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MAJOR LIFE GOALS OF COLLEGE STUDENTS: AN INVESTIGATION OF
PERSONALITY TRAITS, VOCATIONAL INTERESTS, AND VALUES

BY

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DISSERTATION

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ABSTRACT

Life goals, values, vocational interests, and personality traits are important factors that influence career and everyday life decision-making. This dissertation presents a framework for how personality traits, interests, and values relate to life goals. There were two studies conducted using structural equation modeling. Study 1 was a cross-sectional study investigating the domain-specific relationship among major life goals, personality traits, interests, and values. The results showed that personality traits are the most fundamental disposition and can predict vocational interests, values, and then goals. Moreover, in certain domains, interests serve as a mediator between personality traits and life goals; values serve as a mediator between personality traits and goals, and between interests and goals.

Study 2 is a longitudinal study examining how relationships among major life goals, interests, and personality traits may change over time. The results indicated that personality, interests, and major life goals are stable across time. Both personality and interests are enduring psychological dispositions that can predict future major life goals. The models also show that some variables are more capable of explaining and predicting major life goals when other variables were controlled.

Combining these two studies, this dissertation contributes to the deeper understanding of how important psychological dispositions influence individuals' goal settings during emerging adulthood. Both cross-sectional and longitudinal studies together provide a broader picture of the trajectory of these dispositions' development.

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CHAPTER 1

INTRODUCTION

One of the major developmental tasks for college students is to identify what they want to become in life. At the age of 18 to 25 (emerging adulthood), individuals are exploring life possibilities, going through identity confusion followed by identity formation stage, and searching for life goals and positions in the society that match their self image and self identity (Erikson, 1968). In this stressful exploring and searching process, the knowledge on how and to what extent life goals are influenced by other psychological dispositions is thus important in providing psychological counseling and career guidance. How the relationships among these factors change over time during emerging adulthood has been an interesting and critical question to be answered for both researchers and practitioners. The answers to these questions will provide a solid theoretical and empirical foundation for future study. Additionally, the answers will also benefit the conceptualization and assessment of clients' presenting problems, and for practitioners to provide concrete and helpful advice and resources.

Researchers in the field of psychology have been attempting to understand life goals by examining personality traits (Roberts & Robins, 2000), vocational interests (Sun, 2008), and values (Rokeach, 1973). However, currently there is no study providing a comprehensive model to organize these psychological elements in a systematic manner. The present study attempts to bridge the gap by proposing a theoretical framework that provides explanation to and relationship among (1) major life goals, (2) personality traits, (3) vocational interests, and (4) values.

There are two studies included in the present dissertation. Study 1 is a cross-sectional study investigating the domain-specific relationship among major life goals, personality traits, interests, and values. Study 2 is a longitudinal study examining how relationships among major life goals, interests, and personality traits may change over time. This is built on the previous research that these three variables have theoretically meaningful associations at a single time point (Sun, 2008). By investigating how the magnitude of these relationships evolve as individuals develop, and to what extent can personality traits and interests predict major life goals, the change and contiguity of these psychological factors will be elucidated.

The following paragraphs first illustrate the conceptual definitions of these variables, and then point out the theoretical relationship among them. This leads to the hypotheses of study 1. Furthermore, the developmental process of emerging adulthood is discussed, and the hypotheses of study 2 are presented.

Conceptual Definitions

The following paragraphs discuss the operational definitions of each variable, including major life goals, personality traits, vocational interests and values. In addition, the theoretical relationships among these variables are explained to illustrate the rationale of the proposed study.

Major life goals

There is a wide range of definitions of life goals to explain the process or the dimensions of wishes and aspirations. The knowledge of goals includes aspects from

biological, neurological, sociological, functional, and ecological areas to capture this complex phenomenon. The scope of the present study focuses on the individual-functional domain which is the most widely discussed domain in the field of psychology. There are also variations in psychology in defining goals. For example, goals are defined as “internal representations of desired states” (Austin & Vancouver, 1996), the aspirations for what people want in life (Roberts, O’Donnell, & Robins, 2004), or the desired end state people try to attain through the cognitive, affective, and biochemical regulations of their behaviors, based on the assumption that human are goal-directed and self-organized (Ford & Nichols, 1987).

Generally speaking, researchers investigate goals through value and motivation domains (e.g., Schwartz, 1992) that are identified as a higher order concept to goals. Goals are operationalized into a hierarchical concept which has different levels that represent different domains (e.g., Cropanzano, James, & Citera, 1992). In this hierarchical structure, the highest level is the most stable goals that optimize personal meaning and global aspirations (Royce & Powell, 1983). On the second level, major life goals are defined as an individual’s aspiration to achieve and to establish the life structure that he or she wants to have, such as a career and family (Roberts & Robin, 2000). At this level, goals are most expressed by value which shapes people’s career and relationship aspirations (Rokeach, 1973; Winnel, 1987; Roberts et. al. 2000, 2004). The third level is called the midlevel units that reflect the personal choice and action in everyday life, such as personal striving (Emmons, 1989), personal projects (Little, 1983), and life tasks (Cantor, Norem, Niedenthal, Langston, & Brower, 1987). The lowest level

is goals or plans for everyday behaviors or discrete events, which is subject to daily change (Emmons, 1997).

In the present study, focus has been placed on major life goals, which are more stable than midlevel unit of goals that may change in a short period of time. Roberts and colleagues (2000, 2004) adapt Richards's (1966) list of 35 life goals to measure major life goals. They identified 10 value domains in order to categorize major life goals: theoretical, economic, aesthetic, social, political, religious, physical well-being, relationship, hedonistic, and personal growth. Their research finding provided the life-goal measure used in this study both a theoretical and an empirical standing.

Personality Traits

Personality is widely used in different disciplines, such as psychology, sociology, law, and philosophy etc. Thus, there are many different definitions, as well as different theories and models attempting to explicate the nature and content of personality. Most commonly, personality is addressed by traits. Tracing back to the early research done by Guilford (1959), personality refers to the individuals' unique pattern of traits, and traits are defined as 'any disguisable, relatively enduring way in which one individual differs from others' (p.6). From a more contemporary point of view, personality traits are generally defined as psychological characteristics that are consistent and stable across life span, and are patterns that capture behavioral, cognitive, and emotional style of individuals.

Many researchers argue that personality is essentially a hierarchical structure. For example, Allport (1936) divided personality into three levels: Cardinal dispositions (most

basic and significant traits that can influence an individual in every aspect), central dispositions (traits how people are described in adjectives, such as smart or shy), and secondary dispositions (specific traits that vary in different contexts). Tellegen (1988) believes there are two levels in personality traits, including three higher order factors of negative emotionality, positive emotionality, and constraints, and eleven lower order traits: well-being, social potency, achievement, social closeness, stress reaction, alienation, aggression, control, harm-avoidance, traditionalism, and absorption. Currently, the Five-Factor Model (Costa & McCrae, 1985; Digman, 1990; Goldberg, 1990) is the most agreed upon representation of personality traits. It describes the basic dimensions of the normal personality that organize personality into two hierarchical levels. Among which the broad level includes five personality dimensions: Extraversion (energetic, sociable, stimulation seeking), Agreeableness (cooperative, considerate, compassionate), Conscientiousness (self-disciplined, organized, persistent), Neuroticism (angry, vulnerable, anxious, or depressive; also named as Emotional Instability), Openness to experience (imaginative, artistic, sensitive). Following each dimension are each of the five factors that can be subdivided into six lower order traits or facets, such as anxiety and depression under Neuroticism, warmth and activity under Extraversion, etc. (Costa & McCrae, 1992a, 1992b)

There are different perspectives regarding the determinants of variation in personality. McCrae and Costa (2000) believed that personality traits are dispositions that are independent of environmental influence. Similarly, Tellegen argued that personality differences are more influenced by genetic diversity than by environment diversity (Tellegen, Lykken, Bouchard, Wilcox, Segal, & Rich, 1988). There are also

other researchers who believe that environmental factors play a larger role in personality trait change in adulthood than do genetic factors, or proposed that both genes and environments play important roles in personality development (e.g., Plomin & Nesselroade, 1990; Plomin & Caspi, 1999).

Several researchers use motives (i.e., people's wishes and desires) to explain personality. Many theorists believe that personality traits have motivational components, or even traits subsume motives. Guilford (1959) categorized different groups of traits that represent different aspects of personality. One of the personality representations is through the motivational trait that includes needs, interests, and attitudes and directly lead to goals by which behaviors are guided. Moreover, Emmons (1989) depicted personality through the personal striving approach and illustrated that personality is patterns of goal strivings, typical sets of goals individuals wish to attain across situations. Little (1983, 1987; Palys & Little, 1983) understood personality through motive domains and proposed the idea of personal project, which are things people think about, plan for, and carry out to achieve personal goals. Furthermore, life tasks (Cantor, Norem, Niedenthal, Langston, & Brower, 1987) described personality through strategic solutions to life tasks to achieve goals, especially during transitions in life. Similarly, traits channel the behavioral expression of motives throughout the life course, and motives derive from current concerns or tasks (Winter, John, Stewart, Klohnen, & Duncan, 1998).

McCrae and Costa (1990) included the concepts of thoughts, feelings, and motives into personality traits, and showed that there is a relationship between personality traits and values (Costa & McCrae, 1989; Luk & Bond, 1993). They conceptualize the construct of personality into three levels. Level 1 is traits, the broad, decontextualized,

and relatively nonconditional constructs which provide “personality” a dispositional foundation. Level 2 (i.e., personal concerns) addresses personal strivings, life tasks, values, and motivations. Level 3 involves personal identity and the purpose of individuals’ lives. Their idea of purpose as part of the personality construct provides a rationale for some recent studies on goals. That is, researchers have shown that life goals are reflection of personality traits (McCrae & Costa, 1999; Roberts & Robins, 2000; Roberts, et al., 2004), and traits differences were represented in goals (Kaiser & Ozer, 1994). In the previous study (Roberts et al, 2004), the authors assumed that goals are a conduit or an expression for traits, which may have similar developmental trends to those of traits. They found a moderate relationship between major life goals and personality traits in a four-year time period. Nevertheless, they also observed that some specific traits showed stronger relations than others to major life goals. Roberts, O’Donnell, & Robins (2004) indicated that personality traits and major life goals have a reciprocal relation. Another study (Sun, 2008) found out that Roberts and his colleagues’ finding can be generalized to Midwest college students, indicating there are significant relationship between personality and major life goals.

Interests

Strong (1943) believed that interests are activities that are liked and disliked by individuals. Cole and Hanson (1971) further argued that interests are not just constellations of likes and dislikes, but they also lead to consistent patterns of behaviors. In general, interests reflect long-term stable dispositional traits that influence behaviors through one’s preferences for environments to work at, activities to be engaged in, and

types of people to interact with, with a high level of continuity across the life course (Mount, Barrick, Scullen, & Rounds, 2005; Low & Rounds, 2005).

Currently, the most dominant and widely used theory is Holland's (1959, 1966, 1973, 1997) person-environment fit model. Holland categorized interests as well as environments into six types, which are Realistic (systematic manipulation of machinery or tools), Investigative (analytical, curious, and precise jobs), Artistic (expressive, non-conforming, original, and introspective jobs), Social (working and helping others), Enterprising (to attain organizational goals or economic gain), and Conventional (systematic manipulation of data, filling records, or reproducing materials). Each type is composed by personality and behavioral properties and is defined by vocational preferences, problem-solving styles, self-beliefs, competencies, and personality characters (Holland, 1997). He argued that people seek the type of environments that fit their interest types. The degree of person-environment match will influence the satisfaction of a person who works in a certain environment, job performance, and for how long the person stays in the environment.

Several studies have shown that interests and personality traits share some similar characteristics (Ackerman & Heggestad, 1997; Lubinski & Benbow, 2000; Sullivan B.A. & Hansen, J.C. 2004). Low and Rounds (2007) concluded that the relationship between vocational interest and personality traits was best explained by their role in individuals' goal striving and goal attainment. Both personality and interests provide the motivation to engage in particular activities which help to develop knowledge and skills (Ackerman & Heggestad, 1997; Barrick, Mount, & Gupta, 2003; Larson, Rottinghaus, & Borgen, 2002; Lubinski & Benbow, 2000). Vocational interests motivate individuals to engage in

and initiate activities that they prefer toward achieving goals and to stay in the environment they feel comfortable with. Personality involves the motivational process that determines the behavioral pattern they interact in the environment and how they perform and cope during activities, as well as individual's efficiency in striving toward goals (Low & Rounds, 2006). Furthermore, Lent, Brown, and Hackett (1994, 1996) proposed that interest, along with self-efficacy, some background and/or contextual variables, and outcome expectations all together play an important role in goal setting. In their model, interests first influence the choice of goals and/ or subgoals, followed by the choice of action, then finally the performance attainment. In addition, some studies have also shown that both the higher order (e.g., the Big Five factors) and the lower order traits (e.g., the facets) of personality are related to vocational interests. Specifically, Enterprising interest is correlated with Extraversion; Artistic interest is correlated with Openness to Experience (Barrick et. al., 2003; Larson, etl al, 2002); Social interest is associated with Agreeableness (Toker, Fisher, & Subich, 1998).

These conceptual assumptions and empirical studies provide the present study a theoretical background to investigate the relationship between vocational interest and major life goals. It can be concluded that both personality traits and vocational interests have dispositional properties, and share the same underlying construct which is most often proposed as motives.

Values

Values are viewed as a central concern of human behaviors in different fields, including psychology, sociology and anthropology (e.g., Rokeach, 1973; Williamson

1968; Kluckhohn, 1951). In career counseling, both values and interests are believed to be related to individuals' career choices and outcomes, and are both tied to the underlying context of motivation which serves as a drive to a variety of behaviors and decisions on choices (e.g., Rokeach, 1979; Holland, 1997). Rokeach (1979) argued that values are beliefs in judging whether the choice of behaviors is desirable. Following the same line of thinking, Feather (1988) defined values as a set of general and stable beliefs about what is desirable, which emerge from both the norm of the society, and the psychological needs and self-concept of individuals. Brown and Crace (1996) focused more on the internal origins of values, and proposed that values are enduring cognitive representations which provide standards of behaviors that impact the outcome of life choices.

Values theory developed by Schwartz (1992) is believed to be the most comprehensive set of life values and is appropriate for general research (Rounds & Armstrong, 2005). Schwartz argued that values are cognitive representation of goals and motivations. Through the expression of goals, various values can be differentiated and categorized. He proposed that values (1) are concept or beliefs, (2) pertain to desirable end states or behaviors, (3) transcend specific situations, (4) guide selection or evaluation of behavior and events, and (5) are ordered by relative importance (Schwartz, 1992, p. 4). He believed that basic human values represent biological needs, social interaction, and group functioning that are universal across different cultures. Schwartz further groups values into 10 motivation types based on common goals, including Power (social status, prestige, control or dominance), Achievement (personal success through competence according to social standards), Hedonism (pleasure or sensuous gratification for oneself), Stimulation (excitement, novelty, and challenge), Self-direction (independence of thought

and action, creating, exploring), Universalism (understanding, tolerance, protection of all people and nature), Benevolence (preserving and enhancing the welfare of people), Tradition (respect and commitment to cultural or religious customs), Conformity (restraint of actions and impulses that may upset or harm others or violate social norms), and Security (safety and stability of society, relationships and self).

Schwartz's circular value model shares a similar structure with Holland's vocational interest hexagon. They both conceptualize values or interests into types that are similar and conflicting to one another, and this kind of relationship is represented in the model by the relative distance among them. Those values that are closer share more similar attributes while those with more distance have less in common. In addition, values have a direction, similar to motives and goals, and provide a guideline for individuals so that people know which life path they should choose. Therefore, interests and values have a common framework regarding understanding the activities and environments. Additional theoretical relationships between vocational interests, values, and goals are illustrated below.

