

VALUE PROFILES OF EMERGING ADULTS

by

STEPHEN UNGVARY

KRISTINA L. McDONALD, COMMITTEE CHAIR

JEFFREY G. PARKER

IAN M. McDONOUGH

WILLIAM HART

STEPHEN THOMA

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Psychology
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2018

ABSTRACT

The present study used latent profile analysis to model the values of emerging adults. Two sets of models were run with ten basic-values and four higher-order values as profile predictors. Results of both LPA models identified four profiles that reflected the theoretical structure of values. The profiles were compared across prosocial behavior, identity processing style orientations, and leadership styles. Differences between the profiles highlighted the importance of considering value profiles and multiple value simultaneously. The LPA was also compared with traditional variable-centered regression analyses. Results of the regression analyses were similar to the LPA, but complications involving applications of the results to the data, interpretation of the higher-order interactions, and nominal amounts of explained variance demonstrated issues with the method. Applications and importance of person-centered methods in the study of values are discussed.

LIST OF ABBREVIATIONS AND SYMBOLS

α	Cronbach's index of internal consistency
β	Standardized regression coefficients
B	Unstandardized regression coefficient
df	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
F	Computed value of an analysis of variance
LMR-LRT	Lo-Mendell-Rubin Likelihood ratio test: statistical test that compares latent profile models with K and $K - 1$ profiles.
LPA	Latent profile analysis.
M	Mean: the sum of a set of measurements divided by the number of measurements in the set.
MDS	Multidimensional Scaling: statistical analysis that represents the relations amongst variables in a multidimensional space.
η^2	Eta-squared: measure of explained variance.
χ^2	Chi-square analysis.
ΔR^2	Change in R-squared: the amount of explained variance each step of a hierarchical regression accounts for.
Wilks' Λ	Computed value of a multivariate analysis of variance.

ACKNOWLEDGEMENTS

This dissertation could not have been completed without the advice, guidance, and support of many colleagues, friends, and family. I must first acknowledge my advisor and committee chair, Dr. Kristina McDonald. She was a true mentor; I am thankful for the many hours sacrificed to discuss research and provide feedback and reassurance along the way. I would also like to acknowledge my dissertation committee, Drs. Jeffrey Parker, Ian McDonough, Stephen Thoma, Will Hart, and Minjung Kim, for the feedback and direction they have provided during my dissertation project. Thank you.

I am also indebted to family and friends that have been a source of support throughout graduate school. First and most importantly, to my wife Michelle McClafferty, whose kindness, patience, support, love, and confidence in me has been a constant source of motivation. To my brother, David Ungvary, who offered empathy, sympathy, and support throughout graduate school. To my mother, whose strength and is a n inspiration. Lastly, to my friends, from Birmingham, Buffalo, Boston, Tuscaloosa, and beyond who have offered much needed distraction throughout this endeavor.

CONTENTS

ABSTRACT.....	ii
LIST OF ABBREVIATIONS AND SYMBOLS.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
INTRODUCTION.....	1
METHOD.....	24
RESULTS.....	31
DISCUSSION.....	58
REFERENCES.....	74
APPENDIX A.....	81
APPENDIX B.....	113
APPENDIX C.....	115
APPENDIX D.....	117
APPENDIX E.....	118
APPENDIX F.....	119
APPENDIX G.....	120

LIST OF TABLES

1. Description of Schwartz' (1992; 2006) ten basic-values.....	81
2. Factor loadings for ISI-3.....	82
3. Factor loadings for MLQ-6.....	84
4. Means, standard deviations, and correlations among variables.....	85
5. Means, standard deviations, and differences across sample source.....	87
6. Means, standard deviations, and differences across gender.....	88
7. Means, standard deviations, and differences across ethnicity.....	89
8. Information criteria for latent profile analyses.....	90
9. Means and standard deviations of the four higher-order value profiles.....	91
10. Means and standard deviations of the ten basic-value profiles.....	92
11. Cross-tabulation of basic- and higher-order value profile membership.....	93
12. Means, standard deviations, and differences between value profiles on outcome variables.....	94
13. Four value profile logistic regression predicting donations to neutral-organization relative to left-leaning organization.....	95
14. Unstandardized and standardized regression coefficients associated with outcomes variables.....	96
15. Logistic regression predicting donations to neutral-organization relative to left-leaning organization.....	99

LIST OF FIGURES

1. Schwartz' (1992; 2006) Theory of Values.....	100
2. Multidimensional scale depicting relation amongst value items.....	101
3. Higher-order value profiles by four higher-order values.....	102
4. Higher-order value profiles by ten basic-values.....	103
5. Basic-value profiles by four higher-order values.....	104
6. Basic-value profiles by ten basic-values.....	105
7. Two-way interactions predicting amount donated.....	106
8. ST x OP x CO interaction depicting probability of donating to neutral organization relative to left-leaning organization.....	107
9. SE x OP x CO interaction depicting probability of donating to neutral organization relative to left-leaning organization.....	108
10. Moderating effect of openness-to-change and conservation values on the relation between self-transcendence values and identity commitment at low levels of self-enhancement values.....	109
11. Two-way interactions predicting Informational Identity Processing.....	110
12. Three-way self-enhancement X openness-to-change X self-transcendence values interaction predicting Normative Identity Processing.....	111
13. Three-way self-enhancement X openness-to-change X conservation values interaction predicting Normative Identity Processing.....	112

INTRODUCTION

Values describe what is important to us. They are abstract concepts and ideas that guide the selection and evaluation of behavior, underlie attitudes, and affect the way we perceive ourselves and others (Schwartz, 1992; 2006). Schwartz' (1992; 2006) Value Theory conceives of ten universally-recognized values that form an organized system of related motivations. Much research has focused on validating the theoretical structure of values by studying the relations amongst values and between values and a range of outcomes (e.g. Bardi & Schwartz, 2003; Schwartz & Bardi, 2001; Roccas & Sagiv, 2010; Schwartz & Butenko, 2014). However, considerably less focus has been placed on individual value priorities, or the relative importance that people place on values, and how those value priorities are related to thoughts and behavior.

Traditionally, research has used variable-centered analyses to examine how values are related to each other and outcomes, rather than utilizing person-centered analyses which focus on how values characterize groups of people and how those groups differ. The present study addresses this gap by utilizing latent profile analysis (LPA), a person-centered analysis, to identify groups of emerging adults who endorse values in characteristic ways and subsequently explore the association between the value profiles and identity processes, leadership styles, and prosocial behavior. The person-centered approach was also compared to the traditional, variable-centered approach of multiple regression. Compared to the variable-centered method, I argue that person-centered analyses more closely align with Schwartz' (1992; 2006) Theory of Values as it was conceptualized and may allow researchers to better understand the ways that emerging adults view their values and how values influence behavior.

Values

Values have been the focus of research for many decades (e.g. Spragner, 1928; Morris, 1956; Rokeach, 1973; Schwartz, 1992), but suffered from a lack of an agreed upon definition of values. Rohan (2000) refers to this issue as the “Humpty Dumpty” problem: people have used *values* to mean what they choose for it to mean in a range of situations, such as conflating attitudes or motivations with values. A common theme amongst early conceptions was that they focused on a universal set of principles applicable to human life. For example, Spranger (1928) described six attitudes present in varying degrees with one dominating, reflecting the assumption that values consist of a small set of universals. Morris (1956) identified five “ways to live,” including social restraint and self-control, enjoyment and progress, withdrawal and self-sufficiency, receptivity and sympathetic concern, and self-indulgence. Rokeach (1973) revitalized research on values and defined them as important ideas and guiding principles in people’s lives. Rokeach differed from past assessments of values by placing importance on how an *individual* prioritized a value as a guiding principle in their life.

Agreement on the basic idea of what a value is converged to reflect universal guiding principles, but values research lacked theory regarding the ways that values were connected. Although Rokeach’s (1973) Value Survey provided a comprehensive list of values present in people’s lives, “no theory about the underlying value system structure was proposed, and therefore the Rokeach Value Survey is essentially a list of unconnected value words (Rohan, 2000, p. 260).” Schwartz and Bilsky (1987) were the first to develop a theory about values as a dynamic system and proposed the missing underlying structure. They described how a set of values were related according to their underlying motivations and returned focus to the

assumption that people differ on their relative endorsement of a universally-recognized set of values (Rohan, 2000).

Schwartz (1992) Theory of Values

Based on Schwartz and Bilsky's (1987) theory, Schwartz (1992; 2006) refined and updated a theory of values. Schwartz' (1992; 2006) theory is now the most commonly used theory in the field and described six features central to a set of universal values.

1. Values are beliefs tied to affect. We become emotionally aroused when our values are activated or threatened.
2. Values refer to desirable goals that motivate us to act in specific ways.
3. Values transcend specific actions and situations. This is a feature that distinguishes them from attitudes or norms.
4. Values serve as standards by which we evaluate the actions of ourselves and others.
5. Values are ordered by importance relative to one another; a person's values form an ordered system of priorities that characterize them as an individual.
6. The *relative* importance of multiple values guides behavior; the tradeoff among relevant, competing values is what guides attitudes and behavior (Schwartz, 1992; 2006).

Although these are features inherent to all values, individual values are distinguished by the type of goal or motivation that it expresses (Schwartz, 2006). Schwartz's (1992; 2006) Value Theory (see Figure 1) defines ten values (see Table 1) that are clustered into four higher-order groups across two dimensions. The two dimensions organize the ten values in a quasi-circumplex structure of related motivations reflecting the relative congruence and conflict between the values. Importantly, the structure has a theoretical meaning. Values that are closer to each other in the structure are more similar in their motivations. Values that oppose each other are more

conflicting (Schwartz & Butenko, 2014). The structure was derived from the idea that any action in pursuit of one value has consequences for both conflicting and congruent values (Schwartz, 2006).

The first dimension contrasts values that are self-focused with those that are other-focused. Self-focused values primarily serve personal interests while other-focused values reflect how people relate to and are concerned for others. The second dimension contrasts values that are anxiety-free with those that are anxiety-based. Anxiety-based values help people cope with uncertainty while anxiety-free values direct attention to intrinsically rewarding opportunities (Schwartz, 2006).

The four higher-order values can be defined based on their position relative to the two dimensions. For instance, self-enhancement values are self-focused and anxiety-based. These values include power and achievement and reflect a desire for social superiority, esteem, and dominance over others. In contrast, self-transcendence values are other-focused and anxiety-free. They include universalism and benevolence values and reflect enhancement of others over self-interests. Openness-to-change values are self-focused and anxiety-free and are comprised of hedonism, stimulation, and self-direction.¹ Openness-to-change values emphasize a desire for arousal, interest in novelty and mastery, and reliance on one's own judgment. In contrast, conservation values are other-focused and anxiety-based. They comprise security, conformity,

¹Although hedonism is considered to fall between self-enhancement and openness-to-change values, researchers have treated hedonism as a component of openness-to-change values exclusively (e.g. Benish-Weisman, 2015; McDonald et al., 2015).

and tradition values and emphasize the need for maintaining the status quo, adhering to social expectations, respecting customs and traditions, and maintaining safety and security.

Both the content and structure of values has been validated in more than 200 samples across 68 countries (Schwartz & Bardi, 2001). The structure of values has primarily been assessed with multidimensional scaling (MDS), a statistical analysis that represents the relations amongst variables in a multidimensional space. The circumplex structure has been also been corroborated with confirmatory factor analyses in culturally diverse samples (Schwartz & Boehnke, 2004; Vecchione, Casconi, & Barbarnielli, 2009).

Values and Behavior

According to Schwartz (1992; 2006), values correspond with behavior by motivating us to act in characteristic ways. Indeed, research has demonstrated associations between values and a wide range of behaviors (e.g. Bardi & Schwartz, 2003; Buchanan & Bardi, 2015; Schwartz & Butenko, 2014). The structure of values suggests that values near each other should have similar associations with the same behaviors while values further from each other should be unrelated or negatively related to those same behaviors (Schwartz, 1992). Research has supported this, finding that motivationally congruent values (e.g. self-enhancement and openness-to-change) are related to the same behaviors and motivationally opposing values (e.g. self-enhancement and self-transcendence) are negatively related or unrelated to the same behaviors. For example, obeying your parents, attending religious services, and avoiding arguments are positively associated with conservation values (security, conformity, and tradition) but negatively associated with openness-to-change values (stimulation and self-direction). Behaviors such as bragging and taking a leadership role are positively associated with self-enhancement (power and

achievement) and negatively associated with self-transcendence (benevolence and universalism) values (Bardi & Schwartz, 2003; Pozzebon & Ashton, 2009).

Value Profiles

Schwartz' (1992; 2006) Theory of Values describes values in regard to their types, priorities, and system. Value *types* refer to the individual values, such as power, security, and benevolence. Value *priorities* refer to the dynamic relations amongst the values and individual differences in value endorsement. Value *systems* refer to the stable and predictable relations among values (Schwartz, 1996; Rohan, 2000). Much of the research in the field has focused on value types and value systems through the study of the contents and relations amongst values, both within and between groups using variable-centered methods, such as descriptive statistics and correlations. For example, examining the structure of values across cultures (Schwartz & Bardi, 2001) and mean level of value endorsement across age (Bardi, Lee, Hofmann-Towfigh, & Soutar, 2009).

Comparatively less research has focused on value priorities. Although both value types and value systems provide support for Value Theory, ignoring value priorities also overlooks two important features of values: (1) that a person's values form an ordered system and (2) the *relative* importance of values within this system guides a person's attitudes, evaluations, and actions. While variable-centered methods have provided important evidence supporting the content and structure of values, they are not able to fully capture the underlying theory and multifaceted ways that people view their values and are motivated by them. Variable-centered approaches may fail to adequately capture the complex ways that values as a system motivate our attitudes and behavior (Bauer & Shanahan, 2007). For example, according to Value Theory, a person should not endorse both openness-to-change values and conservation values because

their underlying motivations are incongruent (they lie opposite each other on the circle of values), but they could endorse both openness-to-change and self-enhancement or openness-to-change and self-transcendence values (they are situated next to each other on the circle of values). The attitudes and behavior of two people who highly value openness-to-change should diverge based on the degree to which they value self-enhancement and self-transcendence. For instance, a person who values openness-to-change and self-enhancement values highly may be aggressive and assertive, while a person who values openness-to-change and self-transcendence values may be motivated to take charge of situations that help others or become involved in community service or activism. Failing to consider openness-to-change values in the context of the other values may lead to inaccurate or false assumptions regarding a person's behavior.

In addition to theoretical reasons, there is also a pragmatic justification for considering values as a system rather than singularly. People do not base decisions or form attitudes based on a single value. Rather, they are influenced and motivated by a multitude of factors and the consequences for their goals and desires. For decades in goal orientation research, the multiple goal perspective has argued this, suggesting that we can best understand behavior by considering the multiple goals that motivate behavior (e.g. Wentzel, 1993; Barron & Harackiewicz, 2001).

Some research has examined how multiple values or the combined influence of multiple values relate to a number of outcomes, most often using multiple regression analyses (e.g. Benish-Weisman, 2015; Berzonsky, Ciecuch, Duriez, & Soenens, 2011). Although this approach can examine the interactive effects of values, it becomes limited as the number of predictors increases. For example, attempting to model the interactions amongst the four value-dimensions would require the inclusion of the one four-, four three-, and six two-way interactions in addition to the main effects, for a total of 15 effects in a single model. This

problem grows more limiting as the conceptualization of the theory of values becomes more complex, such as a researcher utilizing the 10 basic-values rather than the more parsimonious four higher-order values. The accurate estimation of the parameters and detection of significant interactions would require a very large sample size and interpretation of the interactions would be difficult and complicated (Meyer & Morin, 2016); Moreover, breaking down interactions involving continuous variables requires creating discrete categories which results in a loss of statistical power and may not accurately model the effect (Aiken & West, 1991). Four-way interactions are thought to be the limit of what is able to be successfully interpreted (Halford et al., 2005). Testing of such complex interactive effects has been recommended against due to the difficulty in interpreting them (Cohen, Cohen, West, & Aiken, 2003). Even if these obstacles were overcome, modeling Value Theory with variable-centered methods has inherent flaws. As Pastor et al. (2006) notes, regression describes how a set of variables are related to one another and cannot characterize common subgroups, which is a central tenet of Value Theory.

In contrast to variable-centered methods, which are concerned with the relations amongst variables, person-centered methods use an individual person as the unit of analysis and can identify patterns across a set of variables. Person-centered approaches provide increased utility in examining the influence of multiple goals or values and more closely reflects the underlying premises of Schwartz' (1992) Theory of Values. Person-centered analyses typically identify patterns across variables through heuristic clustering techniques or can be assessed using model-based approaches using a finite-mixture model, such as LPA (Bauer & Shanahan, 2007). Person-centered methods can take into account that a sample's distribution on a set of variables may actually reflect subsamples characterized by a number of different distributions on those variables (Meyer & Morin, 2016). For person-centered methods, such as cluster analysis and

LPA, differences in outcome variables can be examined in relation to identified subgroups, such as groups who similarly endorse the four value dimensions or ten basic-values.

Some researchers have successfully used cluster analysis to identify groups of people who endorse values in characteristic ways (i.e. Lee et al., 2015; Rajh, Budak, & Žokalj, 2016). Cluster analysis is a person-centered technique that identifies groups of individuals that have similar values on a set of variables by minimizing the distance between variables within groups and maximizing distance between groups. These studies have found groups which reflect the structure of values and their hypothesized relations. For example, Lee et al. (2015) used cluster analysis in two samples of young adults and adults (ages 18 – 29) and found four clusters: A *Self-Enhancement* cluster high in achievement, power, and stimulation; an *Openness-to-Change* cluster high in self-direction, stimulation, and hedonism; an *In-group* cluster high in benevolence, conformity, and tradition; and a *Universalism* cluster high in universalism values. Similarly, Rajh et al. (2016) used cluster analysis to examine the values of internet users and compared their attitudes toward social trust, need for privacy, and computer anxiety. They found three clusters labeled *Power-Oriented*, *Self-Centered*, and *Self-Transcendent*. Both studies demonstrated that values can be successfully modeled and compared using person-centered approaches, but both studies are limited by their use of cluster analysis. Although there are statistics that can be used to evaluate solutions in cluster analysis, reliable methods are lacking and researchers must often rely solely upon their own judgement for selecting the optimal number of clusters (Pastor et al., 2006).

LPA offers several advantages over cluster analysis. Although both LPA and cluster analysis allow for the researcher to evaluate theoretical fit, such as whether additional classes contribute enough unique information to warrant decreased parsimony, the most notable

difference is that LPA is a model-based analysis which allows the specification and comparison of different models using several reliable indices of model fit, such as Bayesian information criteria (BIC; Schwartz, 1978) rather than relying solely on the judgement of the researcher (Bauer & Shanahan, 2007; Meyer & Morin, 2016). For models that contain a different number of clusters, a Lo-Mendell-Rubin likelihood ratio test (LMR-LRT; Lo, Mendell, & Rubin, 2001) can be used to compare a model with K and $K - 1$ profiles. In practice, researchers typically evaluate a series of models with an increasing number of profiles estimated until a best model is selected (Bauer & Shanahan, 2007).

An additional advantage of LPA over other clustering techniques is that in LPA, profiles can be overlapping and an individual can have a non-zero probability of belonging to several profiles. In cluster analysis, modal assignment is used where participants are each assigned a cluster to which they belong. Clusters can then be used as a categorical variable which can be compared on outcome variables using ANOVA or regression analysis. In LPA, the probability that a person would belong to each profile is computed and can be used to determine classification utility of the model using the entropy statistic, with values closer to 1 indicating greater class separation. In addition, the probabilistic nature of profile membership can be considered in relation to covariates or outcomes, thereby offering greater accuracy compared to modal assignment (Vermunt, 2010). Covariates and outcome variables can also be included directly into the LPA model to determine how a variable predicts profile membership or how profiles differ across a set of variables (Asparouhov & Muthén, 2014). Pastor et al. (2006) compared LPA to cluster analyses with data examining the goal orientations of college students. Pastor et al. (2006) concluded that although the groups identified by LPA and cluster analysis were similar, LPA was better able to differentiate participants when more complex

conceptualizations of the theory were used. In addition, Pastor et al. (2006) had greater confidence in the results of the LPA due to the ability to evaluate the model according to information criteria, rather than relying solely on theory and their own judgements.

To our knowledge, only one study has used LPA to identify groups of people who endorse values in similar ways. Ungvary et al. (in press) applied LPA to the four value dimensions in a cross-cultural sample of Israeli- and American-adolescents and compared them on aggressive and prosocial behavior, leadership, and delinquency. They found four distinct value profiles reflecting the theoretical structure of values: A *Self-Focused* profile high in self-enhancement and openness-to-change values, an *Other-Focused* profile high in self-transcendence and conservation values, an *Anxiety-Free* profile high in self-transcendence and openness-to-change values, and a large *Undifferentiated* profile of adolescents who did not distinguish their endorsement of values. Notably, an *Anxiety-Based* profile, high in self-transcendence and conservation values, did not emerge. Ungvary et al. (in press) found that although openness-to-change values were positively associated with direct and indirect aggression, the *Self-Focused* profile (high in self-enhancement and openness-to-change) was highly aggressive but the *Anxiety-Free* profile (high in self-transcendence and openness-to-change) was not, suggesting that the degree to which a person endorses all values is important in determining behavior.

The primary goal of this study was to extend upon the findings of Ungvary et al. (in press) by applying LPA to a sample of emerging adults with the four higher-order values as predictors of profiles. Based on Schwartz' (1992) theory and the results of Ungvary et al. (in press), it was hypothesized that four profiles would emerge reflecting the theoretical structure of values: A *Self-Focused*, *Anxiety-Free*, and an *Other-Focused* profile. Although an *Anxiety-Based*

profile did not emerge in Ungvary et al. (in press), it is possible that its absence was due to the developmental period studied and that it may be present in a sample of emerging adults due to their changing priorities. Compared to adolescents, emerging adults may be more conservation-focused due to the increased responsibility for themselves and an increased focus on financial stability and independence (Arnett, 2000). Ungvary et al. (in press) suggested that the presence of the *Undifferentiated* profile may be due to a large portion of the adolescents having yet to explore or commit to an identity. As emerging adulthood is characterized by a period of identity exploration, it was expected that there may be *Undifferentiated* young adults, but that this group may be proportionally smaller than what was found in the adolescent sample.

In addition to using the four value dimensions, value profiles were explored using the ten basic-values. Evidence suggests that the magnitude and direction of correlations between values within a dimension (e.g. within the conservation dimension there are security and tradition values) and other values differ. For example, Bardi and Schwartz (2003) found that within conservation values, security values were positively associated with power, achievement, and self-direction, but tradition values were negatively associated with power, achievement, and self-direction. Thus, it may be worth exploring whether the profiles that emerge using the 10 basic-values as predictors are similar or different than the profiles that emerge with the four higher-order values as predictors. Although there were no specific hypotheses regarding the number and pattern of value profiles that would emerge, it was expected that value profiles identified using the ten basic-values would reflect the structure of values, but might reveal nuances in patterns of value endorsement compared to profiles estimated using the four higher-order values. For example, a self-focused profile may emerge that is high in achievement and self-direction values but low on power values.

Validating Profile Groups

After identifying value profiles, the secondary goal of the study was to explore the validity of these groups by comparing them across a range of characteristics. A limitation of past research has been the measure often used to examine the link between values and behavior. Although some research has employed different methods of assessing value-behavior relations, such as peer nominations of behaviors (e.g. Benish-Weisman, 2015; McDonald et al., 2015) or self-report questionnaires surveying a range of behaviors (e.g. Schwartz, 2010; Sosik, 2005; Vecchione, Caprara, Dentale, Schwartz, 2013), basis for these associations have largely been based on the Value-Expressive Behavior measure developed by Bardi and Schwartz (2003). Although the results of the study supported the idea that values underlie motivationally-related behaviors, the items in the Value-Expressive Behavior measure are largely re-worded items from Schwartz' (1992) Value Survey as behavior. For example, an item measuring tradition values is "... strongly values the traditional practices of his culture." An item on the Values-Expressive Behavior measure is "I practice my cultural traditions." It is not surprising that research using this measure supports the idea that values are related to behavior (e.g. Bardi & Schwartz, 2003; Buchanan & Bardi, 2015; Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009; Pozzebon & Ashton, 2009). Reliance on this measure and research may have resulted in the link between values and behavior to be overstated.

The present study examined how values and value profiles relate to a variety of characteristics. These characteristics were chosen because they were thought to theoretically be related to values and distinguish value profile groups. Unlike the Value-Expressive Behavior measure, these constructs do not overtly overlap with the values measure. These characteristics

included identity commitment, identity process orientations, leadership styles, and prosocial behavior.

The present study considers the aforementioned characteristics during emerging adulthood, an important but understudied development period. The transition from adolescence to adulthood is characterized by assuming major roles in society. While this transition is universal, the length of the transition can be ambiguous and lengthy for some. The length of the transition and the unique responsibilities and opportunities afforded during this time identified it as a discrete period of development named emerging adulthood (Schwartz, Donnellan, Ravert, Luyckx, & Zamboanga, 2013). Emerging adulthood is a developmental period following adolescence (18 – 25 years old), characterized by changes in social contexts, responsibility, greater freedom in decision making, and less control from others, such as parents (Arnett, 2000; 2007). Emerging adulthood is a relatively new period in development that has risen from cultural and economic changes that allows an individual to delay the onset of adult responsibilities in favor of further personal, social, and professional development.

Arnett (2005) described emerging adulthood as having five key characteristics: instability, self-focus, transition between dependence and independence, optimism, and identity exploration. Compared to previous generations, emerging adults are less stable and secure. Rather than beginning a career immediately after high school, many emerging adults are spending years in post-secondary education and often remain financially dependent on their parents during this time (McFarland et al., 2017). The increase in post-secondary education has also coincided with drastic changes in marriage and homeownership. Adults are marrying an average of 6 years later than they did in the 1970s and only 25% of emerging adults own their own property (Pew Research Center, 2017). The years that emerging adults spend in transition

allows for them to focus their attention on themselves and make decisions based on how it affects their day-to-day life and future, unlike adults who must consider their actions in the context of a career, as a parent, or as a spouse (Arnett, 2000). Despite emerging adults often being characterized as selfish and self-focused, they are generally less ego-centric and have better perspective-taking skills than adolescents (Arnett, 2007). However, risk-taking behaviors have also been found to peak during this time (Arnett, 2000). Religious beliefs are also often reexamined independent of parents, which allows emerging adults to form a set of beliefs that is the product of their own self-reflection (Arnett, 2000).

Although emerging adulthood has received little attention in the values literature, some research has shown that emerging adults prioritize values that reflect independence, achievement, personal growth, and relationships over values that reflect wealth, image, or fame (Wright, 2012). In a sample of college-aged women, Bardi et al. (2009) found that emerging adults prioritize benevolence, self-direction, hedonism, and achievement the most highly, reflecting their priorities of maintaining close relationships, independence/autonomy, enjoying life, and finding success. Changes in responsibility, independence, exploration, and decision-making that occur during emerging adulthood are all likely to be related to value development. Examining these processes in relation to values will help researchers better understand both this developmental period and processes underlying value endorsement and change.

