartz & Bilsky, 1987). This conceptualization has been considered to be universal, and cross-cultural research of 67 nations supports this idea (Schwartz, 1992, 1994, 2005b; Schwartz & Rubel, 2005; Schwartz & Bilsky, 1990).

Contextual Factors that Affect Valuing

While valuing as a behavior appears to be universal, there are a number of factors that appear to predict the specific life areas and associated behaviors that are involved. Culture, gender, age, and other contextual factors are clearly involved. Each of these factors are briefly discussed below.

Sub-Group and Cross-Cultural Valuing

Numerous research studies have explored the universality of values across various cultures (Smith & Schwartz, 1997). In these studies, there are attempts to identify dimensions that allow researchers to compare and contrast value expression. In his evaluation of 117,000 International Business Machine (IBM) employees across 50 nations, Hofstede (1980) identified four main value dimensions that exist cross-culturally: Power distance (acceptance of power in institutions), uncertainty avoidance (level of anxiety resulting from ambiguity), individualism/collectivism (preference for caring only for the individual or for the extended group), and masculinity/femininity (valuing achievement, assertiveness, and material success.
versus valuing warm relationships, modesty, and caring for the weak) (Hofstede, 1980). Similar factor structure was also found in a sample of college students across 21 countries (Bond, 1988).

Alternatively, Schwartz (1994) identified three areas that exist as bipolar value dimensions in which different cultures express, maintain, and justify particular values. These value dimensions include: conservatism versus autonomy (finding meaning in life through social relationships versus finding meaning in individual uniqueness and internal attributes), hierarchy versus egalitarianism (emphasis on unequal distribution of power, roles and resources versus emphasis on transcendence, equality, social justice, and freedom), and mastery versus harmony (emphasis on ambition, success, competence versus emphasis on unity with nature and protecting the environment) (Schwartz, 1994; Schwartz & Ros, 1995). While these theories vary to some degree, they both address the important influence of an individualist versus collectivistic society.

Indeed, one of the most commonly used dimensions for comparing values and valuing behavior across cultures is the individualism-collectivism dimension (Gouveia & Ros, 2000). The individualist culture tends to encourage value of independence, the self, and internal attributes such as preferences, feelings, and motives. This culture tends to be more common in North Western Europe, North America, Australia, and New Zealand. Thus, Western industrialized countries tend to emphasize the importance of the individual over the group, and values with this culture reflect need for autonomy and attainment of personal goals (Greenfield & Cocking, 1994). Alternatively, a collectivist culture encourages its members to find meaning in life through harmonious interpersonal relationships and in-group interdependence while restraining from activities that might interfere with the group or tradition. This group consists of most Asian and Latin American cultures (Triandis, 1989).
Of the ten value types identified by Schwartz (1992), five serve the interests of the individual (hedonism, achievement, self-direction, social Power, and stimulation), four serve the interest of the collective group (prosocial, restrictive conformity, security, and tradition), and one serves the interest of the individual and the group (maturity) (Schwartz, 1990).

This difference in values driven behavior between individualist and collectivist cultures has been observed in a number of studies. In a study of values among professional or managerial level employees across four countries (United States, Russia, Japan, and China) (Ralston, Holt, Terpstra, & Kai-Cheng, 1997), results indicated that managers from the United States reported significantly more individualism and openness to change than those from the other three countries. Chinese managers indicated the least amount of value placed on openness to change compared to the other three countries. Additionally, managers from the United States and Russia reported significantly higher value placed on self-enhancement than both Japanese and Chinese managers. When individual values were assessed, managers from the United States indicated greater emphasis on achievement, hedonism, stimulation, and self-direction. Chinese managers placed significantly more value on tradition, conformity, and security (Ralston et al., 1997).

Stewart, Bond, Deeds, and Chung (1999) utilized the SVS (Schwartz, 1992, 2005) to examine cultural differences among mothers and teenagers from individualist (United States, Canada, Australia, Europe) and collectivist (Korean, Japanese, Filipino, Indian, Pakistani) cultures. Results indicated that Asian mothers demonstrated significantly less openness to change and self-transcendence and significantly higher self-enhancement compared to Caucasian mothers, while Asian teenagers placed significantly lower value on openness to change compared to Caucasian teenagers (Stewart et al., 1999).
While young people in individualist societies such as the United States and Australia tend to value autonomy, self-direction, and stimulation (Feather, 1980; Rosenthal, Bell, Demetriou, Efklides, 1989), young people from collectivist cultures such as Asian societies, tend to focus on tradition and conformity (Bond, 1988). Within some countries that are primarily individualistic (like the United States, in which the current study was conducted), there is still a great deal of subculture variability. Research is varied in its identification of values that define ethnic groups; however, many studies have described core characteristics that exist among these different groups (Phinney, 1996). According to White and Parham (1990), African American culture tends to reflect a collectivist approach with emphasis on oral traditions, interdependence, and spirituality. Similarly, Hispanic American culture has been characterized as emphasizing interdependence, conformity, attachment, loyalty, and reciprocity (Marin & Marin, 1991). Uba (1994) described Asian American culture as focusing on maintaining harmony in relationships, respecting the interests of the group, and fulfilling family obligations. It is reasonable to hypothesize that European Americans would have more of the traditional, individualistic values emphasis; however, more research on ethnic differences within the larger culture is needed.

While culture has been found to have a significant impact on valuing behavior, significant differences have also been demonstrated among gender.

Gender Differences in Valuing Behaviors

Gender differences have been conceptualized from various perspectives such as evolution, biology, and social psychology. Erickson (1964) proposed that gender differences in values develop concurrently with body development; whereas men demonstrate active extroversion, such as preference for working with others and physical activity, females
demonstrate passive inner-directedness, such as self-awareness and inner growth (1964).

Chodorow (1990) theorized that values in men and women differ based on autonomy and dependency. Men were identified as more autonomous and individuated; therefore, they placed more focus on an ethic of rights based on justice and fairness while seeking status and power. Women were identified as valuing others and having more concern for an ethic of care and responsibility while seeking nurturing and family harmony (1990). Regardless of the theoretical interpretation, data shows that men and women often identify different value priorities.

In a meta-analysis of value priorities and gender across 47 different countries, Prince-Gibson & Schwartz (1994) demonstrated that women tend to attribute greater value to security and benevolence while men tend to value self-direction, stimulation, hedonism, achievement, and power (1994). Subsequent data from 127 samples in 70 countries ($N = 77,528$) indicated that women tend to attribute more value to benevolence and universalism and, less consistently, also value security. Men, though, place greater emphasis on power, stimulation, hedonism, achievement, and self-direction. While there is a cultural moderation effect (Schwartz and Rubel, 2005), these findings - along with evolutionary theories - suggest that women tend to inherently value benevolence and universalism, while men tend to value power, achievement, and stimulation. It is important to note that age also has an impact on identified values.

Influence of Age on Valuing Behavior

According to Inglehart (1997), individuals form values during adolescence and those values remain relatively stable into adulthood. Additionally, history indicates that as countries advance and prosper, values of younger generations evolve. When individuals feel economic and physical security, values tend to have a less materialistic focus. As such, younger generations
place greater emphasis on post-materialistic values rather than material values (Inglehart, 1997). Schwartz postulated that older adults place significant emphasis on values of security, tradition, and conformity, while younger generations prioritize values of hedonism, stimulation, self-direction, and universalism (Schwartz, unpublished manuscript).

The term emerging adulthood was first proposed as a conceptualization for human development during the ages of 18-25 (Arnett, 2000). As a stage in between adolescence and adulthood, Arnett proposed that emerging adulthood was a time in which individuals can explore different areas of life, love, work, and worldviews with an open mind and no certain direction (2000). Additionally, emerging adulthood is a time in which less focus is placed on career, marriage, and parenthood, and more emphasis is placed on individualistic qualities and identity formation such as character, accepting responsibility for self, making independent decisions, and becoming financially independent (Arnett, 1997; 1998).

Emerging adulthood is a time in which many individuals enter college. Several studies have identified a number of values and valuing behavior in college students across a number of areas including course selection (Feather, 1988), goal and institutional commitment (Tinto, 1975), sense of direction (Ochberg, 1986), career (Mitchell, Kimball, Thorton, & Young-DeMarco, 2008), and sense of purpose for pursuing higher education (Talbot, 1990). Feather (1988) found that a student’s choice to enroll in certain academic fields (i.e., science, social science, humanities) was largely influenced by their personal values as well as the expected value of the outcome (1988). In two studies conducted to evaluate academic motivation and personal values, Henderson-King and Smith (2006) found that undergraduate students identified ten meanings for education seeking including: career preparation, independence, finding direction for the future, learning, self-development, taking the next step, making social
connections, changing the world, stress, and escape (2006). Additionally, American university students are “exceptional in giving high priority to self-oriented desires” (Schwartz & Bardi, 2001, p. 286). These studies, taken together, suggest values are prominent among emerging adults and college students. More specifically, behaviors associated with the values of individualization as relevant to career and social connections are likely very important. The degree to which these values are expressed probably depends on contextual factors including expectations of cultural and gender role expectations, as well as on family factors and moral or religious views.