Study 1: A Model of the Relations among Personality Traits, Vocational Interests, Values, and Major Life Goals.

Previous paragraphs touched upon the idea that motives are the underlying construct which personality traits, vocational interest, and values share in common. The following explanations elucidate further the theoretical framework of how these variables might systematically relate to one another.

Similarity between Interests and Personality. Evidence has shown that there are reasonable associations between personality traits and vocational interests (Gottfredson, Jone, & Holland, 1993; Gottfredson, et al. 1993; Kanfer, Ackerman, & Heggstad, 1996; Ackerman, & Heggstad 1997). Both the six RIASEC types and Big Five personality traits represent dispositional attributes that influences patterns of behavior that occurs over time (Mount, Barrick, Scullen, & Rounds, 2005). Furthermore, Holland (1997) believed that vocational interests are expressions of personality. Thus, previous research indicated that personality and interests share important elements in common and are overlapping in unique ways. Research also investigates the domain specific relationship. Results indicate that the strongest relationship between personality traits and vocational interests are Extraversion and Enterprising interests, and Openness to Experience and Artistic interests (e.g., Barrick, Mount, & Gupta, 2003).

Major Life Goals, Values, and Personality Traits. Rokeach (1973) argues that personality traits can be reformulated from an internal phenomenological standpoint as a system of values. This kind of reformulation could be accomplished by invoking motivational concepts which, according to Guilford (1959), include needs, interests, and attitudes, and further lead to the broad goals by which human behaviors are guided. Thus, values and personality traits are ‘covariant’ that guide the behavioral pattern to satisfy different needs (Schwartz & Bilsky, 1987). For example, if a person is extroverted, s/he will attribute high importance to activities that involve more interpersonal contact and communications, and will rank less important activities that provides no interaction with others. In addition, this person might set goals that provide more social interaction. Over time, this individual will develop a cognitive and behavioral pattern (i.e., personality

traits) that is congruent with this extroverted values and goals. It has been empirically shown that major life goals are expressed by their value priorities, and are related in theoretically predictable ways to the motivated behavioral patterns described by personality traits ((Bilsky & Schwartz, 1994).

Two recent studies have also been conducted to investigate the relationship between major life goals and personality traits (Roberts & Robins, 2000; Roberts, O'Donnell, & Robins, 2004). They organize major life goals into different value domains, suggesting values can provide a way of understanding major life goals. Their result demonstrated that personality traits serve as predictors to major life goals. The finding also provides an empirical foundation for the present study that broad dispositions can serve as predictors and/or explanation when trying to understand the aspiration of what people want to pursue in life, including career, relationship, and leisure.

Major life goals, values, and vocational interests. Similar to the underlying relationship of major life goals and personality, vocational interests are also positively correlated with value (Sagiv, 2002). Super (1995) proposed the link between value and interests by providing the example, and believed that values satisfy needs by interest (or preference) activities. For example, individuals who value material belongings may seek wealth, usually via an interest that is related to similar careers such as managerial and remunerative occupations.

Eccles has proposed a link between values and interests, and how they predict the selection of current and future choice of activities and tasks (Eccles, 1984; Eccles & Harold, 1994; Feather, 1988). In her Expectancy-Value (E-V) theory, individuals' subjective task value is likely to be influenced by interests (Denissen, et al. 2007;

Fredricks & Eccles, 2002), and then will further influence the task choice (i.e., goal setting) and task investment. She defined subjective task values as an individuals' motivation for doing different tasks. People will engage in activities they value positively, and avoid tasks they negatively value. A task has a positive value to individuals is because of the fact that it can facilitate important future goals to people (Eccles, Futtermanm, Goff, Kaczala, Meece, & Midgley, 1983). That is, individuals' values influence the attractiveness of different life goals, and thus will influence the motivation to attain these goals as a consequence (Feather, 1992). Eccles and her colleagues further argued that interests reflect the investment of motivational resources (Denissen, Zarrett, & Eccles, 2007). They proposed subjective task value is a function of four distinct components: interest, attainment value (the importance of doing well on the task for confirming aspects of one's self-schema), utility value or importance (importance of tasks for future goals), and cost (negative outcome of engaging in the tasks).

Proposed theoretical relationships among personality traits, vocational interest, values, and major life goals. Previous research indicates that personality traits and interests both have dispositional properties, and influence the stable behavioral patterns, the activities and environments individuals choose to engage in. In addition, both goals and interest are associated with values in a way that major life goals are classified by value domains, and interests are associated with values by the behavioral directions they provide to people. Sun (2008) investigated the relationship among major life goals, personality traits, and vocational interest. She argued that both personality traits and vocational interests are related to major life goals. In addition, vocational interests serve

as a partial mediator that influences the magnitude between personality traits and major life goals.

The present study further extends Sun's investigation on the relationship among major life goals, personality traits, and vocational interest, and takes into consideration another important psychological concept, values. Rokeach (1979) defines values as enduring yet not as stable as traits. Rokeach's definition suggests that personality traits are closer to genetic origin than values. This proposal also applies to vocational interests, which are believed to have trait-like properties, and may be closer to the genetic origin than values. In addition, the argument that values are likely to be influenced by interests and then values influence the goals (Eccles, 2002) leads to a conceptual inference that both values and goals play a down-stream role in the channel from natural disposition to the end product of behaviors. Goals can thus be viewed as "lifestyle" that can change more rapidly than traits. Combining these ideas, a hypothesis is thus proposed in the present study that personality traits first relate to vocational interests then to values, and eventually lead to major life goal settings. Moreover, interests mediate the relationship of personality to values and major life goals. Figure 1 is thus proposed to tie these concepts together.

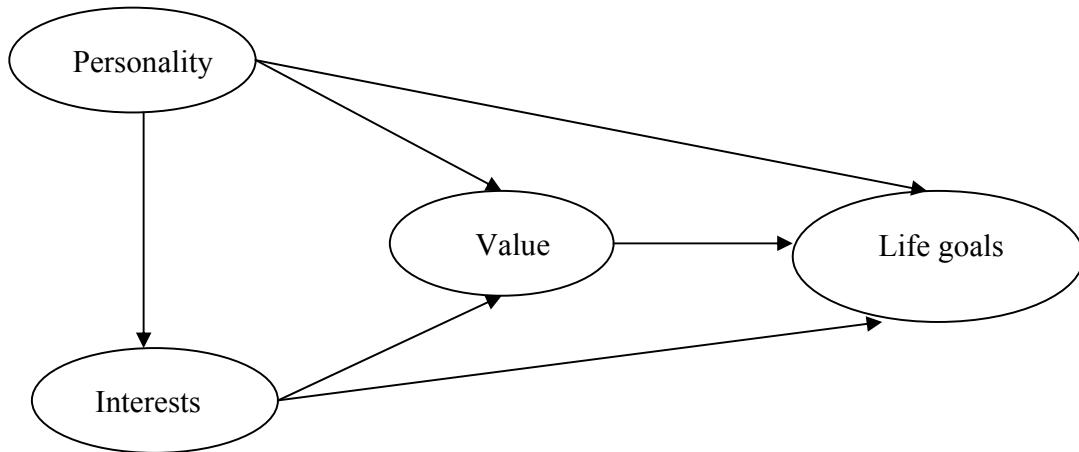


Figure 1. Conceptual model of values, personality, interests, and major life goals

Specifically, the present study examines this systematic structure by investigating domain/content specific relationships. Several possible relationships are proposed.

Hypotheses:

1. The first domain specific structure is shown as follows. Empirical studies suggest a significant relationship between Extraversion and Enterprising interest, and between Enterprising interests and Economic goals (e.g., Robert & Robin, 2000; Sun, 2008). Moreover, Enterprising interests serve as a mediator between Extroversion and Economic goals (Sun, 2008). Additionally, when examining the content of certain values and goals, items in Economic goals show content relevance to single values such as wealth, success, and ambitious that are related to achievement and power values. The present study thus proposes that Extroversion and Enterprising interests lead to Achievement values/Power values, and further influence the Economic goals.

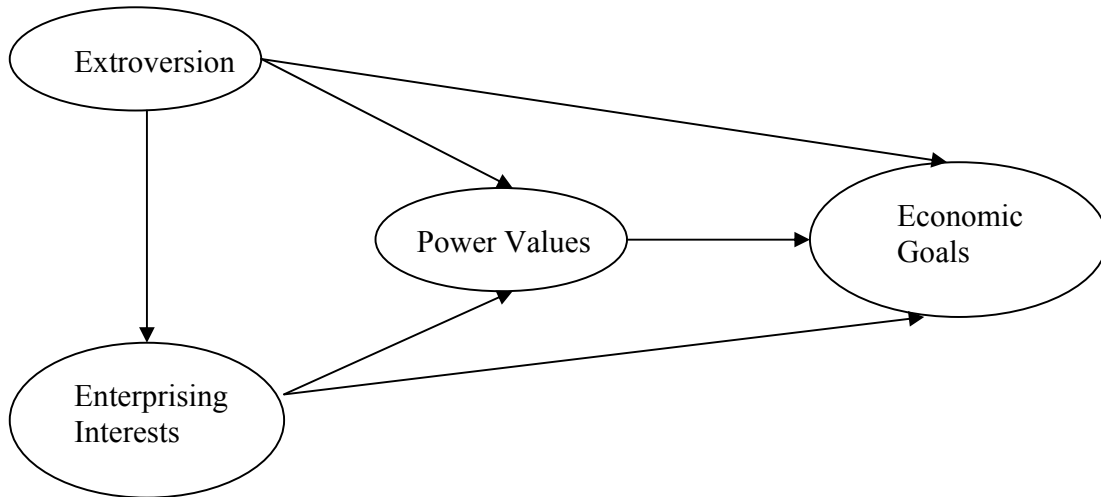


Figure 2. Study 1 Model 1. The proposed model for the relation among Extroversion, Enterprising interests, Power values, and Economic goals.

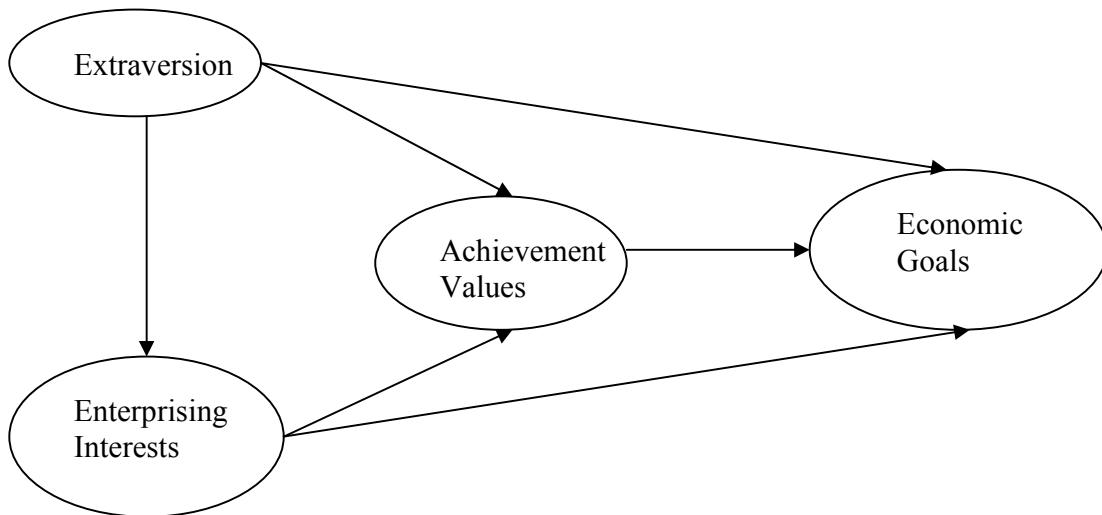


Figure 3. Study 1 Model 2. The proposed model for the relations among Extraversion, Enterprising interests, Achievement values, and Economic goals.

2. Extroversion also demonstrates a significant relationship with Social interests and Social goals. I further propose Benevolence values should tie into this model. For example, an individual who feels comfortable being around Extroverted individuals may prefer engaging in people-helping activities (Social interest), value friendship and the meaning of life (Benevolence value), and set a goal related to promoting the welfare of others (Social goal).

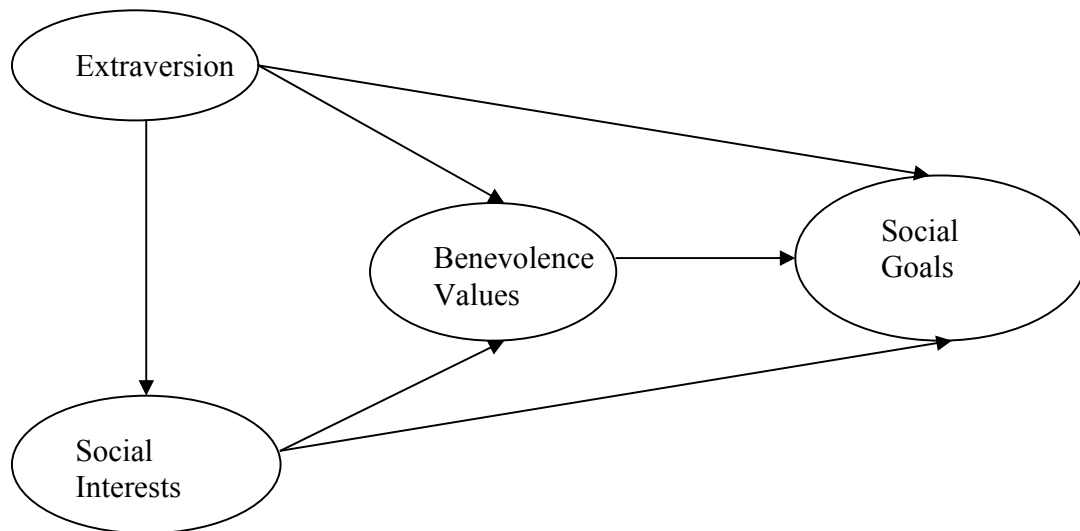


Figure 4. Study 1 Model 3. The proposed model for the relationship among Extroversion, Social interests, Benevolence values, and Social goals.

3. Previous research has found strong relationship among Social/Relationship goals, Social interest, and Agreeableness. The present study hypothesizes that Conformity value should be shaped by Agreeableness and Social interest, and further lead to Social and Relationship goals. For example, individuals who feel others' emotion (Agreeableness) may enjoy helping people (Social interest), this disposition make the individuals believe that being helpful to others is important (Benevolence value), and thus

set of a life goal to help others in need (Social goals)(see *Figure 5*). Similarly, a person interested in people (Agreeableness) might enjoy helping children (Social interest), value mature love (Benevolence value), and plan to have children in the future (Relationship goal) (see *Figure 6*).

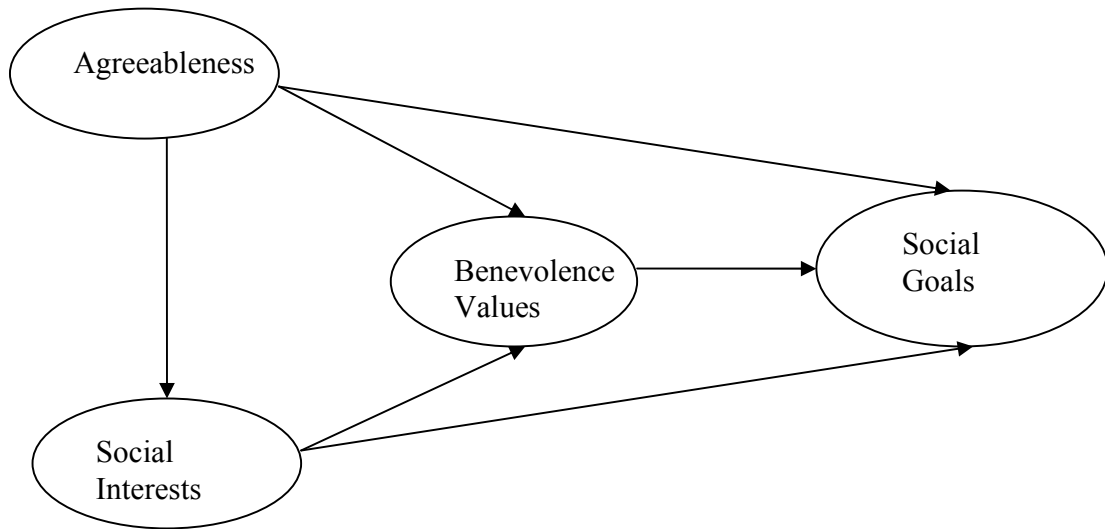


Figure 5. The proposed model for the relationship among Agreeableness, Social interests, Benevolence values, and Social goals.