Identity. Although traditionally a hallmark of adolescence (Erikson, 1968), the process of identity formation has increasingly become an attribute of emerging adulthood (Arnett, 2000). Research has that found that identity is rarely achieved by the end of adolescence and exploration continues through emerging adulthood (Waterman, 1999). Identity formation involves establishing a meaningful self-concept and a sense of continuity across time and

contexts (Erikson, 1968). Based on Erikson's work, James Marcia (1966) proposed four identity statuses based on varying degrees of exploration and commitment: *identity-diffusion*, *foreclosure*, *moratorium*, and *identity-achievement*. Whereas exploration refers to the active examination of identity-related issues, such as the questioning of parentally- or culturally-defined beliefs and values and the search for personally-relevant alternatives, commitment reflects the degree to which a person has chosen their own goals, beliefs, and values (Marcia, 1966). Research has demonstrated the validity of the identity statuses (for a review, see Kroger & Marcia, 2011), but they focus mainly on the *outcome* of the identity process, which can be fluid throughout the lifespan. This has motivated some to focus on the cognitive-processes associated with identity development, rather than the outcome (Duriez et al., 2012).

Based on Marcia's (1966) identity statuses, Berzonsky (1994) conceptualized a model that describes three different social-cognitive processing orientations that people use to understand and evaluate identity-relevant information: *informational*, *diffuse-avoidant*, and *normative* identity-processing orientations (Berzonsky, 1994; 2011). Each orientation reflects stylistic differences in *how* people process and explore their identity, not the degree to which they have explored or committed. The informational processing orientation is characterized by deliberately seeking out, processing, and evaluating identity-relevant information, willingly considering ideas and values that are counter to their own, and utilizing problem-focused coping strategies (Berzonsky, 2004). They define themselves by self-selected values, goals, and standards (Berzonsky, 1994). Individuals with an informational processing orientation are most like those classified as identity-achieved or in moratorium. The diffuse-avoidant orientation is characterized by a reluctance to deal with identity-related issues and the tendency to resolve them by deferring to situational demands. These individuals are often self-serving, place

importance on immediate rewards and their social reputation, and have an external locus of control. Individuals characterized by a diffuse-avoidant orientation are most like the identity-diffused status. Lastly, those characterized by normative processing more automatically adopt and internalize the values, goals, standards and behaviors of significant others and groups and define themselves according to external principles, such as religion, family, and culture (Berzonsky, 1994). The normative processing style is characterized by high levels of commitment and a sense of purpose but also a need for structure and lack of flexibility (Berzonsky et al., 2014). Individuals with a normative processing style are most like identity-foreclosed individuals.

Values are closely related to the process of identity formation. Although the transmission of values does occur through cultural and societal influences, values can also be formed as a result of deliberate, introspective thinking (Bardi & Goodwin, 2011). Moreover, advances in abstract thinking and self-evaluation that occur from adolescence through emerging adulthood allow individuals to reflect on and think about their values and what is important to them (Benish-Weisman & McDonald, 2015) which may be related to identity exploration and formation (Meeus, 2011). Values have been shown to be related to identity-orientations (Berzonsky et al., 2011; Duriez et al., 2012; Berzonsky & Papini, 2014). People with an informational processing style value independence and autonomy and consider a wide-range of perspectives to inform and guide their decisions. Individuals with an informational processing pattern are characterized by high levels of self-transcendence and openness-to-change values and low levels of self-enhancement and conservation values (Berzonsky et al., 2011; Berzonsky & Papini, 2014). Normative processing has been found to be positively associated with conservation and self-transcendence values but negatively associated with self-enhancement and

openness-to-change values (Berzonsky et al., 2011; Berzonsky & Papini, 2014; Duriez et al., 2012). People with normative processing styles value order and tradition and make many of their decisions based on what is important to those that are close to them. Diffuse-avoidant processing has been found to be positively associated self-enhancement and openness-to-change values and negatively associated with self-transcendence and conservation values (Berzonsky et al., 2011). People with the diffuse-avoidant style make decisions based on what is right in the moment, placing emphasis on hedonism and pleasure; they engage in self-serving behaviors such as delinquency (Berzonsky & Ferrari, 2009).

Based on prior research, it was hypothesized that compared to the other profiles, individuals with an *Anxiety-Free* value profile would be highest on informational processing patterns, whereas individuals with an *Other-Focused* value profile would be highest on normative processing. Furthermore, individuals with a *Self-Focused* value profile would be highest on diffuse-avoidant processing. It was also hypothesized that, if identified, the *Anxiety-Based* profile would be high on normative processing due to their endorsement of conservation values but might also be high on diffuse-avoidant due to their endorsement of self-enhancement values. Lastly, the *Undifferentiated* profile was examined in regard to identity commitment. It was hypothesized that they would be low on identity commitment relative to the other profiles.

Leadership. Research on leadership has mostly focused on adults and less is known about the leadership roles of young and emerging adults (Karagianni & Montgomery, 2017). There is evidence that leadership skills developed earlier in life can have positive impacts on quality of life later, including career development, standard of living, and education (Schneider, Paul, White, & Holcombe, 1999). Understanding what value priorities are associated with leadership

during emerging adulthood will allow us to better understand the qualities and characteristics of young leaders.

Burns (1978) first identified two types of leadership styles, transactional and transformational, characterized by the way the leaders treat their followers and make decisions. Transactional leaders influence and motivate their followers by rewarding or disciplining on the basis of performance and ensure that standards are being met (Antonakis, Avolio, & Sivasubramaniam, 2003). Transformational leaders focus on democratic values, making decisions based off moral consequences and motivating by considering the needs of followers and challenging them to think creatively. They are proactive, charismatic, confident, and help followers achieve their goals. Over time, a laissez-faire form of leadership was also included as a style (Avolio & Bass, 2002). Laissez-faire leadership is the most ineffective form and describes a hands-off style in which the leader avoids making decisions, ignores responsibility, and fails to use their authority (Antonakis et al., 2003).

Some researchers have examined what types of values different leaders hold. Self-transcendence values are thought to be most related to transformational leadership while self-enhancement values are most related to transactional leadership (Sarid, 2016). Because transactional leadership is a more rigid form of leadership that operates from an existing structure of rules and norms, conservation values are also thought to be more compatible with transactional leadership than transformational (Sarid, 2016). However, somewhat paradoxically, despite being motivationally incongruent, both self-enhancement and self-transcendence values have been found to be associated with transformational leadership (Sarros & Santora, 2001; Sosik, 2005).

Sarid (2016) proposed that leadership styles should be considered in the context of the system of values, rather than unidimensionally. Although not tested, Sarid (2016) hypothesized that transformational leadership is defined by openness-to-change and self-enhancement values due to its disposition to promote change in structure and culture while also being more oriented toward achievement. However, due to the focus on democratic values and collectivism, he proposed that transformational leadership may also be defined by self-transcendence values. In contrast, Sarid (2016) suggested that transactional leaders are characterized by self-enhancement and conservation values due to their focus on power and authority and the emphasis on working within an established structure and framework.

Ungvary et al. (in press) compared adolescent value profiles on peer-nominated leadership and found that self-focused adolescents, high on self-enhancement and openness-to-change, were high on leadership while anxiety-free and other-focused adolescents were low on leadership. The results are partially consistent with Sarid's (2016) description of transformational leaders. Although self-focused adolescents were viewed high on leadership, anxiety-free adolescents were not. It is possible that the qualities associated with self-transcendence becomes more desirable in leaders as people age. A goal of the present study was to examine a broader range of leadership styles in order to better understand what combinations of value are associated with leadership. Thus, the current study will examine how value profile groups are characterized by the three leadership styles. It is hypothesized that, relative to the other profiles, the *Anxiety-Based* profile will be high on transactional leadership and the *Other-Focused* profile will be high on Laissez-faire leadership. Both the *Self-Focused* and *Anxiety-Free* profiles are expected to be higher on transformational leadership compared to the other profiles, but *Anxiety-Free* profiles may have the highest levels due to their endorsement of self-transcendence rather

than self-enhancement values, which may make them more congruent with the democratic and egalitarian leadership style of transformational leaders.

Prosocial behavior. Prosocial behavior describes actions that benefit others, such as sharing, donating, and helping others (Penner, Dovidio, Piliavin, & Schroeder, 2005). Prosocial behavior can be enacted through a variety of ways and in a variety of settings, from dyadic interactions involving help, trust, and cooperation, to broader societal benefiting actions that affect larger groups and organizations. Regardless of the context, the benefits of prosocial behavior are two-fold – not only does the recipient receive some benefit, but the actor can also receive psychological benefits (Penner et al., 2005). Recently interest in understanding the motivations of why people act prosocially has increased (Penner et al., 2005; Caprara et al., 2012). This question has led some to investigate the role of values in prosocial behavior (e.g., Alessandri, Caprara, Eisenberg, & Steca, 2009; Caprara & Steca, 2007)

Although all values are hypothesized to motivate (or inhibit) prosocial behavior to some degree, research has shown that self-transcendence values are the most strongly positively related to prosocial behavior (Caprara & Steca, 2007; Caprara et al., 2012), followed by conservation and openness-to-change values, whereas self-enhancement values are the most weakly positively related (Bardi & Schwartz, 2003; Caprara et al., 2012; Pozzebon & Ashton, 2009). Based on these findings, it is expected that individuals with value profiles high in self-transcendence values (i.e. *Anxiety-Free* and *Other-Focused*) will be more prosocial compared to individuals with value profiles high in self-enhancement values (i.e. *Anxiety-Based* and *Self-Focused*).

However, the degree to which someone values conservation or openness-to-change values in conjunction with self-transcendence values may lead to differences in prosocial

behavior. *Other-Focused* individuals, who value both self-transcendence and conservation, may be more likely to promote prosocial behavior that is concerned with helping people they are close to. This combination of values has been shown to be related to worries centered around the self, such as personal health, financial stability, and social acceptance (Schwartz, Sagiv, & Boehnke, 2000) and behavior such as helping colleagues, lending things to people they know, or doing favors for friends and family (Bardi & Schwartz, 2003; Pozzebon & Ashton, 2009). In contrast, *Anxiety-Free* individuals, who value self-transcendence and openness-to-change, may be more likely than *Other-Focused* individuals to also enact prosocial behavior directed to societal problems, such as poverty, the environment, or international wars, or participate in organizations that assist disenfranchised or minority groups, such as immigrants, refugees, or LGBTQ individuals (Bardi & Schwartz, 2003; Pozzebon & Ashton, 2009).

Based on this, a secondary, exploratory goal will be to examine how the value profiles are related to in vivo prosocial behavior by giving participants an opportunity to donate a portion of lottery winnings to one of a set of pre-selected organizations that reflect the spectrum of political orientations, ranging from left-leaning, neutral, and right-leaning political ideology. The organizations that the participants had an option to donate to included organizations such as the American Civil Liberties Union (ACLU; left-leaning), American Cancer Society (neutral), and the Family Research Council (right-leaning). Although it is expected that both the *Anxiety-Free* and *Other-Focused* profiles will donate more money relative to the other profiles, it is expected that the *Anxiety-Free* profile may elect to donate to organizations focused on helping marginalized or minority groups due to their endorsement of openness-to-change values (e.g. ACLU) while the *Other-Focused* profile may elect to donate money to groups with more traditional values due to their endorsement of conservation values (e.g. Family Research

Council). Similarly, it was expected that the *Self-focused* profile would be more likely to donate to the left-leaning organizations while the *Anxiety-based* profile would be more likely to donate to right leaning organizations.

METHOD

Participants

A total of 744 people participated in the study. From the 744 that completed survey, 241 were removed from the final sample for either completing the study in less than 1/3 of the median time or responding to a single scale anchor more than 60% of the time on a measure (39.40%). Of the 241 participants, 174 were removed from the Qualtrics sample and 67 participants were removed from the undergraduate sample. Chi-square analyses indicated that compared to the final sample, a greater number of removed participants were from the Qualtrics sample (73.1%; $\chi^2(1) = 39.47, p < .001$) or a minority group (33.0%; $\chi^2(1) = 8.56, p < .01$).

The final sample consisted of 503 emerging adults (84.10% female) between the ages of 18 and 25 ($M_{age} = 19.47, SD = 1.33$). Due to the low frequency of non-European American Minority participants, African Americans, Hispanics, Asians, and ‘Other’ ethnicities were combined into a single “Minority” category ($N = 111; 22.10\%$). The University of Alabama sample consisted of 265 emerging adults (77.00% female; 84.90% European American) between the ages of 18 and 25 ($M_{age} = 18.80, SD = 0.99$). The Qualtrics sample consisted of 238 emerging adults (92.00% female; 70.20% European American) between the ages of 18 and 22 ($M_{age} = 20.20, SD = 1.27$).

Procedure

All procedures were approved by the University of Alabama’s institutional review board. Participants were recruited using Qualtrics (Qualtrics, Provo, UT) and the University of Alabama’s undergraduate psychology research pool. Qualtrics participants were invited via

email through third-party panel providers. The emails informed potential respondents that the survey was for research purposes and included the estimated duration of the survey and what incentives were available to them. Details of the study were omitted in order to limit selection-bias. If the respondent agreed to participate, they were directed to a survey hosted on Qualtrics. Participants were then presented with an information sheet describing the purpose of the study, their rights as a participant, and were asked if they agreed to participate in the study. After consenting, participants first provided demographic information, including age, sex, and ethnicity before completing the study's measures. Any participants who reported their age as younger than 18 or older than 25 years old, who did not consent to participate in the study, or who completed the study in less than 1/3 of the median time were omitted from the final sample. Qualtrics respondents received compensation that they had previously agreed upon with their panel provider, which may have included cash, airline miles, gift cards, redeemable points, sweepstakes entrances, or vouchers. The University of Alabama undergraduate participants were recruited through an online post on the Undergraduate Psychology Pool's website which indicated the study name ("What's Important to Me), the estimated time of completion, and the research credits that would be awarded upon completion. The experience of the Qualtrics and Undergraduate Psychology Pool participants were, with the exception of the method of recruitment and compensation.

Measures

Values (Appendix A). To assess values, participants completed the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001). The PVQ has been demonstrated to be both reliable and valid across numerous studies (e.g., Bardi & Schwartz, 2003; Schwartz et al., 2001). The PVQ includes short verbal portraits of 40 people describing the person's goals, aspirations, and

behavior, implicitly conveying a single value. For each item, participants were instructed to rate on a 6-point Likert scale (1 = *not like me at all* to 6 = *very much like me*) how similar they are to the gender-matched person depicted in the portrait. Participants' values were calculated as an average of items that fit each specific value. To control for response tendency, participants' responses were centered around their average response to all verbal portraits (Schwartz, 1992). Research has supported the use of 19, 10, four, and two subscales based off the PVQ (Schwartz et al., 2012). For the current study, both the ten basic-values and the four higher-order subscales were calculated.

Self-enhancement. Self-enhancement values emphasize one's own interests, success, and dominance over others and are comprised of power, achievement, and hedonism values (seven items; $\alpha = .77$).

Power. Power reflects the desire for social status or prestige and control or dominance over people and resources. (e.g., "He likes to be in charge and tell others what to do. He wants people to do what he says"; three items; $\alpha = .69$).

Achievement. Achievement reflects the desire for personal success by demonstrating competence to others according to social standards (e.g., "Being very successful is important to him. He wants to have an exciting life"; four items; $\alpha = .74$).

Self-transcendence. Self-transcendence values emphasize the concern for the welfare and rights and are comprised of universalism and benevolence values (10 items; $\alpha = .79$).

Universalism. Universalism reflects appreciation, tolerance, and protection for the welfare of all people and for nature (e.g., "He thinks it is important that every person in the world should be treated equally. He wants justice for everybody, even for people he doesn't know"; 6 items; $\alpha = .75$).

Benevolence. Benevolence reflects the desire to preserve and enhance the welfare of those with whom one is in frequent and personal contact (the 'in-group') (e.g., “He always wants to help the people who are close to him. It’s very important to him to care for the people he knows and likes”; four items; $\alpha = .67$).

Openness-to-change. Openness-to-change values emphasize independence of thought, action, and feeling and are comprised of stimulation and self-direction values (10 items; $\alpha = .79$).

Stimulation. Stimulation reflects a desire for excitement, novelty, and challenge in life (e.g., “He looks for adventures and likes to take risks. He wants to have an exciting life”; three items; $\alpha = .65$).

Self-direction. Self-direction reflects the desire for independent thought and action – choosing, creating, exploring (e.g., “He think it’s important to be interested in things. He is curious and tries to understand everything”; four items; $\alpha = .51$).

Hedonism. Hedonism reflects the desire for pleasure or sensuous gratification for oneself (e.g., “He really wants to enjoy life, Having a good time very important to him”; three items; $\alpha = .63$).

Conservation. Conservation values emphasize order, self-restriction, preservation of the past, and resistance to change and are comprised of traditionalism, security, and conformity values (13 items; $\alpha = .79$).

Tradition. Tradition reflects respect, commitment, and acceptance of customs and ideas that one's culture or religion provides (e.g., “He thinks it is important to do things the way he learned from his family. He wants to follow their customs and traditions”; four items; $\alpha = .60$).

Conformity. Conformity reflects the restraint of actions, inclinations, and impulses that are likely to upset or harm others and violate social expectations or norms (e.g., “He believes that

people should do what they're told. He thinks people should follow rules at all times even when no one is watching"; four items; $\alpha = .70$).

Security. Security reflects the desire for safety, harmony, and stability of society, of relationships, and of self (e.g., "The safety of his country is very important to him. He wants his country to be safe from its enemies"; five items; $\alpha = .63$).

Identity Orientation (Appendix B). To assess identity-orientations, the Identity Style Interview-3 (ISI-3; Berzonsky, 1992) was used. The ISI-3 has been shown to have good reliability and validity in adults and young adults (Berzonsky 1992). The ISI-3 is a 40-item self-report measure consisting of four subscales designed to measure commitment to identity (e.g. "I'm not sure what I want to do in the future") and the three identity-orientations proposed by Berzonsky (1990): Informational (e.g., "When making important decisions, I like to spend time thinking about my options"), Normative (e.g. "I strive to achieve the goals that my friends and family have for me"), and Diffuse-Avoidant (e.g. "Who I am changes from situation to situation"). For each item, participants rated the extent to which each item described them on a 5-point Likert scale (1 = *not like me at all* to 5 = *very much like me*).

Leadership (Appendix C). Leadership was measured with the Multifactor Leadership Questionnaire-6S (MLQ; Bass & Avolio, 2004). The MLQ-6S is a 21-item self-report measure that assesses three leadership styles: transactional (e.g. "I tell others what to do if they want to be rewarded for their work"), transformational (e.g. "I enable others to think about old problems in new ways"), and laissez-faire (e.g. "Whatever others wants to do is okay with me"). Participants responded to each item on a 4-point Likert scale (1 = *Unsure* to 4 = *Frequently, if not always*). Reliabilities of the three scales have been shown to be acceptable in a previous study (α range: .66 - .91; Tejada, Scandura, & Pillai, 2001).

Prosocial behavior. Prosocial behavior was measured in two ways: a self-report measure of prosocial behavior (Appendix D) and an in vivo behavioral measure assessing prosocial behavior via the option of donating \$0 to \$50 of possible winnings to a non-profit organization.

Self-report of prosocial behavior. Prosocial behavior was measured with the Prosocialness Scale for Adults (Caprara, Steca, Zelli, & Capana, 2005). The measure includes 16 items which measures four kinds of prosocial behavior: sharing (e.g. “I share the things that I have with my friends”), helping (e.g. “I try to help others”), taking care of others (e.g. “I spend time with those friends who feel lonely”), and feeling empathetic toward others (e.g. “I easily put myself in the shoes of those who are in discomfort”). The measure has shown good psychometric properties ($\alpha = .91$; Caprara et al., 2005). Participants responded to each item on a 5-point Likert scale (1 = *Never/almost never true* to 5 = *almost always/always true*). For the present study, a single measure of prosocial behavior was calculated by averaging the responses to all 16 items ($\alpha = .91$).

Behavioral Measure. After completing the self-report measures, participants were presented with an opportunity to win \$50. After correctly answering a trivia question (i.e. Who is the current president of the United States?), participants were entered into a drawing to win \$50. However, participants were presented with the option of donating all or part of their winnings (if they are selected) to a non-profit organization representing a range of political ideologies from conservatism (i.e. Family Research Council and Alliance Defending Freedom), neutral (i.e. Ronald McDonald House Charities and Autism Speaks), to liberalism (i.e. Planned Parenthood and The American Civil Liberties Union). See Appendix E for a description of each organization. Prosocial behavior was measured as the amount the participant chose to donate, ranging from \$0 to \$50. Because only six participants chose to donate to a right-leaning

organization, they were removed from analyses. Thus, for analyses involving the organizations donated to, only participants who elected to donate to a left- or neutral-leaning organization were included in the analyses.

RESULTS

Data Analysis Plan

First, the factor structure of the leadership measure (MLQ-21) and the identity measure (ISI-3) were examined. Next, preliminary analyses were conducted, including the calculation of descriptive statistics, examinations of the assumptions of normality, and the calculation of bivariate relations among the ten basic-values and criterion variables and the four higher-order variables and the criterion variables in IBM SPSS 24. For preliminary analyses, missing data were addressed using list-wise deletion. The quasi-circumplex structure of the values was examined using multidimensional scaling (MDS), the recommended approach to visually examine the degree of similarity amongst the items (Schwartz & Sagiv, 1995). Demographic differences on the values and outcome variables were explored using MANOVAs, ANOVAs, and chi-square analyses.

To address the main research question, LPA was used to identify value profiles consisting of the four-higher order and the 10 basic-values in separate models using Mplus version 8. For both sets of LPA models, after the best fitting model had been identified, modal assignment was used in which participants were assigned to a profile based on the highest posterior probability of latent profile membership. The differences amongst the value profiles were then explored using chi-square tests in regard to sex, race/ethnicity, and sample (Undergraduate vs. Qualtrics). Two MANOVAs were run to explore differences amongst the profiles on their mean value endorsement across the four higher-order values and the 10 basic-values. Tukey post-hoc corrections were applied in order to adjust for family-wise error rates.

After differences among the profiles were explored, the value profiles were validated using the manual 3-step approach as outlined in Asparouhov and Muthén (2014) and described in detail below. For all analyses, the dependent variables were kept continuous with the exception of the organization donated to, which was categorical. Lastly, variable-centered analyses were conducted in IBM SPSS version 24 using hierarchical multiple regression with the four higher-order values and interactions amongst the variables as independent variables, controlling for demographic characteristics. A binomial logistic regression was used to examine the odds of donating to a politically neutral organization relative to a left-leaning organization. The results of the LPA using the four-higher order values and the variable-centered analyses were compared.

Factor Structure of Identity Processing Orientations and Leadership Styles

In order to assess the factor structure of the ISI-3 and MLQ-21, confirmatory factor analyses (CFA) were run in Mplus version 8. First, a CFA was run examining the proposed structure of the ISI-3. Results of the model indicated that it was a poor fit, $\chi^2(741) = 6614.33, p < .001$, CFI = 0.57, RMSEA = .08, with many of the items on their proposed scales having low factor loadings (see Table 2). Based on the standardized factor loadings, modifications were made to the original model in order to improve model fit. Items that loaded below 0.40 onto their proposed scale were removed from the analysis. Subsequently, correlations among the items were included in the model based on modification indices. The final model resulted in a good model fit, $\chi^2(176) = 491.92, p < .001$, CFI = 0.91, RMSEA = .06, with all items loading on their proposed scale above 0.40, with the exception of two items on the normative identity processing scale. A χ^2 difference test indicated that the inclusion of the correlation between these two items improved overall model fit, $\chi^2(1) = 108.90, p < .001$, but resulted in their standardized factor loadings decrease from 0.71 and 0.80 to 0.12 and 0.21, respectively. Despite having standardized

factor loadings below 0.40, because the inclusion of the correlation among the items significantly improved model fit and the scale reliability, the two items were retained in the model. Subscales were computed by averaging the items for each of the revised scales. The reliabilities for the scales based on the final CFA model were as follows: commitment, 7 items; $\alpha = .81$; informational identity processing, five items; $\alpha = .70$; normative identity processing, five items; $\alpha = .72$; and diffuse-avoidant identity processing, five items; $\alpha = .69$.

The MLQ-6S was next assessed. The initial model fit using the intended sub-scales was poor, $\chi^2(186) = 627.55, p < .001, CFI = 0.84, RMSEA = 0.07$. Inspection of the standardized factor loadings indicated that the transactional leadership item “as long as things are working, I do not try to change anything” was low and theoretically fit with the laissez-faire style of leadership (see Table 3). A CFA with this item loaded on to the laissez-faire leadership factor instead of transactional leadership resulted in an improved standardized factor loading. Comparison of the BIC of both models indicated that the model with the item on laissez-faire leadership was a better fit compared to the original model. Correlations among items were added based on modification indices, resulting in a good model fit, $\chi^2(167) = 334.73, p < .001, CFI = 0.94, RMSEA = .04$. Subscales were computed by averaging the items for each of the revised scales. Reliabilities of the final leadership scales based on the CFA were as follows: transformational leadership, 12 items; $\alpha = .83$, transactional leadership, five items; $\alpha = .67$; laissez-faire leadership, four items; $\alpha = .57$.

Preliminary Analyses

Variables were first examined for violations of the assumption of normality visually and by evaluating skewness and kurtosis. No variables violated the assumption of normality. Means, standard deviations, and correlations among variables can be found in Table 4. Analysis of the

PVQ using MDS reflected the hypothesized relation amongst the individual items and the theoretical structure of the values (see Figure 2). With a few exceptions, the correlations amongst the ten basic-values were in the expected direction, with values opposing each other in the structure having small to moderate negative correlations and values within the same higher-order value having small to moderate positive correlations. Contrary to this, hedonism values were unrelated to self-direction values and tradition values were unrelated to security values. For the four higher-order values, values opposing each other were strongly negatively correlated with each other. Of note, self-enhancement and conservation values were negatively correlated with all other higher-order values. Although it was expected that self-enhancement values would be negatively associated with self-transcendence values and positively associated with openness-to-change and conservation values, self-enhancement values were negatively associated with all other values. Similarly, it was expected that conservation values would be negatively associated with openness-to-change values and positively associated with self-enhancement and self-transcendence values, they were negatively associated with all other higher-order values.

Many of the correlations between values and outcomes variables were also in the expected direction. Self-enhancement values were negatively related to the prosocial behavior, informational identity orientation, and laissez-faire leadership. Self-enhancement values were positively related to normative identity orientation and transactional leadership. Self-transcendence values were positively related to prosocial behavior and informational identity orientation and they were negatively related to normative identity orientation and transactional leadership. Openness-to-change values were negatively related to identity commitment, normative identity orientation, and transactional leadership. Lastly, conservation values were

positively related to identity commitment, normative identity orientation, and laissez-faire leadership and negatively related transformational leadership.