Religiosity and Values

Numerous studies have evaluated the influence of religion on values identified by the Schwartz Value Theory (1992). Schwartz and Huismans (1995) utilized the SVS (1992) to evaluate values in teachers, adults, and college students from four different countries (Greece, the Netherlands, Israel, and Spain) who identified with various religious orientations (Greek Orthodox, Protestants, Jewish, and Roman Catholic). Results indicated religiosity is positively correlated with values that enhance transcendence, preserve social order, and protect individuals against uncertainty. Furthermore, religiosity was negatively correlated with values that encourage self-indulgence and openness to change (Schwartz & Huismans, 1995). Fontaine, Luyten, and Corveleyn (2000) compared religious attitudes to values of Belgium university students. Results indicated significant positive correlations between religious commitment and tradition, conformity, and benevolence, as well as significant negative correlations with hedonism, stimulation, and self-direction (2000).
Similarly, a meta-analysis of studies on 21 samples in 15 countries \((N = 8551)\), indicated that religious individuals tend to encourage values of limited self-transcendence and social and individual order such as benevolence, tradition, conformity, and security. Religiosity was negatively correlated to values that promote openness to change, autonomy, hedonism, and self-enhancement such as stimulation, self-direction, achievement, and power (Saroglou, Delpierre, & Dernelle, 2004). In a later review of literature, Roccas (2005) concluded that individuals committed to religion place greater emphasis on values that avoid uncertainty and change, and less emphasis on values that encourage hedonism or independence in thought and behavior (2005). Overall, religion tends to correlate most positively with tradition values and most negatively with hedonism and stimulation values.

Valuing from a Behavioral Perspective

Religion and other contextual factors like cultural subgroup, gender, and age clearly need to be accounted for when examining values. The newest behavioral approaches account for context broadly and therefore are useful tools, for both empirical and clinical purposes. Derived from recent theory, acceptance and commitment therapy (ACT; Hayes et al., 1999) conceptualizes valuing as “consciously undertaken actions aimed at achieving purposes that are deeply important to one’s sense of selfhood” (Hayes, 2007, p. 52). Values are important to all other components of ACT. According to ACT researchers, values are freely chosen among alternatives with or without reasons present, and not chosen based on the influence of others or in the avoidance of some negative experience. Individuals are encouraged to choose what they want their lives to be about as if anything were possible (Wilson & Murrell, 2004).
From this perspective, values are seen as behaviors that provide a person with a direction in life (Hayes et al., 1999). An important distinction is made between values and goals, in that goals are desirable end states that can be attained; however, values are directions that lead to a vital and meaningful existence. Therefore, the desired outcome is not to attain values, but rather to live a life that is important, meaningful, and in accordance with identified values (Hayes et al., 1999).

Behavior, including valuing, can be shaped in many ways. Values are contingent on reinforcing qualities, which may be appetitive and freely chosen or based on more aversive conditioning including rule-governance. Skinner (1966) defined rule-governed behavior as that which occurs after antecedents which either directly or indirectly affect contingencies. A rule is a verbal description of a contingency, behavior, and consequence (Skinner, 1966). There are three types of rule-governed behaviors: pliance, tracking, and augmenting. Pliance is defined as behavior that occurs because somebody else tells you to or behavior done to gain approval from specific others; for example, a child doing what his mother tells him to. Tracking is behavior under the control of correspondence between a rule and the way the world is arranged; for example, following directions given by someone in order to reach your desired destination. Finally, augmenting refers to behavior that is contingent on reinforcing consequences; for example, being a nice and friendly person in order to make more friends (Zettle & Hayes, 1982).

The idea of freely chosen, internally motivated, valued behavior versus rule-governed behavior has been discussed in multiple ways across literature. For example, Deci (1972) distinguishes between intrinsically motivated behavior, behavior that occurs for no apparent reason except behavior itself, and extrinsically motivated behavior, behavior that occurs because
it leads to external rewards. Regardless of how they are defined, freely chosen and rule-governed behaviors can both be useful and adaptive.

Psychological Disturbance and Valuing

As previously discussed, values are an important driving force in behavior. Values tend to reflect what is important to humans and thus guide decision making and behavior. However, it may be difficult to live in accordance with our values when experiencing psychological distress such as affective disturbance or situational stress. Furthermore, when attempting to avoid these negative feelings and experiences, individuals may actually move away from their values, rather than towards them.

Acceptance lies on a continuum that represents willingness to come into contact with unwanted thoughts, emotions, bodily sensations, memories, and experiences. Experiential avoidance (EA) occurs when an individual is unwilling to acknowledge private events that may cause discomfort and consequently, they take steps to avoid coming into contact with these events (Hayes, Wilson, Gifford, Follette & Strosahl 1996). Inversely, psychological flexibility refers to contacting the present moment fully and consciously, and changing or persisting in behavior in the service of freely chosen values (Kashdan & Rottenberg, 2010). For example, if an individual who is phobic of airplanes is asked to fly because something important to him is on the other end of that flight, if he is psychologically flexible, he would be able to endure the unpleasant thoughts and feelings of his phobia in the service of doing what is important to him. While in some contexts, EA can be viewed as a defense mechanism protecting individuals from harmful thoughts, feelings, or experiences, avoidance of such experiences can also lead to long-
term negative consequences. EA has been found to be associated with a number of psychological disorders and is generally harmful to psychological well-being (Hayes et al., 2004).

In both clinical and non-clinical samples, EA has been highly correlated with psychological distress, general psychopathology, and lower quality of life (Hayes et al., 2004), as well as with symptoms of obsessive compulsive disorder (Manos, Cahill, Wetterneck, Conelea, Ross, & Riemann, 2010), eating disorders (Merwin et al, 2011; Rawal, Park, & Williams, 2010), hair-pulling and cognitive symptoms of trichotillomania (Norberg, Wetterneck, & Woods, 2007; Begotka, Woods, & Wetterneck, 2004), features and symptoms of borderline personality disorder (Chapman & Cellucci, 2007; Chapman, Dixon-Gordon, & Walters, 2011; Gratz, Rosenthal, & Tull, 2006), substance abuse (Chapman & Cellucci, 2007; Polusny, Rosenthal, Aban, & Follette, 2004; Forsyth, Parker, & Finlay, 2003), self-harm behaviors (Gratz & Gunderson, 2006), and anxiety and depression (Forsyth, Parker, & Finlay, 2003; Roemer, Salters, Raffa, & Orsillo, 2005; Tull, Gratz, Salters, & Roemer, 2004). Furthermore, experiential inflexibility and avoidance of unwanted events can significantly hinder an individual’s ability to live in his or her valued direction (Hayes et al., 1999). In order to counter this, an acceptance-based treatment model (ACT; Hayes et al., 1999) has been proposed.

The overall goal of ACT (Hayes et al., 1999) is to increase psychological flexibility, that is, to encourage individuals to be in contact with the present moment and to participate in behaviors that are consistent with values. Of the six core processes that work together to increase psychological flexibility (acceptance, cognitive defusion, contact with the present moment, values, committed action, and self as context), acceptance is the one that serves as an alternative to EA (Hayes, Luoma, Bond, Masuda, & Lillis, 2005). In an analysis of an acceptance-based treatment approach with individuals experiencing chronic pain, a combination of acceptance of
pain and values-based action were significantly negatively correlated with pain, pain-related
distress, pain-related anxiety and avoidance, depression, depression-related interference with
functioning, and physical and psychosocial disability. Additionally, acceptance and values
accounted for 6.5% and 27.0% of variance in measures of patient functioning after treatment
(McCracken & Vowles, 2008).

Van Dyke & Rogers (2006) examined 100 undergraduate students on measures of
valuing (VLQ), psychological distress (OQ-45), and EA (AAQ-22). Results revealed that
individuals who indicated low valuing reported greater distress and individuals who indicated
low and moderate valuing reported greater EA; therefore, highly valuing across a number of
domains is related to less psychological distress and EA (Van Dyke & Rogers, 2006). Similarly,
in a study of valuing and psychological distress, Adcock, Murrell, and Woods (2007) examined
388 undergraduate students to determine the relationship between valuing and clinical distress as
well as the potential mediating effect of EA. Results indicated that valuing many things was
highly predictive of psychological well-being; that is, valuing as a generalizable behavior
predicted greater psychological well-being, and EA partially mediated the relationship between
valuing and psychological distress (Adcock et al., 2007).

An additional study of values in 353 university students indicated that valuing optimism,
health, and religiousness was positively associated with psychological well-being and less
distress (Burris, Brecht, Salsman, Carlson, 2009). Individuals diagnosed with depression were
also found to report greater inconsistency within different goals and value domains (Stanger,
Ukrow, Schermelleh-Engel, Grabe, Lauterbach, 2007). Taken together, these studies suggest an
inverse relationship between acceptance and valuing behavior and psychological distress.
Rationale and Current Project

Previous literature demonstrates the complex nature of values and valuing behavior across multiple research dimensions. It has been suggested that values differentially motivate behavior, across varying cultures, gender, age, and across other contextual factors including religion and spirituality and psychological functioning. As such, it is important to gain extensive knowledge of the similarities and differences among identified values across varied contextual factors. The aim of the present study was to identify values in university students as well as to evaluate how psychological distress and psychological flexibility relate to students’ valuing behavior.

This project had two goals. The first goal was to identify the extent to which values are freely chosen and successfully lived in accordance with in an emerging adult, university student sample. The second goal was to examine the relationships among valuing behavior and contextual factors such as sub-group, gender, age, religion, and psychological distress and psychological flexibility. Psychological flexibility refers to contacting the present moment fully and consciously, and changing or persisting in behavior in the service of freely chosen values (Kashdan & Rottenberg, 2010). In this respect, behavior is not rule-governed (i.e., done because someone says to do it or done because it takes something aversive away); rather, behavior is freely choosing and acting on chosen values. Traditional measures of values require participants to identify, and often rank order their values. However, these measures do not assess for the extent to which identified values are freely chosen or rule governed.