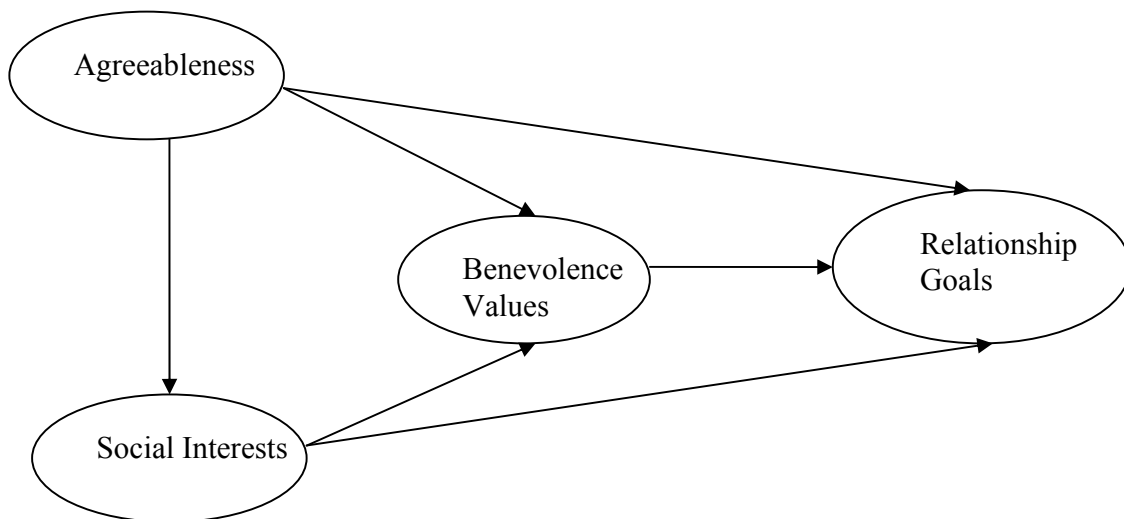


Figure 6. The proposed model for the relationship among Agreeableness, Social interests, Benevolence values, and Relationship goals.

4. Another cluster of psychological elements is centered on Conscientiousness, Enterprising interest, Achievement values, and Economic goals. For example, a person who is always prepared (Conscientiousness) may enjoy managing a company or taking charge (Enterprising interest), believes being capable is important (Achievement value), and wants to have a high-status career (see *Figure 7*).

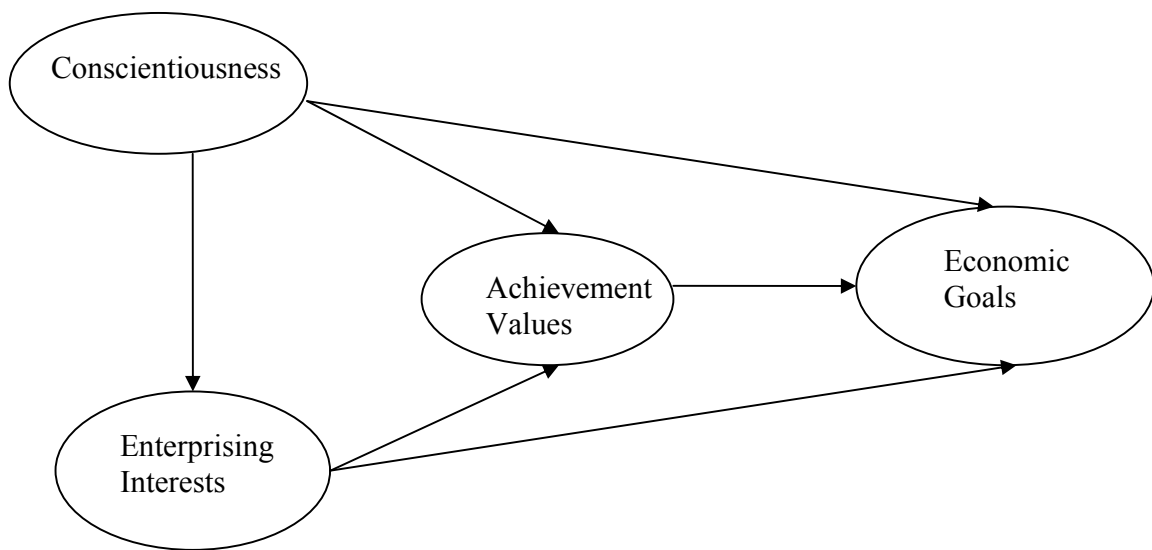


Figure 7. The proposed model for the relationship among Conscientiousness, Enterprising interests, Achievement values, and Economic goals.

5. The last model proposed is related to Openness to Experience, Artistic interests, Self-Directed values, and Aesthetic goals. A person with abundant ideas, imaginations, and vocabularies (Openness) may enjoy writing poems (Artistic interest) and value self-direction in his work, as aspect of creativity (Self-Direction value). This person should

be more likely to have a goal to support artistic activities and fine art (Aesthetic goal) (see *Figure 8*).

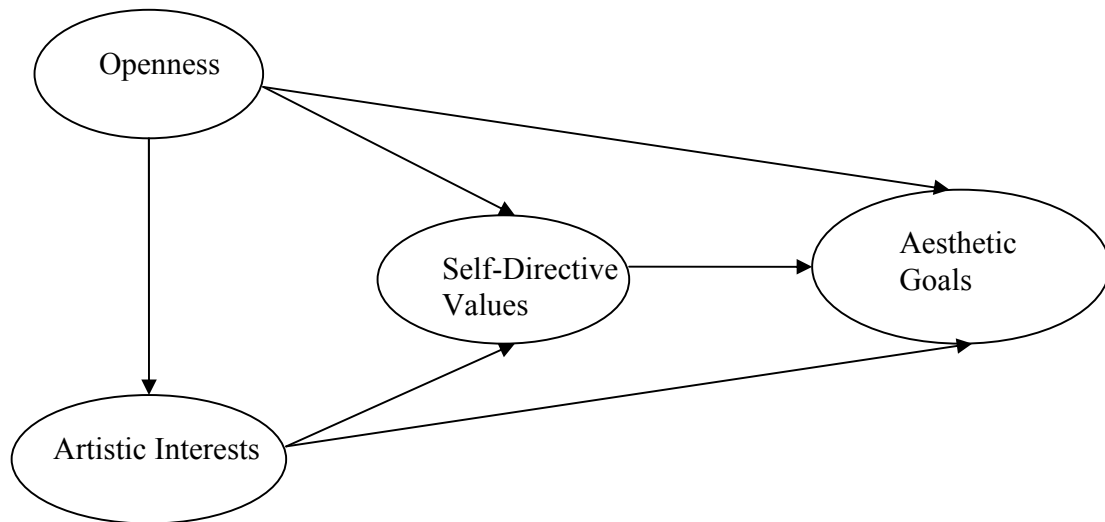


Figure 8. The proposed model for the relationship among Openness, Artistic interests, Self-Direction values, and Aesthetic goals.

Study 2: The Development Pattern among Major Life Goals, Personality, and Interests.

The significant relationship among major life goals, personality, and interest suggests that major life goals are expressions of individuals' disposition, and serve as a guidance of how people live their lives. Study 2 aims at further examining the presentation of these relationships in a longitudinal time frame. The participants of the present study are at the developmental stage between late adolescence and young adulthood, also called emerging adulthood (Arnett, 2000). Because of the environmental changes in industrialized societies, individuals at this age period no longer enter and settle in adult roles. Instead, during this time, they go through different role

experimentations, and then gradually find a suitable position for themselves in the society (Erikson, 1968). In other words, this is a stage of frequent change and exploration (Arnett, 1998). There are fewer constraints since most of them are leaving their family of origin and becoming involved with people and environments that are most likely to be more diverse than their neighborhoods and home town. This eye opening experience leads individuals to engage in adventurous behaviors and, throughout the process of trying out different possibilities, gradually form their enduring self-identity, start to make their own decisions, become financially independent and finally reach their adulthood. Individuals expand their life experiences in different aspects before they settle down with choices that shape and limit their life style, including important decisions such as career and relationship choices (Arnett, 2000). This process can also be viewed as a goal crystallization process because individuals become clearer about what they want to pursue in life at this emerging adulthood stage.

Life experiences in emerging adulthood can also shape individuals' life goals through their interests. Specifically, individuals modify their interests because of the outcome of their behaviors, and positive and negative reinforcements received from environments and significant others (Low et al, 2005) during the life exploration in emerging adulthood. In reaction to the environment and their newly formed identity and self-efficacy, the goals might also be modified (Lent et al., 1994). For example, if a college freshman entered the school with a goal of becoming a math teacher, and continue to thrive in his math courses while getting recognition from instructors, it is likely for him to be more interested in his choice, and be more determined to become a math teacher. This student realizes throughout the college education process that he has

ability and interests in the field of math, and thus his goal of being a math teacher might grow even stronger.

Development of Vocational Interest. There are a number of studies examining the development and stability of vocational interests (Campbell, 1971; Low et al, 2005, Strong, 1943; Swanson, 1999). Low and colleagues' (2005) meta-analysis showed that vocational interests demonstrate a rapid increase in stability from high school to the end of college. During the years of 18-22, reduced environmental constraints expose individuals to a wide variety of experiences. Individuals are provided with an abundance of opportunities from which they can choose activities that could better align with their interests. Holland (1997) proposes that individuals actively seek environments that match their interest configuration. These opportunities include, but are not limited to, courses, college majors, extra-curricular activities, leisure recreations, social interactions, and part-time and even full-time jobs. This kind of environmental change not only provides individuals space to develop more specific interest (Schmitt-Rodermund & Vondracek, 1999), but also leads to the experiences which deepen the stability of interests (Low et al. 2005). Thus, it is hypothesized in the present study that the relationship between vocational interests and major life goals will increase, as individuals become clearer about what they enjoy doing and what they want to pursue based on the pleasant experiences they have from activity engagement.

Change and continuity of personality traits. Personality traits are defined to be a type of disposition that is enduring over time, and serve as a guide of how people behave and react to different circumstances (e.g., Tellegen, 1988; West & Graziano, 1989). Personality traits demonstrate a systematic development as individuals mature. Most

longitudinal findings support the conclusion that both Extraversion and Neuroticism decline as individuals mature, Agreeableness and Conscientiousness increase, and Openness to Experience first increases than declines (e.g., Costa & McCrae, 2006; Roberts, Walton, & Viechtbaur, 2006). There are three main explanations for this contiguous in personality change. First, similar to the development of vocational interests, environment helps to optimize individuals' characteristics and the style of behaving, especially when the demand and the property is consistent with individuals' expression of self (e.g., Wachs, 1994; Roberts, Wood, & Smith, 2005). Second, the change in personality is biologically driven and is governed by genetic factors (McCrae et al., 2000), based on the fact that the intrinsic maturation trends are found in other primates (King, Weiss, & Farmer, 2005). The pattern of change is viewed as a reflection of "species-wide intrinsic maturational process" (Costa & McCrae, 2006). For example, the increase in Agreeableness and Conscientiousness is related to the fact that individuals engage in less adventurous behaviors and value more about work and family as age increases. This kind of change will facilitate the upbringing of the next generation and could be viewed as evolved. The third explanation of personality change is a combination of both genetic and environmental influences (Gene \times Environment interaction). Caspi et al. (2005) propose that individuals actively select environments and roles that match their identity. If not able to do so, individuals will manipulate and change the existing environments to better match their preference. Environments often include the active selection and participation of peer groups (Ennett & Bauman, 1994). Consensus has been reached that generally personality traits slow down in change and become increasingly stable with age.

The development of personality and interests. It is commonly accepted that both personality traits and vocational interests play crucial roles in structuring and determining important behaviors and outcomes (Lubinski & Benhow, 2000). Holland (1997) argued that vocational interests are expressions of personality; others state that personality traits serve as a precursor of interest development and are closer to the genetic origin of vocational interests (Lykken, Bouchard, McGue, & Tellegen, 1993; Plomin & Caspi, 1999). In this regard, the developmental trajectory of personality traits should act as a foundation for interest development across life span. In other words, most empirical studies have shown that personality traits are as stable, if not more stable, than vocational interests. There are different theoretical and empirical studies investigating the mean peak of personality stability. Arguments about the peak age include the post-teenage period from 20 to 30 when personality traits stop changing or developing (Bloom, 1964; McCrae & Costa, 1994), and around middle age since the personality stability should increase linearly with age peak at middle age (Roberts & DelVecchio, 2000; Roberts, Walton, & Viechtbauer, 2006). Furthermore, the development of both personality and interest is an iterative process of increasing the person-environment fit, by which individuals choose activities and networks that confirm their identities, motives, goals, and values (Low & Rounds, 2007).

Change and continuity of major life goals. There are a limited number of studies on the stability of major life goals. As indicated earlier, after experiencing the identity confusion accompanied by goal dissonance in adolescence, individuals gradually find their calling in the society in emerging adulthood (Erikson, 1968; Arnett, 2000). Therefore, during college and soon after graduation from college should be a time when

major life goals begin to stabilize. Roberts and his colleagues found out there is a rank-order stability in major life goals in emerging adulthood (2004). They also observed the mean-level change in goals (the average goal change in a population) with the same participants. Roberts and his colleagues (2004) invoked the adult development model of selection, optimization, and compensation (SOC) as theoretical explanation for the phenomenon (Baltes, 1997). As the environmental constraints reduced, individuals are flooded by opportunities. However, due to the limitation of energy, internal and external resources, individuals need to eliminate their options from these unlimited possibilities. This is the selection stage that occurs primarily in emerging adulthood (Freund & Baltes, 2002). Young adults gradually commit to fewer and fewer goals while they, throughout the process, choose to keep those goals that can best align with their personality, interests, and abilities. Thus, the overall importance (i.e., mean-level change) of life goals will go down as individuals close up their unrealistic or unattainable alternatives.

Hypotheses. The present study provides a model to understand the longitudinal relationship among personality traits, vocational interest, and major life goals in emerging adulthood. This is a period of time individuals experience challenges and confusions, and hopefully will finally lead to a crystallized sense of self and future plans. Figure 9 illustrates the proposed structural model.