Differences between sample source. Differences between the Qualtrics and Undergraduate samples were explored on demographic variables, values, and outcome variables with a series of MANOVAs, ANOVAs, and chi-square analyses. Descriptive statistics and results of the analyses can be found in Table 5. Regarding demographics, the Qualtrics sample was older and had a greater proportion of females (92%) compared to the Undergraduate sample (77%), $\chi^2(1) = 23.82, p < .001$. The two samples also differed in regard to ethnic composition, with the Undergraduate sample being comprised of a greater number of European American (84.90%) participants than the Qualtrics sample (70.20%), $\chi^2(1) = 15.69, p < .001$.

There was a significant multivariate effect of sample on the four higher-order values, $F(4, 498) = 14.38$; Wilks' $\Lambda = 0.90, p < .001$; partial $\eta^2 = 0.10$, and the ten basic-values, $F(4, 492) = 8.84$; Wilks' $\Lambda = 0.85, p < .001$; partial $\eta^2 = 0.15$. The Qualtrics sample was significantly lower on self-enhancement values and higher on self-transcendence values compared to the Undergraduate sample (see Table 5). For the ten basic-values, the Qualtrics sample was significantly lower on power, achievement, and conformity values and higher on self-direction and universalism values.

Differences between the two samples were next examined across the outcome variables. There was a significant multivariate effect of sample on identity, $F(4, 498) = 6.01$; Wilks' $\Lambda = 0.95, p < .001$; partial $\eta^2 = 0.05$, but not on leadership styles, $F(3, 494) = 0.87$; Wilks' $\Lambda = 0.99, p = .47$; partial $\eta^2 = 0.01$. As seen in Table 5, the Qualtrics sample was significantly lower on identity commitment and the normative identity processing orientation compared to the Undergraduate sample. The Qualtrics sample was also significantly lower on self-reported

prosocial behavior and elected to donate less money compared to the undergraduate sample. Undergraduate participants were also more likely to donate to a neutral organization (77.4%) relative to a left-leaning organization compared to the Qualtrics participants (54.7%; OR = 2.32).

Gender and ethnic differences. In order to examine whether gender and ethnic differences were present across the values and outcome variables, a series of MANOVAs and ANOVAs were run. Gender differences were first explored (see Table 6). There was a significant multivariate effect of gender on the four higher-order values, $F(4, 498) = 3.16$; Wilks' $\Lambda = 0.98$, $p = .01$; partial $\eta^2 = 0.03$. Univariate follow-up tests indicated that males endorsed Self-Enhancement values at significantly higher levels and self-transcendence values at significantly lower levels compared to females. There was also significant multivariate effect of gender on the ten basic-values, $F(10, 492) = 2.03$; Wilks' $\Lambda = 0.96$, $p = .03$; partial $\eta^2 = 0.04$. Follow-up univariate tests indicated that males endorsed power values at significantly higher levels and self-direction and benevolence values at lower levels compared to females. There was not a significant multivariate effect for gender on identity, $F(4, 498) = 0.74$; Wilks' $\Lambda = .99$, $p = .56$; partial $\eta^2 = 0.006$, or leadership styles, $F(3, 494) = 0.48$; Wilks' $\Lambda = 0.99$, $p = .67$; partial $\eta^2 = 0.003$. There were no significant differences between males and females on age, prosocial behavior, the amount elected to donate, or the organization to which males and females chose to donate to.

Differences between European American and participants from minority groups were next explored (Table 7). There was a significant multivariate effect of ethnicity on the four higher-order values, $F(4, 498) = 4.17$; Wilks' $\Lambda = 0.97$, $p = .002$; partial $\eta^2 = 0.03$. However, univariate follow-up tests were non-significant. There was also a significant multivariate effect of ethnicity on the ten basic-values, $F(10, 492) = 4.02$; Wilks' $\Lambda = 0.93$, $p < .001$; partial $\eta^2 =$

0.08. Univariate follow-up tests indicated that European American participants endorsed universalism values at significantly higher levels than participants from minority groups. In contrast, European Americans rated benevolence and conformity values at significantly lower levels compared to participants from minority groups. There was not a significant multivariate effect for ethnicity on identity, $F(4, 498) = 0.50$; Wilks' $\Lambda = 0.99$, $p = .73$; partial $\eta^2 = 0.004$, but there a significant multivariate effect for ethnicity on leadership styles, $F(3, 494) = 2.86$; Wilks' $\Lambda = 0.98$, $p = .04$; partial $\eta^2 = 0.02$. Univariate follow-up tests indicated that participants from minority groups reported significantly less transactional leadership than European American participants. There were significant differences between European American and participants from minority groups on self-reported prosocial behavior and amount donated, with participants from minority groups reporting significantly less prosocial behavior and electing to donate significantly less money compared to European Americans participants. European Americans were significantly more likely to donate to a neutral organization than a left-leaning organization (71.6%) than participants from minority groups (52.8%; OR = 0.51). There were no significant differences between the two groups on age.

Latent Profile Analyses

In order to identify value profiles, LPA was used in Mplus version 8 (Muthén & Muthén, 2012). Two sets of models were run with an increasing number of profiles using the four higher-order values as predictors of the latent profiles in one model and the ten basic-values as predictors in the other. First, in an attempt to replicate the profiles identified by Ungvary et al. (*in press*), the four higher-order values (i.e. self-enhancement, self-transcendence, openness-to-change, conservation) were used as latent profile predictors. In the second set of models the ten basic-values were used as latent profile predictors. The final model for each set of values was

selected by evaluating the entropy statistic, AIC, BIC, VLMR-LRT, and by considering theory and parsimony of the profiles. Differences between the profiles on values were subsequently explored using modal assignment in IBM SPSS version 24.

Four higher-order values. A total of five models (two through six profiles) were run using the four higher-order values as latent profile predictors. For all models, 400 random starts and 100 optimizations were used. Entropy, information criteria, and results of the VLMR-LRT tests for both sets of models can be found in Table 8. Based in the information criteria, the model with four profiles estimated fit best. Although sample-size adjusted BIC continued to decrease with five and six profiles, AIC and BIC began to decrease much less with each subsequent model after four profiles. In addition, the VLMR-LRT comparing four profiles to three profiles was significant, indicating the four profiles fit the data better. As a result, the model with four profiles was selected as the final model.

After selecting the four-profile model, each participant was assigned to the profile for which they had the highest posterior probability of belonging to. Based on the visual inspection of these profiles, each was labeled according to its endorsement of values, based on the two-dimensions of the value structure (see Figures 3 and 4). The means and standard deviations of the four higher-order and ten basic-values are presented in Table 9. The first profile was labeled *Self-focused-4* (18.30%) due to relatively high levels of openness-to-change and self-enhancement values. The second profile was labeled *Other-focused-4* (17.90%) due to its relatively high endorsement of self-transcendence and conservation values. The third profile was labeled *Anxiety-free-4* (22.10%) because of its relatively high levels of self-transcendence and openness-to-change values. The last profile was labeled *Undifferentiated-4* (41.80%) due to not having a clear pattern of value endorsement. The results of a within-subjects ANOVA comparing

the four higher-order values within each of the profiles also largely supported the labeling, $F(9, 1482) = 154.03, p < .001$. Follow-up tests indicated that the *Other-focused-4* and *Anxiety-free-4* profiles significantly differed on all four values ($p < .05$). However, within the *Self-focused-4*, self-enhancement and self-transcendence values did not significantly differ ($p = .08$) and within *Undifferentiated-4* self-transcendence and openness-to-change values did not significantly differ ($p = 1.00$). Despite this, due to the visual appearance of the profiles the original labels were retained.

In order to validate across the profiles, a MANOVA and follow-up univariate ANOVAs were run comparing the four higher-order values and ten basic-values across the profiles. There was a significant multivariate effect of higher-order values, $F(12, 1299.36) = 111.38$; Wilks' $\Lambda = 0.15, p < .001$; partial $\eta^2 = 0.46$. Univariate follow-up tests indicated that there was a significant main effect of self-enhancement, self-transcendence, openness-to-change, and conservations values (all $ps < .05$). Tukey post-hoc tests revealed that the four profiles significantly differed on all values, with a few exceptions. The *Undifferentiated-4*, *Self-focused-4*, and the *Other-focused-4* profiles did not significantly differ on self-transcendence values and the *Self-focused-4* and the *Anxiety-free-4* profiles did not significantly differ on openness-to-change values. There was also a significant multivariate effect of the ten basic-values, $F(30, 1424.25) = 44.94$; Wilks' $\Lambda = 0.14, p < .001$; partial $\eta^2 = 0.48$. Follow-up univariate tests revealed that there were significant effects for all ten basic-values (all $ps < .001$). Tukey post-hoc tests indicated that *Self-focused-4* and *Anxiety-free-4* did not significantly differ on hedonism, stimulation, self-direction, or conformity values. *Self-focused-4* also did not significantly differ from *Other-focused-4* or *Undifferentiated-4* on universalism or benevolence values. Lastly, *Other-focused-4* and *Undifferentiated-4* did not significantly differ on Universalism values.

Demographic differences within profiles. Chi-square analyses were run to examine whether profile membership significantly differed based on sample and demographic characteristics. Profile membership significantly differed based on sample source, $\chi^2(3) = 14.69$, $p = .002$, with a greater number of the *Anxiety-free-4* profile being from the Qualtrics sample (60.90%) than the from the undergraduate sample. There were also a fewer number of *Self-focused-4* profile members from the Qualtrics sample (36.3%) than the undergraduate sample. There were no significant differences in the number of males or females in groups than would be expected by chance, $\chi^2(3) = 2.91$, $p = .41$, or in the proportion of European American or participants from minority groups, $\chi^2(3) = 2.36$, $p = .50$, in the profiles than would be expected by chance.

Ten basic-values. A new set of models were estimated in Mplus version 8 with the ten basic-values, rather than the four higher-order values, as latent profile predictors. Again, a total of five models with two through six profiles were run with the variances of the ten values allowed to vary across each profile. Information criteria for each model can found in Table 8. The model with four profiles was selected because the BIC increased from four to five profiles; although AIC and sample-size adjusted BIC continued to decrease after four profiles were estimated, the information criteria decreased at a slower rate after four profiles. Thus, the model with four profiles was selected as the best fitting model.

Modal assignment was once again used in order to explore differences between the value profiles. Means and standard deviations of the profiles' values are presented in Table 10. Again, based on the visual inspection of these profiles, each was labeled according to its endorsement of values relative to the other profiles, based on the two-dimensions of the value structure (see Figures 5 and 6). The value profiles largely reflected the profiles identified with the four higher-

order values and were labeled accordingly. The first profile was labeled *Self-focused-10* (19.7%) because of its high levels of achievement, hedonism, and self-direction values. The second profile was labeled *Other-focused-10* (16.5%) due to its relatively high endorsement of benevolence and conformity values. The third profile was labeled *Anxiety-free-10* (19.9%) due to relatively high levels of self-direction, universalism, and benevolence values. The last profile was labeled *Undifferentiated-10* (44%) due to not having a clear pattern of value endorsement across the ten basic-values.

In order to validate the profiles a MANOVA and follow-up univariate ANOVAs were run to examine differences in the four higher-order and ten basic-values across the four profiles (see Table 10). There was a significant multivariate effect of the four higher-order values, $F(12, 1299.36) = 98.03$; Wilks' $\Lambda = 0.18$, $p < .001$; partial $\eta^2 = 0.43$. Follow-up univariate tests indicated a significant effect for each of the four values (all $ps < .001$). Tukey post-hoc tests revealed that all profiles significantly differed across the four values with a few exceptions. The *Self-focused-10* profile did not differ from the *Other-focused-10* or *Undifferentiated-10* profiles on self-transcendence and *Self-focused-10* did not significantly differ from *Anxiety-free-10* on openness-to-change values. There was also a significant multivariate effect of the ten basic-values, $F(30, 1424.25) = 40.99$; Wilks' $\Lambda = 0.14$, $p < .001$; partial $\eta^2 = 0.49$. Follow-up univariate tests indicated a significant effect for all ten basic-values (all $ps < .001$). Tukey post-hoc tests indicated that all profiles significantly differed on values, with some exceptions. The *Other-focused-10* and *Undifferentiated-10* profiles did not significantly differ on from each other on achievement or universalism values. The *Anxiety-free-10* and *Self-focused-10* profiles did not significantly differ from each other on hedonism, stimulation, self-direction, or conformity values. The *Self-focused-10* and *Other-focused-10* profiles did not significantly differ on from

each other on universalism values. The *Undifferentiated-10* and *Self-focused-10* profiles did not significantly differ on stimulation, benevolence, or security values. Lastly, the *Anxiety-free-10* and *Undifferentiated-10* profiles did not differ on hedonism.

Demographic differences within profiles. Chi-square analyses were next run in order to examine whether the profile's composition differed based on the sample and demographic characteristics. Profile membership significantly differed based on sample source, $\chi^2(3) = 9.21, p = .03$, with a greater number of *Anxiety-free-10* profile members (60.6%) being from the Qualtrics samples compared to the undergraduate sample. There were no significant differences in the number of males or females, $\chi^2(3) = 5.39, p = .15$, or European Americans or participants from minority groups participants, $\chi^2(3) = 5.32, p = .15$, in each profile than would be expected by chance.

Differences between ten basic- and four higher-order value profiles. The membership of the profiles identified using the ten basic-values and four higher-order values were compared using a chi-square test to assess how similar the assignment of participants to a profile was between the two models (Table 11). The chi-square analysis comparing the two sets of profiles was significant, $\chi^2(9) = 950.03, p < .001$, suggesting that for the most part, profile membership was consistent across the two sets of models. For example, of the 110 participants assigned to the *Anxiety-free-4* profile, only 14 were assigned a profile membership other than *Anxiety-free-10* in the model with the ten basic-values. Although there are some differences in the classification of participants between the two sets of models, it relies solely on modal assignment for profile assignment and does not consider the posterior probabilities of profile membership.

Profiles Predicting Emerging Adults' Characteristics

To examine how the values profiles are related to identity, leadership, and prosocial behavior, the manual 3-step approach outlined by Asparouhov and Muthén (2014) was used. The 3-step approach has several advantages to a 1-step approach. In a 1-step approach, covariates and outcomes are estimated alongside the latent profile predictors in the initial model which all contribute to the identification of latent profiles. The inclusions of the covariates and outcomes in the latent class model act as predictors which could drastically change the latent profiles. In the 3-step approach, latent profiles are estimated independently of the covariates and are introduced into the model at a later stage. The 1-step approach also introduces problems with model building. The prediction and measurement model needs to be estimated each time a covariate is added or removed and creates a choice between deciding on the number of classes with or without the covariates or outcomes included (Asparouhov & Muthén, 2014, Vermunt, 2010). Vermunt (2010) also argues that the 1-step approach does not fit with the logic of researchers who “view introducing covariates as a step that comes after the classification model has been built (p. 451).”

In the first step of the 3-step approach, the best fitting model previously identified was estimated with the demographic and dependent variables included as auxiliary variables so they did not influence profile composition or membership, but would be included in the data file for the subsequent steps of the analysis. The logits of the classification probabilities for most likely class membership were saved from the initial model and used in step 3 of the model estimation.²

² In Mplus, the AUXILIARY command is used to include the covariates and dependent variables in the SAVEDATA command. The command SAVE=CPROB produces the posterior class

Because LPA considers the probability that each observation will belong to each profile, there is some error associated with N which needs to be accounted for. In the final step, the auxiliary model is estimated where the latent profile variable is measured using N and the measurement error fixed at the calculated values from step 2. In this step, the data saved from step one was used and the auxiliary model was estimated by regressing the dependent variables onto the demographic variables and the latent class variable onto the demographic variables. Differences between the profiles was assessed using a series of Wald tests of parameter constraints by first examining the omnibus effect; then, if significant, a series of post-hoc Wald χ^2 difference tests were run. Means, standard deviations, and differences between the profiles on the outcome variables for the four higher-order values can be found in Table 12.³

Prosocial behavior. It was originally hypothesized that the *Anxiety-Free* and *Other-focused* value profiles would be higher on prosocial behavior and donate a greater amount of money relative to the *Self-focused* profile. It was also hypothesized that the *Anxiety-free* and *Self-focused* profiles would be more likely to donate money to left-leaning organizations relative to the other profiles.

probabilities for each observation and the most likely class variable N . The measurement-error of N is automatically generated in Mplus.

³ Due to the high degree of overlap between the profiles estimated with the four higher-order and ten basic-values, only the differences between the profiles identified with the four higher-order values were examined. Exploratory analyses revealed that the pattern of results was largely consistent between the four higher-order and ten-basic value profiles.

Differences between the four higher-order value profiles were examined on prosocial behavior. The four profiles significantly differed on prosocial behavior, Wald $\chi^2(3) = 25.38, p < .001$. Follow up-tests indicated that *Self-focused-4* was lower on prosocial behavior compared to the *Anxiety-free-4* profile, Wald $\chi^2(1) = 13.77, p < .001$, but did not significantly differ on prosocial behavior from the *Other-focused-4*, Wald $\chi^2(1) = 0.84, p = .36$, or *Undifferentiated-4* profiles, $\chi^2(1) = 0.46, p = .50$. The *Other-focused-4* was lower on prosocial behavior compared to the *Anxiety-free-4*, $\chi^2(1) = 3.92, p = .05$, but was not significantly different compared to the *Undifferentiated-4* profile, $\chi^2(1) = 1.74, p = .19$. Lastly, the *Anxiety-free-4* was significantly higher on prosocial behavior compared to the *Undifferentiated-4* profile, $\chi^2(1) = 23.23, p < .001$. A Wald χ^2 test indicated that the four profiles did not significantly differ on amount donated, Wald $\chi^2(3) = 1.33, p = .72$.

The profiles differed on the organization to which they donated (see Table 13). Within the profiles, 61.50% of *Self-focused-4*, 84.70% of *Other-focused-4*, 46.10% of *Anxiety-free-4*, and 74.90% of *Undifferentiated-4* participants donated to a neutral organization. The *Self-focused-4* and *Anxiety-free-4* profiles were more likely to donate to a left-leaning organization than a neutral-organization than both the *Other-focused-4* and *Undifferentiated-4* profiles, but *Self-focused-4* and *Anxiety-free-4* did not differ. Similarly, *Other-focused-4* and *Undifferentiated-4* profiles did not differ in the organizations that they chose to donate to.

Identity. Differences between the profiles were next compared on identity commitment and the three identity processing orientations. It was hypothesized that relative to the other profiles, the *Undifferentiated* profile would be lowest on identity commitment. In regard to the identity processing orientations, it was hypothesized that the *Anxiety-free* profile would be high

on informational; the *Other-focused* profile would be high on normative processing; and the *Self-focused* profile would be highest on diffuse-avoidant processing relative to the other profiles.

Identity commitment. The four profiles were next compared on identity commitment. A Wald test indicated that the four-profiles significantly differed on identity commitment, Wald $\chi^2(3) = 19.93, p < .001$. Follow-up tests indicated the *Other-focused-4* profile was higher on identity commitment compared to the *Self-focused-4*, Wald $\chi^2(1) = 11.32, p < .001$, *Anxiety-free-4*, $\chi^2(1) = 13.46, p < .001$, and *Undifferentiated-4* profiles, $\chi^2(1) = 14.013, p < .001$. The *Self-focused-4* profile was not significantly different on identity commitment compared to the *Anxiety-free-4*, Wald $\chi^2(1) = 0.07, p = .80$, or *Undifferentiated-4* profiles, Wald $\chi^2(1) = 0.03, p = .86$. Lastly, the *Anxiety-free-4* and *Undifferentiated-4* did not significantly differ on identity commitment, $\chi^2(1) = 0.30, p = .56$.

Informational identity processing. The four-profiles significantly differed on the informational identity processing orientation, Wald $\chi^2(3) = 32.84, p < .001$. Follow-up tests indicated that the *Anxiety-free-4* profile was significantly higher on informational identity processing compared to the *Self-focused-4*, Wald $\chi^2(1) = 7.42, p = .007$, *Other-focused-4*, Wald $\chi^2(1) = 3.95, p = .05$, and the *Undifferentiated-4* profiles, Wald $\chi^2(1) = 32.32, p < .001$. The *Undifferentiated-4* profile was significantly lower on informational processing compared to the *Self-focused-4*, Wald $\chi^2(1) = 8.40, p = .004$, and *Other-focused-4* profiles, Wald $\chi^2(1) = 9.20, p = .002$. The *Self-focused-4* profile was not significantly different on informational processing compared to the *Other-focused-4* profile, Wald $\chi^2(1) = 0.32, p < .57$.

Normative identity processing. A Wald test indicated that the four-profiles significantly differed on the normative identity processing orientation, Wald $\chi^2(3) = 132.24, p < .001$. The *Other-focused-4* profile was significantly higher on normative processing compared to the *Self-*

focused-4, Wald $\chi^2(1) = 51.88, p < .001$, *Anxiety-free-4*, Wald $\chi^2(1) = 108.67, p < .001$, and the *Undifferentiated-4* profiles, Wald $\chi^2(1) = 12.90, p < .001$. The *Self-focused-4* was significantly lower on normative processing compared to the *Undifferentiated-4* profiles, Wald $\chi^2(1) = 15.97, p < .001$, and significantly higher compared to the *Anxiety-free-4* profile, Wald $\chi^2(1) = 11.14, p < .001$. Lastly, the *Anxiety-free-4* was lower on normative processing compared to the *Undifferentiated-4* profile, Wald $\chi^2(1) = 63.27, p < .001$.

Diffuse-avoidant processing. The four profiles did not significantly differ on the diffuse-avoidant identity processing orientation, Wald $\chi^2(3) = 1.78, p = .62$.

Leadership. Differences between the profiles were next compared on leadership styles. It was hypothesized that the *Anxiety-free* profile would be highest on transformational leadership relative to the other profiles, followed by the *Self-focused* profile. It was also expected that the *Other-focused* profile would be highest on laissez-faire leadership relative to the other profiles.

Transformational leadership. A Wald test indicated that the four profiles did not significantly differ on transformational leadership, Wald $\chi^2(3) = 7.21, p = .07$.

Transactional leadership. A Wald test indicated that the four profiles significantly differed on transactional leadership, Wald $\chi^2(3) = 9.17, p = .03$. Follow-up tests revealed that the *Anxiety-free-4* profile was significantly lower on transactional leadership compared to the *Self-focused-4*, Wald $\chi^2(1) = 8.65, p = .003$, and *Undifferentiated-4* profiles, Wald $\chi^2(1) = 5.15, p = .02$, but did not significantly differ from the *Other-focused-4* profile, Wald $\chi^2(1) = 3.64, p = .06$. The *Self-focused-4* profile did not significantly differ from the *Other-focused-4*, Wald $\chi^2(1) = 0.71, p = .40$, or the *Undifferentiated-4* profiles, Wald $\chi^2(1) = 1.86, p = .17$. Lastly, the *Other-focused-4* did not significantly differ from the *Undifferentiated-4* profile, Wald $\chi^2(1) = 0.81, p = .78$.

Laissez-faire leadership. A Wald test indicated that the four profiles did not significantly differ on the laissez-faire leadership style, Wald $\chi^2(3) = 6.83, p = .08$.

Variable Centered Approach

Lastly, as an exploratory goal of the study, hierarchical linear regression was used to examine the relation between the four higher-order values and their interactions with the outcome variables. For all regression analyses, age, sample source, gender, and ethnicity were entered at step 1 as control variables, the four higher-order values were entered at step 2, the two-way interactions between the four values were entered at step 3, the three-way interactions between the values were entered at step 4, and the four-way interaction between the values was entered at step 5. Results of the regression analyses can be found in Table 14. Significant two- and three-way interactions were probed at one standard deviation above and below the mean according to the procedures outlined by Aiken and West (1991). Regions of significance, or the values of moderator for which the regression of aggression on victimization is statistically significant, were also examined using Preacher, Curran, and Bauer's (2006) online utility. Significant four-way interactions were probed by applying a median split to the data on self-enhancement values and assessing the three-way self-transcendence X openness-to-change X conservation values interaction. In order to examine the relation between values and the organization donated to, a binomial logistic regression was run predicting left-leaning relative to neutral leaning organization while controlling for important demographic characteristics (see Table 15).

Prosocial behavior. The relation between values and self-reported prosocial behavior and amount of money donated were first explored. Results of the regression analysis predicting self-reported prosocial behavior indicated that gender and ethnicity were significant predictors of

self-reported prosocial behavior, with females and European Americans reporting more prosocial behavior compared to males and Minority participants. Self-transcendence values were the only other significant predictor of self-reported prosocial behavior, with greater levels of self-transcendence values associated with greater self-reported prosocial behavior. The two-, three-, and four-way interactions were all non-significant predictors.

For donation amount, sample source and ethnicity were both significant predictors, with undergraduates and European American participants electing to donate more money compared to Qualtrics participants and participants from minority groups. The four-higher order values were not significant predictors of amount donated, but there was a significant self-enhancement X self-transcendence interaction and self-transcendence X conservation values interaction.

Analysis of simple slopes of the self-enhancement X self-transcendence values interaction indicated that the relation between self-enhancement values and amount donated was non-significant at one standard deviation below the mean of self-transcendence values, $B = -0.79$, $t(483) = -0.17$, $p = .86$, and at one standard deviation above the mean of self-enhancement values, $B = 3.67$, $t(483) = 0.80$, $p = .42$ (see Figure 7). Region of significance tests indicated that self-enhancement was positively related to amount donated when self-transcendence values were below -6.03 (0%) or above 2.94 (0%).

Analysis of simple slopes of the self-transcendence X conservation values interaction indicated that the relation between self-transcendence and amount donated was non-significant at one standard deviation below the mean of conservation values, $B = 0.59$, $t(483) = 0.09$, $p = .93$, and marginally significant and positive at one standard deviation above the mean of conservation values, $B = 11.37$, $t(483) = 1.69$, $p = .09$ (see Figure 7). Region of significance tests indicated

that self-transcendence values were positively associated with amount donated when conservation values were below -2.17 (0%) or above 0.68 (7%).

Donation to organization of choice. A binomial logistic regression was used to examine whether the four higher-order values and their interactions predicted the probability of donating to a left-leaning organization relative to a neutral-leaning organization. Because there were so few participants that elected to donate to a right-leaning organization (3.10%), they were removed from the analysis along with participants that did not elect to donate any money (16.10%). Age, gender, ethnicity, and sample source were entered at step one as control variables, the main effects of the values at step two, the two-way interactions at step three, the three-way interactions at step four, and the four-way interaction at step five (see Table 15). The results of the regression indicated that Qualtrics participants were more likely to donate to the left-leaning organizations compared to the neutral organization while the European American participants were more likely to donate to the neutral-leaning organizations compared to the participants from minority groups. There were also main effects of values, with self-enhancement and conservation values predicting a lower probability of donating to the neutral-leaning organization relative to the left-leaning organizations. However, the self-transcendence X openness-to-change X conservations values and the self-enhancement X openness-to-change X conservation values interactions were significant (see Figure 8 and Figure 9). As seen in Figure 8, the probability of donating to a neutral organization relative to a left-leaning organization was positively related to self-transcendence values when openness-to-change and conservation values were high. There was also a positive association between self-transcendence values and donating to a neutral organization relative to a neutral organization when conservation values were high but openness values were low. There was not a significant relation to between self-transcendence

values and the probability of donating to a neutral organization over a left-leaning organization when openness values were low and conservation values were low.