The Personal Values Questionnaire (PVQ) is a measure of the extent to which a person’s valuing is rule governed or flexibly chosen. This measure was chosen over other traditional measures of valuing because it is aligned with the ACT behavioral perspective that taps into rule-
governed behavior and pliance. It is also preferred over other measures of valuing because it allows participants to describe how they behave consistently with their chosen value domains, without requiring ranking or forced-choice responding. Two overall scores were utilized from the PVQ: values quotient – the overall number of values endorsed by participants, and values purity – the extent to which people report their values are freely chosen. Success in living in accordance with values was measured by participant response to item six on each identified value domain. Finally, it is important to note that the Valued Living Questionnaire (VLQ) is more commonly used within the ACT community to measure valuing behavior; however, it demonstrates weak psychometric data (Wilson et al., 2010).

Research Hypotheses

Based on the previous literature, the following hypotheses were presented:

1. Given previous literature, which suggests this is a population that tends to endorse values and valuing behavior, it was hypothesized that college students would identify with more than one valued living domain. In other words, they would report that at least two valued living domains are important to them.

2. It was expected that there would be contextual factors that predict the likelihood of specific values endorsement.

   a. African-American, Hispanic, and Asian-American participants would be more likely than European-Americans to report that domains such as community/citizenship, family, and spirituality are important to them; whereas European-Americans would likely report more often than ethnic minority groups did that domains such as education and physical well-being are important to them.
This does not exactly map on to the collectivist vs. individualistic culture idea, but it is the most proximate data available in the current data set and it is supported by some previous work.

b. Men would endorse valuing work, education, and recreation more often than women; while women would endorse family, friendships, romantic relationships, and community more often than men.

c. Younger adults would endorse valuing social relationships, career, and education more often; while older adults would endorse valuing family, spirituality, community, and health more often than younger participants.

d. The participants who endorsed religion/spirituality would also endorse tradition based values such as community, benevolence, conformity, and relationships as opposed to individuality, personal growth, leisure, hedonism, stimulation, and self-direction.

3. It was expected that psychological distress would be negatively correlated with values endorsement as well as with the extent to which values are freely chosen (values purity).

   a. Depression would be negatively correlated with the values quotient and values purity.

   b. Anxiety would be negatively correlated with the values quotient and values purity.

   c. Stress would be negatively correlated with the values quotient and values purity.

4. It was hypothesized that greater psychological flexibility (low experiential avoidance) would predict values purity and successful living in accordance with identified values.
5. The number of values endorsed and success in living in accordance to values was expected to be mediated by psychological flexibility.
CHAPTER 2

METHOD

Participants

The present study utilized secondary data analysis methods, performed on data originally collected online from a sample of 282 undergraduate students at the University of North Texas (UNT) in the previous academic year. Participants were recruited through an online participant database from the UNT Department of Psychology Research Participant Pool (Sona-Systems) and were awarded two credit points for their participation – 1 point for every half hour of participation. The only exclusionary factors for participation were that participants had to be at least 18 years of age and fluent in English.

Thirteen participants’ data was removed due to missing information that resulted from one of three sources: (a) participants prematurely terminating the study, (b) participants skipping measures, or omitting large portions of them, and/or (c) computer error. Additionally, calculation of Mahalanobis distances revealed three multivariate outliers that were removed. All analyses for the current study were run with the remaining 266 participants ($N = 266$).

Participants ranged in age from 18 to 48 years old ($M = 19.83, SD = 3.40$); 71.1% were female ($n = 189$), and 19.5% were men ($n = 52$); 25 participants (9.6%) did not identify their gender. In terms of ethnicity, 62.4% were European American ($n = 166$), 12% were African American ($n = 32$), 14.7% were Hispanic American ($n = 39$), 5.6% were Asian American ($n = 15$), 4.2% identified their ethnicity as “other” ($n = 11$), and 1.1% did not identify their ethnicity ($n = 3$). The majority of participants were freshman, 49.6% ($n = 132$), 18.8% were sophomores ($n = 50$), 16.9% were juniors ($n = 45$), 13.5% were seniors ($n = 36$), and 1.1% did not report their year in school ($n = 3$). Finally, 91.4% of the sample reported that they were single ($n = 243$),
4.1% reported they were married \((n = 11)\), 1.5% of the sample reported they were divorced \((n = 4)\), and 3% did not report their marital status \((n = 8)\).

**Procedure and Materials**

Participants were recruited through Sona-Systems and the experiment was conducted via an online data collection service. Participants were first instructed to read and affirm their informed consent. The survey, as relevant to this study, included three instruments and a demographics sheet listed in the following order: the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995), the Personal Values Question (PVQ; Blackledge & Ciarrochi, 2006), the Acceptance and Action Questionnaire (AAQ-2; Bond, Hayes, Baer, Carpenter, Orcutt, Waltz, & Zettle, 2005), and the demographics questionnaire developed by the examiner. Measures administered, irrelevant to the present study, included (in order): selected questions that measure neuroticism and extroversion (International Personality Item Pool, 2001), the Alcohol Use Disorders Identification Test, the adapted AUDIT for cannabis use (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001), the Schizotypal Personality Questionnaire-Brief (SPQ-B; Raine & Benishay, 1995), and the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000).

All data was saved by the online data collection program, entered into SPSS, and checked for accuracy by comparing it to the original data. The online program and accompanying database where data was stored were both password protected; only the author had access to this password. All data analysis was carried out using SPSS version 18 (SPSS, Inc., Chicago, IL).
Measures

Depression Anxiety Stress Scales. (DASS; Lovibond & Lovibond, 1995)

The Depression Anxiety Stress Scales (DASS) was developed by Lovibond and Lovibond (1995) in order to assess anxiety, depression, and stress. The DASS is a 42-item measure answered on a 4-point Likert-type severity scale. It is a self-report inventory used to measure the negative emotion states of depression, anxiety, and stress. There are 14 items on each of the three scales with scores ranging from 0 to 42. The depression subscale measures dysphoria, anhedonia, and inertia. The anxiety subscale measures autonomic arousal, skeletal muscle effects, situational anxiety, and the subjective experience of anxiety. Finally, the stress scale measures chronic non-specific arousal. Convergent and discriminant validity was established comparing the DASS to the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961) and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). When administered to a sample of 717 college students, correlations with both the BDI and the DASS depression scale \( r = .74 \) and the BAI and the DASS anxiety scale \( r = .81 \) were high. Correlations between the opposite subscale constructs were significantly lower, for both depression \( r = .54 \) and anxiety \( r = .58 \).

The norms for the DASS were based on a non-clinical sample of 2,914 individuals. In the initial validation study, adequate Cronbach alphas for internal consistency reliability were achieved for the depression (.91), anxiety (.84), and stress (.90) scales (Lovibond & Lovibond, 1995). This normative procedure was repeated with a sample of 1,771 individuals from the general population in the UK with similar results - resulting in very good internal consistency reliability (depression = .93, anxiety = .95, stress = .97) and adequate convergent and discriminant validity scores when compared to the Personal Disturbance Scale (sAD), the
Hospital Anxiety and Depression Scale (HADS), and the Positive and Negative Affect Schedule (PANAS) scales (Crawford & Henry, 2003).

For the present study, all three subscales – depression, anxiety, and stress – were used in data analysis. Reliability analyses for the total measure yielded a Cronbach’s alpha of .96 in this sample. Additionally, each individual scale yielded adequate internal consistency reliability coefficients, \( \alpha = .94 \) for depression, \( \alpha = .87 \) for anxiety, and \( \alpha = .92 \) for stress.

Personal Values Questionnaire. (PVQ; Blackledge & Ciarrochi, 2006)

The PVQ is a self-report measure designed to assess valued actions and the rule-governed behavior reflected by those actions. Respondents are asked to identify valued actions in a free response format across nine domains: family relationships, friendships/social relationships, couples/romantic relationships, work/career, education-school/personal growth, recreation/leisure/sports, spirituality/religion, community/citizenship, and health/physical well-being. Following the identification within each domain, respondents are asked to respond to five statements about the type of behavior associated with the valued actions on a 5-point, Likert-like scale, ranging from 1, not at all for this reason to 5, entirely for this reason. Behavior measured includes three major types: (1) compliance, valuing under the control of social reinforcement (i.e., “I value this because somebody else wants me to or thinks I ought to, or because someone else will like it if I do; I probably wouldn’t say I value this if I didn’t get some kind of praise or approval for it”), (2) avoidance, endorsing a value to avoid shame, guilt, or anxiety that would arise if it were not endorsed (i.e., “I value this because I would feel ashamed, guilty, or anxious if I didn’t”), and (3) increasing the worth of an object or event through cognitive or verbal behavior (i.e., “I value this because I view it as important, whether or not others agree; Although this
value may have been taught to me by others, now it is my own heartfelt value; I value this because doing these things makes my life better, more meaningful, and/or more vital”)
(Blackledge, 2005). Subsequent items ask respondents to rate the importance of each value and the success they have had living in accordance with each given value. For the current study, total scores on the PVQ were calculated by subtracting the first and second types from the sum of the third type, providing a values purity score, that is, the extent to which valuing behavior is freely chosen. Using this method, the present study yielded a high internal consistency reliability coefficient for values purity of $\alpha = .90$. Additionally, an overall values quotient was calculated from the number of values endorsed by participants ranging from zero to all nine values.