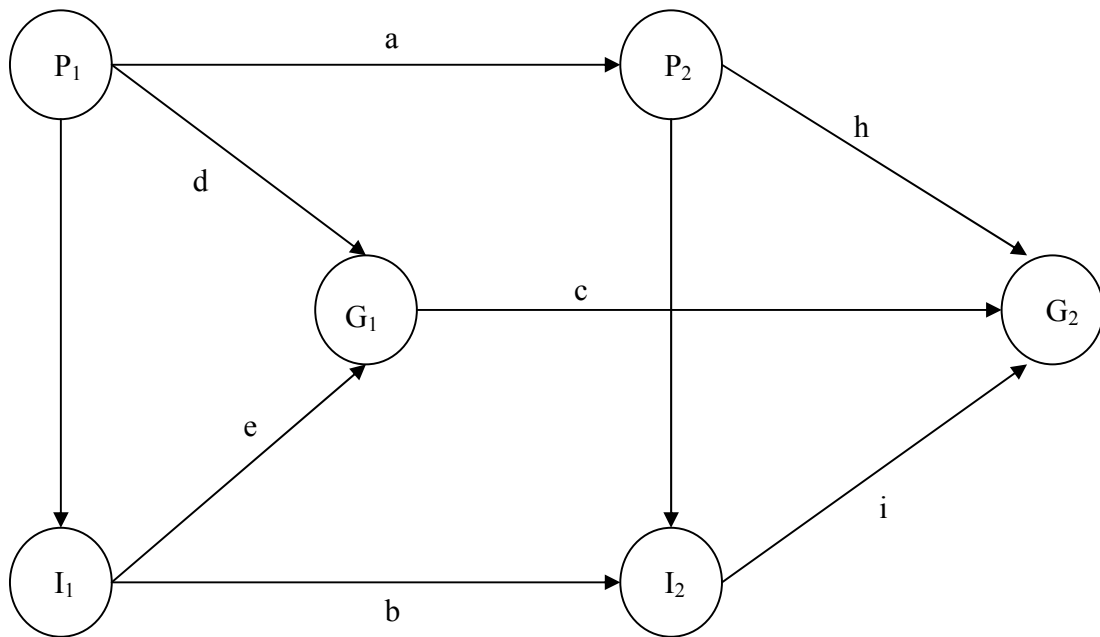


Figure 9. Proposed model of the longitudinal relationship among personality traits, vocational interests, and major life goals.

Note: Personality is abbreviated as P, interests as I, major life goals as G. The number presents different time points (Time 1 & Time 2). The lower-case letters stand for the magnitude of the relationship (path coefficient).

According to previous studies, there should be significant relationships between two time points in personality, interests, and major life goals (path a, b, and c). In addition, there are meaningful relationships between personality and major life goals (d), and between interests and major life goals (e) in Time 1; thus, same results (h and i) is hypothesized to be observed in Time 2 as well.

Furthermore, the present study attempts to investigate the developmental change of these relationships across time. As individuals mature, they gradually understand themselves better after trying out different activities, and come to the realization about

their behavioral patterns, preference of activities, and what they want to pursue in life. Following this thread of thinking, the relationship between personality and goals, and the relationship between interests and goals in Time 2 should be stronger than the same relationships in Time 1. That is, path h (relationship between personality and major life goals in Time 2) should be stronger than path d (same relationship in Time 1), and path i (relationship between interests and major life goals in Time 2) should be stronger than path e (same relationship in Time 1). In addition, Time 1 personality and interests should have significant indirect effect with Time 2 major life goals. This is based on the theoretical stand that both personality traits and vocational interests are enduring dispositions which can be used to predict future orientations.

The last hypothesis in study 2 involves the special developmental tasks in emerging adulthood. The ages between 18 to 25 is a developmental transition from adolescent to adulthood, and people start to make commitments to goals that are universal and socially expected for young adults, such as establishing a stable career, choosing a life-long partner, and building a family of their own. Individuals should show more commitments to these goals at the later stage of this emerging adulthood period than at the beginning (Helson, Kwan, John, & Jones, 2002; Robert et al, 2004). That is, an important part of identity formation is developed around the task of building a socially accepted self. This means individuals will be engaged in conventional social roles, such as having a career, marriage, and a family. This kind of social role engagement is shown to demonstrate a special influence in the development of specific personality traits, such as Agreeableness and Conscientiousness (Robert et al. 2000). The current research further extends Robert's investigation by examining the content relationships among

social investment related life goals, Agreeableness and Conscientiousness traits, and related vocational interests. I intend to examine if these social investment goals will lead to (reinforce) the development of vocational interests, besides its influence on personality traits development (Robins, Caspi, & Moffitt, 2002). Two models are thus proposed. First, the developmental relationship under investigation is Agreeableness, Social interests, and Relationship goals. Similar to the hypothesis proposed in study 1, individuals interested in people (Agreeableness) might enjoy helping children (Social interest), and plan to have children in the future (Relationship goal). This type of relationship-oriented plan will strengthen the individuals' disposition on Agreeableness and Social interest, which again leads to a significant relationship to family-oriented goals (see *Figure 10*).

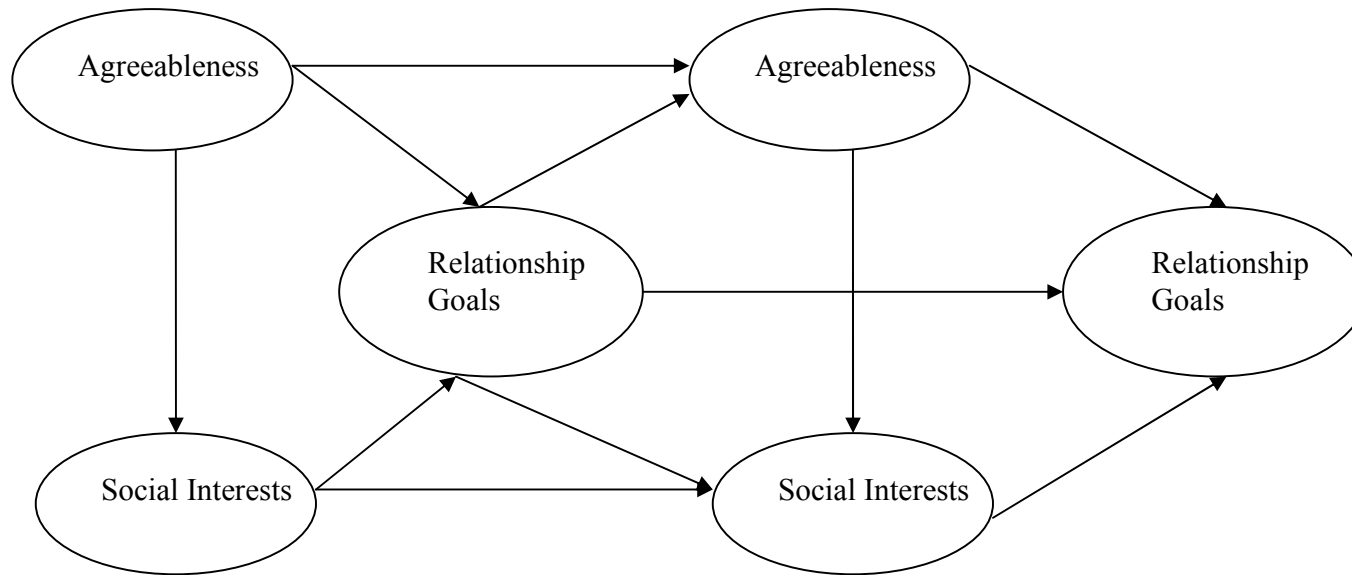


Figure 10. Study 2 Model 1. The proposed development model of Social investment on Relationship-related domain among personality, interests, and major life goals.

The second model focuses on increasing awareness in economic related domains: Conscientiousness, Enterprising interests and Economic goals. Roberts and his colleagues (2004) made the case that Economic goals have a reciprocal relationship with Conscientiousness traits and Enterprising interests. As conscientious individuals with economic interests and goals gradually mature, they may become even more conscientious, and have stronger preference in activities in which they can take charge (Enterprising interests) to attain their financial achievement and security, as illustrated in Figure 11.

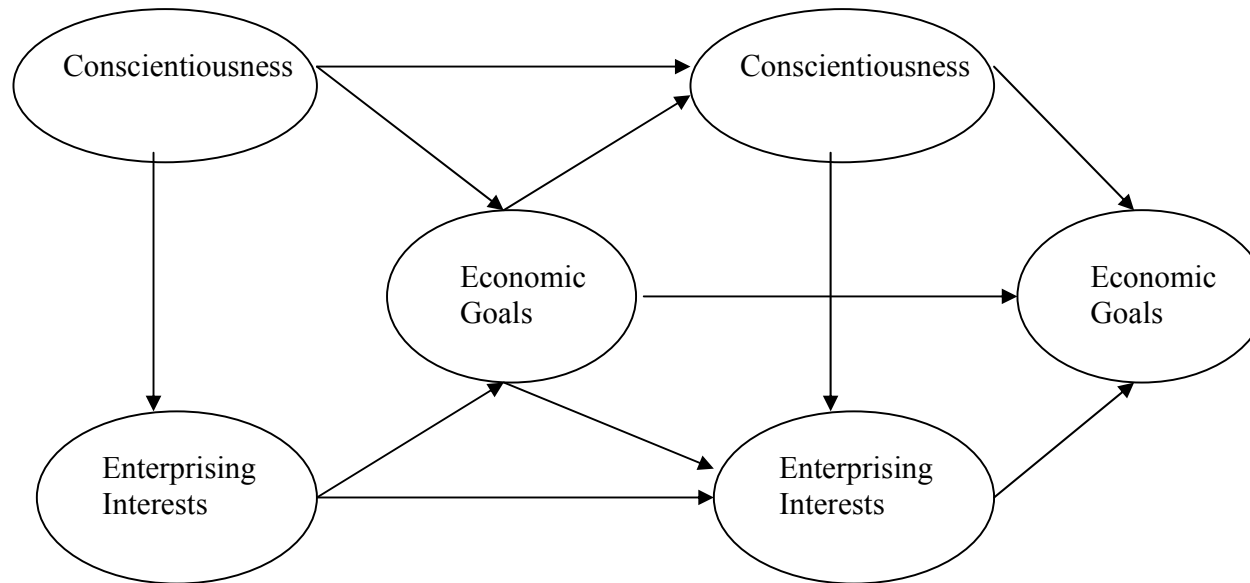


Figure 11 . Study 2 Model 2. The proposed development model of social investment on Economic-related domain among personality, interests, and major life goals.

CHAPTER 2

METHOD

Participants

The valid participants were 385 undergraduate students from an elective career development undergraduate course in a large Mid-Western university. Students who enrolled in the course were in a wide range of majors and participated in the research as part of the course requirement. Participants' ages ranged from 16 to 24, with a mean age of 19.62 years old ($SD = 1.42$). The sample was composed of 59% White, 22% African American, and 6% Asian American students. Furthermore, 62% of participants were female and 38% are male.

Measures

Major Life Goals. Goals were assessed using a revision of Robert's (2000, 2004) 38 life goals. Participants rated the importance of life goals on a 5-point scale ranging from 1 (*not important to me*) to 5 (*very important to me*). Roberts adapted and revised from Richards's (1966) list of 35 life goals. From Richard's original 35 life goals, 27 were used by Roberts with no or slight wording modification. 11 life goals were added in Roberts' study in order to address contemporary issues (Roberts & Robins, 2000). Furthermore, Roberts et al. categorized life goals into 10 value domains: theoretical, economic, aesthetic, social, political, religious, physical well-being, relationship, hedonistic, and personal growth. In addition, two items were added for this study. They were classified into the 11th value domain, the educational goals. These two items were

“having good grades” and “doing well in school.” When examining the internal consistency, 7 out of 10 original goal clusters had alpha reliabilities from .65 to .83 in Roberts’ study (Roberts & Robin, 2000), and .65 to .92 in Sun’s study (Sun, 2008). These 7 goal clusters were economic, religious, social, aesthetic, political, relationship, and hedonism goals. A principle components analysis was performed to test the structure of Roberts’ measure. Most factor loadings exceeded .60, and there were few substantial cross-loadings in both Robert’s research and our examination. Moreover, correlation among these scales was moderate (ranging from -.04 to .35, and -.02 to .45 in both studies).

International Personality Item Pool. FFM discussed in previous chapters is not only a theoretical structure, but also the personality traits measure available that has remarkable reliability and validity. IPI items were developed to measure the personal constructs, Big Five included. The five dimensions are Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Considerable research is in support of IPI reliability and validity (Goldberg, 1999). Participants are asked to rate their response using a 5-point scale ranging from 1 (not very true to me) to 5 (very true to me). Some examples of the items are *am the life of party, like order, and am indifference to feeling of others.*

IPI 100-items have been shown to be highly correlated with the corresponding NEO personality inventory (NEO-PI-R) domain scores. The correlations between these two inventory range from .85 to .92 when corrected for unreliability (International Personality Item Pool, 2001). Coefficient alphas range from .77 to .91. Mean item

correlation is .30. Moreover, this IPIP measure is freely available in the public domain with the scoring key provided (Goldberg, 1999).

Strong Interest Inventory (SII). Strong Interest Inventory is used in Study 1 to measure the vocational interests of college students. Holland (1959, 1997) proposed a vocational interests and working environment model which is now widely used to conceptualize vocational interest. Strong Interests Inventory (SII) is mainly built on Holland's model. This structure has been supported by many studies (e.g., Tracey & Rounds, 1992, 1993). SII consists four content subscales: six General Occupational Themes (GOT), thirty Basic Interest Scales (BIS), 122 Occupational Scale (OS), and five Personal Style scale. In addition, these scales have standard scores with means of 50 and standard deviation of 10. The GOT scales were used in the present study to Assess Holland's types.

The six general occupational themes are Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. They provide a broad picture of an individual's vocational and work personality/interest (Holland, 1997). The alpha reliabilities range from .90 (Conventional scale) to .95 (Artistic scale) (Donnay, Morris, Schaubhut, & Thompson, 2004). The test-retest reliabilities for these six scales over two-to-seven months interval ranged from .84 for artistic to .89 for realistic (Donnay et al.,2004); the median test-retest consistency for the overall sample is .85 (Donnay et al.,2004). The internal consistency is revealed to be high, ranging from .90 to .95 (Donnay et al.,2004). Moreover, it has shown to possess concurrent validity when evaluated against similar interest measures (Hansen & Campbell, 1985; Savickas, Taber, & Spokane, 2002). Examining the mean differences for people with different occupations and college majors

also support the validity of GOTs (Donnay et al., 2004) since different GOTs results are shown across college majors. No significant differences were found in diverse gender/racial/ethnic groups (Day & Rounds, 1998; Day, Rounds, & Swaney, 1998; Fouad, Harmon, & Borgen, 1997; Lattimore & Borgen, 1999).

Interest Profiler. Interest Profiler version 3.0 was used in Study 2 to obtain vocational interests information. Same as SII, the IP assesses Holland's RIASEC model. The IP demonstrates convergent validity when compared to other vocational interest inventory. Internal consistency estimates range from .93 (Realistic & Enterprising) to .96 (Conventional) and average .94, for a large sample ($n = 1024$) of males and females combined (Rounds, J., Walker, C., Day, S., Hubert, L., Lewis, P. & Rivkin, D., 1999). Test-retest reliabilities range from .81 (Investigative) to .92 (Social). All items are activities such as "repair and install locks." Participants are asked to answer in a likert scale from 1 (strongly dislike) to 5 (strongly like).

Schwartz Value Inventory. Schwartz and Bilsky (1990) adopted the procedure and items from Rokeach's (1973) value survey, included items obtained from different religious and cultural background (e.g., Chinese Culture Connection, 1987; Hofstede, 1980; Levy & Guttman, 1974; Munro, 1985). They provided additional explanatory phrases and put them in parenthesis when composing Schwartz Value Inventory (SVI). There are 56 values that represent 10 types included in the inventory. These types include Power, Achievement, Hedonism, Stimulation, Self-direction, Universalism, Benevolence, Tradition, Conformity, and Security. 21 values are identical to Rokeach list. Most items selected are those with a clear motivational goal. Few items included in the survey are related to multiple goals, yet are considered as very important in many cultures. In

addition, some values items are selected though they might not have universal meanings and are not shared by all cultures. The reason to select them was because it enables researchers to investigate those values that are cultural specific and provide empirical foundation to them (Schwartz, 1992).