Similarly, the probability of donating to a neutral organization relative to a left-leaning organization was positively related to self-enhancement values when openness-to-change values were low and conservation values were high (see Figure 9). The probability of donating to a neutral organization was unrelated to self-enhancement values when openness-to-change and conservation values were high. Lastly, the probability of donating to a neutral organization was not associated with self-enhancement values when openness-to-change values were low and conservation values were high but openness-to-change values were low and conservation values were low.

Identity Commitment. Identity commitment and the three identity-processing orientations were next tested. First, for identity commitment, sample source was a significant predictor, with Qualtrics participants having lower identity commitment than Undergraduate participants. The four higher-order values were non-significant, but there was a significant self-enhancement x conservation values interaction which was qualified by a significant four-way self-enhancement x self-transcendence x openness-to-change x conservation values interaction.

To probe the four-way interaction, the participants were split into two groups based on their endorsement of self-enhancement values. At high levels of self-enhancement values, the self-transcendence X openness-to-change X conservation values interaction was non-significant, $B = 0.21$, $\beta = 0.05$, $t(251) = 0.70$, $p = .49$. However, at low levels of self-enhancement values it was significant, $B = -0.76$, $\beta = 0.37$, $t(223) = 2.07$, $p = .04$ (see Figure 10). Analysis of simple slopes indicated that self-transcendence was not significantly related to identity commitment at low levels of openness-to-change and low levels of conservation values, $B = -0.23$, $t(223) = 0.67$, p

= .50, but was marginally significantly related to identity commitment at high levels of openness-to-change values and low levels of conservation values, $B = 0.34$, $t(223) = 1.67$, $p = .10$.

Further, self-transcendence values were not significantly related to identity commitment at low levels of openness-to-change values and high levels of conservation values, $B = 0.03$, $t(223) = 0.16$, $p = .88$, or at high levels of openness-to-change values and high levels of conservation values, $B = 0.12$, $t(223) = 0.47$, $p = .64$. Region of significance tests indicated that at low levels of self-enhancement, self-transcendence was related to identity commitment at low levels of conservation values when openness-to-change values were below -4.83 (0%) or above 0.49 (14.45%).

Informational Identity Processing Orientation. For the informational processing orientation, the demographic variables were non-significant predictions, but self-enhancement, self-transcendence, openness-to-change, and conservation values were all negatively related to informational identity processing. However, these effects were qualified by significant self-enhancement X self-transcendence, self-enhancement X conservation, and self-transcendence X openness-to-change interactions (see Figure 11).

Analysis of simple slopes for the self-enhancement X self-transcendence interaction revealed that self-enhancement was negatively related to informational processing orientation at one standard deviation below the mean of self-transcendence values, $B = -0.65$, $t(493) = 3.94$, $p < .001$, and at one standard deviation above the mean of self-transcendence values, $B = -0.89$, $t(493) = 5.38$, $p < .001$. Region of significance tests indicated that self-enhancement was negatively related to informational identity processing orientations when self-transcendence values were below -8.21 (0%) or above -1.61 (100%).

Analysis of simple slopes for the self-enhancement X conservation values interaction revealed that self-enhancement was negatively related to informational processing orientation at one standard deviation below the mean of conservation values, $B = -0.63$, $t(493) = 3.67$, $p < .001$, and at one standard deviation above the mean of conservation values, $B = -0.91$, $t(493) = 5.46$, $p < .001$. Region of significance tests indicated that self-enhancement was negatively related to informational identity processing orientations when conservation values were below -11.11 (0%) or above -1.25 (99%).

Analysis of simple slopes for the self-transcendence X openness-to-change values interaction revealed that self-transcendence was negatively related to informational processing orientation at one standard deviation below the mean openness-to-change, $B = -0.56$, $t(493) = 2.26$, $p = .02$, and at one standard deviation above the mean of openness-to-change values, $B = -1.04$, $t(493) = 4.16$, $p < .001$. Region of significance tests indicated that self-transcendence was negatively related to informational identity processing orientations when openness-to-change values were below -6.11 (0%) or above -0.63 (92.37%).

Normative Identity Processing Orientation. For the normative identity processing style orientation, sample source was a significant predictor of normative identity processing, with Undergraduate participants being higher compared to Qualtrics participants. All four higher-order values were also significant positive predictors of normative-processing. The two-way interactions were not significant, but the self-enhancement X self-transcendence X openness-to-change interaction and self-enhancement X openness-to-change X conservations values interactions were.

Analysis of simple slopes of the self-enhancement X openness-to-change X conservation values interaction (Figure 13) indicated that self-enhancement was not significantly associated

with normative identity processing at one standard deviation below the mean of openness-to-change values and conservation values, $B = 0.40$, $t(479) = 1.74$, $p = .08$, but was significantly associated with normative identity processing at one standard deviation above the mean of openness-to-change values and one standard deviation below the mean of conservation values, $B = 0.83$, $t(479) = 4.49$, $p < .001$. Self-enhancement was also positively associated with normative identity processing at one standard deviation below the mean of openness-to-change values and one-standard deviation above the mean of conservation values, $B = 0.72$, $t(479) = 3.74$, $p < .001$, and at one standard deviation above the mean of openness-to-change and conservation values, $B = 0.77$, $t(479) = 3.73$, $p < .001$. Region of significance tests indicated that self-enhancement was positively associated with normative identity processing at one standard deviation below the mean of conservation values when openness-to-change values were between -6.29 and -0.42 (15.26%) and at one standard deviation above the mean of conservation values when openness-to-change values were between -2.20 and 3.10 (13.05%).

Analysis of simple slopes of the self-enhancement X self-transcendence X openness-to-change values interaction (Figure 12) indicated that self-enhancement was positively related to normative identity processing at one standard deviation below the mean of self-transcendence and openness-to-change values, $B = 0.46$, $t(479) = 2.15$, $p = .03$, and at one standard deviation above the mean of self-transcendence values at one standard deviation below the mean of openness-to-change values, $B = 0.65$, $t(479) = 3.24$, $p = .001$. Self-enhancement values were also significantly positively associated with normative identity processing at one standard deviation below the mean of self-transcendence values and one standard deviation above the mean on openness-to-change values, $B = 0.88$, $t(479) = 4.67$, $p < .001$, and at one standard deviation above the mean of self-transcendence values and openness-to-change values, $B = 0.71$,

$t(479) = 3.65, p < .001$. Region of significance tests indicated that self-enhancement values were positively related to normative identity processing at one standard deviation below the mean of openness-to-change values when self-transcendence values were between -0.63 and 11.32 (93.17%) and at one standard deviation above the mean of openness-to-change values when self-transcendence values were between -15.28 and 1.64 (100%).

Diffuse-Avoidant Identity Processing Orientation. Lastly, for the diffuse-avoidant identity style orientation, the demographic variables were not significant predictors but the four higher-order values were positive and significant predictors. However, these effects were qualified by significant self-enhancement x self-transcendence interaction which was further qualified by a significant four-way self-enhancement X self-transcendence X openness-to-change X conservation values interaction. Again, a median split was applied to the sample on self-enhancement values and the regression analysis was run examining the three-way interaction between self-transcendence X openness-to-change X conservation values. The three-way interaction was non-significant at low levels of self-enhancement, $B = 0.43, \beta = 0.04, t(223) = 1.16, p = .25$, and at high levels of self-enhancement, $B = -.32, \beta = -.02, t(251) = 1.12, p = .26$.

Transformational Leadership. The transformational leadership style was next regressed on the demographic variables, values, and their interactions. The demographic variables and the main effects of the four-higher order values were non-significant predictors, but the self-enhancement X self-transcendence X openness-to-change X conservation values interaction was. Again, the sample was split based on self-enhancement values and the regression was re-run with the self-transcendence X openness-to-change X conservation values interaction. The three-way interaction was non-significant at low levels of self-enhancement, $B = -0.20, \beta = -.02, t(222) = 0.88, p = .38$, and at high levels of self-enhancement, $B = 0.08, \beta = 0.01, t(249) = 0.46, p = .67$.

Transactional Leadership. Ethnicity was a significant predictor of transactional leadership, with European American participants rating it higher compared to participants from minority groups. None of the other predictors or interactions were significant, but the four-way self-enhancement X self-transcendence X openness-to-change X conservation values interaction was. Again, the sample was split based on self-enhancement values and the regression was re-run with the self-transcendence X openness-to-change X conservation values interaction. The three-way interaction was non-significant at low levels of self-enhancement, $B = -0.16$, $\beta = -.02$, $t(222) = 0.66$, $p = .51$, and at high levels of self-enhancement, $B = 0.23$, $\beta = 0.02$, $t(248) = 1.11$, $p = .27$.

Laissez-faire Leadership. Lastly, the laissez-faire leadership style was regressed onto the demographic variables, values, and interactions. Only the self-transcendence X conservation values and self-transcendence X openness-to-change interactions were significant predictors of laissez-faire leadership.

Analysis of simple slopes of the self-transcendence X conservation values interaction indicated that self-transcendence was not significantly related to laissez-faire leadership at one standard deviation below the mean of conservation values, $B = -0.15$, $t(484) = 0.74$, $p = .46$, or at one standard deviation above the mean of conservation values, $B = 0.22$, $t(484) = 1.07$, $p = .28$. Region of significance tests indicated that self-transcendence was positively related to laissez-faire leadership when conservation values were below -1.56 (0%) or above 1.22 (.01%).

Analysis of simple slopes of the self-transcendence X openness-to-change interaction indicated that self-transcendence was not significantly related to laissez-faire leadership at one standard deviation below the mean of openness-to-change values, $B = -0.15$, $t(484) = 0.69$, $p = .49$, or at one standard deviation above the mean of openness-to-change values, $B = 0.22$, $t(484)$

= 1.04, $p = .30$. Region of significance tests indicated that self-transcendence values were positively related to laissez-faire leadership when openness-to-change values were below -1.94 (0%) or above 1.36 (.01%).

Supplementary Analyses

In order to explore the explanatory power of the value profiles above and beyond the main effects of the four higher-order values, a series of exploratory hierarchical linear regressions were run predicting to the outcome variables. The demographic variables were entered at step 1; the four higher-order values were entered at step 2; and dummy-coded variables were entered at step 3 with the *Undifferentiated* profile as the reference group. A second set of analyses were also run with the *Anxiety-free* profile as the reference group. The results of the regression analyses revealed that the value profiles explained a significant amount of variance beyond the main effects of the values for informational identity processing ($\Delta R^2 = .03$, $F(3, 481) = 4.68$, $p = .003$). The results of this regression analysis were similar to the differences between the value profiles. The *Anxiety-free* and *Self-focused* profiles were significantly higher on the informational identity processing compared to the *Undifferentiated* profile ($ps < .05$). However, in contrast to the differences between the value profiles, the *Other-focused* and *Undifferentiated* profiles did not significantly differ ($p = .06$).

DISCUSSION

Schwartz' (1992; 2006) Theory of Values proposed ten universal values that form an ordered system of priorities. Much research has established the structure and behavioral correlates of values (e.g., Bardi & Schwartz, 2003; Pozzobon & Ashton, 2009), but has largely ignored how people's values form an ordered system *relative* to the other values and how the relative importance of values is related to behavior. This study had four primary goals. The first was to replicate the methods of Ungvary et al. (in press) who used LPA to identify groups of adolescents who endorsed values in similar ways in a sample of emerging adults. The second goal was to compare LPA models that used the four higher-order values or the ten basic-values as predictors. The third goal was to validate and compare the profiles across prosocial behavior, identity processing orientations, and leadership styles. The last goal was to compare and evaluate the use of person-centered methods with the traditionally used variable-centered methods.

The primary goal of this study was to identify groups of emerging adults who endorsed values in characteristic ways by employing LPA, a person-centered analysis. This method was successful in identifying value profiles congruent with Schwartz' (1992; 2006) Theory of Values. It was hypothesized that profiles would be identified according to the theoretical structure of values. Specifically, that value profiles high on motivationally congruent values would be identified, such as a profile high in self-transcendence and openness-to-change values, but groups high in motivationally incongruent values, such as self-transcendence and self-enhancement values, would not be identified. This hypothesis was largely supported. The LPA identified three profiles reflecting the theoretical structure of values: A *Self-focused* profile high

in self-enhancement and openness-to-change values, an *Anxiety-free* profile high in self-transcendence and openness-to-change values, and an *Other-focused* profile high in self-transcendence and conservation values. No profile emerged that was high on two motivationally incongruent values. Additionally, it was hypothesized that an *Undifferentiated* group, characterized by a lack of a clear pattern of value endorsement, would emerge, but would be comparatively smaller than the adolescent group found in Ungvary et al. (in press) due to developmental differences between adolescents and emerging adults. However, results revealed that the *Undifferentiated* group was similar in size to that found in Ungvary et al. It is also worth noting that although the *Other-focused* profile visually resembled its label, there were no within-group differences between self-transcendence and self-enhancement values. Thus, the *Other-focused* profile may also be characterized as a *Conservation-focused* profile.

Contrary to hypotheses, an *Anxiety-based* profile was not identified. An *Anxiety-based* profile was also not previously identified in adolescents by Ungvary et al. (in press). It was thought that this profile may be present during emerging adulthood due to increased responsibilities and more independence and autonomy in decision making compared to adolescence. Despite being motivationally congruent, it is possible that the combination of self-enhancement and conservation values is not reflected in the priorities of emerging adults, as conservation and self-enhancement values were negatively associated with each other and were endorsed at the lowest levels across the entire sample. An *Anxiety-based* profile may be detected in older adults, when the importance of these values is at its highest (Gouveia, Vione, Milfont, & Fischer, 2015). *Anxiety-based* emerging adults might also be a small minority and thus were not identified as a distinct group by the LPA. It may be that an *Anxiety-based* group would be found in a small minority of people across the population or characteristic of groups that have

traditionally maintained social status or power and are fearful of losing their majority status. Nonetheless, the absence of an *Anxiety-based* profile is notable and poses interesting questions regarding the combination of self-enhancement and conservation values. However, it is important for additional studies to examine the profiles of values that emerge in additional samples, including other cultures and developmental periods. If an *Anxiety-based* profile is not found in future studies, it may suggest that self-enhancement and conservation values are not as compatible as theorized by Value Theory or that the combination of these values is unlikely to occur.

With regards to the second main study goal, the profiles identified by using the four higher-order and ten-basic values as predictors of the value profiles showed a high degree of similarity. Contrary to expectations, using the ten basic-values as predictors did not reveal a greater number of profiles or more nuances in the profiles. Although research has previously shown that values can be broken down into two, four, 10, or even 19 separate values (Schwartz et al., 2012), the present finding suggests that using a simpler structure of values may be a preferable approach. The LPA was unable to differentiate groups of people better by using a more complicated structure of values, suggesting that there is greater separation between higher-order values than there is within the values. Although both sets of predictors identified identical groups, it may be important to understand the pattern of value endorsement within each profile in terms of their basic values. For instance, examining the profiles according to the basic-values revealed that despite both groups being high on self-transcendence values, the *Anxiety-free* profile was high on both universalism and benevolence values, while the *Other-focused* profile was high on just benevolence values. Despite both being a part of self-transcendence values, universalism is defined by its concern for *all* people and nature while benevolence is defined by

its concern for those in the in-group. This difference may have implications for behavior. For example, an *Anxiety-free* person may be more likely than an *Other-focused* person to help a stranger due the *Anxiety-free* person's emphasis on universalism values. This difference may also describe why the *Anxiety-free* profile was more likely to donate to left-leaning organizations than the *Other-focused* profile. Although examining differences between profile at the level of basic-values may in some cases aid interpretation of their behavior, due to the greater parsimony and ease of interpreting the profiles using four rather than ten predictors and the similarity between the profiles across the outcomes, using four rather than ten predictors was deemed to be the favorable approach for this method.

The third goal of the study was to validate the profiles using a range of behaviors that would theoretically distinguish them. Prosocial behavior, identity processing orientations and commitment, and leadership styles were measured and compared across the value profiles. In regard to prosocial behavior, it was hypothesized that the profiles high in self-transcendence values would be highest on self-reported prosocial behavior and amount of money donated, but that the *Anxiety-free* profile would be more likely to donate to a left-leaning organization than the *Other-focused* profile, which was expected to be more likely to donate to right-leaning organizations due to their relative emphasis on openness-to-change and conservation values. Results indicated that the *Anxiety-free* profile was highest on self-reported prosocial behavior, but the *Other-focused* profile did not differ on self-reported prosocial behavior compared to the other profiles. This finding may be the result of the *Anxiety-free* profile's high levels of transcendence values, which may have been the primary driving force behind their high levels of prosocial behavior. Additionally, the *Other-focused* group may be more strongly motivated by conservation values, rather than self-transcendence values as the *Anxiety-free* group was.

No significant differences were found across the profiles in the amount of money donated, but there were differences in the organizations the profiles elected to donate to. However, only a small number of participants selected the right-leaning organization across the entire sample. As a result, donations toward left-leaning organizations were compared to neutral organizations rather than right-leaning organizations. As expected, the *Anxiety-free* and *Self-focused* profiles were more likely to donate to a left-leaning organization relative to a neutral organization. The *Other-focused* and *Undifferentiated* profiles were significantly more likely to donate to a neutral organization compared to a left-leaning organization. These findings support idea that the differences in the relative level of conservation compared to openness-to-change values influence behavior. Emerging adults high in openness-to-change values may be more likely to support organizations with more progressive missions, such as the ACLU, while *Other-focused* groups may be less likely to do so due to their emphasis on traditional conservation values.

The profiles also showed differences in the way they thought about identity-related information. Berzonsky (1994; 2011) conceptualized a model of three identity processing orientations that reflect distinct ways that people think about themselves and others: an *informational* identity processing style, characterized by self-selected goals and standards; a *diffuse-avoidant* identity processing style, characterized by a reluctance to consider identity-related issues; and a *normative* identity processing style, defined by a reliance on external principles and adopt the values and standards of those close to them. Based on previous research, it was hypothesized that the *Anxiety-free* profile would be highest on informational processing, the *Self-focused* profile would be highest on diffuse-avoidant processing, and the *Other-focused* profile would be highest on normative processing.

These hypotheses were partially supported. The *Anxiety-free* profile was highest on the informational identity orientation processing while the *Undifferentiated* profile was lowest. The *Other-focused* profile was highest on the normative identity processing orientation, followed by the *Undifferentiated* profile. There were no differences across the profiles on diffuse-avoidant processing. These results highlight the importance of considering the relative importance of values in predicting social cognitive processes in addition to behaviors. Previous research has shown that self-transcendence values are positively related to both informational and normative identity processing, openness-to-change values are related to informational identity processing, and conservation values are related to normative identity processing (Berzonsky et al., 2011; Berzonsky & Papini, 2014). Without considering all values, someone high in self-transcendence values may be mischaracterized as having either an informational or normative identity processing style if their conservation and openness-to-change values are not also taken into account. Despite previous research showing that self-transcendence values are associated with both informational and normative identity processing, the *Anxiety-free* profile was characterized by informational identity processing due to their high levels of self-transcendence *and* openness-to-values. Similarly, the high levels of normative identity processing in the *Other-focused* profile suggest that conservation values may be an important factor in explaining the normative identity processing style. The secondary exploratory regression analyses also support this finding. The value profiles explained additional variance in the informational processing style above and beyond the variance explained by the main effects of the higher-order values.

Based on the results of Ungvary et al (in press), it was hypothesized that the *Undifferentiated* profile's lack of pattern of values may be due to low levels of identity commitment. Emerging adulthood is an interesting time to examine the *Undifferentiated* profile

in the context of identity as it is a central feature of the developmental period (Arnett, 2000). Although previously considered a feature of adolescence, today emerging adulthood is a time of exploration and change (Arnett, 2000). Some emerging adults may have an established an identity, but others continue to explore and establish their identity through continued education, new relationships, new responsibilities, and new roles. It was hypothesized that the *Undifferentiated* profile's lack of a clear pattern of values may indicate that they have not yet formed a clear idea of their values or what is important to them. However, contrary to hypotheses, the *Undifferentiated* profile was not low on identity commitment compared to the other profiles. Instead the *Undifferentiated* profile was high on normative identity processing. Thus, it seems that rather than not having committed to an identity, these individuals may not strongly consider identity-related issues for themselves. Instead, they may defer to their close friends or family to determine what is important to them rather than forming their identity independently (Berzonsky et al., 1994).

The value profiles were last compared across different leadership styles. Based on previous research, it was hypothesized that the *Self-focused* and *Anxiety-free* profiles would be high on transformational leadership and the *Other-focused* profile would be high on laissez-faire leadership. No significant differences emerged between the profiles on transformational leadership or laissez-faire leadership, but differences did emerge on transactional leadership, a leadership style characterized by focusing on reward and punishment and working within an established framework. Results indicated that the *Anxiety-free* profile was lower on transactional leadership compared to the *Self-focused* and *Undifferentiated* profiles, while the *Self-focused*, *Other-focused*, *Undifferentiated* profiles did not differ. These differences suggest that the

leadership style of transactional leadership may be more consistent with self-enhancement and conservation values rather than self-transcendence and openness-to-change values (Sarid, 2016).

The need to consider multiple values in the context of leadership styles has previously been suggested by Sarid (2016). He proposed integrating the measurement of leadership styles with values to clarify conceptual nuances in the differences between the leadership styles and how they are implemented. For example, two transformational leaders may act ethically or unethically based on the degree to which they are motivated by self-enhancement or self-transcendence values (Brown & Trevino, 2006). This idea may be reflected in the present finding that both *Self-enhancement* and *Anxiety-free* profiles were high in transformational leadership. Shields (2010) proposed that transformational leadership may actually consist of two distinct leadership styles: transformational and transformative. Although both leadership styles are characterized by operating outside of the existing structure or framework, transformational leadership emphasizes individual achievement, consistent with self-enhancement values, and transformative leadership emphasizes democratic values, consistent with self-transcendence values (Shield, 2010). Sarid (2016) proposed that these differences may be captured by combining the measurement of leadership styles with the measurement of values and hypothesized that transformational leadership may be characterized by self-enhancement and openness-to-change values (a *Self-focused* value profile) while transformative leadership may be characterized by self-transcendence and openness-to-change values (an *Anxiety-free* value profile). Our findings suggest that Sarid may be correct; future research should consider how values differentiate transformational leadership patterns because a failure to consider the underlying motivations of leadership would not reveal nuances in the ways that they treat their followers. Although endorsed at lower levels than transformational leadership, the *Self-focused*,

Other-focused profiles were high on transactional leadership, possibly due to their high levels of self-enhancement or conservation values. Contrary to Sarid (2016), who proposed that transactional leadership is characterized by an *Anxiety-based* system of values high in both self-enhancement and conservation values, the results of the present study suggest that transactional leadership may be characterized by either self-enhancement or conservation values alone.

The last goal of this study was to examine the relation between values and the outcomes using variable-centered multiple regression analyses including the higher-order interactions amongst the values and to compare them to the person-centered LPA. It was argued that the traditional, variable-centered method, which often examines bivariate relations between values and behavior, ignores the complex interactions that reflect how multiple values motivate behavior. This method undermines the premise of Schwartz' (1992; 2006) Value Theory that people make tradeoffs among relevant and competing values and that the relative importance of values guides behavior.

Overall, the person-centered analyses proved to be more successful and easier to interpret compared the variable-centered approach for several reasons. First, the results of the variable-centered analyses, particularly those involving significant three- and four-way interactions, were more difficult to interpret compared to the differences between the value profiles. For example, the differences between the value profiles on normative identity processing revealed that people who endorsed self-transcendence and conservation values at high levels (*Other-focused*) or who were not committed to a particular set of values (*Undifferentiated*) had high levels of normative identity processing. The variable-centered analyses required parsing through two significant three-way interactions to understand how values were related to normative identity processing. These results suggested that normative identity processing was highest when self-enhancement,

openness-to-change and conservation values were highest or when self-enhancement, self-transcendence, and openness-to-change values were highest.

In addition to problems interpreting the results, the significant interactions, such as the three-way interactions predicting normative identity processing, also posed issues for the Theory of Values. The recommended approach of probing interactions involves examining the effect of the independent variable on the dependent variable at plus and minus one standard deviation of the moderator (Aiken & West, 1991). Thus, probing interactions required examining simple slopes associated with combinations of values that are not theoretically congruent. For example, a two-way interaction between self-enhancement and self-transcendence values involves examining the effect when both self-enhancement and self-transcendence values are high. However, this combination is unlikely to occur due to the incongruent motivations between the two values (Schwartz, 1992). This problem grows with the addition of three- or four-way interactions, where the theoretically compatible combination of values represents only a minority of the simple effects.

Another practical problem that was encountered when probing interactions was that, for many of the interactions, very little information was gained because the simple slopes were non-significant or the region of significance tests were applicable to none of or only a very small portion of the sample. For example, when predicting identity commitment and *laisse-faire* leadership, the simple slopes associated with the significant interactions were all non-significant. These issues are made more tenuous by the fact that across all outcomes, the interactions added very small amounts of explained variance which was outweighed by the difficulty of breaking down and interpreting interactions.

In contrast to the variable-centered approach, the groups identified by the LPA models reflected the underlying theoretical structure of values. No profile emerged that was inconsistent with the underlying motivations, such as a profile high in both self-enhancement and self-transcendence values or one high in both openness-to-change and conservation values. Compared to the regression analyses, exploring group differences between the value profiles was concise, easy to interpret, and did not require complicated follow-up analyses to break down the differences between the groups. This contrasts with the regression analyses used to examine the relation between the values and the outcomes. The additional small amount of variance explained by the higher-order interactions is made less impactful by the complexity of breaking down interactions, particularly three- and four-way interactions, into simple effects.

Furthermore, in a particularly conservative test of the explanatory power of value profile groups, supplementary exploratory analyses revealed that for informational identity processing, the value profiles explained additional amounts of variance above and beyond the variance accounted for by the demographic covariates and the main effects of the four higher-order values. Although these analyses indicated that the value profiles explained additional variance for only one outcome, it is possible that some behaviors, such as prosocial behavior, are predominantly motivated by a single value, such as self-transcendence, but for other outcomes, the relative levels of all values are important. Rather than modeling the complex interactions using variable-centered methods, examining how the main effects of the higher-order values independently predict behavior might be a useful approach to supplement the interpretation of the value profiles. For example, the regression analyses revealed that all four higher-order values were significant and positive in predicting normative identity processing, with conservation values being a particularly strong predictor. The differences between the value profiles support

this and reveal that the *Other-focused* profile, high in conservation values, was high in normative identity processing too. However, in some cases the main effects were less useful. For example, all four values were positive predictors of informational identity processing, but differences between the value profiles indicated that the *Anxiety-free* profile was highest on informational processing, a conclusion that could not be drawn from the regression analyses alone.