Psychometric data on the PVQ is very limited. It was adapted from Kennon Sheldon’s Personal Strivings measure (Blackledge, Spencer, & Ciarrochi, 2006; Sheldon & Elliot, 1999) which provided a template for two versions: the PVQ and the Social Values Survey (SVS), a shortened form that assesses for values in the social, family, and couples relationship domains. The SVS was validated on a sample of 99 undergraduate students at the University of Wollongong in Australia (Blackledge et al., 2006). Corrected item-total correlations for all items in the three domains ranged from .09 to .55 and an internal consistency reliability coefficient of $\alpha = .76$ was obtained. Additionally, the SVS was found to be significantly negatively correlated to psychological distress (-.22 to -.32) as measured by the Brief Symptom Inventory (BSI; Derogatis, 1993), and significantly positively correlated with the Purpose in Life Scale (.21 to .32) (PIL; Marsh, Smith, Piek, & Saunders, 2003). In the original validation study, the SVS was also positively correlated with psychological flexibility (.23 to .32) as measured by the AAQ-II (Bond, Hayes, Baer, Carpenter, Orcutt, Waltz et al., 2005) and with life satisfaction (.23 to .37)
as measured by the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985).

Acceptance and Action Questionnaire. (AAQ-II; Bond, Hayes, Baer, Carpenter, Orcutt, Waltz et al., 2005)

The AAQ-II is a 10-item self-report measure developed as a measure of psychological flexibility (acceptance), or the inverse of experiential avoidance, which is the attempt to avoid negative private events such as thoughts, feelings, and physiological sensations. It is a broad measure that assesses participant’s thoughts, feelings, bodily sensations, memories, and experiences. Respondents evaluate statements such as “It’s OK if I remember something unpleasant” (reversed scored), “I’m afraid of my feelings”, and “Worries get in the way of my success”. Psychological flexibility lies on a continuum representing willingness to come into contact with unwanted private experiences. Scores on the AAQ-II range from 10 to 70, where higher scores represent greater psychological flexibility or acceptance of unwanted thoughts, experiences, etc., and lower scores represent greater experiential avoidance, or avoidance of unwanted thoughts, experiences, etc. The AAQ-II was designed to assess psychological flexibility and as such, was not created to establish a cut-off point at which people meet criteria for possible psychopathology. However, during validation research comparing the BDI-II, the General Health Questionnaire (GHQ), and the Global Severity Index (GSI) scale of the SCL-90-R, a preliminary (and limited) range from 24 to 28 was established to indicate psychological distress. This range lies in between the mean AAQ-II scores of the validation sample that was seeking substance abuse treatment, 28.34, and the samples that were not, 18.51.

The AAQ-II has demonstrated adequate psychometric properties when administered to a total sample of 3,280 participants from a number of subsamples including university students,
adults, and individuals seeking treatment for substance abuse (Bond et al., 2005). In the original validation study, internal consistency reliability was .83 for the total sample. Additionally, the test-retest reliability for a community sample ranges from .78-.80 and the mean alpha coefficient across seven samples ranges from .76 - .87. The AAQ-II has been found to correlate moderately (-.57) with the White Bear Suppression Inventory (Wegner & Zanakor, 1994), another measure of avoidant coping, and highly to the AAQ-I (.82). It also correlates with other measures of general psychopathology including the Beck Depression Inventory (-.69 to -.71), Beck Anxiety Inventory (-.58), DASS Depression scale (-.61), DASS Anxiety scale (-.51), DASS Stress scale (-.54), and SCL-90-R (-.65) (Bond et al., 2005). The current study yielded an adequate internal consistency reliability coefficient of $\alpha = .86$.

Demographics Questionnaire

A demographics questionnaire, developed by the examiner, was also given to the participants in order to obtain information regarding age, ethnicity, marital status, and level of education. In order to assess personal and family history of psychological treatment/mental disorder and substance use (which was relevant to the original study from which this data is archived), two questions were also included on the demographic sheet: “Have you had any current or past psychological treatment?” and “Do you have a history of medical problems or disorder?” See Table 1 for descriptive statistics regarding measures used.
CHAPTER 3
RESULTS
Data Preparation and Preliminary Analysis

Following the screening procedures outlined by Tabachnick and Fidell (2007), data was evaluated for patterns. As previously mentioned, 13 cases in which critical variables were blank or for which more than 10% of any variable’s data was missing were omitted. After that, missing data for individual items of the Personal Values Questionnaire (PVQ) were handled by replacement with individual means for each item across the nine domains.

Demographic differences between participants who completed the study and those who began the study, but did not complete it, were analyzed using a chi-square analysis and t-tests. 269 participants (95.4%) completed the study and 13 participants (4.6%) began, but did not complete the study. No significant differences were noted between completers and non-completers with respect to age, gender, ethnicity, year in school, and marital status. However, there was a pattern in regard to missing data; the majority of participants who quit the study discontinued at the beginning of the PVQ.

Prior to conducting analyses, assumptions corresponding to each analysis were assessed using graphic exploration of the data as well as statistical analysis. Using the descriptives function, z-scores were calculated, which did not reveal any univariate outliers among continuous variables. However, three possible multivariate outliers were located after computing a Mahalanobis distance for each case. Further evaluation of the cases suggested that while these participants’ responses were all within the range of possible scores for the measure, their response patterns suggest random responding. They were subsequently removed from analyses.
Univariate and multivariate normality were assessed by examining skewness and kurtosis. The distributions for most scales were non-normal, and in these cases data transformations were applied. Specifically, the Acceptance and Action Questionnaire (AAQ-II) total score and PVQ Purity score and Successful Valued Living score, were all moderately negatively skewed. Square root transformations adequately normalized these values. Each of the Depression Anxiety Stress Scales (DASS) were highly positively skewed and the inverse transformation method was applied; however, the DASS data remained skewed. Similarly, the number of values endorsed was extremely negatively skewed and inverse transformation was unsuccessful. Therefore, nonparametric inferential methods were utilized in order to test hypotheses containing the DASS scales and number of values endorsed scales. Additionally, homoscedasticity was determined using scatterplots and heteroscedasticity was corrected for using the previously mentioned data transformations. Multicollinearity and singularity were not present as correlations between all variables did not exceed .90 (Tabachnick & Fidell, 2007). See Table 2 for correlation data among variables.

Analysis of Hypothesis 1

The first question of each section of the PVQ asks participants to identify specific values within each of the nine domains (family relationships, friendships/social relationships, couples/romantic relationships, work/career, education-schooling/personal growth and development, recreation/leisure/sport, spirituality/religion, community/citizenship, and health/physical well-being). Prior to analyses, any qualitative response (other than “N/A”, “none”, “not an important life area”, etc.) was coded as a 1, and if the item was left blank or if the response qualitatively indicated no important values in that domain, it was coded as a 0. To
test Hypothesis 1 that college students would identify with more than one valued living domain, a chi-square analysis of PVQ responses was proposed. However, all participants endorsed having at least two or more valued living domains and a chi-square analysis was not required. A frequency analysis indicated that 208 (78.2%) participants endorsed valuing all nine domains, 36 (13.5%) endorsed valuing eight domains, 10 (3.8%) endorsed valuing seven living domains, 6 (2.3%) endorsed valuing six domains, 2 (0.8%) endorsed five domains, 2 (0.8%) endorsed four domains, and 2 (0.8%) endorsed two domains. See Figure 1 for graphical representation of number of values endorsed.

Analysis of Hypothesis 2

A number of correlational tests were utilized to examine whether contextual factors predicted the likelihood of specific values being endorsed.

2a. As previously stated, 62.4% of the sample were European American \((n = 166)\), 12% were African American \((n = 32)\), 14.7% were Hispanic American \((n = 39)\), 5.6% were Asian American \((n = 15)\), 4.2% identified themselves as an “other” ethnicity \((n = 11)\), and 1.1% did not identify their ethnicity \((n = 3)\). Ethnicity was correlated with coded values corresponding to relevant value domains. Since ethnicity and values endorsement were both coded as nominal variables, Pearson’s contingency coefficients were utilized. With regard to the value of family, there was not a significant difference between ethnicities \((C = .05, p = .99)\). With regard to the value of friendships, there was not a significant difference between ethnicities \((C = .20, p = .09)\). With regard to the value of romantic relationships, there was not a significant difference between ethnicities \((C = .08, p = .95)\). With regard to the value of career, there was not a significant difference between ethnicities \((C = .15, p = .39)\). With regard to the value of education, there
was not a significant difference between ethnicities \((C = .17, p = .28)\). With regard to the value of recreation and leisure, there was not a significant difference between ethnicities \((C = .14, p = .53)\). With regard to the value of religion and spirituality, there was a significant difference between groups. Specifically, European American participants did not indicate valuing religion and spirituality as much as African American, Hispanic American, and Asian American participants \((C = .22, p = .04)\). In regard to the value of community and citizenship, there was not a significant difference between ethnicities \((C = .11, p = .77)\). Finally, in regard to health, there was not a significant difference between ethnicities \((C = .12, p = .72)\), see Table 3.