SVI asks participants to rate each value items “as a guiding principle in my life”, based on the belief that guiding principles are direct expressions of values. A nine-point scale is used: *of supreme importance* (7), *very important* (6), (unlabeled; 5,4), *important* (3), (unlabeled; 2,1), *not important* (0), *opposed to my values* (-1). Samples items includes, HEALTHY (not being sick physically or mentally), INDEPENDENT (self-reliant, self-sufficient), and MATURE LOVE (deep emotional & spiritual intimacy). SVI was administered in different countries and the reliability of the inventory was computed. All reliabilities in all samples were greater than .45, with average reliability from .60 to .71. Schwartz believed that, considering the small number of items in each index, these reliabilities are reasonable. In addition, coefficient α for the index of each value type was computed to examine the internal-consistency for the core cross-cultural indexes. The stimulation index showed the highest reliability (ranging from .70 to .79) while the tradition index showed the lowest (ranging from .49 to .69).

Procedure

IRB approval has been obtained prior to the study. This present study includes two waves of data collections with an interval of at least one year to meet the nature of longitudinal investigation (study 2) of this current proposal. The first wave of data

collection is a paper-pencil type of survey, and the follow up collection is web-based administration.

The aforementioned measures, a demographic questionnaire and an informed consent form were distributed as a survey packet to students in an elective undergraduate course, EPSY 220 career theory and practice. Students could choose to participate after introduction of the study and explanation of the voluntary nature of the study (Study 1).

The survey instrument took approximately one hour to complete. Students who chose to participate completed the survey at their own convenience outside the classroom. Students were encouraged to fill out the survey in a setting that was quiet and not disturbing, and to store the fill-out survey in a place where others have no access to before hand it back to the researcher.

In the informed consent form, students were informed that they might be contacted for future study. Additionally, they were asked for their email addresses. The email information will only be used in the future to see if they are still interested in participating in this study. The informed consent forms are stored in a different place from their survey data.

To obtain data for Study 2, emails were sent to students who participated in Study 1 data collection. Same survey as Study 1 was utilized. All information was kept confidentially. In wave 1 data collection, students varied in their age and year in college. Wave 2 data was collected after one to two year of the wave 1 collection.

Proposed Statistical Analyses

For both study 1 and 2, structural equation modeling (SEM) was used. In study 1, SEM was implemented to examine the systematic relationship among personality traits, values, vocational interest, and major life goals. In study 2, SEM was used to understand the systematic development of major life goals, personality traits, and vocational interests.

CHAPTER 3

RESULTS

Missing Data

Full Information Maximum Likelihood was used via AMOSs data imputation program to deal with missing values. The final sample size used in the Study 1 analysis is 385. There were a total of 101 participants at Time 2. Three subjects had a large amount of missing data (>75%) at Time 2 and were not included. There were 6 individuals that either did not have data at time 1 (n=2) or only provided their first name and could not be matched to Time 1 data (n=3). Thus, the final usable sample size at Time 2 was n=98.

Descriptive Statistics and Correlations

Table 2 shows the means, standard deviations, and reliability coefficients for all observed variables used in the current study. In time 1, there are some variable that female participants demonstrate higher scores than males, including Extraversion, Agreeableness, and Conscientiousness personality; Social and Artistic interests; Social and Relationship goals. The reliability coefficients range from .62 (Relationship goals) to .92 (Artistic interests). In time 2, female participants rated higher on Agreeableness personality, Social interest, and Relationship goals; lower on Economic goals. Reliability coefficients range from .65 (Relationship goals) to .93 (Conscientiousness). Table 3 and table 4 correlations between variables. The domain specific variables under model testing were mostly inter-correlated.

Statistical Assumptions

Structural equation modeling (SEM) was the primary analytic tool used in this study. The basic statistical assumptions that underlie SEM are multivariate normality, linear associations between variables, and the absence of outliers and multicollinearity (Tabachnik & Fidell, 2001). Examination of univariate histograms revealed significant negative skewness for the relationship goals scale score at Time 1 and Time 2. A cube function was used to decrease the skewness. The univariate distributions of all other variables were acceptable. In addition, the social goals variable at Time 1 had a single extreme outlier. The correlations between social goals and the other study variables changed only minimally without the outlier so the outlier was not removed in the final analysis.

Bivariate scatterplots were examined to assess the linearity assumption. All of the relations between the primary study variables were roughly linear in nature. Finally, there were no correlations high enough to warrant concern about multicollinearity.

Study 1: Model testing

Table 3 shows the correlations of the primary Time 1 variables that were used for the study 1 model testing.

The present study proposed in study 1 that certain personality traits and vocational interests lead to certain values and major life goals. Seven domain specific models were proposed for investigation. Both confirmatory and exploratory analyses were applied to each model. In other word, a fully constrained model with all the paths designated based

on theories, and an unconstrained model with one fewer non-significant structural paths were compared. The followings are the result of each domain specific model.

In model 1, the relationship of extraversion personality, enterprising interests, power values and economic goals were examined (Figure 12). Specifically, extraversion was a significant predictor of enterprising interests, $\beta = .15$, $p < .01$, such that more extraverted individuals showed more enterprising interests. This means that for each 1 standard deviation increase in extraversion, a .15 standard deviation increase in enterprising interests could be expected. In addition, 2.3% ($R^2 = .023$) of the variance in enterprising interests was explained by extraversion. Similarly, there are significant magnitude between extraversion personality and economic goals ($\beta = .11$, $p < .05$) after controlling for Power values and Enterprising interests. The path between Enterprising interests and Economic goals was significant ($\beta = .36$, $p < .01$) after controlling Power values. The paths between Enterprising interests and Power values and between Power values and Economic goals were both significant ($\beta = .30$, $p < .01$; $\beta = .30$, $p < .01$). Extraversion personality and Enterprising interest together explained 9% variance of Power values ($R^2 = .09$). In addition, Extraversion personality, Enterprising interest, and Power values together explained 31% variance of Economic goals ($R^2 = .31$).

To determine whether Power values and Enterprising interests were significant mediators, Sobel tests were calculated using Mackinnon et al.'s method (Mackinnon, Lockwood, Hoffman, West & Sheets, 2002). The specific indirect effect from Extraversion personality through Enterprising interest to Economic goals was significant ($\beta = .05$, $p < .01$) and the direct effect from Extraversion to Economic goals was significant. This indicated that Enterprising interests partially mediated between

Extraversion personality and Economic goals. Similarly, the specific indirect effect from Enterprising interest through Power values to Economic goals was significant ($\beta = .09$, $p < .01$) while the direct effect from Enterprising interest to Economic goals was significant as mentioned previously. This suggested that Power values had a partial mediation effect between Enterprising interest and Economic goals.

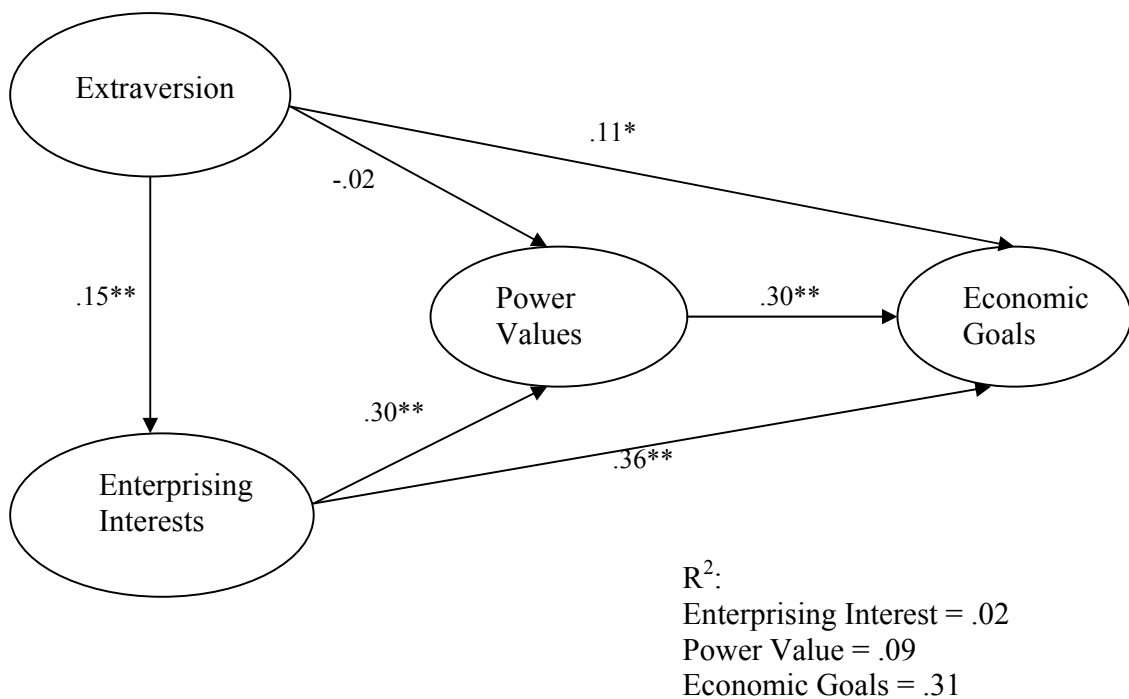


Figure 12. Standardized effects for Model 1 full model.

Note: $*p < 0.05$, $**p < 0.01$

In the reduced model shown in figure 13, the non-significant direct path from extraversion to power values was removed, in order to test the fit of a reduced, more parsimonious model. The overall fit can be assessed by comparing the reproduced

(inferred from the model) and empirical correlation matrices with a χ^2 test. The χ^2 test should be nonsignificant for a well fitting model. The CFI (good fit >.90) and RMSEA (i.e., Root Mean Square Error of Approximation, very good fit <.05) are also reported to indicate if the model is a good fit. Both the non-significant chi-square test, $\chi^2 = .11$, $df = 1$, $p = .75$, and the fit indices indicate good model fit, CFI = 1.0, RMSEA = .00 (90% CI: .00, .09) (Bollen, 1989). Model parameters and R-square remained the same of the full model.

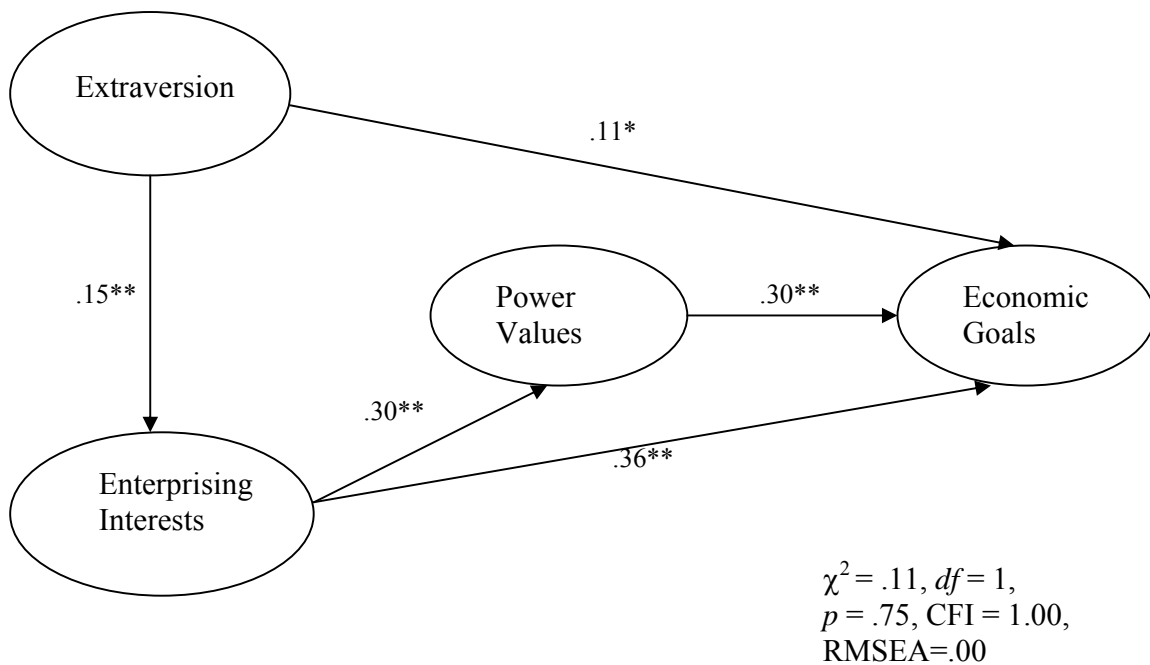


Figure 13. Standardized effects for Model 1 reduced model.

Note: * $p < 0.05$, ** $p < 0.01$

In model 2 (Figure 14), while Achievement values were put in the model to substitute Power values in model 1, there was a significant magnitude between

Extraversion and Achievement values ($\beta = .20, p < .01$) after controlling Enterprising interests and Economic goals. Both Extraversion personality and Enterprising interests explained 4% variance of Achievement values ($R^2 = .04$). Moreover, when trying to predict and understand Economic goals, Enterprising interests ($\beta = .45, p < .01$) and Achievement values ($\beta = .10, p < .05$) were both stronger variables than Extraversion personality ($\beta = .08, p > .5$) after controlling for one another. These three variables together account for 24% of variance of Economic goals ($R^2 = .24$). Similar to model 1, Extraversion personality was positively correlated to Enterprising interests ($\beta = .15, p < .01, R^2 = .02$), yet there was no significant correlation between Enterprising interests and Achievement values.

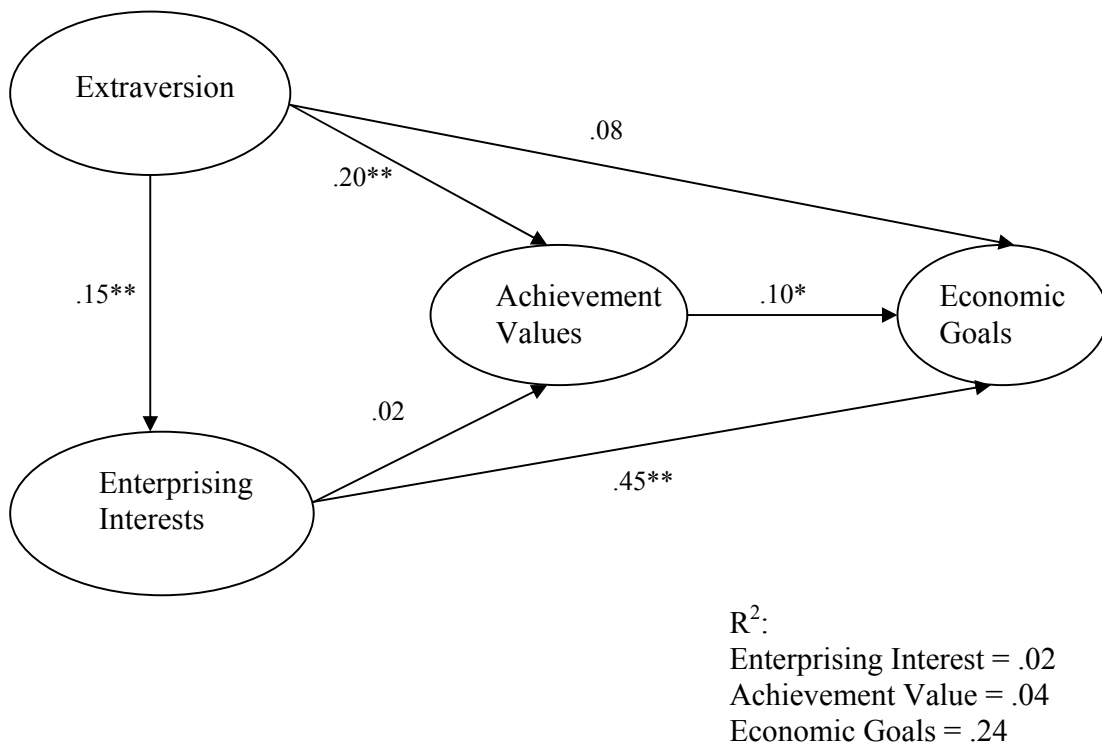


Figure 14. Standardized effects for Model 2 full model.