This study provided compelling evidence in support of the use of person-centered methods over the use of traditional variable-centered methods to model values. The current study examined values in relation to a range of theoretically relevant self-reported and behavioral outcomes, whereas past research has relied heavily on measures (i.e. Bardi & Schwartz, 2003) that may overstate the relation between values and behavior. However, the study was not without limitations. Although a strength of this study was the use of a behavioral measure of prosocial behavior measured through donating potential prize money, the study did rely on self-report measures. Subsequent research would benefit from other-reports of behavior, such as by peers, friends, or significant others. Additional measures, such as the use of the hot-sauce paradigm to measure aggressive behavior (Lieberman, Solomon, Greenberg, & McGregor, 1999) or a behavioral conformity paradigm (e.g. Asch, 1955) would provide further insight into the role of values on in-vivo behavior.

This study used a range of behaviors that had previously been studied in the context of values, but for four of the outcomes (donation, diffuse-avoidant, transformational leadership, and laissez-faire leadership) no differences were found between the value profiles. Although the value profiles identified support the theoretical structure of values, relatively little is known about *how* values motivate behavior and cognition. Values may serve as a template or scaffolding that informs how people think about themselves or how they think they will act in the future (Eyal et

al., 2009), but may be less informative in a real situation. Values may motivate or guide behavior in an indirect way or there may be differences in the way values work for different people. Further research that seeks to understand behavioral differences within value profiles may provide greater insight into how values motivate peoples' behavior and cognition.

Two additional limitations of the study were the lack of ethnic and gender diversity and a possible inflation of Type I error. First, although this study did benefit from a geographically diverse sample incorporating both undergraduate research pools and an online sample, the sample was predominantly female and European American. While the content and structure of values is considered to be universal, it is possible that other profiles or different proportions of profiles would have been identified in more diverse samples. Future studies would benefit from applying this methodology in a more gender-balanced sample and with a broader range of ethnicities or cultures represented in order to have a broader understanding of the value profiles that are present in the population. For example, is an *Anxiety-based* profile comprised largely of men, older adults, or people from cultures that have greater emphasis on religion, family, and cultural tradition? Or is the absence of the *Anxiety-based* profile an indication that the combination of these values is rare?

Second, the Type I error rate may have been inflated in the current study because a large number of analyses were conducted. As a result, some of the differences between the value profiles or the interactions present in the regression analyses may be false positives. However, many of these analyses were exploratory and provide a strong foundation from which further research can expand.

Future work should also apply person-centered methods longitudinally in order to examine if and how value profile membership changes over time. The size of the

Undifferentiated profile in the current study compared to Ungvary et al. (in press) suggests that little may change between adolescence and emerging adulthood. However, it may be that there are greater changes in values and profile membership across adulthood. Previous research has shown that the emphasis on individual values is different across the lifespan (Gouveia et al., 2015) but no research has yet to examine how an individual person's value priorities shift or evolve across their lifespan.

The presence of the large *Undifferentiated* profile may also suggest limitations with the measures used. Rather than presenting a group of individuals who are undecided on what is important to them, it is possible that the presence of the *Undifferentiated* profile is due to methodological issues. Researchers have acknowledged that social desirability and extreme-response biases may affect values measures (e.g. Lee, Louviere, & Soutar, 2008; Schwartz and Bardi, 2001). Participants who respond quickly to the measure may not take the time necessary to think about what is important to them and fail to consider the impact of each item. Attempts to circumvent these issues are taken by mean-centering participants' responses to each of the PVQ items, removing participants who complete the measure too quickly, or respond to the measure with a single scale anchor more than 60% of the time. However, these counter-measures are not always enough to address these issues. It is difficult to identify participants who respond in socially desirable ways or to remove participants who use only one end of the response choices. After mean-centering responses, such issues may have resulted in participants who have values that are closely packed around the mean, resulting in a group that appears to be *Undifferentiated* in their values. Additional research is necessary to examine whether this group consistently emerges or in part a product of methodological issues.

Future research would benefit from alternative forms of measuring values, such as Q-sort methods or MaxDiff analyses. The Q-sort method (Block, 1961) limits the number of items that can be given to each scale anchor, forcing participants to weight items against each other. Although time consuming, the Q-sort method may engage participants at a deeper level and allow them to more accurately report on their values. MaxDiff analyses efficiently compare large numbers of items by asking participants to rate which of a sample of items is the best and which is the worst across a series of comparisons (Finn & Louviere, 1992). This method forces participants to discriminate amongst items and reduces response-biases (Cohen & Markowitz, 2002). Lee et al., (2008) successfully used a MaxDiff analysis in a series of adult samples. They found that the results of the MaxDiff analysis reflected the theoretical structure of values, value-behavior relations, and took less time than the traditional self-report measure. Innovative methods, such as Q-sort and MaxDiff analyses, will benefit the field to ensure that we are measuring values as thoroughly and accurately as possible.

The results of this study demonstrate the theoretical implications and practical applications of LPA in the study of values and the complications that can arise when using traditional variable-centered methods. The field's focus on validating the theory and structure of values (e.g. Bardi et al., 2009; Bardi & Goodwin, 2011; Roccas & Sagiv, 2010; Schwartz & Bardi, 2001) has resulted in researchers largely employing the same methodology in different samples and contexts. This study provides additional evidence supporting the theoretical structure of Schwartz (1992; 2006) Value Theory, but additional work is necessary to examine the extent of the role of values on behavior and cognition. Exploring the use of new ways to model and measure values will push the field past the familiar questions being asked and

produce a better understanding of how people form their values and their importance in motivating behavior.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA, US: Sage Publications, Inc.
- Alessandri, G., Caprara, G. V., Eisenberg, N., & Steca, P. (2009). Reciprocal Relations Among Self-Efficacy Beliefs and Prosociality Across Time. *Journal of Personality, 77*(4), 1229–1259.
- Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly, 14*(3), 261–295. [https://doi.org/10.1016/S1048-9843\(03\)00030-4](https://doi.org/10.1016/S1048-9843(03)00030-4)
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J. (2004). *Emerging adulthood the winding road from the late teens through the twenties*. New York; Oxford: Oxford University Press, 2004. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=cat00456a&AN=ua.3401195&site=ehost-live>
- Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives, 1*(2), 68–73. <https://doi.org/10.1111/j.1750-8606.2007.00016.x>
- Asparouhov, T., & Muthén, B. (2014). Auxiliary variables in mixture modeling: Three-step approaches using Mplus. *Structural Equation Modeling, 21*, 329-341. doi:10.1080/10705511.2014.915181
- Bardi, A., & Goodwin, R. (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross-Cultural Psychology, 42*(2), 271–287. <https://doi.org/10.1177/0022022110396916>
- Bardi, A., & Schwartz, S. H. (2003). Values and behavior: strength and structure of relations. *Personality and Social Psychology Bulletin, 29*, 1207-1220. doi:10.1177/0146167203254602
- Bardi, A., Lee, J. A., Hofmann-Towfigh, N., & Soutar, G. (2009). The structure of intraindividual value change. *Journal of Personality and Social Psychology, 97*(5), 913–929. <https://doi.org/10.1037/a0016617>

- Barron, K. E., & Harackiewicz, J. M. (2001). Achievement goals and optimal motivation: Testing multiple goal models. *Journal of Personality and Social Psychology*, *80*(5), 706–722. <https://doi.org/10.1037/0022-3514.80.5.706>
- Bass, B. M., & Avolio, B. J. (1990). Developing Transformational Leadership: 1992 and Beyond. *Journal of European Industrial Training*, *14*(5), 21–27.
- Bauer, D. J., & Shanahan, M. J. (2007). Modeling complex interactions: Person-centered and variable-centered approaches. In T. D. Little, J. A. Bovaird, N. A. Card, T. D. Little (Ed), J. A. Bovaird (Ed), & N. A. Card (Ed) (Eds.), *Modeling contextual effects in longitudinal studies*. (pp. 255–283). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Benish-Weisman, M. (2015). The interplay between values and aggression in adolescence: A longitudinal study. *Developmental Psychology*, *51*(5), 677–687. <https://doi.org/10.1037/dev0000015>
- Berzonsky, M. D. (1994). Self-identity: The relationship between process and content. *Journal of Research in Personality*, *28*(4), 453–460. <https://doi.org/10.1006/jrpe.1994.1032>
- Berzonsky, M. D. (2004). Identity style, parental authority, and identity commitment. *Journal of Youth and Adolescence*, *33*(3), 213–220. <https://doi.org/10.1023/B:JOYO.0000025320.89778.29>
- Berzonsky, M. D., & Ferrari, J. R. (2009). A Diffuse-Avoidant Identity Processing Style: Strategic Avoidance or Self-Confusion? *Identity*, *9*(2), 145–158.
- Berzonsky, M. D., & Papini, D. R. (2014). Identity processing styles and value orientations: The mediational role of self-regulation and identity commitment. *Identity: An International Journal of Theory and Research*, *14*(2), 96–112. <https://doi.org/10.1080/15283488.2013.858228>
- Berzonsky, M. D., Cieciuch, J., Duriez, B., & Soenens, B. (2011). The how and what of identity formation: Associations between identity styles and value orientations. *Personality and Individual Differences*, *50*(2), 295–299. <https://doi.org/10.1016/j.paid.2010.10.007>
- Berzonsky, M. D., Soenens, B., Luyckx, K., Smits, I., Papini, D. R., & Goossens, L. (2013). Development and validation of the revised Identity Style Inventory (ISI-5): Factor structure, reliability, and validity. *Psychological Assessment*, *25*(3), 893–904. <https://doi.org/10.1037/a0032642>
- Buchanan, K., & Bardi, A. (2015). The roles of values, behavior, and value-behavior fit in the relation of agency and communion to well-being. *Journal of Personality*, *83*, 320-333. doi:10.1111/jopy.12106
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.

- Caprara, G. V., & Steca, P. (2007). Prosocial agency: The contribution of values and self-efficacy beliefs to prosocial behavior across ages. *AGES. Journal of Social & Clinical Psychology, 26*(2), 218–239.
- Caprara, G. V., Alessandri, G., Eisenberg, N., Kupfer, A., Steca, P., Caprara, M. G., ... Abela, J. (2012). Positivity Scale. <https://doi.org/10.1037/t15844-000>
- Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A New Scale for Measuring Adults' Prosocialness. *European Journal of Psychological Assessment, 21*(2), 77–89. <https://doi.org/10.1027/1015-5759.21.2.77>
- Duriez, B., Luyckx, K., Soenens, B., & Berzonsky, M. (2012). A process-content approach to adolescent identity formation: Examining longitudinal associations between identity styles and goal pursuits. *Journal of Personality, 80*(1), 135–161. <https://doi.org/10.1111/j.1467-6494.2011.00729.x>
- Dziak, J. J., Lanza, S. T., & Tan, X. (2014). Effect size, statistical power, and sample size requirements for the bootstrap likelihood ratio test in latent class analysis. *Structural Equation Modeling, 21*(4), 534–552. <https://doi.org/10.1080/10705511.2014.919819>
- Erikson, E. (1968). *Identity: youth and crisis*. Oxford, England: Norton.
- Eyal, T., Sagristano, M. D., Trope, Y., Liberman, N., & ChA, S. (2009). When values matter: Expressing values in behavioral intentions for the near vs. distant future. *Journal of Experimental Social Psychology, 45*(1), 35–43. <https://doi.org/10.1016/j.jesp.2008.07.023>
- Finch, W. H., & Bronk, K. C. (2011). Conducting confirmatory latent class analysis using Mplus. *Structural Equation Modeling, 18*(1), 132–151. <https://doi.org/10.1080/10705511.2011.532732>
- Gouveia, V. V., Vione, K. C., Milfont, T. L., & Fischer, R. (2015). Patterns of value change during the life span: Some evidence from a functional approach to values. *Personality and Social Psychology Bulletin, 41*, 1276-1290. doi:10.1177/0146167215594189
- Gudicha, D., Tekle, F., & Vermunt, J. (2016). Power and Sample Size Computation for Wald Tests in Latent Class Models. *Journal of Classification, 33*(1), 30–51.
- Karagianni, D., & Jude Montgomery, A. (2017). Developing leadership skills among adolescents and young adults: a review of leadership programmes. *International Journal of Adolescence and Youth, 1*–13. <https://doi.org/10.1080/02673843.2017.1292928>
- Knafo, A., & Schwartz, S. H. (2004). Identity formation and parent-child value congruence in adolescence. *British Journal of Developmental Psychology, 22*, 439–458. <https://doi.org/10.1348/0261510041552765>

- Kroger, J., & Marcia, J. E. (2011). The identity statuses: Origins, meanings, and interpretations. In S. J. Schwartz, K. Luyckx, V. L. Vignoles, S. J. Schwartz (Ed), K. Luyckx (Ed), & V. L. Vignoles (Ed) (Eds.), *Handbook of identity theory and research, Vols. 1 and 2.* (pp. 31–53). New York, NY, US: Springer Science + Business Media.
https://doi.org/10.1007/978-1-4419-7988-9_2
- Lee, J. A., Soutar, G. N., Daly, T. M., & Louviere, J. J. (2011). Schwartz values clusters in the United States and China. *Journal of Cross-Cultural Psychology, 42*, 234-252.
 doi:10.1177/0022022110396867
- Levay, K. E., Freese, J., & Druckman, J. N. (2016). The Demographic and Political Composition of Mechanical Turk Samples. *SAGE Open, 6*(1), 2158244016636433.
<https://doi.org/10.1177/2158244016636433>
- Lo, Y., Mendell, N.R., & Rubin, D.B. (2001). Testing the number of components in a normal mixture. *Biometrika, 88*, 767-778. doi: 10.1093/biomet/88.3.767.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology, 3*(5), 551–558. <https://doi.org/10.1037/h0023281>
- McDonald, K. L., Benish-Weisman, M., O'Brien, C. T., & Ungvary, S. (2015). The social values of aggressive-prosocial youth. *Journal of Youth and Adolescence*
- McFarland, J., Hussar, B., de Brey, C., Snyder, T., Wang, X., Wilkinson-Flicker, S., Gebrekristos, S., Zhang, J., Rathbun, A., Barmer, A., Bullock Mann, F., and Hinz, S. (2017). The Condition of Education 2017 (NCES 2017- 144). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017144>.
- Meeus, W. (2011). The study of adolescent identity formation 2000–2010: A review of longitudinal research. *Journal of Research on Adolescence, 21*(1), 75–94.
<https://doi.org/10.1111/j.1532-7795.2010.00716.x>
- Meyer, J. P., & Morin, A. J. S. (2016). A person-centered approach to commitment research: Theory, research, and methodology. *Journal of Organizational Behavior, 37*, 584–612.
<https://doi.org/10.1002/job.2085>
- Morris, C., & Morris, C. W. (1956). *Varieties of human value*. University of Chicago Press, 1956. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=cat00456a&AN=ua.4437148&site=ehost-live>
- Muthén, B. (2004). Latent variable analysis: Growth mixture modeling and related techniques for longitudinal data. In D. Kaplan (ed.), *Handbook of quantitative methodology for the social sciences* (pp. 345-368). Newbury Park, CA: Sage Publications.

- Muthén, L.K. and Muthén, B.O. (1998-2012). *Mplus User's Guide*. Seventh Edition. Los Angeles, CA: Muthén & Muthén
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2008). "Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study": Erratum. *Structural Equation Modeling*, 15(1), 182–182.
<https://doi.org/10.1080/10705510701793320>
- Palmer, D. D., Veiga, J. F., & Vora, J. A. (1981). Personal values in managerial decision making: Value-cluster approach in two cultures. *Group & Organization Studies*, 9(2), 224–233.
<https://doi.org/10.1177/105960118100600208>
- Pastor, D. A., Barron, K. E., Miller, B. J., & Davis, S. L. (2007). A latent profile analysis of college students' achievement goal orientation. *Contemporary Educational Psychology*, 32(1), 8–47. <https://doi.org/10.1016/j.cedpsych.2006.10.003>
- Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: multilevel perspectives. *Annual Review of Psychology*, 56(1), 365–392.
- Pew Research Center (2017). It's becoming more common for young adults to live at home – and for longer stretches. Washington D.C. Retrieved from <http://www.pewresearch.org/fact-tank/2017/05/05/its-becoming-more-common-for-young-adults-to-live-at-home-and-for-longer-stretches/>
- Pozzebon, J. A., & Ashton, M. C. (2009). Personality and values as predictors of self- and peer-reported behavior. *Journal of Individual Differences*, 30(3), 122–129.
<https://doi.org/10.1027/1614-0001.30.3.122>
- Roccas, S., & Sagiv, L. (2010). Personal values and behavior: Taking the cultural context into account. *Social and Personality Psychology Compass*, 4, 30-41. doi:10.1111/j.1751-9004.2009.00234.x
- Rohan, M. J. (2000). A Rose by Any Name? The Values Construct. *Personality & Social Psychology Review (Lawrence Erlbaum Associates)*, 4(3), 255–277.
- Rokeach, M. (1973). *The nature of human values*. New York, Free Press [1973]. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=cat00456a&AN=ua.53402&site=ehost-live>
- Sagiv, L., & Schwartz, S. H. (1995). Value priorities and readiness for out-group social contact. *Journal of Personality and Social Psychology*, 69(3), 437–448.
<https://doi.org/10.1037/0022-3514.69.3.437>
- Sarid, A. (2016). Integrating leadership constructs into the Schwartz Value Scale: Methodological implications for research. *Journal of Leadership Studies*, 10(1), 8–17.

- Sarros, J. C., & Santora, J. C. (2001). Leaders and values: A cross-cultural study. *Leadership & Organization Development Journal*, 22(5), 243–248.
<https://doi.org/10.1108/01437730110397310>
- Schneider, B., Paul, M. C., White, S. S., & Holcombe, K. M. (1999). Understanding high school student leaders, I: Predicting teacher ratings of leader behavior. *Leadership Quarterly*, 10(4), 609.
- Schwartz SH, Melech G, Lehnami A, Burgess S, Harris M, Owens V. 2001. Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, 32(5), 519-42. DOI: 10.1177/0022022101032005001
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna, M. P. Zanna (Eds.), *Advances in experimental social psychology*, Vol. 25 (pp. 1-65). San Diego, CA, US: Academic Press. doi:10.1016/S0065-2601(08)60281-6
- Schwartz, S. H. (2007). Basic human values: Theory, methods, and application. *Risorsa Uomo: Rivista Di Psicologia Del Lavoro E Dell' Organizzazione*, 13(2), 261–283.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268-290.
 doi:10.1177/0022022101032003002
- Schwartz, S. H., & Bilsky, W. (1987). Toward A Universal Psychological Structure of Human Values. *Journal of Personality & Social Psychology*, 53(3), 550–562.
- Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, 38(3), 230–255.
[https://doi.org/10.1016/S0092-6566\(03\)00069-2](https://doi.org/10.1016/S0092-6566(03)00069-2)
- Schwartz, S. H., & Butenko, T. (2014). Values and behavior: Validating the refined value theory in Russia. *European Journal of Social Psychology*, 44, 799-813. doi:10.1002/ejsp.2053
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., ... Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103(4), 663–688. <https://doi.org/10.1037/a0029393>
- Schwartz, S. H., Sagiv, L., & Boehnke, K. (2000). Worries and Values. *Journal of Personality*, 68(2), 309–346.

- Schwartz, S. J., Donnellan, M. B., Ravert, R. D., Luyckx, K., & Zamboanga, B. L. (2013). Identity development, personality, and well-being in adolescence and emerging adulthood: Theory, research, and recent advances. In R. M. Lerner, M. A. Easterbrooks, J. Mistry, I. B. Weiner, R. M. Lerner (Ed), M. A. Easterbrooks (Ed), ... I. B. Weiner (Ed) (Eds.), *Handbook of psychology: Developmental psychology*. (pp. 339–364). Hoboken, NJ, US: John Wiley & Sons Inc. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2012-28462-014&site=ehost-live>
- Schwarz, G. (1978). Estimating the Dimension of a Model. *Annals of Statistics*, 6, 461-464. doi:10.1214/aos/1176344136.
- Sosik, J. J. (2005). The role of personal values in the charismatic leadership of corporate managers: A model and preliminary field study. *Leadership Quarterly*, 16(2), 221–244.
- Spranger, E. (1928). *Types of men. The psychology and ethics of personality*. Oxford, England: Niemeyer. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1929-01012-000&site=ehost-live>
- Tejeda, M. J. (2001). The MLQ revisited: Psychometric properties and recommendations. *Leadership Quarterly*, 12(1), 31.
- Ungvary, S., McDonald, K.L., & Benish-Weisman, M. (under review). Identifying Value Profiles of American and Israeli Adolescents.
- Vermunt, J.K., (2010). Latent class modeling with covariates: Two improved three-step approaches. *Political Analysis*, 18, 450-469. doi: 10.1093/pan/mpq025
- Waterman, A. S. (1999). Identity, the identity statuses, and identity status development: A contemporary statement. *Developmental Review*, 19(4), 591–621. <https://doi.org/10.1006/drev.1999.0493>
- Wentzel, K. R. (1993). Motivation and achievement in early adolescence: The role of multiple classroom goals. *The Journal of Early Adolescence*, 13(1), 4–20. <https://doi.org/10.1177/0272431693013001001>
- Wright, A. N. (2012). Value development in emerging adulthood: The influence of family (Dissertation).

APPENDIX A

Tables and Figures

Table 1. Description of Schwartz' (1992; 2006) ten basic-values.

Higher-Order Values	Basic-values	Description
Self-Enhancement	Power	Social status or prestige, control or dominance over people and resources.
	Achievement	Personal success through demonstrating competence according to social standards.
Openness-to-Change	Hedonism	Pleasure or sensuous gratification for oneself.
	Stimulation	Excitement, novelty, and challenge in life.
	Self-Direction	Independent thought and action - choosing, creating, exploring.
Self-Transcendence	Universalism	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.
	Benevolence	Preserving and enhancing the welfare of those with whom one is in frequent and personal contact (the 'in-group').
Conservation	Tradition	Respect, commitment, and acceptance of customs and ideas that one's culture or religion provides.
	Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.
	Security	Safety, harmony, and stability of society, of relationships, and of self.

Table 2. *Factor loadings for ISI-3*

	Standardized Factor Loading	
	Initial Model	Final Model
CFI	0.59	0.91
RMSEA	0.08	0.06
Identity Commitment		
Item		
1. Regarding religious beliefs, I know basically what I believe and don't believe	0.41	-
7. I know what I want to do with my future	0.73	0.82
9. I'm not really sure what I believe about religion	0.46	0.47
11. I'm not sure which values I really hold	0.50	0.57
12. I have some consistent political views; I have a definite stand on where the government and country should be headed	0.20	-
14. I'm not sure what I want to do in the future	0.80	0.70
15. I'm really into my major; it's the academic area that is right for me	0.65	0.67
20. I'm not sure what I should major in (or change to)	0.76	0.68
22. I have a definite set of values that I use in order to make personal decisions	0.44	0.55
39. I find it's best for me to rely on the advice of close friends or relatives when I have a problem	0.22	-
Informational Processing		
2. I've spent a great deal of time thinking seriously about what I should do with my life	0.57	0.61
5. I've spent a good deal of time reading and talking to others about religious ideas	0.24	-
6. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective	0.50	0.48
16. I've spent a lot of time reading and trying to make some sense out of political issues	0.21	-
18. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me	0.46	-
25. When I have a personal problem, I try to analyze the situation in order to understand it	0.70	0.69
26. I find it's best to seek out advice from professionals (e.g., clergy, doctors, lawyers) when I have problems	0.24	-
30. I find that personal problems often turn out to be interesting challenges	0.33	-
33. When I have to make a decision, I like to spend a lot of time thinking about my options	0.62	0.62
35. I like to have the responsibility for handling problems in my life that require me to think on my own	0.49	-
37. When making important decisions I like to have as much information as possible	0.60	0.62

Table 2 (continued) *Factor loadings for ISI-3*

	Standardized Factor Loading	
	Initial Model	Final Model
Normative Orientation		
Item		
4. I've more-or-less always operated according to the values with which I was brought up	0.57	0.45
10. I've always had purpose in my life; I was brought up to know what to strive for	0.56	0.70
19. Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts	0.56	0.50
21. I've known since high school that I was going to college and what I was going to major in	0.31	-
23. I think it's better to have a firm set of beliefs than to be open-minded	0.61	0.12
28. I think it's better to have fixed values, than to consider alternative value systems	0.64	0.28
32. Once I know the correct way to handle a problem, I prefer to stick with it	0.39	-
34. I prefer to deal with situations where I can rely on social norms and standards	0.39	-
40. I find it's best for me to rely on the advice of close friends or relatives when I have a problem	0.29	-
Diffuse Avoidant Orientation		
3. I'm not really sure what I'm doing in school; I guess things will work themselves out	0.62	-
8. It doesn't pay to worry about values in advance; I decide things as they happen	0.396	-
13. Many times by not concerning myself with personal problems, they work themselves out	0.46	-
17. I'm not really thinking about my future now; it's still a long way off	0.46	-
24. When I have to make a decision, I try to wait as long as possible in order to see what will happen	0.48	0.47
27. It's best for me not to take life too seriously; I just try to enjoy it	0.35	-
29. I try not to think about or deal with problems as long as I can	0.62	0.63
31. I try to avoid personal situations that will require me to think a lot and deal with them on my own	0.50	0.54
36. Sometimes I refuse to believe a problem will happen, and things manage to work themselves out	0.51	0.52
38. I know a situation is going to cause me stress, I try to avoid it	0.45	0.61

Table 3. *Factor loadings for MLQ-6*

	Standardized Factor Loading	
	Initial Model	Final Model
CFI	0.817	0.938
RMSEA	0.071	0.042
Transformational		
Item		
1. I make others feel good to be around me.	0.51	0.50
2. I express with a few simple words what we could and should do.	0.48	0.48
3. I enable others to think about old problems in new ways.	0.59	0.54
4. I help others develop themselves.	0.67	0.66
8. Others have complete faith in me	0.513	0.52
9. I provide appealing images about what we can do	0.60	0.61
10. I provide others with new ways of looking at puzzling things	0.61	0.59
11. I let others know how I think they are doing	0.47	0.46
15. Others are proud to be associated with	0.56	0.54
16. I help others finds meaning in their work	0.66	0.64
17. I get others to rethink ideas that they had never questioned before	0.55	0.56
18. I give personal attention to others who seem rejected	0.52	0.54
Transactional		
5. I tell others what to do if they want to be rewarded for their work	0.61	0.58
6. I am satisfied when others meet agreed-upon standards	0.45	0.48
12. I provide recognition/rewards when others reach their goals	0.52	0.55
13. As long as things are working, I do not try to change anything	0.26	-
19. I call attention to what others can get for what they accomplish	0.64	0.64
20. I tell others the standards they have to know to carry out their work	0.60	0.48
Laissez-Faire		
7. I am content to let others continue working in the same ways always	0.52	0.54
13. As long as things are working, I do not try to change anything	-	0.49
14. Whatever others want to do is OK with me	0.47	0.47
21. I ask no more of others than what is absolutely essential	0.57	0.54

Table 4. Means, standard deviations, and correlations among variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Age	19.47	1.32	1	-.05	-.11*	-.13**	-.12*	.02	.18**	-.03	.04	-.05
2. Power	-0.95	1.03	-.05	1	.39**	.08	-.08	-.17**	-.41**	-.44**	-.20**	-.16**
3. Achievement	0.05	0.7	-.11*	.39**	1	-.07	-.12**	-.07	-.43**	-.32**	-.23**	-.12**
4. Hedonism	0.23	0.76	-.13**	.08	-.07	1	.31**	.03	-.17**	-.04	-.26**	-.33**
5. Stimulation	-0.09	0.86	-.12*	-.08	-.12**	.31**	1	.24**	-.05	.01	-.30**	-.41**
6. Self-direction	0.42	0.58	.02	-.17**	-.07	.03	.24**	1	.18**	.05	-.36**	-.45**
7. Universalism	0.18	0.68	.18**	-.41**	-.43**	-.17**	-.05	.18**	1	.23**	-.22**	-.19**
8. Benevolence	0.48	0.6	-.03	-.44**	-.32**	-.04	.01	.05	.23**	1	-.02	-.05
9. Tradition	-0.53	0.83	.04	-.20**	-.23**	-.26**	-.30**	-.36**	-.22**	-.02	1	.38**
10. Conformity	-0.09	0.74	-.05	-.16**	-.12**	-.33**	-.41**	-.45**	-.19**	-.05	.38**	1
11. Security	0.01	0.58	.13**	.03	.10*	-.18**	-.30**	-.21**	-.27**	-.30**	-.02	.09*
12. Self-enhancement	-0.45	0.73	-.09*	.89**	.76**	.02	-.12**	-.15**	-.50**	-.47**	-.25**	-.17**
13. Self-transcendence	0.33	0.5	.10*	-.54**	-.49**	-.14**	-.02	.15**	.81**	.75**	-.16**	-.15**
14. Openness-to-change	0.19	0.51	-.12**	-.07	-.13**	.68**	.81**	.53**	-.04	.01	-.43**	-.56**
15. Conservation	-0.2	0.48	.05	-.18**	-.15**	-.39**	-.50**	-.52**	-.33**	-.16**	.76**	.77**
16. Prosocial behavior	3.73	0.69	-.12*	-.31**	-.13**	-.10*	.05	.01	.13**	.46**	0	-.01
17. Donation	17.93	18.05	-.10*	.03	-.04	-.07	.05	-.02	.07	.05	-.03	.05
18. Identity Commitment	3.67	0.88	-.19**	-.06	.15**	-.09*	-.11*	-.09*	-.22**	.11*	.15**	.12**
19. Informational	4.13	0.67	-.04	-.28**	.01	-.06	.00	.19**	.11*	.22**	-.16**	-.02
20. Normative	3.17	0.84	-.04	.07	.18**	-.11*	-.18**	-.35**	-.46**	-.12**	.44**	.33**
21. Diffuse-Avoidant	3.13	0.82	.04	-.03	-.06	.15**	.05	-.06	.03	.03	.04	-.04
22. Transformational	2.74	0.49	-.06	.03	.14**	-.05	.12**	.07	-.10*	.15**	-.08	-.18**
23. Transactional	2.6	0.58	-.02	.14**	.23**	-.12**	-.05	-.07	-.17**	-.04	-.04	-.04
24. Laissez-Faire	2.65	0.54	-.03	-.20**	-.11*	.06	.01	-.11*	.03	.04	.17**	.10*

Note: * $p < .05$; ** $p < .01$

Table 4 (Continued) Means, standard deviations, and correlations among variables.