2b. Gender was correlated with each value domain in a similar fashion. Since gender and values endorsement were both coded as nominal, dichotomous variables, phi coefficients were utilized. With regard to the value of family, there was not a significant difference between genders \((\phi = -.12, p = .06)\). In regards to the value of friendships, there was not a significant difference between genders \((\phi = .05, p = .46)\). With regard to the value of romantic relationships, there was not a significant difference between genders \((\phi = .03, p = .63)\). With regard to the value of career, there was not a significant difference between genders \((\phi = -.02, p = .81)\). With regard to the value of education, there was not a significant difference between genders \((\phi = .07, p = .29)\). With regard to the value of recreation and leisure, there was not a significant difference between genders \((\phi = .02, p = .77)\). With regard to the value of religion and spirituality, there was not a significant difference between genders \((\phi = -.05, p = .41)\). With regard to the value of community, there was a significant difference between genders. Specifically, females valued community more than males \((\phi = -.13, p = .05)\). With regard to the value of health, there was not a significant difference between genders \((\phi = .07, p = .30)\), see Table 4.
2c. Age was also correlated with each value domain to test whether younger and older adults varied in their values endorsement. A point-biserial correlation was utilized, as one variable (age) is continuous while the other (values endorsement) was nominal and dichotomous. With regard to the value of family, there was a significant negative correlation with age; younger participants valued family significantly more than older participants ($r_{pb} = -.19, p = .003$). There was not a significant correlation between age and valuing friendship ($r_{pb} = .02, p = .73$). There was not a significant correlation between age and valuing romantic relationships ($r_{pb} = .03, p = .59$). There was not a significant correlation between age and valuing career ($r_{pb} = .06, p = .36$). There was not a significant correlation between age and valuing education ($r_{pb} = .08, p = .22$). There was not a significant correlation between age and valuing recreation and leisure ($r_{pb} = .07, p = .27$). There was not a significant correlation between age and valuing religion and spirituality ($r_{pb} = -.03, p = .66$). There was not a significant correlation between age and valuing community and citizenship ($r_{pb} = -.05, p = .39$). There was not a significant correlation between age and valuing health ($r_{pb} = .06, p = .35$), see Table 5.

2d. The value domain of religion/spirituality was correlated with each other value domain to examine whether higher endorsement of religion/spirituality was correlated to valuing community, benevolence, conformity, and relationships as opposed to individuality, personal growth, leisure, hedonism, stimulation, and self-direction. A phi coefficient was again used for this analysis, given that both variables of interest are dichotomous and nominal. There was not a significant correlation between valuing religion/spirituality and valuing family ($\phi = -.02, p = .73$). There was not a significant correlation between valuing religion/spirituality and valuing friendships ($\phi = .11, p = .07$). There was a significant positive correlation between valuing religion and valuing romantic relationships ($\phi = .25, p < .001$). There was not a significant
correlation between valuing religion/spirituality and valuing career ($\phi = .08, p = .18$). There was a significant positive correlation between valuing religion/spirituality and valuing education ($\phi = .22, p < .001$). There was a significant positive correlation between valuing religion/spirituality and valuing recreation and leisure ($\phi = .25, p < .001$). There was a significant positive correlation between valuing religion/spirituality and valuing community ($\phi = .40, p < .001$). There is a significant positive correlation between valuing religion/spirituality and valuing health ($\phi = .36, p < .001$), see Table 6.

Analysis of Hypothesis 3

To test Hypothesis 3, that psychological distress would be negatively correlated with values endorsement and values purity each subscale of the DASS was correlated with the values purity score and with the overall valuing quotient. Because these scales all violated the assumption of normality even after transformation, a Spearman’s rank correlation was conducted. Before performing these analyses, a Spearman’s rank correlation was performed between the subscales of the DASS to assess for singularity and multicollinearity. These assumptions were not violated; see Table 7.

3a. Depression was not significantly correlated with overall values endorsement ($r_s = -.05, p = .41$). However, there was a significant negative correlation between depression and values purity ($r_s = -.16, p = .01$).

3b. Anxiety was not correlated with overall values endorsement ($r_s = -.00, p = .98$). However, there was a significant negative correlation between anxiety and values purity ($r_s = -.14, p = .02$).
3c. Stress was not correlated with overall values endorsement ($r_s = .02, p = .72$).
Additionally, there was not a significant correlation between stress and values purity ($r_s = -.12, p = .10$).

**Analysis of Hypothesis 4**

To test Hypothesis 4, two multiple linear regression analyses were utilized to examine how well psychological flexibility (low experiential avoidance as measured by the AAQ-II) predicted valuing behavior (as measured by the values purity score and success in living in accordance to values). Results indicated that psychological flexibility significantly predicted values purity, $\beta = .34, t(1, 261) = 3.43, p = .001$. Psychological flexibility also explained a significant proportion of variance in values purity, $R^2 = .04$, adj. $R^2 = .04$, $F(1, 261) = 11.74, p = .001$. Psychological flexibility significantly predicted success in living in accordance to values, $\beta = .21, t(1, 261) = 3.57, p < .001$. Psychological flexibility also explained a significant proportion of variance in success in living in accordance to values, $R^2 = .05$, adj. $R^2 = .04$, $F(1, 261) = 12.72, p < .001$.

**Analysis of Hypothesis 5**

To test Hypothesis 5, the Baron and Kenny (1986) regression analysis with Sobel test was proposed to estimate the degree to which psychological flexibility mediated the relationship between values endorsed and successful valued living. The Sobel helps determine the percentage of a total effect that is mediated among variables and the ratio of the indirect to the direct effect. Specifically in these analysis, the mediating role of psychological flexibility (as measured by the AAQ-II) was to be examined with respect to the relationship between the number of values
endorsed (as measured by the overall values quotient), and success in living in accordance to values (as measured by the question on the PVQ that states: In the last 10 weeks, I have been this successful in living this value, to acting consistently with this value.

In order to do this, it was first necessary to determine whether or not these variables were significantly related. A Spearman’s rank correlation was utilized to correlate the predictor variable, number of values endorsed, with success in living in accordance with values ($r_s = -.41, p < .001$). A Pearson’s bivariate correlation was utilized to correlate success in living in accordance to values with the mediator variable (AAQ-II) ($r = 2.2, p < .01$). Finally, Spearman’s rank correlation was utilized to correlate number of values endorsed with the mediator variable (AAQ-II) ($r_s = -.10, p = .108$). The Sobel test could not be performed, since the relationship between number of values endorsed and the mediator variable (AAQ-II) was not significant.

**Exploratory Analysis**

An exploratory analysis was conducted to examine if there is a mediating relationship between psychological flexibility and the predictor variable, values purity (rather than values quotient, or number of values – as originally proposed), and the dependent variable, success in living in accordance to values. In order to test this, a Pearson’s bivariate correlation was utilized to correlate values purity with success in living in accordance to values ($r = .51, p < .01$). Pearson’s bivariate correlations were also utilized to correlate values purity with psychological flexibility as measured by the AAQ-II ($r = .21, p = .001$) and success in living in accordance to values with AAQ-II scores ($r = .22, p < .001$). To estimate the paths of the mediation model, three linear regression analyses predicting success in valued living were calculated.
In step one, a regression analysis was conducted with values purity entered as the independent variable and success in valued living as the dependent variable. This model was significant, $F(1, 264) = 90.39, p < .001$, accounting for 26% of the variance, $\beta = .30, p < .001$.

In step two, a regression was conducted to examine whether values purity predicted psychological flexibility. This model was also significant, $F(1, 261) = 11.74, p = .001$, accounting for 4% of the variance, $\beta = .13, p = .001$. For steps 3 and 4, a regression analysis was performed to determine if the proposed mediator (psychological flexibility) significantly predicted success in valued living. This model was also significant, $F(1, 261) = 12.72, p < .001$, accounting for 5% of the variance, $\beta = .21, p < .001$. For step 3, when psychological flexibility was a predictor of success in valued living, $\beta = .21, p < .001$. In regard to step 4, when psychological flexibility was added as a mediator, the beta coefficient was reduced for values purity, $\beta = .28, p < .001$. A Sobel test was conducted and indicated that the association between values purity and values success is reduced significantly by the inclusion of the mediator variable of psychological flexibility in this model ($z = 2.467, p = .01$); therefore, there is evidence of partial mediation. Specifically, psychological flexibility mediated the relationship between values purity and success in living in accordance with identified values, see Figure 2.
CHAPTER 4

DISCUSSION

Values have a significant impact on individual behavior, and the importance of each values domain varies from person to person. From an acceptance and commitment therapy (ACT) perspective, freely choosing a valued direction and acting consistently with this direction is a core component of healthy functioning (Hayes et al., 1999). The present study explored values identification and contextual demographic factors that influence values identification among university students. Additionally, the relationship of psychological distress and psychological flexibility with students’ valuing behavior was evaluated. One hypothesis was confirmed, three hypotheses were partially confirmed, and one hypothesis was not confirmed. An exploratory analysis provided additional information that warrants discussion.

Results of Hypothesis Testing

Hypothesis 1

The first hypothesis stated that college students would identify with more than one valued living domain. Results indicated that a significant number of university students endorse multiple values; specifically, over 78% of the sample endorsed valuing nine domains including family relationships, friendships/social relationships, couples/romantic relationships, work/career, education/personal growth, recreation/leisure, spirituality/religion, community/citizenship, and health/physical well-being. Additionally, 13.5% endorsed valuing eight domains, 3.8% endorsed valuing seven domains, 2.3% endorsed valuing six domains, 0.8% endorsed five domains, 0.8% endorsed four domains, and 0.8% endorsed two domains. No participants endorsed valuing three or zero domains.
This finding is consistent with current literature suggesting college students report high levels of valuing and valuing behavior (Ochberg, 1986; Mitchell et al., 2008; Talbot, 1990; Feather, 1988; Henderson-King & Smith, 2006; Schwartz & Bardi, 2001). It is clear by the high number of values endorsed by college students that values are involved in multiple areas of their lives. However, while the results are consistent with Hypothesis 1, the lack of variability in values endorsement led to significant difficulty in later analyses; this became particularly problematic with regard to Hypothesis 5, which utilized number of values endorsed as a predictor.