Note: * $p < 0.05$, ** $p < 0.01$

The specific indirect effect from Extraversion personality through Enterprising interest to Economic goals was significant ($\beta = .27, p < .01$). The zero-order correlation between extraversion and economic goals is also highly significant at .18. However, when the mediator of enterprising interest was added in between the two the direct path between extraversion and economic goals fell to .08 and is nonsignificant. This indicated that Enterprising interest had a full mediation effect between Extraversion personality and Economic goals.

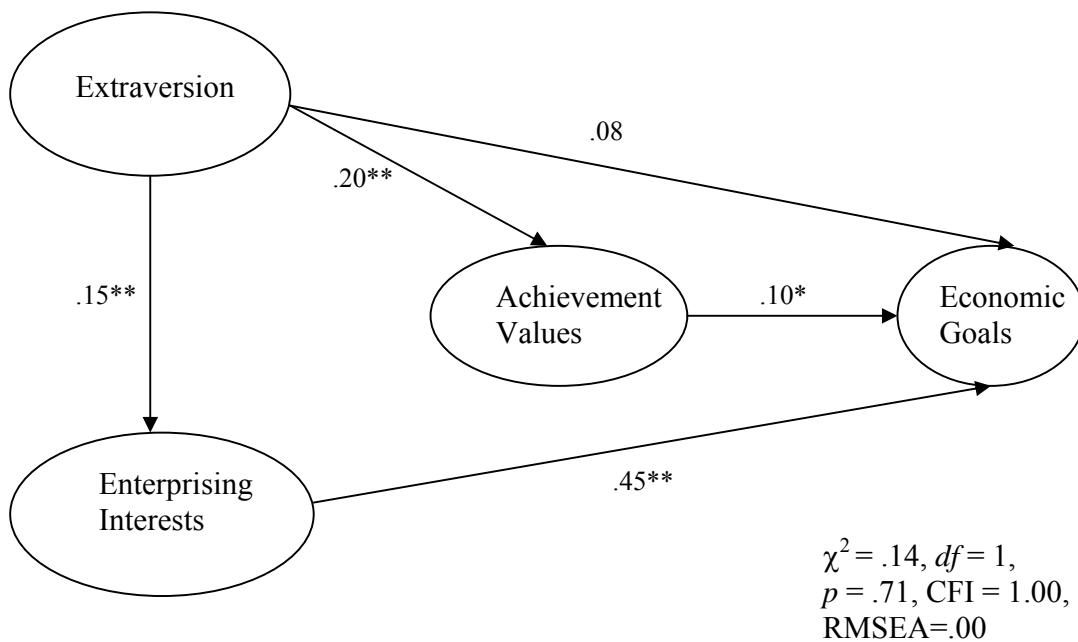


Figure 15. Standardized effects for Model 2 reduced model.

Note: $*p < 0.05, **p < 0.01$

In model 2 reduced model (figure 15), the non-significant path between Enterprising interests and Achievement values was removed. The betas of all the rest of the paths remained the same as the model 2 full model. Both the non-significant chi-square test, $\chi^2 = .14$, $df = 1$, $p = .71$, and the fit indices indicated good model fit, CFI = 1.0, RMSEA = .00 (90% CI: .00, .10).

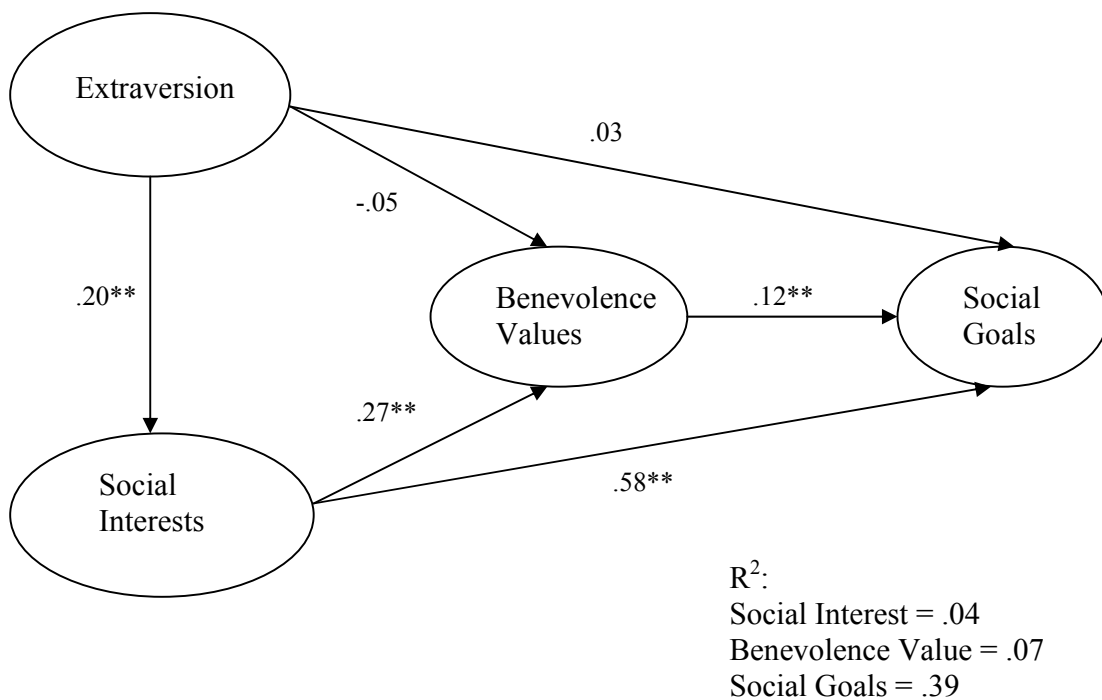


Figure 16. Standardized effects for Model 3 full model.

Note: $*p < 0.05$, $**p < 0.01$

In model 3 (figure 16), Extraversion personality was related to Social interests ($\beta = .20$, $p < .01$, $R^2 = .04$), and Social interests was significantly related to both Social goals ($\beta = .58$, $p < .01$) and Benevolence values ($\beta = .27$, $p < .01$). In addition, Benevolence values was correlated to Social goals ($\beta = .12$, $p < .01$). The specific indirect effect from

Social interest through Benevolence values to Social goals was significant ($\beta = .01$, $p < .01$) and indicated that Benevolence values served as a partial mediator between Social interests and Social goals. 10 % variance of Benevolence values was explained by both Extraversion personality and Social interests. 38% variance of Social goals was explained by Extraversion personality, Benevolence values, and Social interests combined.

In model 3 reduced model (figure 17), the non-significant path between Social interests and Benevolence values was removed. The betas of the rest of the paths remained the same as the model 3 full model. Both the non-significant chi-square test, $\chi^2 = .81$, $df = 1$, $p = .37$, and the fit indices indicated good model fit, CFI = 1.00, RMSEA = .00 (90% CI: .00, .13).

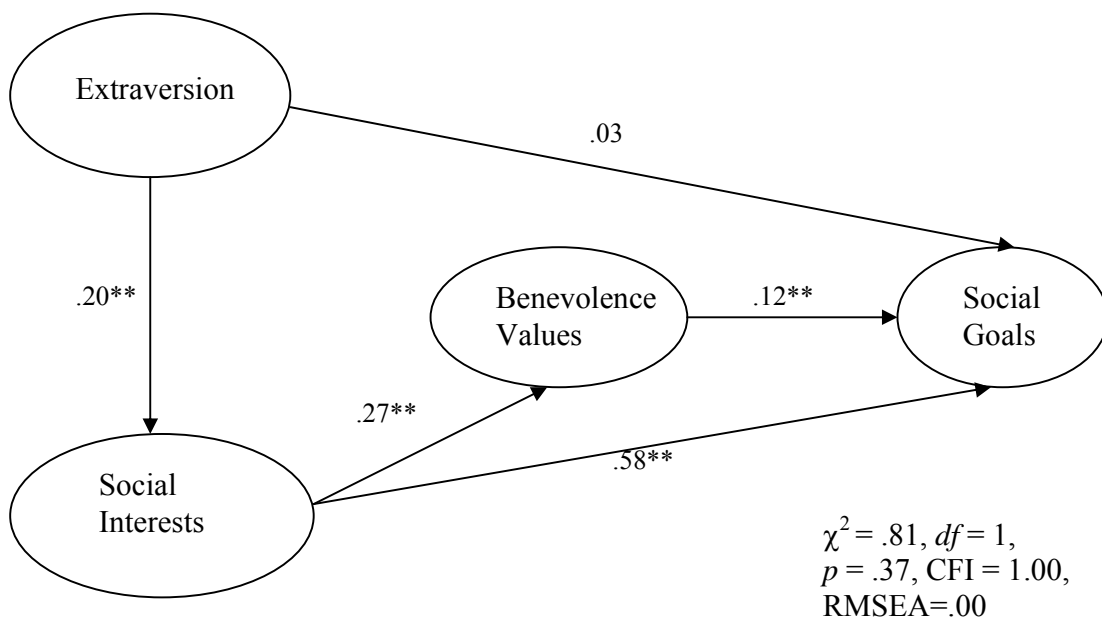


Figure 17. Standardized effects for Model 3 reduced model.

Note: * $p < 0.05$, ** $p < 0.01$

The next model was similar to model 3 while Agreeableness personality is used for investigation instead of Extraversion personality. Agreeableness personality appeared to be a stronger variable in explaining interest, values and goals in the social-benevolence domain. In model 4 (Figure 18), Agreeableness was positively correlated with Social interests ($\beta = .45, p < .01, R^2 = .20$), Benevolence values ($\beta = .30, p < .01$), and Social goals ($\beta = .17, p < .01$). Social interests were also positively correlated with Benevolence values ($\beta = .13, p < .05$) and Social goals ($\beta = .52, p < .01$). The specific indirect effect from Agreeableness personality through Social interests to Social goals was significant ($\beta = .23, p < .01$) which suggested the Social interest partially mediated between Agreeableness and Social goals. Both Agreeableness personality and Social goals accounted for 14% variance of Benevolence values. Agreeableness, Social goals and Benevolence values accounted for 41 % variance of social goals.

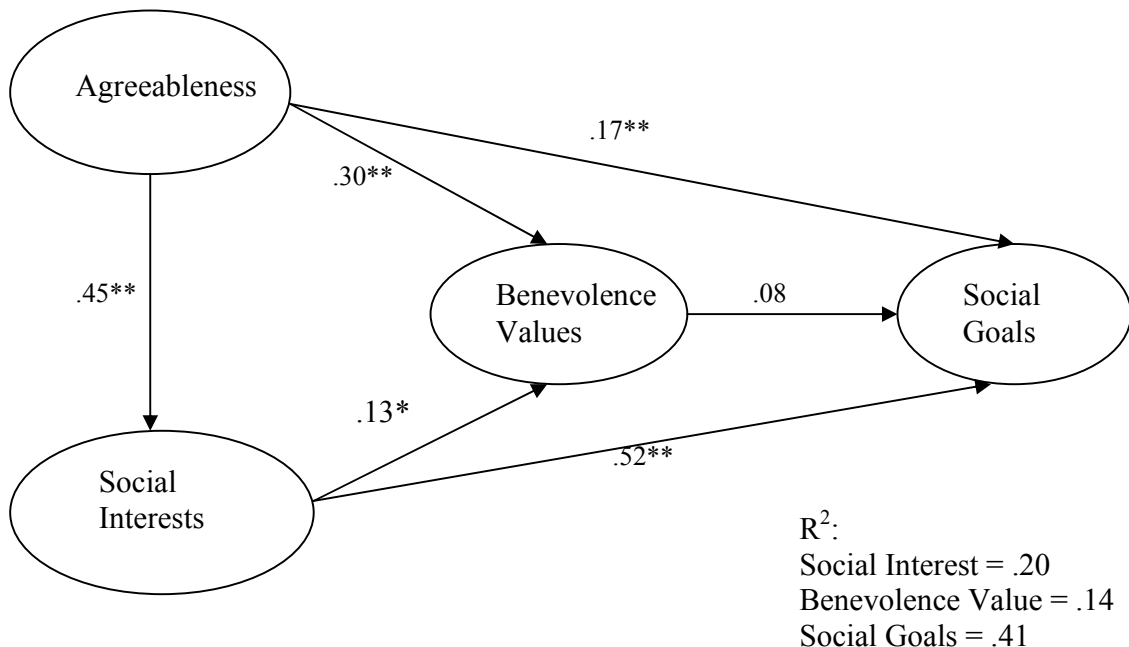


Figure 18. Standardized effects for Model 4 full model.

Note: $*p < 0.05$, $**p < 0.01$

In model 4 reduced model (figure 19), the non-significant path between Social goals and Benevolence values was removed. The beta of the path between Agreeableness personality to Social goals became .18, and the beta of the path between Social interests and Social goals became .53. while the rest of the paths remained the same. Both the non-significant chi-square test, $\chi^2 = 3.17$, $df = 1$, $p = .08$, and the fit indices indicated good model fit, CFI = .99, RMSEA = .08 (90% CI: .00, .18).

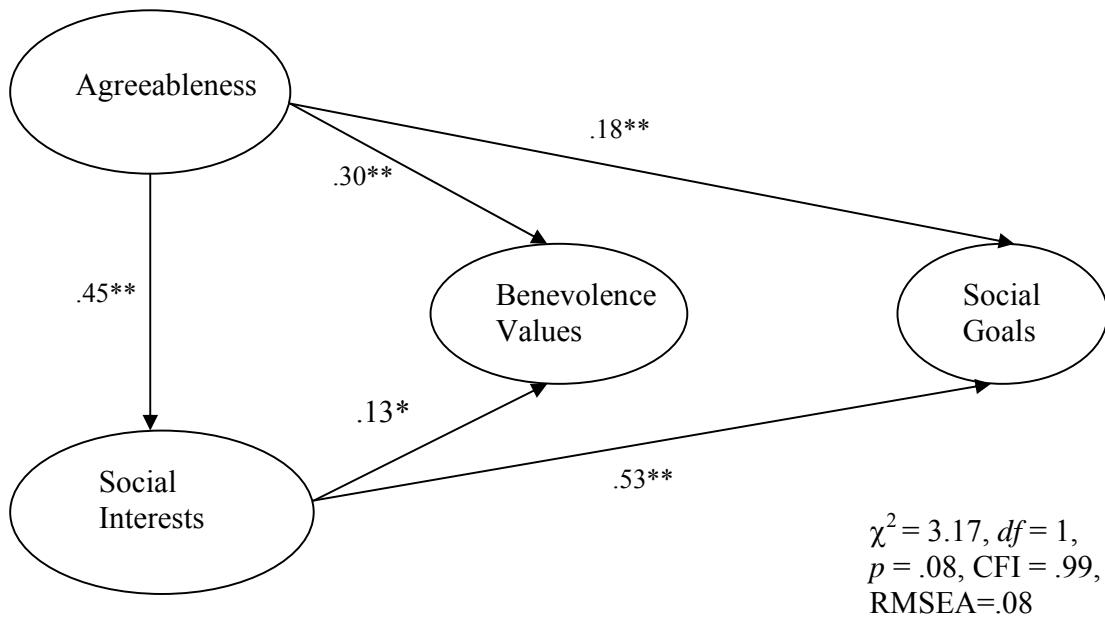


Figure 19. Standardized effects for Model 4 reduced model.
 Note: * $p < 0.05$, ** $p < 0.01$

In model 5 (figure 20), Relationship goals were investigated along with Agreeableness personality, Social interests, and Benevolence values. Same as model 4, there were significant magnitude among Agreeableness, Social interest and Benevolence

values and the betas for these paths were identical. In addition, Agreeableness can predict Relationship goals when values and interests were controlled ($\beta = .37, p < .01$). There was no mediation effect observed in this model. Furthermore, 20% variance of Social interests was explained by Agreeableness; 14% variance of Benevolence values was explained by both Agreeableness personality and Social interests; 16% variance of Relationship goals was explained by Agreeableness personality, Benevolence values and Social interests all together.