Variable	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Age	.13**	-.09*	.10*	-.12**	.05	-.12*	-.10*	-.19**	-.04	-.04	.04	-.06	-.02
2. Power	.03	.89**	-.54**	-.07	-.18**	-.31**	.03	-.06	-.28**	.07	-.03	.03	.14**
3. Achievement	.10*	.76**	-.49**	-.13**	-.15**	-.13**	-.04	.15**	.01	.18**	-.06	.14**	.23**
4. Hedonism	-.18**	.02	-.14**	.68**	-.39**	-.10*	-.07	-.09*	-.06	-.11*	.15**	-.05	-.12**
5. Stimulation	-.30**	-.12**	-.02	.81**	-.50**	.05	.05	-.11*	0	-.18**	.05	.12**	-.05
6. Self-direction	-.21**	-.15**	.15**	.53**	-.52**	.01	-.02	-.09*	.19**	-.35**	-.06	.07	-.07
7. Universalism	-.27**	-.50**	.81**	-.04	-.33**	.13**	.07	-.22**	.11*	-.46**	.03	-.10*	-.17**
8. Benevolence	-.30**	-.47**	.75**	.01	-.16**	.46**	.05	.11*	.22**	-.12**	.03	.15**	-.04
9. Tradition	-.02	-.25**	-.16**	-.43**	.76**	0	-.03	.15**	-.16**	.44**	.04	-.08	-.04
10. Conformity	.09*	-.17**	-.15**	-.56**	.77**	-.01	.05	.12**	-.02	.33**	-.04	-.18**	-.04
11. Security	1	.07	-.36**	-.34**	.44**	-.07	-.12**	.08	.04	.20**	-.09*	.01	.17**
12. SE	.07	1	-.61**	-.12*	-.20**	-.28**	0	.03	-.20**	.13**	-.05	.08	.22**
13. ST	-.36**	-.61**	1	-.03	-.31**	.36**	.08	-.09	.21**	-.39**	.04	.02	-.14**
14. OP	-.34**	-.12*	-.03	1	-.67**	-.02	-.02	-.14**	.04	-.29**	.08	.07	-.12**
15. CO	.44**	-.20**	-.31**	-.67**	1	-.03	-.04	.18**	-.09	.50**	-.04	-.14**	.03
16. Prosocial	-.07	-.28**	.36**	-.02	-.03	1	.11*	.25**	.39**	.08	-.02	.51**	.30**
17. Donation	-.12**	0	.08	-.02	-.04	.11*	1	.05	-.06	-.10*	-.03	.02	.01
18. Commitment	.08	.03	-.09	-.14**	.18**	.25**	.05	1	.32**	.47**	-.29**	.26**	.15**
19. Informational	.04	-.20**	.21**	.04	-.09	.39**	-.06	.32**	1	.06	-.05	.30**	.17**
20. Normative	.20**	.13**	-.39**	-.29**	.50**	.08	-.10*	.47**	.06	1	-.03	.17**	.21**
21. Diffuse-Avoidant	-.09*	-.05	.04	.08	-.04	-.02	-.03	-.29**	-.05	-.03	1	-.10*	.03
22. Transform	.01	.08	.02	.07	-.14**	.51**	.02	.26**	.30**	.17**	-.10*	1	.57**
23. Transact	.17**	.22**	-.14**	-.12**	.03	.30**	.01	.15**	.17**	.21**	.03	.57**	1
24. Laisse-Faire	-.03	-.19**	.04	-.01	.14**	.25**	-.03	.08	.15**	.16**	.26**	.22**	.23**

Note: * $p < .05$; ** $p < .01$.

Table 5. Means, standard deviations, and differences across sample source.

	Qualtrics N = 238		Undergraduate N = 265		<i>df</i> (within)	<i>F</i>
	Mean	SD	Mean	SD		
Age	20.20	1.27	18.80	0.99	496	190.15**
Prosocial	3.67	0.73	3.79	0.64	497	4.08*
Donation	13.68	15.59	21.69	19.22	498	25.99**
Power	-1.09	0.98	-0.83	1.05	501	8.08*
Achievement	-0.05	0.71	0.14	0.69	501	9.22**
Hedonism	0.17	0.76	0.28	0.74	501	2.70
Stimulation	-0.12	0.89	-0.06	0.84	501	0.49
Self-direction	0.51	0.61	0.35	0.54	501	9.09**
Universalism	0.38	0.67	0.01	0.64	501	41.74**
Benevolence	0.48	0.66	0.49	0.54	501	0.01
Tradition	-0.56	0.89	-0.53	0.77	501	0.15
Conformity	-0.26	0.81	0.04	0.65	501	20.35**
Security	0.06	0.59	-0.02	0.57	501	2.40
SE	-0.57	0.70	-0.34	0.74	501	12.19**
ST	0.43	0.53	0.25	0.46	501	17.80**
OP	0.19	0.53	0.19	0.48	501	0.01
CO	-0.25	0.53	-0.17	0.44	501	3.49
Commitment	3.47	0.87	3.84	0.85	501	23.19**
Informational	4.11	0.68	4.15	0.67	501	0.56
Normative	3.05	0.83	3.26	0.84	501	7.33*
Diffuse-Avoidant	3.18	0.81	3.07	0.82	501	2.46
Transform	2.69	0.53	2.76	0.46	496	2.44
Transact	2.57	0.58	2.62	0.59	496	0.90
Laisse-Faire	2.63	0.55	2.66	0.52	496	0.39

Note: * $p < .05$; ** $p < .01$.

Table 6. Means, standard deviations, and differences across gender.

	Female <i>N</i> = 423		Male <i>N</i> = 80		<i>df</i> (within)	<i>F</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Age	19.49	1.33	19.35	1.31	496	0.76
Prosocial	3.76	0.70	3.61	0.60	497	3.09
Donation	17.37	17.78	20.68	19.17	501	2.27
Power	-1.02	1.02	-0.57	0.95	501	13.22**
Achievement	0.03	0.71	0.16	0.63	501	2.15
Hedonism	0.24	0.77	0.18	0.66	501	0.44
Stimulation	-0.09	0.87	-0.11	0.85	501	0.06
Self-direction	0.45	0.57	0.29	0.61	501	4.81*
Universalism	0.20	0.69	0.11	0.64	501	1.11
Benevolence	0.51	0.60	0.35	0.58	501	5.18*
Tradition	-0.55	0.85	-0.47	0.76	501	0.70
Conformity	-0.10	0.75	-0.09	0.72	501	0.02
Security	0.02	0.58	-0.02	0.60	501	0.27
SE	-0.50	0.72	-0.21	0.69	501	10.74**
ST	0.35	0.50	0.23	0.48	501	4.25*
OP	0.20	0.50	0.12	0.55	501	1.70
CO	-0.21	0.49	-0.19	0.48	501	0.11
Commitment	3.68	0.89	3.58	0.81	501	0.86
Informational	4.15	0.67	4.05	0.66	501	1.31
Normative	3.15	0.84	3.20	0.82	501	0.25
Diffuse-Avoidant	3.13	0.84	3.11	0.69	501	0.05
Transform	2.73	0.50	2.74	0.45	496	0.01
Transact	2.59	0.59	2.66	0.55	496	1.07
Laisse-Faire	2.65	0.55	2.65	0.50	496	0.00

Note: * $p < .05$; ** $p < .01$.

Table 7. Means, standard deviations, and differences across ethnicity.

	Minority <i>N</i> = 111		European American <i>N</i> = 392		<i>df</i> (within)	<i>F</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Age	19.64	1.31	19.42	1.33	496	2.29
Prosocial	3.56	0.78	3.78	0.65	497	8.84**
Donation	13.31	13.97	19.20	18.83	501	9.40**
Power	-0.92	0.98	-0.96	1.04	501	0.79
Achievement	0.01	0.74	0.06	0.69	501	0.13
Hedonism	0.30	0.73	0.21	0.76	501	0.50
Stimulation	-0.09	0.76	-0.09	0.89	501	1.16
Self-direction	0.47	0.59	0.41	0.58	501	0.00
Universalism	0.32	0.71	0.14	0.66	501	0.73
Benevolence	0.28	0.68	0.54	0.56	501	6.01*
Tradition	-0.53	0.77	-0.54	0.85	501	17.08
Conformity	-0.24	0.74	-0.06	0.74	501	0.02
Security	0.05	0.49	0.00	0.61	501	5.29*
SE	-0.45	0.70	-0.45	0.73	501	0.01
ST	0.30	0.58	0.34	0.48	501	0.59
OP	0.22	0.48	0.18	0.51	501	0.72
CO	-0.24	0.46	-0.20	0.49	501	0.59
Commitment	3.70	0.82	3.65	0.89	501	0.28
Informational	4.08	0.75	4.15	0.65	501	0.97
Normative	3.17	0.90	3.16	0.82	501	0.04
Diffuse-Avoidant	3.14	0.75	3.12	0.83	501	0.06
Transformational	2.66	0.52	2.75	0.48	496	2.26
Transactional	2.46	0.55	2.64	0.58	496	8.17**
Laissez-Faire	2.59	0.48	2.67	0.55	496	1.60

Note: * $p < .05$; ** $p < .01$.

Table 8. *Information criteria for latent profile analyses*

Four Higher-Order Values					
Classes	AIC	BIC	saBIC	Entropy	VLMR-LRT
2	3072.07	3143.65	3089.69	0.71	25.55**
3	2942.88	3052.36	2969.83	0.65	147.19
4	2831.28	2978.65	2867.56	0.73	79.22*
5	2780.70	2965.97	2826.31	0.79	68.57
6	2739.23	2962.39	2794.17	0.77	61.83
Ten Basic-values					
Classes	AIC	BIC	saBIC	Entropy	VLMR-LRT
2	10590.96	10763.60	10633.46	0.77	402.52
3	10355.99	10617.05	10420.26	0.74	276.97
4	10197.07	10546.53	10283.11	0.76	200.93
5	10135.80	10573.70	10243.60	0.78	103.28
6	10066.44	10592.77	10196.01	0.80	111.35

Note: * $p < .05$; ** $p < .01$

Table 9. Means and standard deviations of the four higher-order values profiles.

	Self-focused-4 <i>N</i> = 91		Other-focused-4 <i>N</i> = 89		Anxiety-free-4 <i>N</i> = 110		Undifferentiated-4 <i>N</i> = 208	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
SE	0.29 ^a	0.49	-0.69 ^b	0.77	-1.18 ^c	0.57	-0.29 ^d	0.41
ST	0.10 ^a	0.39	0.24 ^a	0.51	0.98 ^b	0.33	0.14 ^a	0.30
OP	0.56 ^a	0.41	-0.38 ^b	0.47	0.47 ^a	0.48	0.12 ^c	0.28
CO	-0.71 ^a	0.27	0.44 ^b	0.28	-0.56 ^c	0.42 ^d	-0.08	0.20
Power	-0.08 ^a	0.71	-1.33 ^b	1.18	-1.79 ^c	0.79	-0.74 ^d	0.75
Achievement	0.66 ^a	0.53	-0.06 ^b	0.73	-0.56 ^c	0.69	0.15 ^d	0.47
Hedonism	0.62 ^a	0.70	-0.31 ^b	0.81	0.41 ^a	0.82	0.19 ^c	0.55
Stimulation	0.42 ^a	0.75	-0.93 ^b	0.88	0.25 ^a	0.82	-0.13 ^c	0.63
Self-direction	0.65 ^a	0.50	0.09 ^b	0.61	0.77 ^a	0.58	0.29 ^c	0.46
Universalism	-0.11 ^a	0.67	0.00 ^a	0.73	0.92 ^b	0.50	0.01 ^a	0.43
Benevolence	0.31 ^a	0.52	0.48 ^{ab}	0.65	1.04 ^c	0.45	0.28 ^{ad}	0.48
Tradition	-1.37 ^a	0.66	0.26 ^b	0.64	-0.87 ^c	0.73	-0.35 ^d	0.58
Conformity	-0.65 ^a	0.65	0.67 ^b	0.45	-0.49 ^a	0.85	0.02 ^c	0.44
Security	-0.12 ^a	0.52	0.38 ^b	0.50	-0.31 ^c	0.68	0.08 ^d	0.47

Note: Means with different superscripts differ at $p < .05$.

Table 10. Means and standard deviations of the ten basic-values profiles.

	Self-focused-10 <i>N</i> = 98		Other-focused-10 <i>N</i> = 82		Anxiety-free-10 <i>N</i> = 99		Undifferentiated-10 <i>N</i> = 219	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
SE	0.28 ^a	0.50	-0.75 ^b	0.67	-1.28 ^c	0.51	-0.30 ^d	0.45
ST	0.16 ^a	0.45	0.30 ^{ab}	0.48	0.99 ^c	0.33	0.13 ^a	0.31
OP	0.43 ^a	0.52	-0.39 ^b	0.46	0.48 ^a	0.48	0.17 ^c	0.30
CO	-0.67 ^a	0.34	0.44 ^b	0.29	-0.53 ^c	0.44	-0.10 ^d	0.24
Power	-0.15 ^a	0.77	-1.43 ^b	1.02	-1.91 ^c	0.72	-0.70 ^d	0.81
Achievement	0.71 ^a	0.53	-0.06 ^b	0.69	-0.64 ^c	0.66	0.11 ^b	0.46
Hedonism	0.51 ^a	0.82	-0.20 ^b	0.85	0.36 ^{ac}	0.80	0.19 ^c	0.57
Stimulation	0.12 ^{ab}	0.95	-1.08 ^c	0.76	0.27 ^a	0.82	0.02 ^b	0.58
Self-direction	0.64 ^a	0.49	0.09 ^b	0.61	0.81 ^a	0.56	0.28 ^c	0.48
Universalism	-0.04 ^a	0.74	-0.02 ^{ab}	0.73	0.98 ^c	0.47	0.01 ^b	0.39
Benevolence	0.36 ^a	0.53	0.63 ^b	0.59	1.01 ^c	0.45	0.26 ^a	0.52
Tradition	-1.47 ^a	0.62	0.25 ^b	0.62	-0.82 ^c	0.72	-0.30 ^d	0.56
Conformity	-0.58 ^a	0.68	0.74 ^b	0.42	-0.46 ^a	0.89	-0.03 ^c	0.45
Security	0.04 ^a	0.59	0.34 ^b	0.49	-0.32 ^c	0.73	0.03 ^a	0.44

Note: Means with different superscripts differ at $p < .05$.

Table 11. Cross-tabulation of basic and higher-order value profile membership

	Self-focused-4	Other-focused-4	Anxiety-free-4	Undifferentiated-4	Total
Self-focused-10	75	3	7	13	98
Other-focused-10	0	71	3	8	82
Anxiety-free-10	1	3	93	2	99
Undifferentiated-10	15	12	7	185	219
Total	91	89	110	208	498

Table 12. Means, standard deviations, and differences between value profiles on outcome variables.

	Self-focused-4		Other-focused-4		Anxiety-free-4		Undifferentiated-4		Wald $\chi^2(3)$
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Prosocial	3.69 ^a	0.62	3.76 ^a	0.80	3.99 ^b	0.68	3.63 ^a	0.63	24.68 ^{**}
Donation	19.22	17.47	17.42	19.30	17.90	17.60	17.47	17.84	1.33
Commitment	3.61 ^a	0.96	3.99 ^b	0.89	3.52 ^a	0.89	3.64 ^a	0.81	19.93 ^{**}
Informational	4.17 ^a	0.56	4.21 ^a	0.61	4.38 ^b	0.59	3.96 ^c	0.73	32.84 ^{**}
Normative	2.94 ^a	0.70	3.69 ^b	0.75	2.58 ^c	0.78	3.35 ^d	0.75	132.24 ^{**}
Diffuse-Avoidant	3.21	0.77	3.08	0.77	3.15	0.90	3.09	0.82	1.78
Transformational	2.83	0.47	2.65	0.51	2.76	0.51	2.72	0.49	7.21
Transactional	2.71 ^a	0.57	2.64 ^{ab}	0.63	2.45 ^b	0.60	2.62 ^a	0.54	9.17 [*]
Laissez-faire	2.50	0.62	2.69	0.46	2.64	0.58	2.69	0.50	6.83

Note: * $p < .05$; ** $p < .01$. Means with different superscripts differ at $p < .05$.

Table 13. *Four value profile logistic regression predicting donations to neutral organization relative to left-leaning.*

	B	OR
Age	-0.16	0.85
Male	-0.21	0.81
White	-0.66*	0.52
Qualtrics	1.07**	2.92
Relative to Undifferentiated		
Self-focused-4	-0.76*	0.47
Other-focused-4	0.61	1.84
Anxiety-free-4	-1.20**	0.30
Undifferentiated-4	-	-
Relative to Anxiety-Free		
Self-focused-4	0.45	1.56
Other-focused-4	1.81**	6.12
Anxiety-free-4	-	-
Undifferentiated-4	1.20**	3.33
Relative to Other-Focused		
Self-focused-4	-1.37**	0.26
Other-focused-4	-	-
Anxiety-free-4	-1.81**	0.16
Undifferentiated-4	-0.61	0.54
Relative to Self-Focused		
Self-focused-4	-	-
Other-focused-4	1.37**	3.92
Anxiety-free-4	-0.45	0.33
Undifferentiated-4	0.76*	2.14

Note: * $p < .05$, ** $p < .01$

Table 14. *Unstandardized and standardized regression coefficients associated with outcome variables*

	B	β	ΔR^2	B	β	ΔR^2	B	β	ΔR^2	B	β	ΔR^2
Variable	Prosocial Behavior			Donation			Identity Commitment			Informational Identity		
Step 1			.04**			.06**			.06**			0.01
Male	-0.18*	-0.10		1.40	0.03		-0.16	-0.07		-0.10	-0.05	
Qualtrics	-0.06	-0.04		-7.41**	-0.21		-0.32**	-0.18		-0.04	-0.03	
European American	0.20**	0.12		4.35*	0.10		-0.12	-0.06		0.06	0.04	
Age	-0.04	-0.08		0.11	0.01		-0.07*	-0.11		-0.01	-0.02	
Step 2			.15**			.01			.04**			.09**
SE	0.17	0.18		0.77	0.03		0.12	0.10		-0.79**	-0.86	
ST	0.83**	0.60		4.73	0.13		0.14	0.08		-0.81**	-0.61	
OP	0.35	0.26		-0.19	-0.01		-0.01	-0.01		-0.92**	-0.69	
CO	0.52	0.37		-0.35	-0.01		0.39	0.22		-1.29**	-0.93	
Step 3			.01			.03*			0.01			.04**
SE x ST	0.00	0.00		4.46*	0.10		-0.21*	-0.10		-0.24**	-0.15	
SE x OP	-0.11	-0.06		-2.43	-0.05		-0.14	-0.06		-0.21	-0.13	
SE x CO	-0.10	-0.06		2.52	0.06		-0.28*	-0.13		-0.28**	-0.17	
ST x CO	0.19	0.08		11.00**	0.18		-0.24	-0.08		-0.23	-0.10	
ST x OP	0.06	0.03		6.51	0.11		-0.19	-0.06		-0.47**	-0.20	
OP x CO	-0.01	-0.01		-3.59	-0.07		-0.04	-0.01		-0.11	-0.05	
Step 4			.01			.00			0.01			0.00
SE x ST x OP	-0.18	-0.08		3.81	0.06		-0.28	0.21		-0.02	-0.01	
SE x ST x CO	-0.23	-0.09		1.53	0.02		0.05	0.25		0.03	0.01	
SE x OP x CO	-0.23	-0.09		-4.18	-0.06		-0.24	0.25		0.11	0.04	
ST x OP x CO	-0.25	-0.12		0.06	0.00		-0.25	0.18		-0.05	-0.03	
Step 5			.00			-			.01*			0.00
SE x ST x OP x CO	0.19	0.07		2.32	0.03		0.55*	0.16		0.25	0.10	
Total R ²			.21			.10			.13			.14

Note: * $p < .05$; ** $p < .01$. SE = self-enhancement; ST = self-transcendence; OP = openness-to-change; CO = conservation.

Table 14 (continued). *Unstandardized and standardized regression coefficients associated with outcome variables*

	B	β	ΔR^2	B	β	ΔR^2	B	β	ΔR^2
Variable	Normative Identity			Diffuse-Avoidant Identity			Transformational Leadership		
Step 1			.02*			.01			.01
Male	0.03	0.01		-0.01	0.00		0.01	0.01	
Qualtrics	-0.26**	-0.15		0.09	0.06		-0.04	-0.04	
European American	-0.06	-0.03		0.00	0.00		0.08	0.07	
Age	0.03	0.04		0.01	0.02		-0.01	-0.03	
Step 2			.31**			.02			.02*
SE	0.81**	0.70		0.42*	0.38		0.12	0.18	
ST	0.73**	0.44		0.68*	0.42		0.15	0.16	
OP	0.97**	0.59		0.76**	0.47		0.11	0.11	
CO	2.02**	1.17		0.84**	0.50		0.02	0.02	
Step 3			.00			.02			.01
SE x ST	0.00	0.00		0.14	0.07		-0.10	-0.08	
SE x OP	0.13	0.06		0.34*	0.17		-0.11	-0.09	
SE x CO	0.14	0.07		0.11	0.05		-0.13	-0.10	
ST x CO	0.06	0.02		-0.05	-0.02		-0.09	-0.05	
ST x OP	0.02	0.01		0.14	0.05		-0.10	-0.06	
OP x CO	0.07	0.03		0.00	0.00		0.02	0.01	
Step 4			.02**			.01			.01
SE x ST x OP	-0.36*	-0.13		0.29	0.11		-0.19	-0.12	
SE x ST x CO	-0.02	-0.01		0.20	0.07		-0.12	-0.06	
SE x OP x CO	-0.22	-0.07		0.23	0.07		-0.18	-0.09	
ST x OP x CO	-0.37**	-0.15		0.13	0.05		-0.16	-0.11	
Step 5			.00			.009*			.009*
SE x ST x OP x CO	0.31	0.10		-0.48*	-0.15		0.30*	0.15	
Total R ²			.35			.07			.06

Note: * $p < .05$; ** $p < .01$. SE = self-enhancement; ST = self-transcendence; OP = openness-to-change; CO = conservation.

Table 14 (continued). *Unstandardized and standardized regression coefficients associated with outcome variables*

		B	β	ΔR^2	B	β	ΔR^2
Variable		Transactional Leadership			Laissez-Faire Leadership		
Step 1				.02*			0.00
	Male	0.08	0.05		0.02	0.01	
	Qualtrics	-0.01	-0.01		-0.01	-0.01	
	European American	0.18**	0.13		0.07	0.05	
	Age	0.00	0.00		-0.01	-0.02	
Step 2				.05**			.05**
	SE	0.02	0.02		-0.09	-0.13	
	ST	-0.23	-0.20		0.04	0.04	
	OP	-0.29	-0.25		0.12	0.11	
	CO	-0.25	-0.21		0.22	0.20	
Step 3				0.01			.03*
	SE x ST	-0.10	-0.07		0.12	0.09	
	SE x OP	-0.15	-0.11		0.10	0.07	
	SE x CO	-0.08	-0.06		0.14	0.10	
	ST x CO	-0.04	-0.02		0.38**	0.20	
	ST x OP	-0.13	-0.06		0.36**	0.20	
	OP x CO	-0.05	-0.03		0.08	0.05	
Step 4				0.01			0.01
	SE x ST x OP	-0.04	-0.02		-0.12	-0.07	
	SE x ST x CO	0.12	0.06		-0.16	-0.08	
	SE x OP x CO	0.09	0.04		-0.25	-0.12	
	ST x OP x CO	-0.16	-0.09		-0.15	-0.09	
Step 5				.01*			0.00
	SE x ST x OP x CO	0.38*	0.17		0.15	0.07	
Total R ²				.10			.09

Note: * $p < .05$; ** $p < .01$. SE = self-enhancement; ST = self-transcendence; OP = openness-to-change; CO = conservation.