An important consideration for this finding is related to measurement of values, specifically, ranking values versus rating values. Using rank order methodology to measure valuing guarantees that each item will be ranked with a unique value, and according to Rokeach (1973) captures the competitive nature of values that is often seen among valued living. However, there are significant consequences to be considered including: rank forces participants to differentiate between items that may be considered equivalent, emphasizes items listed earlier on the list, limits the range of statistical analyses that can be utilized, and takes, on average, three times longer to answer than rating questionnaires (Munson and McIntyre, 1979). Alternatively, Likert rating scales allow participants to assign items the same value, introduce more flexibility, and have more useful statistical properties (Schwartz, 1994). However, there are some negative consequences of this flexibility which include: narrow distribution of ratings, less differentiation among items, and spurious positive correlations due to the participant’s personal variations (Munson and McIntyre, 1979). Some evidence suggests rating values as important or not important leads to lack of variability because values are desirable (Hitlin & Piliavin, 2004). In a study that contrasted rating values as important with ranking how they are important, Alwin &
Krosnick (1986) found rank ordering values forced negative correlations between values. Additionally, Seligman & Katz (1996) identified that while ranking values reduces variability, it does not account for contextual factors such as situational variability and differing schemas. Also, rating individual importance of values tends to encourage positive correlations among valuing (Seligman & Katz, 1996) and tends to increase validity since individuals who are forced to rank their values more often made trivial and therefore less valid, distinctions between values (Maio, Roese, Seligman, Katz, 1996).

While authors of these articles suggest pros and cons to ranking and rating, the premise of this project was based on functional contextual theory, which is consistent with rating values rather than ranking, taking into account contextual factors that vary among participants and not forcing hierarchies among values. Additionally, the ACT process of feely chosen values is consistent with rating values and valuing behavior. Therefore, while this project used a measure that uses values ratings which has some downsides, including reduced variability seen here, having participants rate valuing does have some benefits, and – importantly - is consistent with the theory that guided this study.

Hypothesis 2

The second hypothesis stated contextual factors, including ethnicity, gender, age, and religiosity/spirituality would influence the identification with specific values. Results indicated that this hypothesis was partially supported. While they did not endorse community/citizenship and family more than European Americans (inconsistent), (a) African American, Hispanic American, and Asian American participants endorsed valuing religion and spirituality significantly more than European American participants (consistent). Men did not endorse any
specific values significantly more than women (inconsistent); however, (b) female participants endorsed valuing community and citizenship significantly more than males (consistent). Older adults did not endorse any significant values more than younger adults (inconsistent); however, (c) younger participants reported valuing family significantly more than older participants (consistent). Additionally, (d) individuals who endorsed valuing religion and spirituality were significantly more likely to endorse valuing romantic relationships, education and personal growth, recreation and leisure, community and citizenship, and health and physical well-being.

Past research indicates that individuals with African American, Hispanic American, and Asian American ethnicities tend to endorse collectivist values such as tradition, family, conformity, loyalty, family and other relationships, community, and spirituality, (White & Parham, 1990; Marin & Marin, 1991; Uba, 1994; Triandis, 1989; Bond, 1988; Schwartz, 1990), while European Americans tend to endorse values related to independence, personal growth, achievement, and power (Greenfield & Cocking, 1994; Schwartz, 1990). Of the proposed hypotheses, the only significant finding among varying ethnicities was African American, Hispanic American, and Asian American participants endorsed valuing religion and spirituality more than European American participants, which is consistent with past research. Overall, in the current study, a significant portion of the sample endorsed valuing religion. According to the American Religious Identification Survey, religious beliefs vary by region and are at the highest rate in the South (86%), consistent with where data from the current study was conducted (Kosmin, & Keysar, 2009). Additionally, consistent with the present study, past research demonstrates religious identification varies among ethnicity. For example, Chatters, Taylor, Bullard, and Jackson (2009) found that African Americans endorse higher levels of religious involvement and higher levels of religious participation than non-Hispanic white Americans.
White Americans are also less likely to attend religious services when compared to African Americans, non-Cuban Hispanics, and Cuban Hispanics (Rote & Starks, 2010). This sample did not have much variability, though, in terms of ethnicity so this finding may have been masked. Finally, according to Hammond and Warner (1993), while the relationship between ethnic identification (including African American, Mexican American, Asian American, etc.) and religious identification is one that is frequently and easily identified, in the United States, it has been weakened in recent years due to behavior patterns such as secularization and assimilation.

The inconsistency of the present finding with past research may be explained by a number of reasons. The majority of the sample was European American females that are living in the Southwestern part of the United States. Despite this lack of variability, many participants labeled themselves as an ethnicity other than European American. There are many ways in which ethnic group identity can be expressed and maintained, including through valuing behavior, as previously discussed. However, ethnic assimilation may pose a threat to maintaining group identity and consequently, traditionally accepted values in the culture the participants are growing up in. As such, subgroup acculturation may lead participants to identify values more consistent with the majority, such as power and self-improvement, than with more collectivist values that tend to focus on community and tradition. If this is the case, then inconsistency with previous research may be the result of growing ethnic assimilation.

It is also important to note than many of the studies on values identification among differing ethnicities mentioned in the previous paragraph and throughout the introduction of this paper were conducted nearly two decades ago. A possible explanation for the lack of consistency with the current study may actually be a shift in values that has occurred over time. The majority of the research cited was conducted with college students; as such, changes in the advanced
education system over the past 20 years may have created a shift in what college students find important.

According to past research, men identify with values related to physical development, achievement, extroversion, autonomy, power, individual achievement, stimulation, and hedonism; whereas, women tend to identify with values related to inner directedness, community, family and other relationships, nurturing the group, security, and benevolence (Erickson, 1964; Chodorow, 1990; Prince-Gibson & Schwartz, 1994; Schwartz & Rubel, 2005). The only significant finding related to gender in the present study was female participants endorsed valuing community and citizenship significantly more than males.

Differences that occur among values identification may likely stem from the concept of gender roles or gender schemas, a construct that has been studied extensively in the fields of psychology and sociology (Lindsey, 1990; Eagly & Wood, 1991; Wood & Eagly, 2002). A gender role is the set of social and behavioral norms that are generally considered to be appropriate for either a man or a woman and are typically determined by culture (Lindsey, 1990). Historically, in many cultures, roles that were considered “feminine” include those that revolve around family, nurturing, community, and benevolence to the community; while traditional “masculine” roles include those of independence, achievement, status, power, and personal accomplishment (Wood & Eagly, 2002). These differing roles are socially learned patterns of behavior reinforced by socializing agents such as parents, friends, teachers, and the media (Oakley, 1972; Wharton, 2005). Therefore, for the present study, the finding that women endorsed valuing community and citizenship may likely be explained by social role theory.

According to traditional social role theory, men are more likely to endorse values related to independence, achievement, and status; however, this was not found in the present study.
Historically, only masculine and feminine gender roles were recognized; however, as time has progressed, many different roles have formed and the gap between masculine and feminine has decreased (Twenge, 1997). According to more recent research, traditional feminine gender roles have become less relevant in Western society since the industrial revolution resulted in women entering the workforce (Wilson, 2002). Additionally, with the rise of feminism over the past century, roles that are exclusively for males have significantly decreased (Wilson, 2002). Taken together, these explanations likely explain the lack of variability in endorsement of values that have been traditionally masculine.

Another contribution to the lack of consistency to past research in relation to contextual influences on values identification may be explained by the measures used to identify and evaluate values. The majority of research that assessed for gender differences in valuing behavior utilized the Schwartz Value Survey (SVS; Schwartz, 1992, 2005), which identifies 56 specific values related to hedonism, power, stimulation, achievement, self-direction, relationships, and family, for example. The measure used in the current study, the Personal Values Questionnaire (PVQ; Blackledge & Ciarrochi, 2006) is limited to the nine values previously listed and does not consider values related to hedonism and self-stimulation (although it can be argued that recreation/leisure/sports and personal growth are at least loosely related). Further, at least to some extent as there is a write-in portion about values description, the way values present may be less stereotypically relevant even if endorsed. While the PVQ contains domains that loosely correspond to items on the SVS, the PVQ is not as broad and results cannot directly correlate with specific values.

Past research has demonstrated that younger individuals tend to identify with values related to materialistic ideals, hedonism, stimulation, self-direction, universalism, self
enhancement, gaining financial independence, education, social connections, and other self-oriented desires; whereas, older individuals identify with values related to less materialistic ideals, security, tradition, conformity, career, marriage, and parenthood (Inglehart, 1997; Schwartz, unpublished manuscript; Arnett, 1997; 1998; Ochberg, 1986; Talbot, 1990; Henderson-King and Smith, 2006; Schwartz & Bardi, 2001). The only significant finding related to age was that younger participants reported valuing family significantly more than older participants. This finding may be due to the lack of variability in the ages of participants. While there were seven participants that reported an age of 30 or above, over 70% of the sample fell below the age of 20. In contrast, previous studies that conducted age comparisons distinguished between emerging adults (ages 18-25) and adults (ages 25 and older; Inglehart, 1997), early adults (ages 21-24) and middle adults (25-28; Arnett, 1997), or utilized a meta-analysis of several studies covering the spectrum of ages across adulthood (Schwartz, unpublished manuscript; Schwartz & Bardi, 2001). Had the present study utilized a more representative sample of older adults, it is likely that more significant age comparisons could be made.