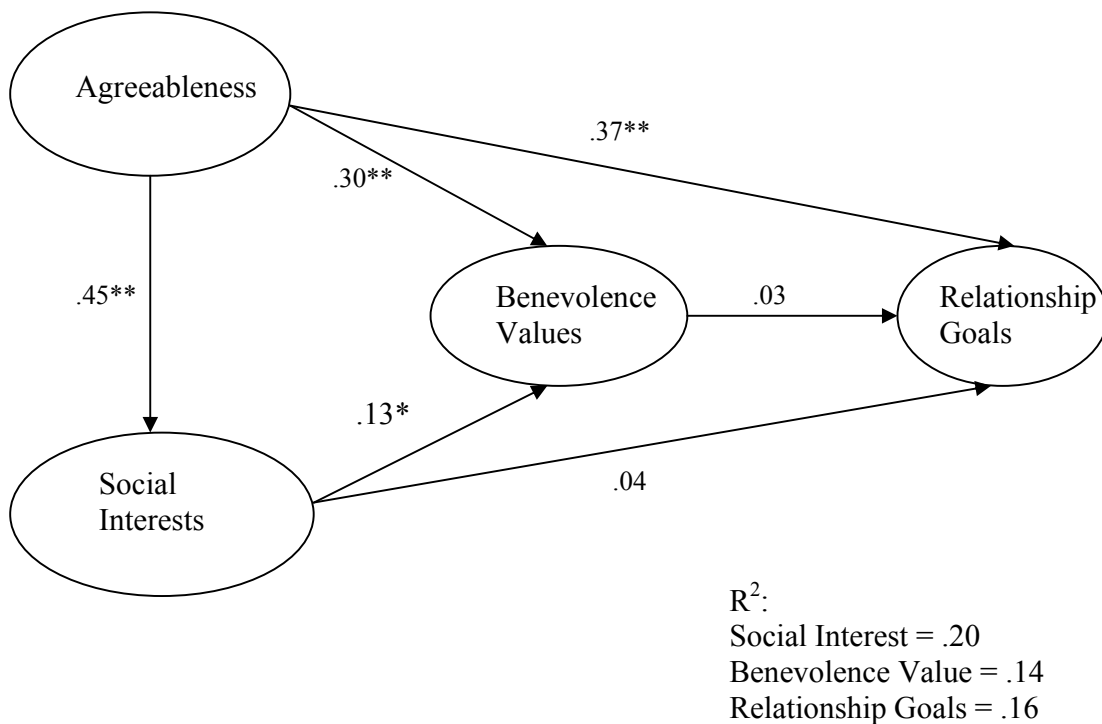


Figure 20. Standardized effects for Model 5 full model.

Note: $*p < 0.05, **p < 0.01$

In model 5 reduced model (figure 21), the non-significant path between Relationship goals and Benevolence values was removed. The betas of all the rest of the

paths remained the same as the model 5 full model. Both the non-significant chi-square test, $\chi^2 = .35$, $df = 1$, $p = .56$, and the fit indices indicated good model fit, CFI = 1.0, RMSEA = .00 (90% CI: .00, .11).

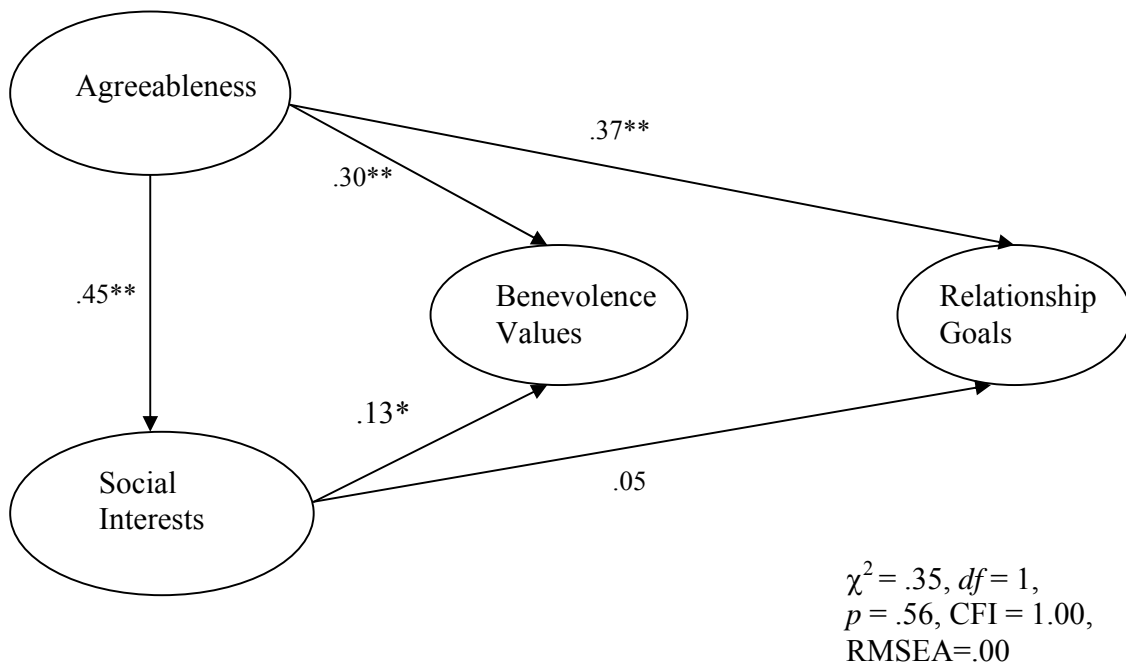


Figure 21. Standardized effects for Model 5 reduced model.

Note: * $p < 0.05$, ** $p < 0.01$

In model 6 (figure 22), there are several significant paths, including the paths between Conscientiousness personality and Enterprising interests ($\beta = .14$, $p < .01$, $R^2 = .02$), Conscientiousness personality and Achievement values ($\beta = .11$, $p < .05$), Conscientiousness personality and Economic goals ($\beta = .19$, $p < .01$), Enterprising interests and Economic goals ($\beta = .43$, $p < .01$), and Achievement values and Economic

goals ($\beta = .10, p < .01$). Enterprising interest partially mediated between Conscientiousness personality and Economic goals because the indirect effect of this path was significant ($\beta = .06, p < .01$). Both Conscientiousness and Enterprising interests explained 2% of Achievement value variance. Conscientiousness, Enterprising interests and Achievement value all together accounted for 27% variance of Economic goals.

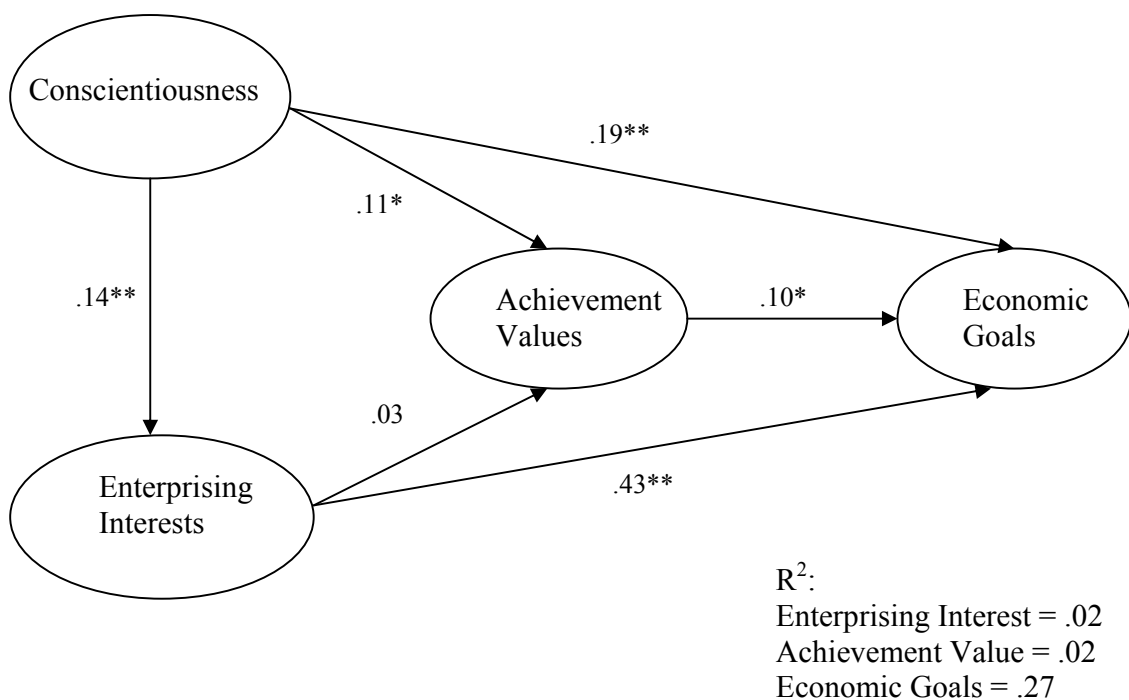


Figure 22. Standardized effects for Model 6 full model.

Note: $*p < 0.05, **p < 0.01$

In model 6 reduced model (figure 23), the non-significant path between Enterprising interests and Achievement values was removed. The beta of the path between Conscientiousness personality and Achievement values became $.12$, while the betas of the

rest of the paths remained the same. Both the non-significant chi-square test, $\chi^2 = .42$, $df = 1$, $p = .52$, and the fit indices (CFI = 1.0, RMSEA = .00 (90% CI: .00, .12)) indicated good model fit

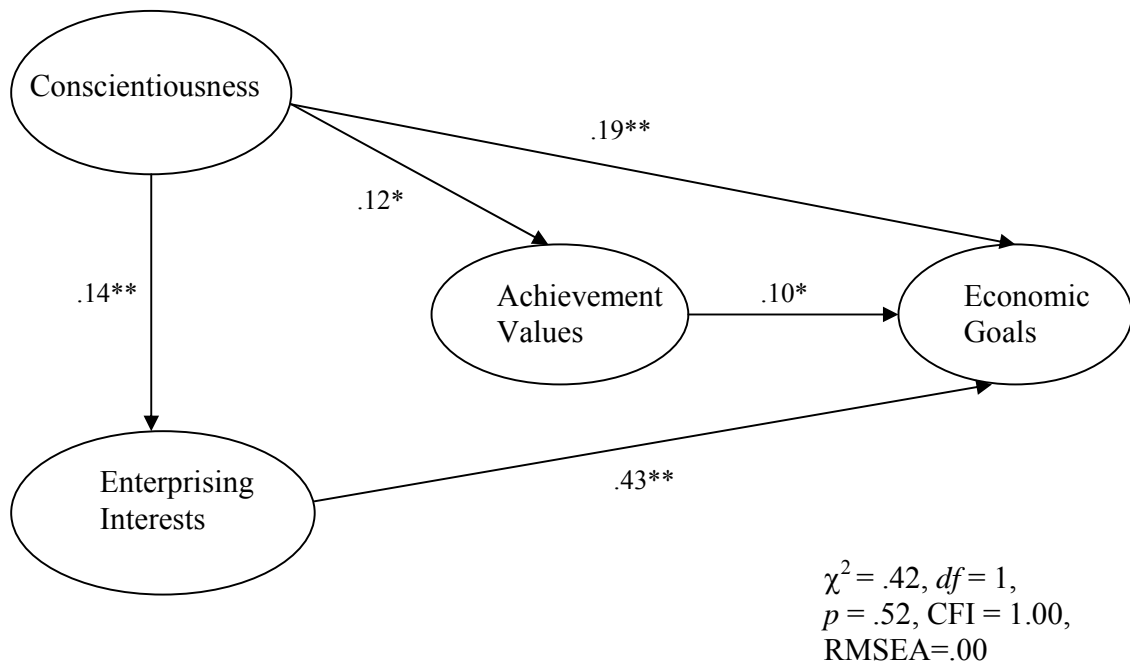


Figure 23. Standardized effects for Model 6 reduced model.

Note: * $p < 0.05$, ** $p < 0.01$

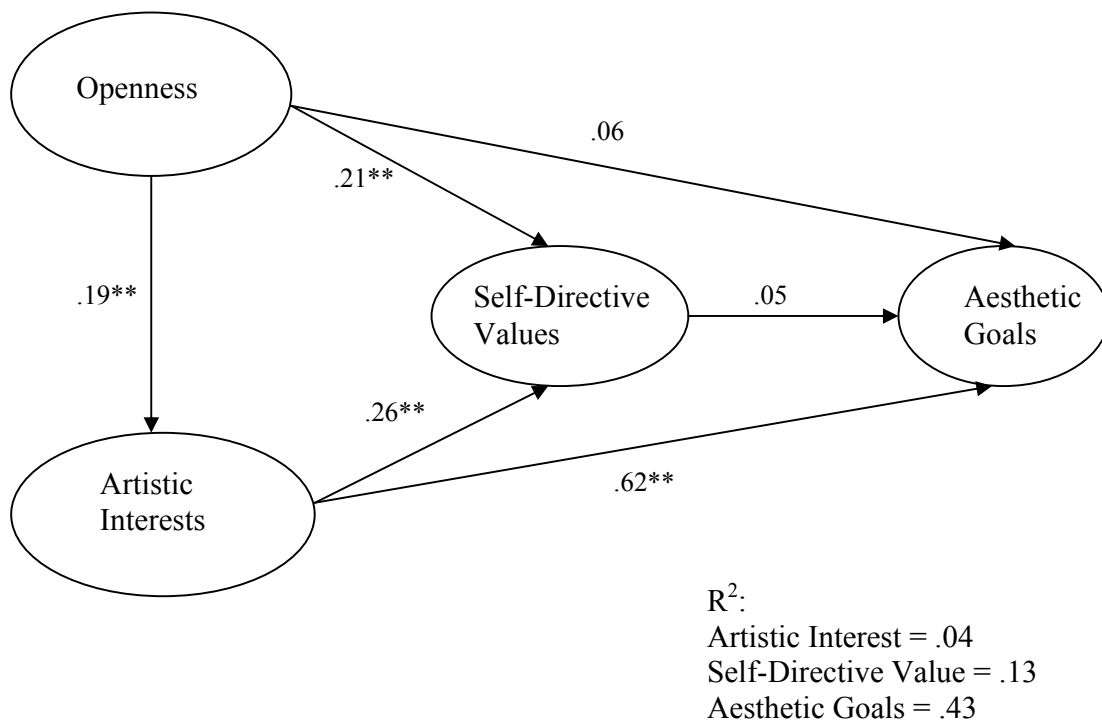


Figure 24. Standardized effects for Model 7 full model.

Note: * $p < 0.05$, ** $p < 0.01$

In model 7 (figure 24), after controlling for the other path in the model, Openness to Experience personality was related to Artistic interests ($\beta = .19$, $p < .01$, $R^2 = .04$), and Self-Directive values ($\beta = .21$, $p < .01$). Artistic interests was significantly correlated to Self-Directive values ($\beta = .26$, $p < .01$) and Aesthetic goals ($\beta = .62$, $p < .01$). Artistic interests had a full mediation effect between Openness personality and Aesthetic goals. The specific indirect effect from Openness personality through artistic interests to Aesthetic goals was significant ($\beta = .12$, $p < .01$). The zero-order correlation between Openness personality and Aesthetic goals was significant at .19 but the beta of the path became non-significant after Artistic interests was added between this two variables.