Table 15. *Logistic regression predicting donations to neutral-organization relative to left-leaning organization.*

	B	OR
Age	0.18	1.20
Male	-0.28	0.76
European American	-0.68*	0.51
Qualtrics	0.84**	2.32
SE	1.42*	4.15
ST	1.31	3.70
OP	1.74	5.72
CO	3.60**	36.64
SE x ST	0.05	1.05
SE x OP	-0.04	0.96
SE x CO	-0.81	0.45
ST x OP	0.90	2.45
ST x CO	0.58	1.78
OP x CO	-0.83	0.44
SE x ST x OP	-0.89	0.41
SE x ST x CO	-0.83	0.44
SE x OP x CO	-2.01*	0.14
ST x OP x CO	-2.91**	0.06
SE x ST x OP x CO	-0.19	0.83

Note: * $p < .05$, ** $p < .001$.

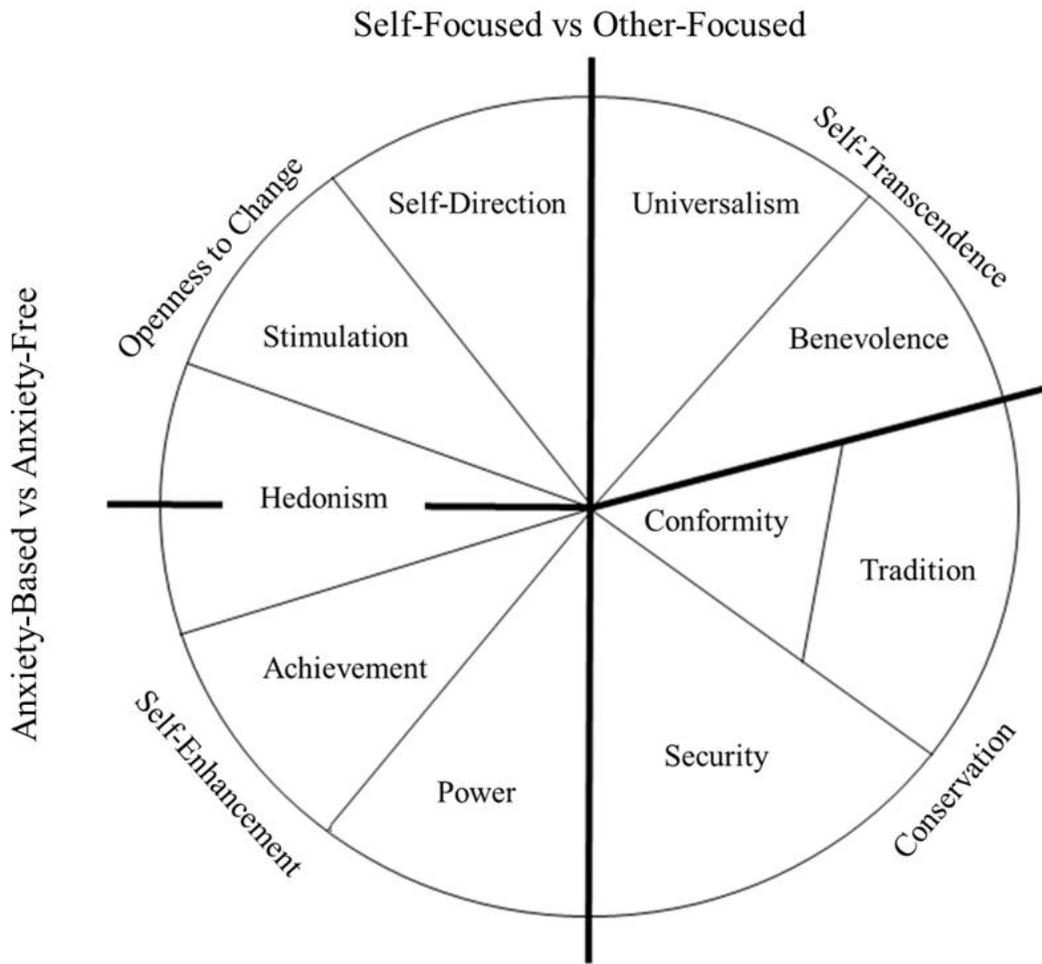


Figure 1. Schwartz' (1992; 2006) Theory of Values

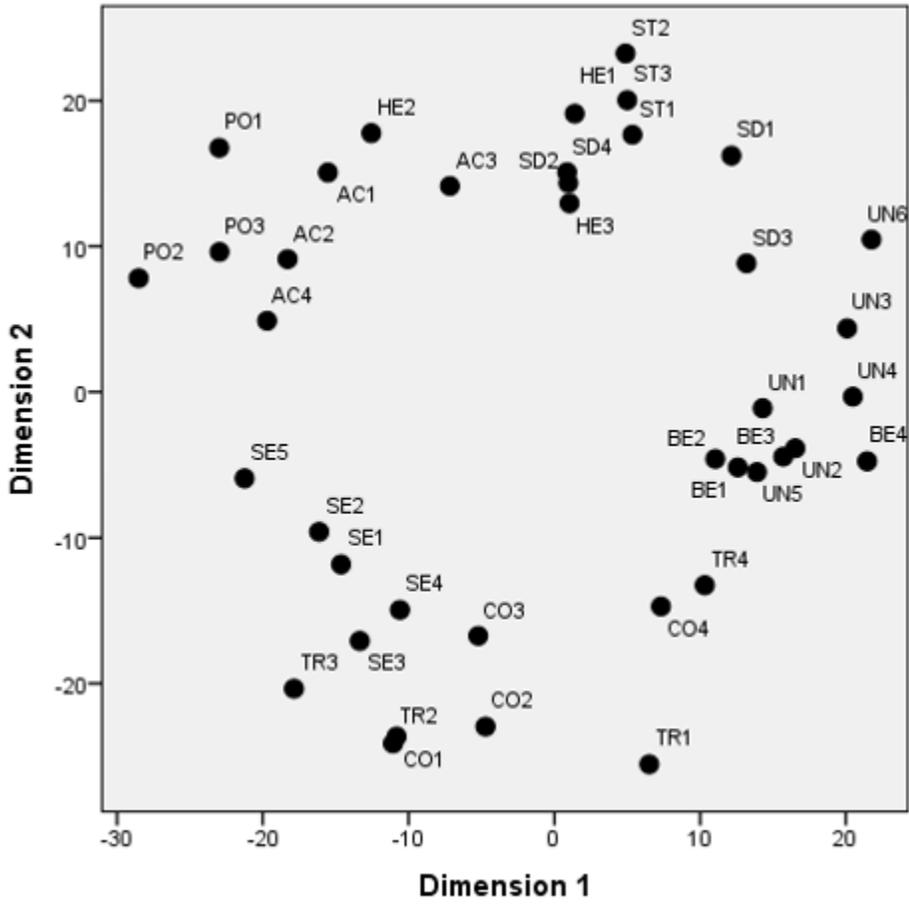


Figure 2. *Multidimensional scale depicting relation amongst value items.*

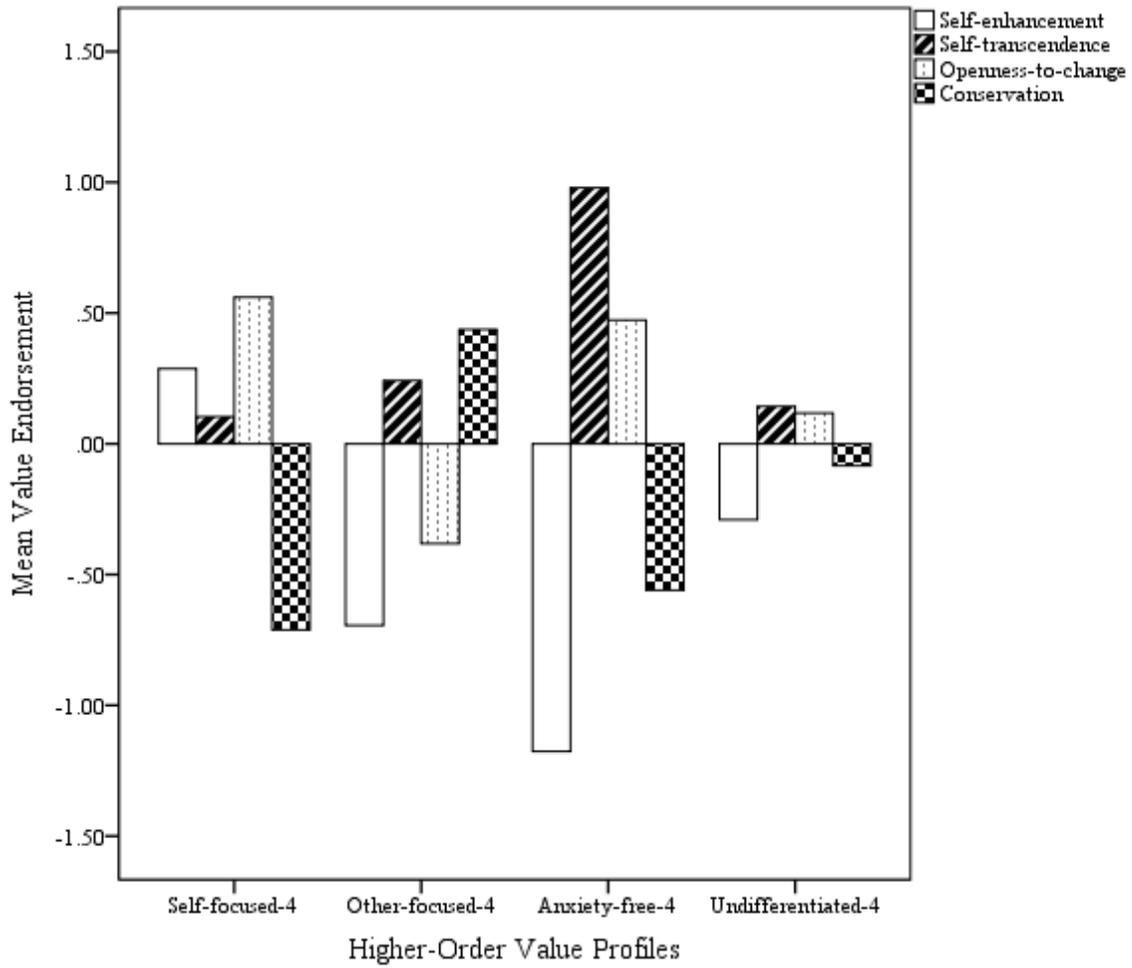


Figure 3. Higher-order value profiles by four higher-order values.

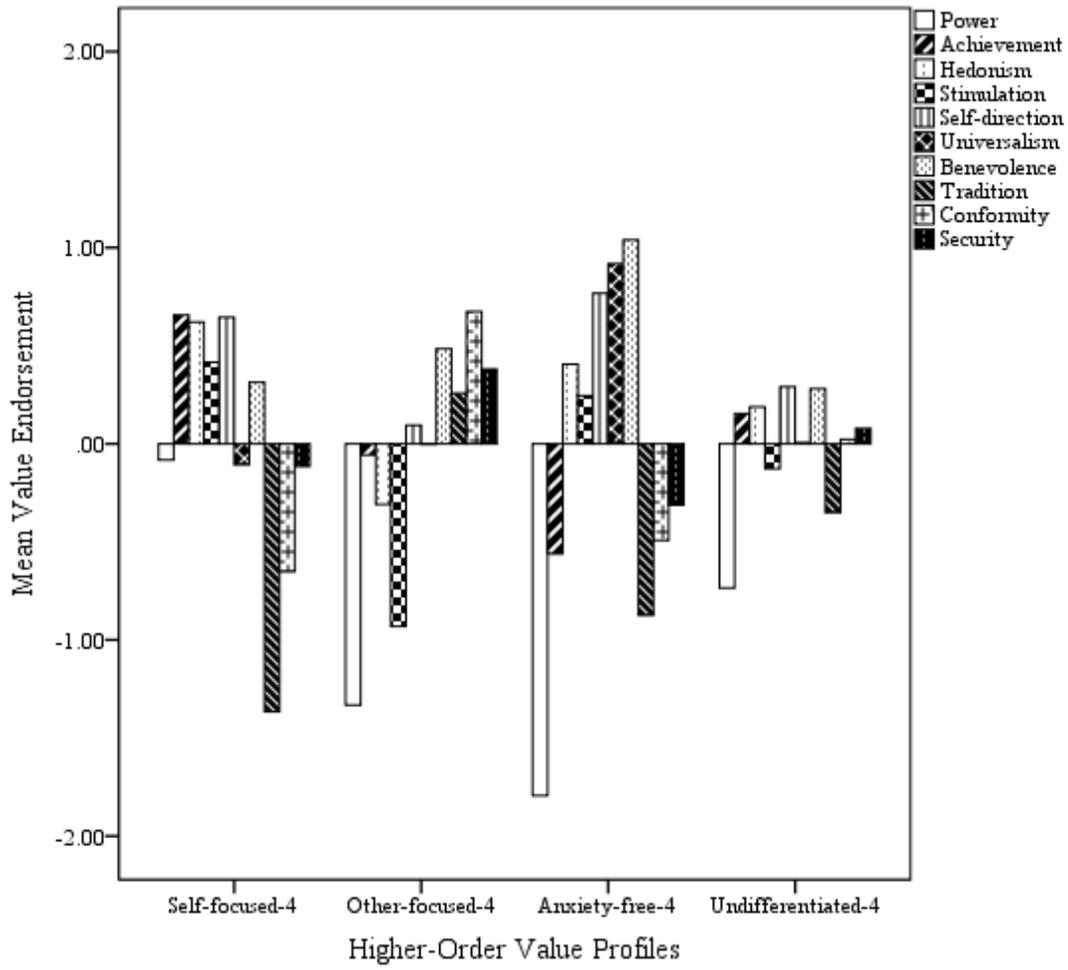


Figure 4. Higher-order value profiles by ten basic-values.

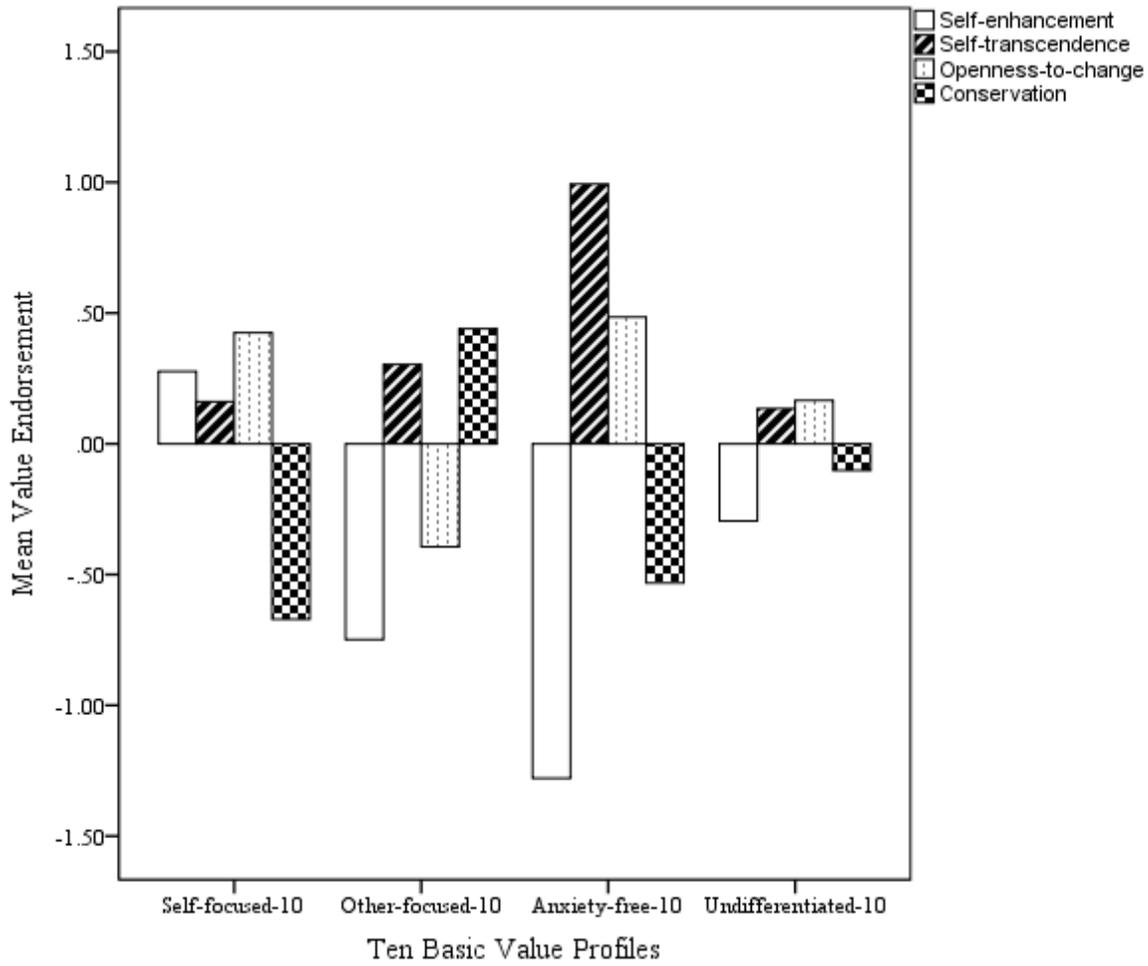


Figure 5. Basic-value profiles by four higher-order values.

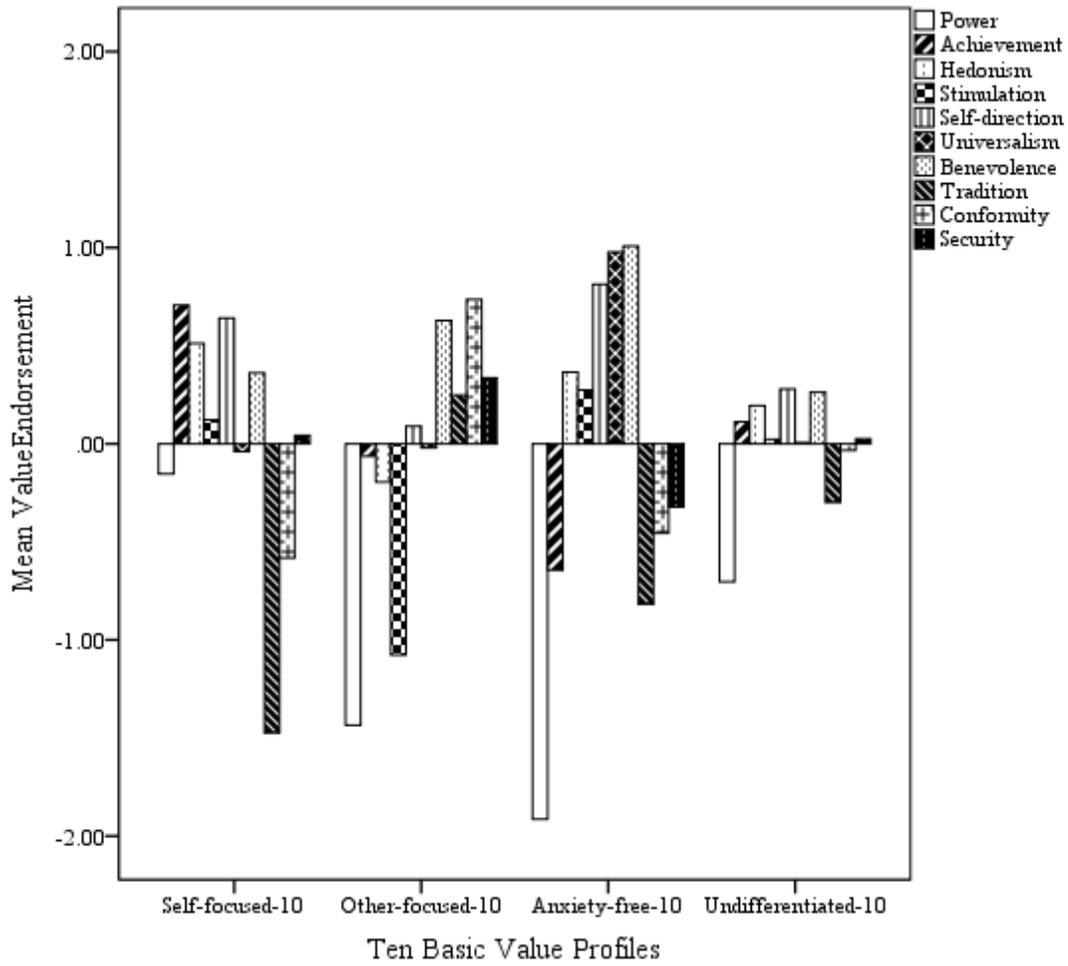


Figure 6. Basic-value profile by ten basic-values.

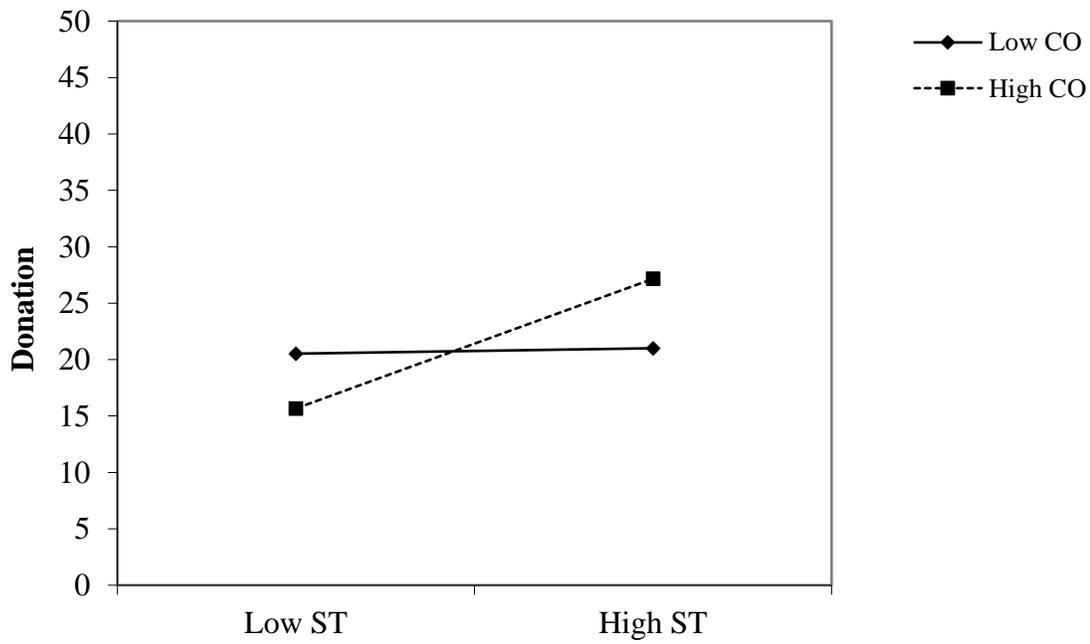
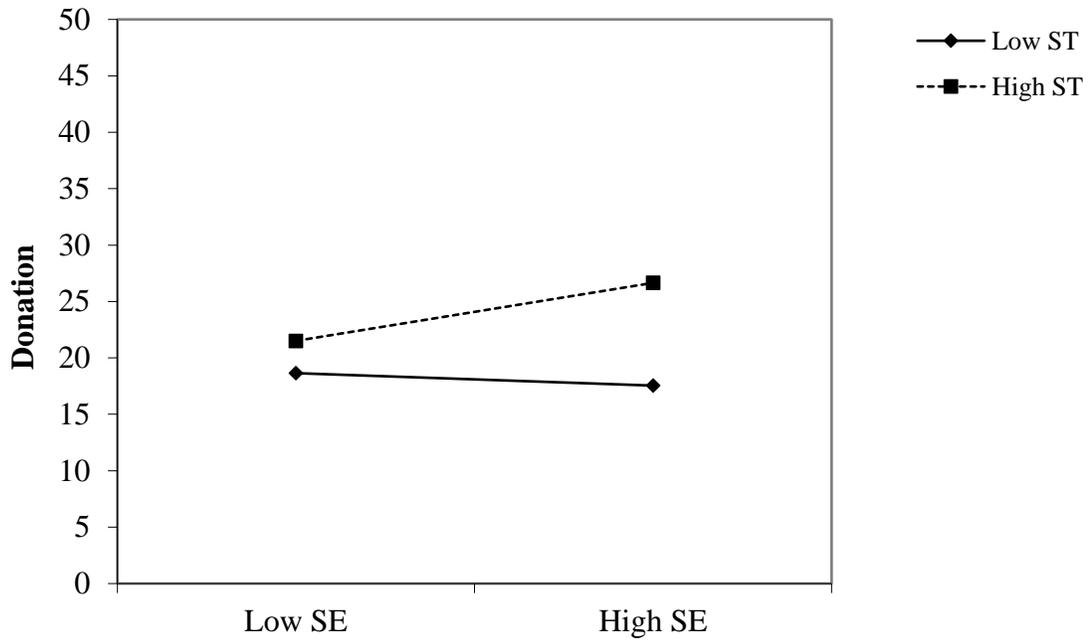


Figure 7. Two-way interactions predicting amount donated.

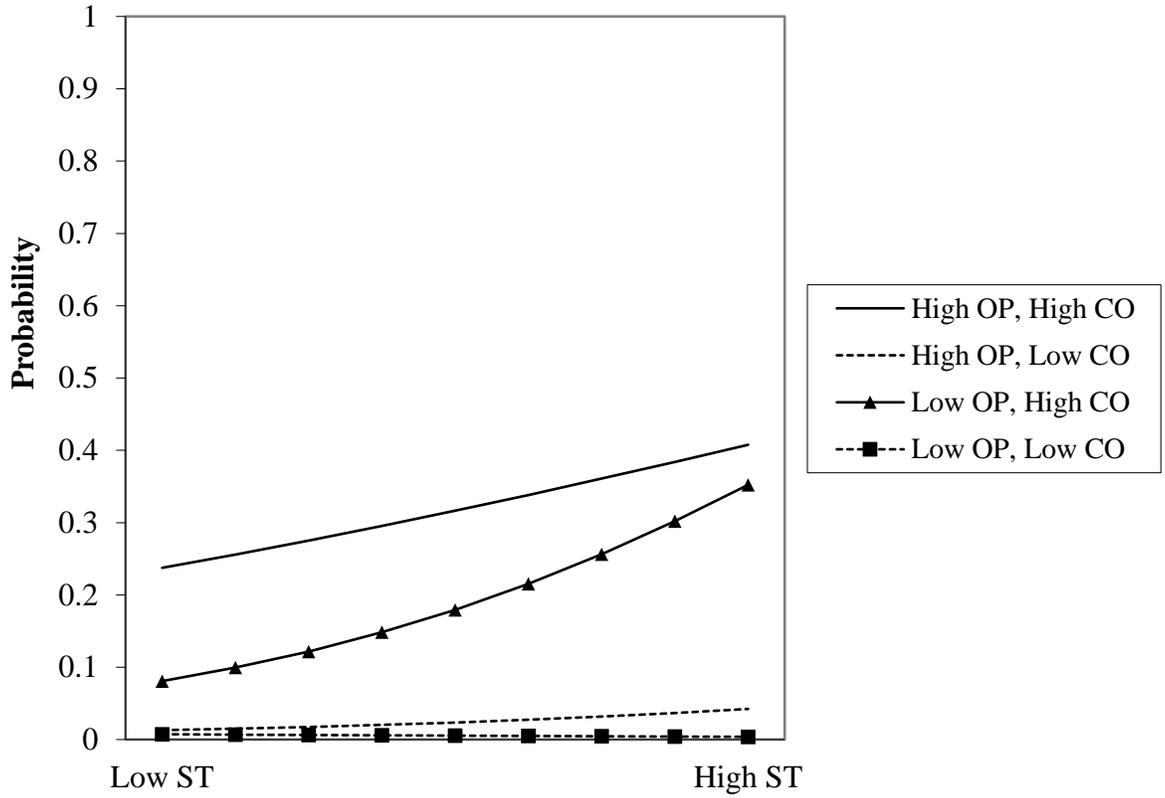


Figure 8. *ST X OP X CO* interaction depicting probability of donating to neutral organization relative to a left-leaning organization.