Despite lack of variability related to age, the finding that younger college students significantly value family relationships more than older college students is of some importance. It is possible that college students that are younger may be more developmentally attached to their parents, siblings, extended family members, etc. than older students. This finding may also be a result of younger students experiencing homesickness when they first enter college, as opposed to later years, and they may feel a need to share their first year experiences with their family. Additionally, the development of modern technology allows individuals to stay better connected to their home than ever before, facilitating closer bonds and more communication.
Finally, previous research suggests that individuals who endorse valuing religion and spirituality are also likely to endorse values related to transcendence, preserving social order, commitment, tradition, conformity, benevolence, and security, and less likely to endorse values related to self-indulgence, openness to change, hedonism, stimulation, self-direction, achievement, and power (Schwartz & Huismans, 1995; Fontaine, Luyten, & Corveleyn, 2000; Saroglou, Delpierre, & Dernelle, 2004; Roccas, 2005). Consistent with previous literature, the present study found that individuals who valued religion and spirituality were significantly more likely to endorse valuing romantic relationships, community and citizenship, and health and physical well-being. Additionally, individuals who endorsed valuing religion and spirituality reported more valuing behavior overall.

The most pervasive finding in the current study is the effect religiosity and spirituality has on overall values identification. The concepts of religion and spirituality are multidimensional; according to the New Oxford American Dictionary, religion can be defined as the belief in and worship of a nonhuman controlling power, while spirituality can be defined as relating to the human spirit or soul as opposed to the physical (New Oxford American Dictionary, 2005). These results are consistent with previous research that has found positive correlations between religious commitment and/or spirituality and values that emphasize family, tradition, and conformity (Barnea & Schwartz, 1994; Roccas, 2005; Schwartz & Huismans, 1995; Saroglou, Delpierre, & Dernelle, 2004).

Inconsistent with previous literature, individuals who endorse valuing religion and spirituality were also more likely to endorse valuing education/personal growth and recreation/leisure. However, when considering education/personal growth, it is possible that the focus was more on education than on personal growth and as such, may be a result family
pressure rather than hedonistic or self-oriented behavior. Additionally, increased endorsement of valuing education and recreation and leisure may result from reasons such as the average age of the sample (19.8) and/or the demographic of the sample consisting exclusively of college students. Finally, as stated earlier, this heightened endorsement of education/personal growth and recreation/leisure is likely influenced by the overrepresentation of European Americans in the sample.

Hypothesis 3

The third hypothesis stated that psychological distress would be inversely related to number of identified values as well as to the extent to which values were freely chosen (values purity). This hypothesis was partially supported. Results indicated that there was not a significant relationship between number of values endorsed and psychological distress. An explanation for this finding is the lack of variability in number of values endorsed across the sample. However, there was a significant negative correlation between depression and values purity, and between anxiety and values purity. In other words, individuals who freely chose to value what they wanted to value were less likely to report symptoms of depression and anxiety. This finding is consistent with literature that states that individuals who experience depression and other symptoms of psychological distress report greater inconsistency within different goals and value domains (Adcock, Murrell, & Woods, 2007; Stanger, Ukrow, Schermelleh-Engel, Grabe, Lauterbach, 2007; Van Dyke & Rogers, 2006). The definition freely chosen values itself implies pursuing values without predominant and ongoing aversive control (pliance, tracking, augmenting; Torneke, Luciano, & Salas, 2008; Plumb, Stewart, Dahl, & Lundgren, 2009). Therefore, consistent with present data, it is likely that flexibly directing life towards freely
chosen value domains may lead to decreased levels of anxiety, depression, and overall psychological distress.

Hypothesis 4

The fourth hypothesis stated that psychological flexibility (low experiential avoidance) would predict the number of identified values as well as successful living in accordance with identified values. Again, over 78% of the sample endorsed valuing all nine domains; therefore, due to lack of variability in values endorsement, this hypothesis was only partially supported. While psychological flexibility did not predict the number of identified values, it was found to significantly predict values purity as well as success in living in accordance with values. Meaning, individuals who reported greater psychological flexibility (less experiential avoidance) were more likely to report that their values were freely chosen and that they were successfully living in accordance with them. This finding is consistent with previous research (Adcock et al., 2007; Van Dyke & Rogers, 2006; McCracken & Yang, 2006) and theory (Hayes, 2007), as stated in Hypothesis 3.

Additionally, this finding highlights the important relationship between psychological symptoms and values identification, values purity, and success in living in accordance with values. In the current sample, those who endorsed more psychological symptoms were more likely to endorse values because others tell them to or because they feel they should. While it makes sense that freely choosing to identify with values would be negatively correlated with depression and anxiety, it is unclear from the current study whether adherence to values that are not purely chosen led to symptoms of depression and anxiety, or the reverse. Past research indicates success in living in accordance with values (as measured by the Chronic Pain Values
Inventory) has been found to be significantly correlated with measures of depression and pain-related anxiety (McCracken & Yang, 2006). Additionally, pliant and avoidance reasons for valuing behavior (as measured by the PVQ) have been found to predict poor psychological health and greater depression prior to treatment (Plumb & Hayes, 2008). Future studies should look at how freely chosen values differ from those that are not; examining this relationship may provide important insight into psychological outcome and aid in treatment development. Regardless of the direction of the relationship, this finding is consistent with current research that suggests living in accordance with freely chosen values is associated with lessened psychological symptoms and greater psychological flexibility (Hayes, 2007).

Hypothesis 5

Finally, the fifth hypothesis stated the relationship between the number of values endorsed and success in living in accordance to values would be mediated by psychological flexibility. Again, lack of variability in values endorsement (most participants endorsed all nine values) prevented this hypothesis from being evaluated. However, since one previous study found that psychological flexibility significantly predicted values purity and success in living in accordance with values (Van Dyke & Rogers, 2006), an exploratory analysis was conducted to see whether psychological flexibility mediated the relationship between these two behaviors (flexibility and success). Results indicated that the association between values purity and success in living in accordance with values was significantly reduced by the inclusion of the mediator variable of psychological flexibility. This finding is particularly important to clinical application in that it demonstrates that the relationship between freely choosing values and being successful in living in accordance with said values is partially explained by the inclusion of psychologically
flexible behavior. Specifically, individuals are more likely to be successful in aligning their lives with freely chosen values when they evidence greater psychological flexibility.

According to ACT intervention research, which places emphasis on acceptance, valuing is conceptualized as a process and an important component to individual psychological distress prior to receiving treatment (Plumb et al., 2009). Following an ACT intervention study of chronic pain, McCracken and Yang (2006) found that success in living according to values (as measured by the Chronic Pain Values Inventory) accounted for a significant portion of the variance in functioning. Additionally, Wicksell, Ahlqvist, Bring, Melin, and Olsson (2008) applied a measure of psychological flexibility throughout an ACT intervention that resulted in significantly improved reported life functioning and satisfaction. As previously stated, psychological flexibility refers to contacting the present moment fully and consciously, and changing or persisting in behaviors in the service of freely chosen values (Kashdan & Rottenberg, 2010). The finding that psychological flexibility significantly predicted values purity and success in living in accordance with values is consistent with current research (Van Dyke & Rogers, 2006).

The observation that psychological flexibility is a mediator between values purity and success in living in accordance with values is not yet significantly supported by other research; however, one study has found that psychological flexibility partially mediated the relationship between valuing behavior and psychological distress (Adcock et al., 2007). Taken together, it appears that psychological flexibility plays an important role in the relationship between values identification and psychological symptoms and behavior (successful valued living).

Findings from the current study provide support for approaching values identification and valuing behavior as multidimensional constructs in that they are comprised of a number of
interrelated dimensions and have multiple domains. As previously stated, values identification has been linked to ethnicity, gender, religiosity and spirituality, and psychological symptoms. This conceptualization provides a plausible explanation for why values and valuing behavior have been so widely defined and measured throughout history.

Limitations

There are limitations to the current study. The external validity of the study may be threatened by the underrepresented amount of participation by diverse ethnicities, particularly by minority males. While the percentages of all ethnic groups are comparable to those at the university the sample was drawn from, there is an overrepresentation of European American females. This occurrence could lead to issues with generalizability, particularly when drawing conclusions about interactions between ethnicity and values identification. Furthermore, missing data on the demographic questionnaire was also higher than desired. Also, the sample was drawn from a college population that endorsed a low level of symptomology overall which may have impacted values endorsement and hypotheses related to psychological health. Generally, when disorders are more severe, there is a trend towards more symptoms and likely more comorbidity (Widiger & Trull, 1991). Therefore, conclusions drawn from the present study may not be generalizable to clinical samples where individuals are more likely to endorse more symptoms and have higher comorbidity of mental health difficulties.

Another limitation lies in the method of data collection and measurement. Information was collected through an online data survey, in which participants could complete the questionnaires in an environment of their choice rather than a standardized and controlled environment. Given this, it is possible that participants may have been subject to external
distractions that could have led them to not attend to all items. Moreover, since participants were not monitored while filling out the questionnaires, it is possible they may not have been entirely truthful in their responding and may have responded to items quickly in order to complete the task. Similarly, an online survey is susceptible to participant drop out due to fatigue, human error, and technology error.