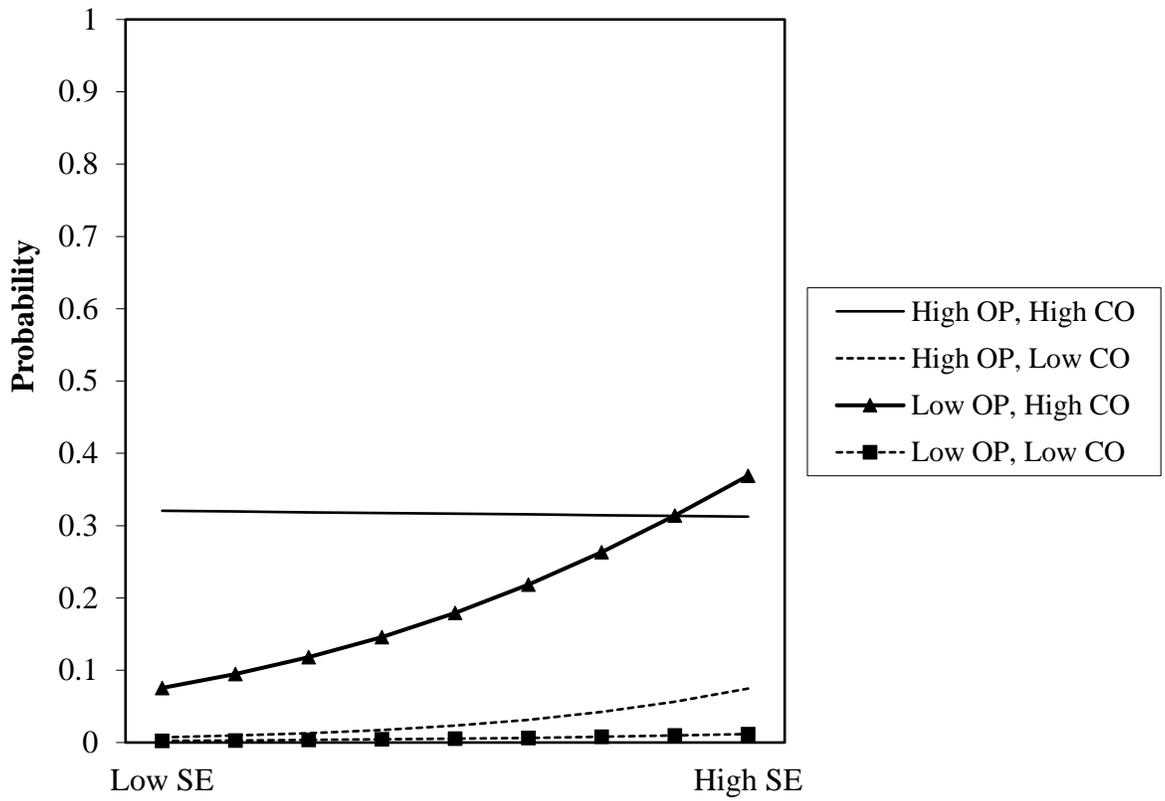


Figure 9. *SE X OP X CO interaction depicting probability of donating to neutral organization relative to a left-leaning organization.*

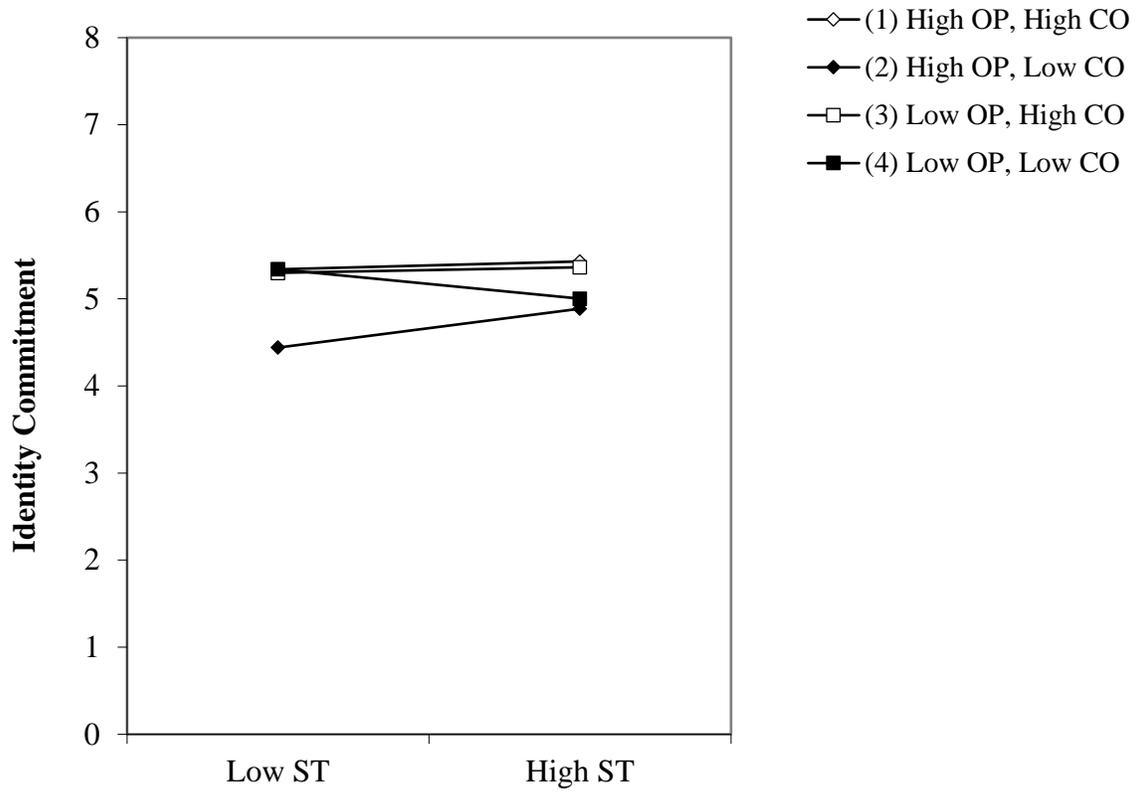


Figure 10. Moderating effect of openness-to-change and conservation values on the relation between self-transcendence values and identity commitment at low levels of self-enhancement values.

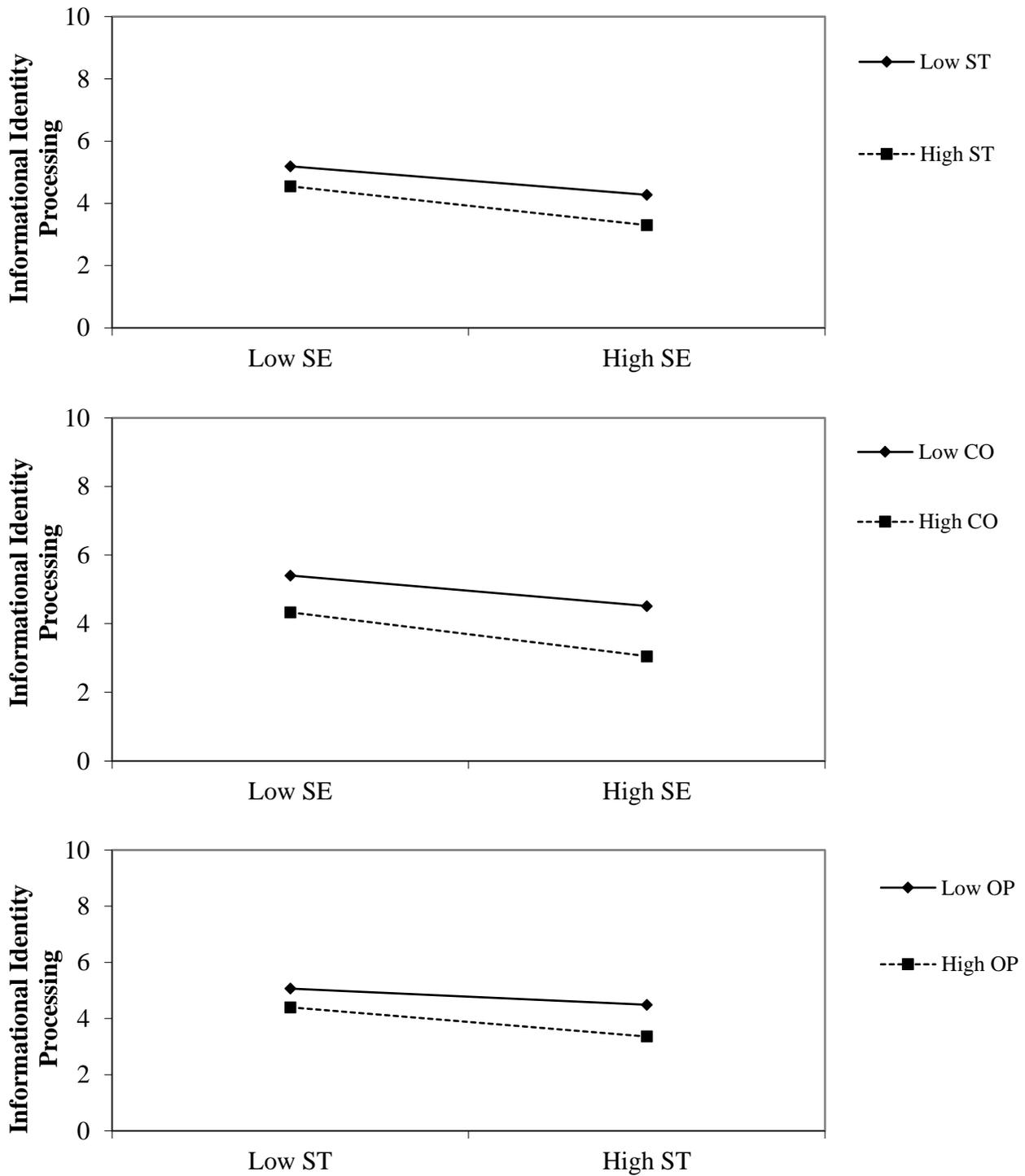


Figure 11. *Two-way interactions predicting Informational Identity Processing*

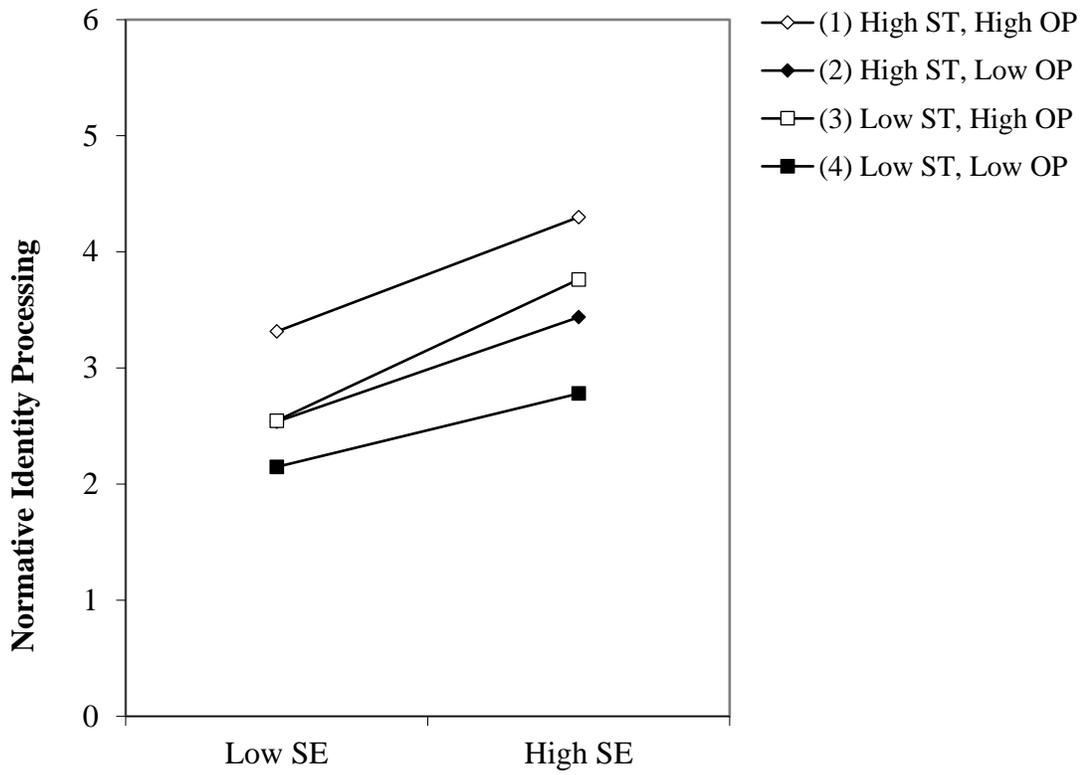


Figure 12. *Three-way self-enhancement X openness-to-change X self-transcendence values interaction predicting Normative Identity Processing.*

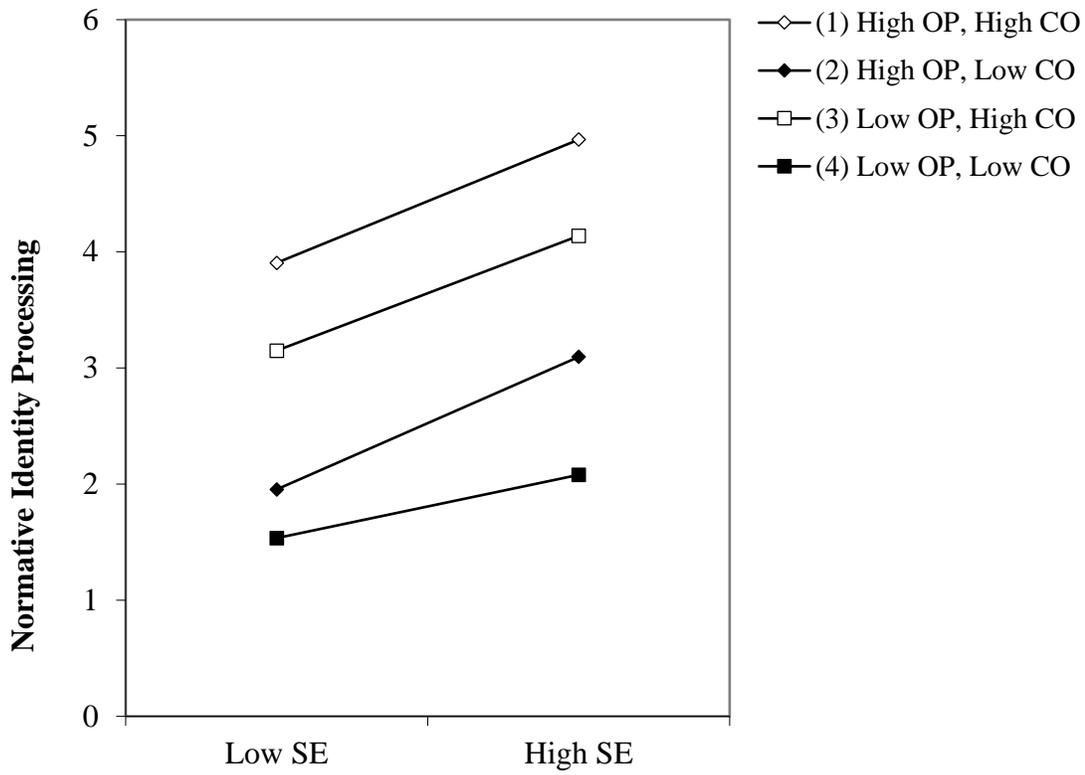


Figure 13. *Three-way self-enhancement X openness-to-change X conservation values interaction predicting Normative Identity Processing.*

APPENDIX B

Portrait Values Questionnaire (Male Version; Schwartz et al., 2001)

Directions: Here we briefly describe some people. Please read each description and think about how much each person is or is not like you. On a scale from 1 (not like me at all) to 6 (very much like me), select the bubble that shows how much the person in the description is like you.

1. Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.
2. It is important to him to be rich. He wants to have a lot of money and expensive things.
3. He thinks it is important that every person in the world be treated equally. He believes everyone should have equal opportunities in life.
4. It's very important to him to show his abilities. He wants people to admire what he does.
5. It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.
6. He thinks it is important to do lots of different things in life. He always looks for new things to try.
7. He believes that people should do what they're told. He thinks people should follow rules at all times, even when no-one is watching.
8. It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them.
9. He thinks it's important not to ask for more than what you have. He believes that people should be satisfied with what they have.
10. He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.
11. It is important to him to make his own decisions about what he does. He likes to be free to plan and to choose his activities for himself.
12. It's very important to him to help the people around him. He wants to care for their well-being.
13. Being very successful is important to him. He likes to impress other people.
14. It is very important to him that his country be safe. He thinks the state must be on watch against threats from within and without.
15. He likes to take risks. He is always looking for adventures.
16. It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong.
17. It is important to him to be in charge and tell others what to do. He wants people to do what he says.
18. It is important to him to be loyal to his friends. He wants to devote himself to people close to him.

19. He strongly believes that people should care for nature. Looking after the environment is important to him.
20. Religious belief is important to him. He tries hard to do what his religion requires.
21. It is important to him that things be organized and clean. He really does not like things to be a mess.
22. He thinks it's important to be interested in things. He likes to be curious and to try to understand all sorts of things.
23. He believes all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to him.
24. He thinks it is important to be ambitious. He wants to show how capable he is.
25. He thinks it is best to do things in traditional ways. It is important to him to keep up the customs he has learned.
26. Enjoying life's pleasures is important to him. He likes to 'spoil' himself.
27. It is important to him to respond to the needs of others. He tries to support those he knows.
28. He believes he should always show respect to his parents and to older people. It is important to him to be obedient.
29. He wants everyone to be treated justly, even people he doesn't know. It is important to him to protect the weak in society.
30. He likes surprises. It is important to him to have an exciting life.
31. He tries hard to avoid getting sick. Staying healthy is very important to him.
32. Getting ahead in life is important to him. He strives to do better than others.
33. Forgiving people who have hurt him is important to him. He tries to see what is good in them and not to hold a grudge.
34. It is important to him to be independent. He likes to rely on himself.
35. Having a stable government is important to him. He is concerned that the social order be protected.
36. It is important to him to be polite to other people all the time. He tries never to disturb or irritate others.
37. He really wants to enjoy life. Having a good time is very important to him.
38. It is important to him to be humble and modest. He tries not to draw attention to himself.
39. He always wants to be the one who makes the decisions. He likes to be the leader.
40. It is important to him to adapt to nature and to fit into it. He believes that people should not change nature.

APPENDIX C

Identity Style Inventory (Berzonsky, 1992)

Directions: You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues. Read each carefully, then use it to describe yourself. Select the bubble which indicates the extent to which you think the statement represents you. There are no right or wrong answers. For instance, if the statement is very much like you, select 5, if it is not like you at all, select 1. Use the 1 to 5-point scale to indicate the degree to which you think each statement is uncharacteristic (1) or characteristic (5) of yourself.

1. Regarding religious beliefs, I know basically what I believe and don't believe.
2. I've spent a great deal of time thinking seriously about what I should do with my life.
3. I'm not really sure what I'm doing in school; I guess things will work themselves out.
4. I've more-or-less always operated according to the values with which I was brought up.
5. I've spent a good deal of time reading and talking to others about religious ideas.
6. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.
7. I know what I want to do with my future.
8. It doesn't pay to worry about values in advance; I decide things as they happen.
9. I'm not really sure what I believe about religion.
10. I've always had purpose in my life; I was brought up to know what to strive for.
11. I'm not sure which values I really hold.
12. I have some consistent political views; I have a definite stand on where the government and country should be headed.
13. Many times by not concerning myself with personal problems, they work themselves out.
14. I'm not sure what I want to do in the future.
15. I'm really into my major; it's the academic area that is right for me.
16. I've spent a lot of time reading and trying to make some sense out of political issues
17. I'm not really thinking about my future now; it's still a long way off.
18. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.
19. Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.
20. I'm not sure what I should major in (or change to).
21. I've known since high school that I was going to college and what I was going to major in.
22. I have a definite set of values that I use in order to make personal decisions.
23. I think it's better to have a firm set of beliefs than to be open-minded.
24. When I have to make a decision, I try to wait as long as possible in order to see what will happen.
25. When I have a personal problem, I try to analyze the situation in order to understand it.
26. I find it's best to seek out advice from professionals (e.g., clergy, doctors, lawyers) when I have

problems.

27. It's best for me not to take life too seriously; I just try to enjoy it.
28. I think it's better to have fixed values, than to consider alternative value systems.
29. I try not to think about or deal with problems as long as I can.
30. I find that personal problems often turn out to be interesting challenges.
31. I try to avoid personal situations that will require me to think a lot and deal with them on my own.
32. Once I know the correct way to handle a problem, I prefer to stick with it.
33. When I have to make a decision, I like to spend a lot of time thinking about my options.
34. I prefer to deal with situations where I can rely on social norms and standards.
35. I like to have the responsibility for handling problems in my life that require me to think on my own.
36. Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.
37. When making important decisions I like to have as much information as possible.
38. I know a situation is going to cause me stress, I try to avoid it.
39. To live a complete life, I think people need to get emotionally involved and commit themselves to specific values and ideals.
40. I find it's best for me to rely on the advice of close friends or relatives when I have a problem.

APPENDIX D

Multifactor Leadership Questionnaire 6S (MLQ; Bass & Avolio, 2004)

Directions: The following questions provide a description of your leadership style. Twenty-one descriptive statements are listed below. Judge how frequently each statement fits you on a scale from 0 (Not at all) to 4 (Frequently, if not always). The words others may mean followers, clients, group members, or peers.

1. I make others feel good to be around me.
2. I express with a few simple words what we could and should do.
3. I enable others to think about old problems in new ways.
4. I help others develop themselves.
5. I tell others what to do if they want to be rewarded for their work.
6. I am satisfied when others meet agreed-upon standards.
7. I am content to let others continue working in the same ways always.
8. Others have complete faith in me.
9. I provide appealing images about what we can do.
10. I provide others with new ways of looking at puzzling things.
11. I let others know how I think they are doing.
12. I provide recognition/rewards when others reach their goals.
13. As long as things are working, I do not try to change anything.
14. Whatever others want to do is OK with me.
15. Others are proud to be associated with.
16. I help others find meaning in their work.
17. I get others to rethink ideas that they had never questioned before.
18. I give personal attention to others who seem rejected.
19. I call attention to what others can get for what they accomplish.
20. I tell others the standards they have to know to carry out their work.
21. I ask no more of others than what is absolutely essential.

APPENDIX E

Prosocialness Scale for Adults (Caprara et al., 2012)

Directions: The following statements describe a large number of common situations. There are no right or wrong answers; the best answer is the immediate, spontaneous one. Read carefully each phrase and select the bubble from 1 (never/almost never true) to 5 (almost always/always true) that reflects your first reaction.

1. I am pleased to help my friends/colleagues in their activities.
2. I share the things that I have with my friends.
3. I try to help others.
4. I am available for volunteer activities to help those who are in need.
5. I am empathetic with those who are in need.
6. I help immediately those who are in need.
7. I do what I can to help others avoid getting in trouble.
8. I intensely feel what others feel.
9. I am willing to make my knowledge and abilities available to others.
10. I try to console those who are sad.
11. I easily lend money or other things.
12. I easily put myself in the shoes of those who are in discomfort.
13. I try to be close to and take care of those who are in need.
14. I easily share with friends any good opportunity that comes to me.
15. I spend time with those friends who feel lonely.
16. I immediately sense my friends' discomfort even when it is not directly communicated to me.

APPENDIX F

Description of Organizations

Organization	Mission Statement	Issues
American Civil Liberties Union	“To defend and preserve the individual rights and liberties guaranteed to every person in this country by the Constitution and laws of the United States.”	Free Speech, LBGT Rights, Mass Incarceration, Racial Justice, Voting Rights, Reproductive Freedom, Women's Rights
Planned Parenthood	“Believes in the fundamental right of each individual, throughout the world, to manage his or her fertility, regardless of the individual's income, marital status, race, ethnicity, sexual orientation, age, national origin, or residence.”	Reproductive Health Care, Reproductive Rights, Sex Education, Global Health
Ronald McDonald House Autism Speaks	Our “mission is to create, find, and support programs that directly improve the health and well-being of children.” “Dedicated to promoting solutions, across the spectrum and throughout the lifespan, for the needs of individuals with autism and their families through advocacy and support; increasing understanding and acceptance of autism spectrum disorder; and advancing research into causes and better interventions for autism spectrum disorder and related conditions.	Provide support and accommodations for families with sick children Research, education, advocacy and support for families and individuals living with autism.
Family Research Council	Our “mission is to advance faith, family and freedom in public policy and the culture from a Christian worldview.”	Pro-Life (Abortion; Euthanasia), Anti-Embryonic Stem Cell Research, Adoption, Abstinence Education, Anti-LGBTQ
Alliance Defending Freedom	We are “an alliance-building legal ministry that advocates for religious freedom to uphold justice and preserve the right of people to freely live out their faith.”	Religious Freedom, Pro-Life (Abortion; Euthanasia), advocate for Traditional Marriage

APPENDIX G

IRB Certification



The University of Alabama
801 University Blvd
Tuscaloosa AL
TEL: 205 348 6457
FAX:

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: November 13, 2017
TO: Ungvary, Stephen, Psychology
Conners, Frances, Psychology, McDonald, Kristina, Psychology
FROM: Graham, Jeanelle, MPH, Research Compliance Specialist, NM Expedited
PROTOCOL TITLE: Social Values of Emerging Adults
FUNDING SOURCE: NONE
PROTOCOL NUMBER: 17-09-552
APPROVAL PERIOD: Approval Date: November 08, 2017 Expiration Date: November 07, 2018

The Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: Social Values of Emerging Adults. The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.

This approval is issued under University of Alabama's Federal Wide Assurance 00000647 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under Committee's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:

Graham, Jeanelle

Graham, Jeanelle

Approval Period: November 08, 2017 through November 07, 2018
Review Type: FULLBOARD
IRB Number: 03