Finally, another limitation to this study lies in the measures used. Participant endorsement on the Acceptance and Action Questionnaire (AAQ) resulted in limited range of variability due to a low level of avoidance overall. A similar trend was found on the success scale of the Personal Values Questionnaire (PVQ). Additionally, utilizing the PVQ as the sole measure of values assessment was also a weakness to this study. The PVQ is a complex measure that has been rarely utilized in research. While it provides more information about participant values and valuing behavior than more common assessment measures (e.g. the Valued Living Questionnaire), its length and complexity may have contributed to participant drop out and fatigue. Additionally, the measure only includes nine values that are commonly endorsed by individuals; therefore, it likely contributed to the lack of variability in values endorsement. Finally, the measure does not have a widely accepted scoring method that has been validated over a course of studies; therefore, scoring for the present study was difficult.

Future Directions

Despite these limitations, this study provides significant evidence for the complexity of values identification and valuing behavior. An important avenue for the future will be to replicate this study with a more generalized sample from the community or clinical settings rather than relying on an undergraduate student sample. Doing this will provide more variability
in terms of demographics information such as age, socioeconomic status, and education level. In order to make concrete inferences about ethnicity, it will be important to focus on collecting a sample that is representative of ethnically diverse males.

As previously stated, the PVQ is a complex measure utilizing both qualitative and quantitative methods of data collection. While this particular study did not utilize the qualitative information provided by participants, it is unique to this measure and should be added to data analysis in the future. The qualitative section allows participants to write about their values in a manner that describes them as ongoing actions, rather than static end states and can provide useful information above and beyond that of a forced choice questionnaire. Furthermore, since the PVQ has not been frequently utilized in research settings, it is recommended that future research projects add an additional measure of values assessment in order to provide a more comprehensive account of individual values. Utilizing more than one measure will provide additional data regarding personal values and add to the reliability of the research design.

Clinical Implications and Conclusions

Values and valuing behaviors are universal; however, measurement of these behaviors is complex and varies across the field of psychology. The findings of this study become particularly important when approaching treatment from a contextual behavioral perspective, i.e. ACT. A principal component of ACT focuses on valued living. In ACT, values are not clear end states; rather they are directions in which a person lives their life to gain a more vital existence. ACT utilizes mindfulness and behavioral change strategies in order to increase psychological flexibility and help clients identify chosen valued life directions (Hayes et al., 2011).
Of particular focus in the ACT treatment model is experiential avoidance (EA). As mentioned previously, EA has been highly correlated with psychological distress, general psychopathology, and lower quality of life in both clinical and non-clinical samples. As the present study demonstrated, EA mediates the relationship between the extent to which values are freely chosen and success in living in accordance with chosen values. Using mindfulness techniques, ACT has been effective in treating EA in a number of psychological disorders including psychosis (Bach & Hayes, 2002), test anxiety (Zettle, 2003), trichotillomania (Woods, Wetterneck, & Flessner, 2006), obsessive compulsive disorder (Twohig, Hayes, & Masuda, 2006), social anxiety disorder (Dalrymple & Herbert, 2007), chronic pain (McCracken & Eccleston, 2006), depression and anxiety (Forman et al., 2007), and substance abuse (Hayes, Wilson et al., 1996).

Additionally, as results of the current study have demonstrated, context - to some degree, influences values identification. Self-as-context is another core process that emphasizes that we are not the content of our experiences. Specifically, we are not our thoughts, our feelings, our experiences, or the images that we come into contact with. However, when we become fused with the idea that we are, it becomes difficult to lead a meaningful life (Hayes et al., 1999). Simply stated, when we are fused with our “should be” values, we are missing out on being flexible. From this perspective, it is likely considering context and encouraging individuals to become more psychologically flexible will facilitate them to choose values more freely and live with more meaning.

The present study not only provides evidence that individuals identify with a wide variety of values, but that the relationship between the extent to which these values are freely chosen and how successful individuals are in living in accordance with said values, is, at least partially
mediated by psychological flexibility. Meaning, individuals are more likely to be successful in
living in accordance with freely chosen values when they are psychologically flexible and less
avoidant of painful experiences. Therefore, in order to assist individuals with living in
accordance with purely chosen values, it is important for individuals to be willing to come into
contact with uncomfortable thoughts, feelings, and experiences, in order to increase
psychological flexibility in the service of what is important to them. It is through psychological
flexibility, and therefore decreased experiential avoidance, that humans can live a value driven
existence and increase their quality of life.
Table 1

*Means and Standard Deviations (n = 266)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Actual Range</th>
<th>Min</th>
<th>Max</th>
<th>Means</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18–48</td>
<td>19.83</td>
<td>3.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Flexibility (EA)</td>
<td>10–70</td>
<td>21–69</td>
<td>51.97</td>
<td>9.5</td>
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<tr>
<td>Depression</td>
<td>0–42</td>
<td>14–56</td>
<td>18.80</td>
<td>6.47</td>
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</tr>
<tr>
<td>Anxiety</td>
<td>0–42</td>
<td>14–45</td>
<td>17.94</td>
<td>4.86</td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>0–42</td>
<td>14–50</td>
<td>21.65</td>
<td>6.92</td>
<td></td>
</tr>
<tr>
<td>Successful Valuing</td>
<td>9–45</td>
<td>2–45</td>
<td>31.89</td>
<td>7.85</td>
<td></td>
</tr>
<tr>
<td>Values Purity</td>
<td>-90–+90</td>
<td>-7–72</td>
<td>49.22</td>
<td>17.43</td>
<td></td>
</tr>
</tbody>
</table>

Table 2

*Correlations Between Measures*

<table>
<thead>
<tr>
<th></th>
<th>DASS-D</th>
<th>DASS-A</th>
<th>DASS-S</th>
<th>PVQ-S</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAQ</td>
<td>-.54**</td>
<td>-.46**</td>
<td>-.50**</td>
<td>.21**</td>
</tr>
<tr>
<td>DASS-D</td>
<td>.54**</td>
<td>.59**</td>
<td>-.26**</td>
<td></td>
</tr>
<tr>
<td>DASS-A</td>
<td></td>
<td>.61**</td>
<td>-.11</td>
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</tr>
<tr>
<td>DASS-S</td>
<td></td>
<td></td>
<td>-.08</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* AAQ = Acceptance and Action Questionnaire. DASS-D = Depression Anxiety Stress Scales – Depression. DASS-A = Depression Anxiety Stress Scales – Anxiety. DASS-S = Depression Anxiety Stress Scales – Stress. PVQ-S = Personal Values Questionnaire – Success scale.

**p < .01
Table 3

*Crosstabulations of Ethnicity and Values*

<table>
<thead>
<tr>
<th>Do You Value</th>
<th>Ethnicity</th>
<th>( \chi^2 )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>EA</td>
<td>165</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HA</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>EA</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HA</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Do You Value</th>
<th>Ethnicity</th>
<th>( \chi^2 )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>EA</td>
<td>166</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HA</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>EA</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HA</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>0</td>
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*p < .05
Table 4

*Crosstabulation of Gender and Values*

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$p < .05$
### Table 5

**Point-Biserial Correlations of Age and Values**

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

### Table 6

**Crosstabulation of Religion and Values**

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*\( p < .05 \). **\( p < .01 \).
Table 7

*Correlations of the Dass Subscales* (n = 266)

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*p < .05. **p < .01.
Figure 1. Frequencies of values endorsed.
Figure 2. Mediation of psychological flexibility.
APPENDIX A

INFORMED CONSENT
Informed Consent Notice

My name is Nikki Hernandez and I am a graduate student in the Psychology Department at the University of North Texas. I am conducting an online study that examines how stress and other psychological factors affect valuing behavior in college students.

If you agree to take part in this study, you will be asked complete a questionnaire about anxiety, depression, stress, avoidance, and values. It will take approximately 45 minutes to complete. Although your participation does not provide any direct benefits, your responses may help us learn more about valuing behavior.

Participation in this study is completely voluntary. You have the right to skip any question you choose not to answer. There are no foreseeable risks involved in this study; however, if you decide to withdraw your participation you may do so at any time by simply leaving the web site. Your name will not be requested in this study so your responses will be anonymous. All research records will be kept confidential by the Principal Investigator. No individual responses will be disclosed to anyone because all data will be reported on a group basis. If you have any questions about the study, please contact Nikki Hernandez or Dr. Amy Murrell at (940) 565-2671.

This research project has been reviewed and approved by the UNT Institutional Review Board. Please contact the UNT IRB at 940-565-3940 with any questions regarding your rights as a research subject.

If you agree to participate, you may print this document for your records.

By clicking below, you are confirming that you are at least 18 years old and you are giving your informed consent to participate in this study.

I Agree
Age: _______________________   Gender:   Male   Female

Year: Freshman   Sophomore   Junior   Senior

Ethnicity: ________________   Marital Status: ________________

Major: _______________________

Have you had any current or past psychological treatment for (check all that apply):

  mood _____; anxiety _____; personality _____; substance use _____;
  attention/learning _____; other ______________________

Have you had first-degree relatives with history of psychological problems for (check all that apply):

  mood _____; anxiety _____; personality _____; substance use _____;
  attention/learning _____; other ______________________

Do you have a history of medical problems or disorders? (check all that apply):

  diabetes-type _____; hypertension _____; other ______________________
REFERENCES


revised measure of psychological flexibility and acceptance. *Behavior Therapy, 42,* 676-688.


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