13% variance of Self-Directive values was explained by both Openness personality and Artistic interests. Openness personality, Artistic interests, and Self-directive values together accounted for 43% variance of Aesthetic goals.

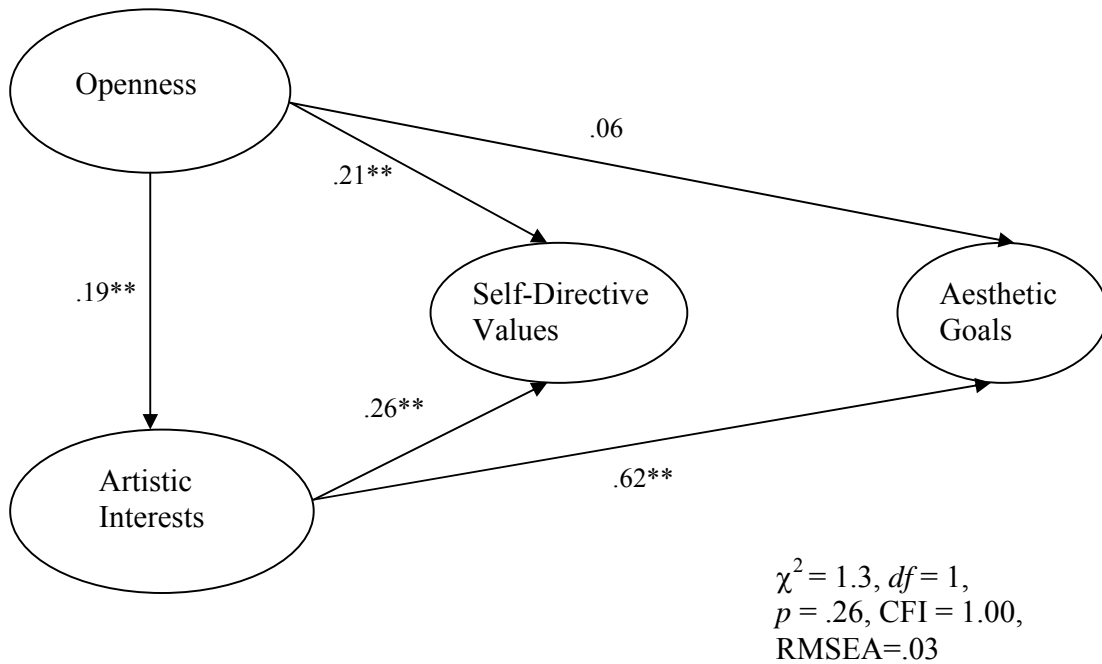


Figure 25. Standardized effects for Model 7 reduced model.

Note: * $p < 0.05$, ** $p < 0.01$

In model 7 reduced model (figure 25), the non-significant path between Aesthetic goals and Self-Directive values was removed. The betas of all the rest of the paths remained the same as the model 7 full model. Both the non-significant chi-square test, $\chi^2 = .13, df = 1, p = .26$, and the fit indices indicated good model fit, $CFI = 1.0, RMSEA = .03$ (90% CI: .00, .14).

In addition to testing the proposed model, another alternative model was tested for comparison purposes. In the alternative model, personality first predicts vocational interests, followed by a direct path between interests and values, then a direct path between values and goals. By comparing these two different model types, a better understanding to the complexity of the relationship among these variable was provided. The result indicated that the original model has good model fit, and the alternative model has poor model fit. The following are the results of the alternative models in different

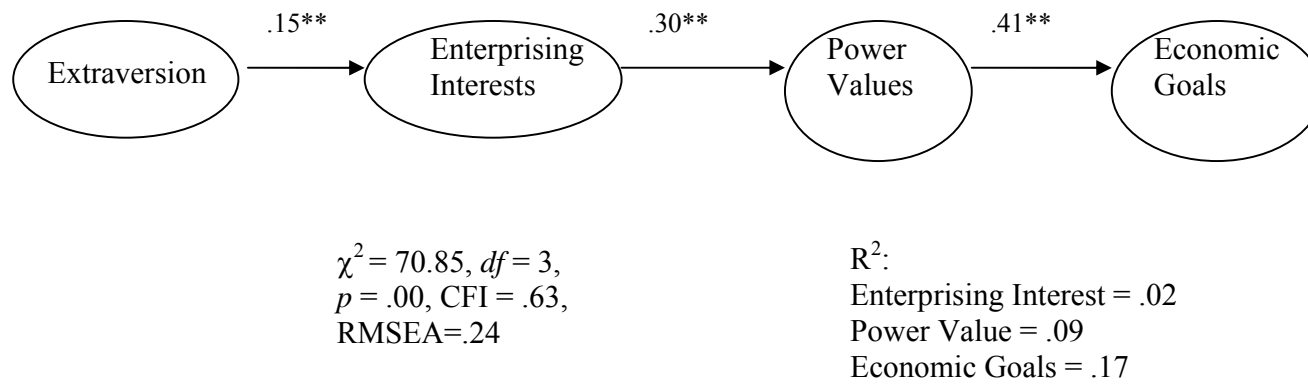
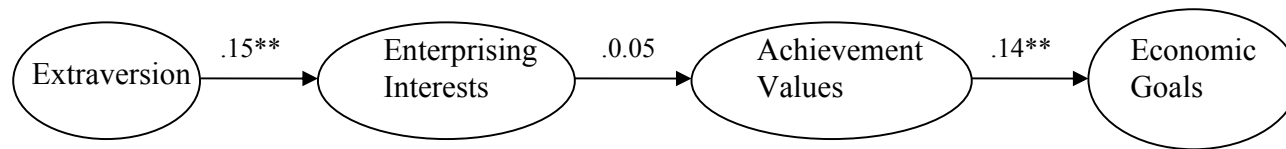


Figure 26. Standardized effects for alternative Model 1.

Note: * $p < 0.05$, ** $p < 0.01$

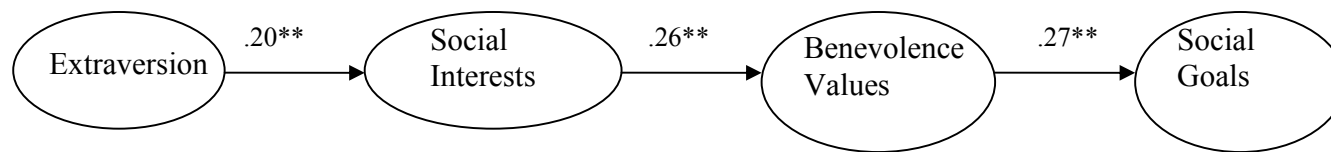


$\chi^2 = 111.51, df = 3,$
 $p = .00, CFI = .12,$
 RMSEA = .31

R^2 :
 Enterprising Interest = .02
 Achievement Values = .00
 Economic Goals = .02

Figure 27. Standardized effects for alternative Model 2.

Note: * $p < 0.05$, ** $p < 0.01$

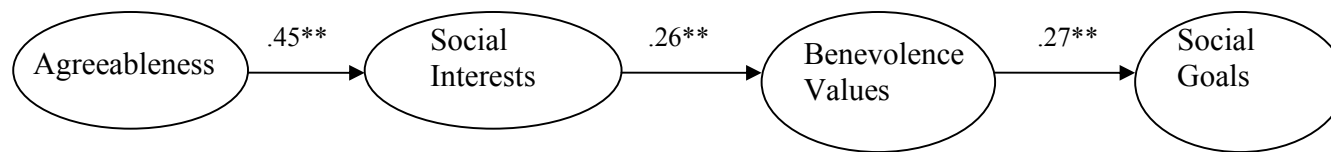


$\chi^2 = 161.19, df = 3,$
 $p = .00, CFI = .31,$
 RMSEA = .37

$R^2:$
 Social Interest = .04
 Benevolence Values = .07
 Social Goals = .07

Figure 28. Standardized effects for alternative Model 3.

Note: * $p < 0.05$, ** $p < 0.01$



$\chi^2 = 202.41, df = 3,$
 $p = .00, CFI = .41,$
 RMSEA = .42

R^2 :
 Social Interest = .02
 Benevolence Value = .07
 Economic Goals = .07

Figure 29. Standardized effects for alternative Model 4.

Note: * $p < 0.05$, ** $p < 0.01$

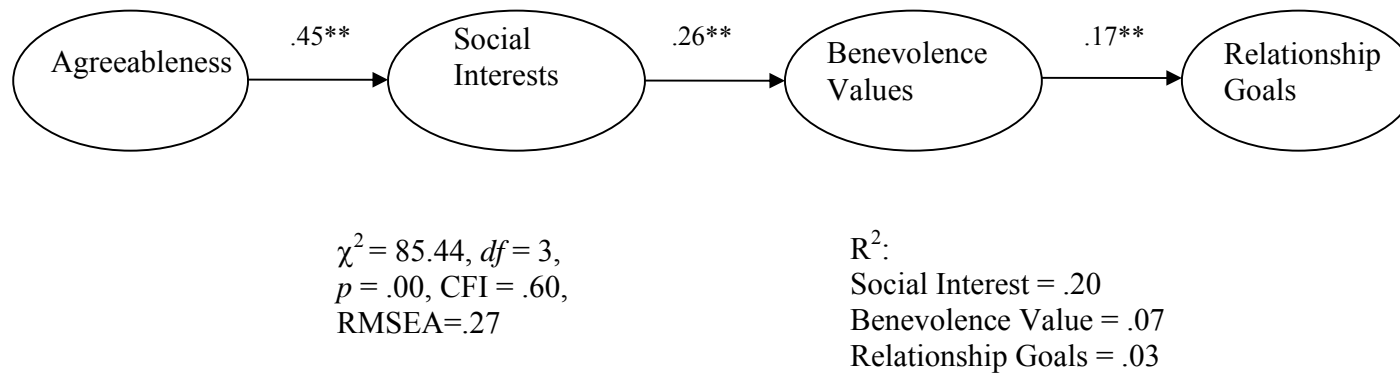


Figure 30. Standardized effects for alternative Model 5.

Note: * $p < 0.05$, ** $p < 0.01$

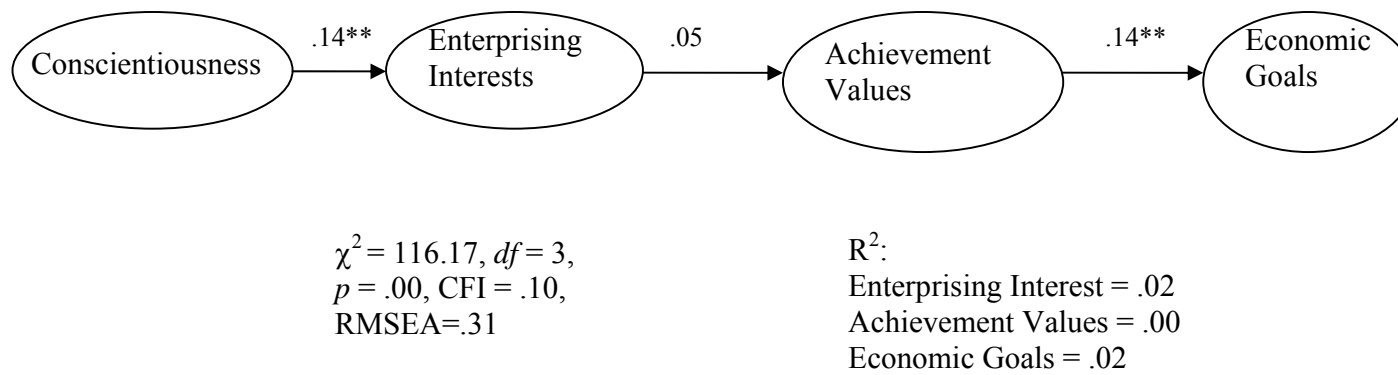
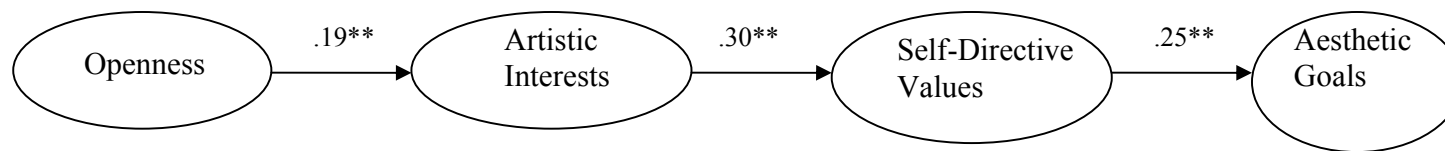


Figure 31. Standardized effects for alternative Model 6.

Note: * $p < 0.05$, ** $p < 0.01$



$\chi^2 = 210.34$, $df = 3$,
 $p = .00$, CFI = .25,
 RMSEA = .42

R^2 :
 Artistic Interest = .04
 Self-Directive Value = .09
 Aesthetic Goals = .06

Figure 32. Standardized effects for alternative Model 7.

Note: * $p < 0.05$, ** $p < 0.01$

Study 2: Model Testing

There are four hypotheses in study 2 models. The first one was the stability of personality traits, interests and major life goals. The result supported this hypothesis and there were significant paths between two time points for the same variable. Standardized coefficient ranged from .48 to .65. The second hypothesis was that the association of variables in time 2 should be stronger than the paths in time 1. This hypothesis didn't receive strong support from the finding. Only the path between Enterprising interests and Economic goals became stronger in time 2. The rest of the associations were either similar or smaller than the correlation in time 1. The third hypothesis was to test if the time 1 personality traits and interests can predict time 2 major life goals and the hypothesis was supported by the results. Last hypothesis in study 2 was that Relationship goals should have reciprocal relationship with Agreeableness and Social interests, and Economic goals should be able to predict Conscientiousness and Enterprising interests. The paths were not significant in both models since the variance might be better explained by other variables in the model. However, when using simple regression to test the relationship, the hypothesis was supported.

In study 2 model 1 (figure 33), after controlling other variables, the paths between Agreeableness personality and social interests in both time points were significant ($\beta = .47, p < .01$; $\beta = .26, p < .01$); the paths between Agreeableness personality and Relationship goals were also significant in both time points ($\beta = .47, p < .01$; $\beta = .30, p < .01$). There was a strong correlation for the same variable across time (Agreeableness time 1 and time 2: $\beta = .46, p < .01$; Social interests time 1 and time 2: $\beta = .44, p < .01$; Relationship goals time 1 and time 2: $\beta = .55, p < .01$). The total indirect effect from

time 1 Agreeableness personality to time 2 Relationship goals was significant ($\beta = .37, p < .01$). Providing more details, there were two paths of specific indirect effect that were significant. They were the path from time 1 Agreeableness personality through time 2 Agreeableness to time 2 Relationship goals ($\beta = .14, p < .01$), and the path from time 1 Agreeableness personality through time 1 Relationship goals to time 2 Relationship goals ($\beta = .26, p < .01$). This indicated that time 1 Agreeableness personality had indirect effect through time 2 Agreeableness and time 1 Relationship goals to time 2 Relationship goals. That is, when controlling for Social interests, Agreeableness personality can better predict the future relationship goals. The chi-square value for this proposed model is 2.30 ($df = 4, p = .68, CFI = 1.0, RMSEA = .00$), which indicated good fit.

Moreover, time 1 Agreeableness explained 23% variance of time 1 Social interests ($R^2 = .23$); both time 1 Agreeableness and Social interests explained 22% variance of time 1 Relationship goals. Time 1 Agreeableness and Relationship goals accounted for 22% variance of time 2 Agreeableness. 35% variance of time 2 Social interests was accounted by time 1 Social interests, time 1 Relationship goals, and time 2 Agreeableness. 44% variance of time 2 Relationship goals was explained by time 2 Agreeableness and Social interests, and time 1 Relationship goals.

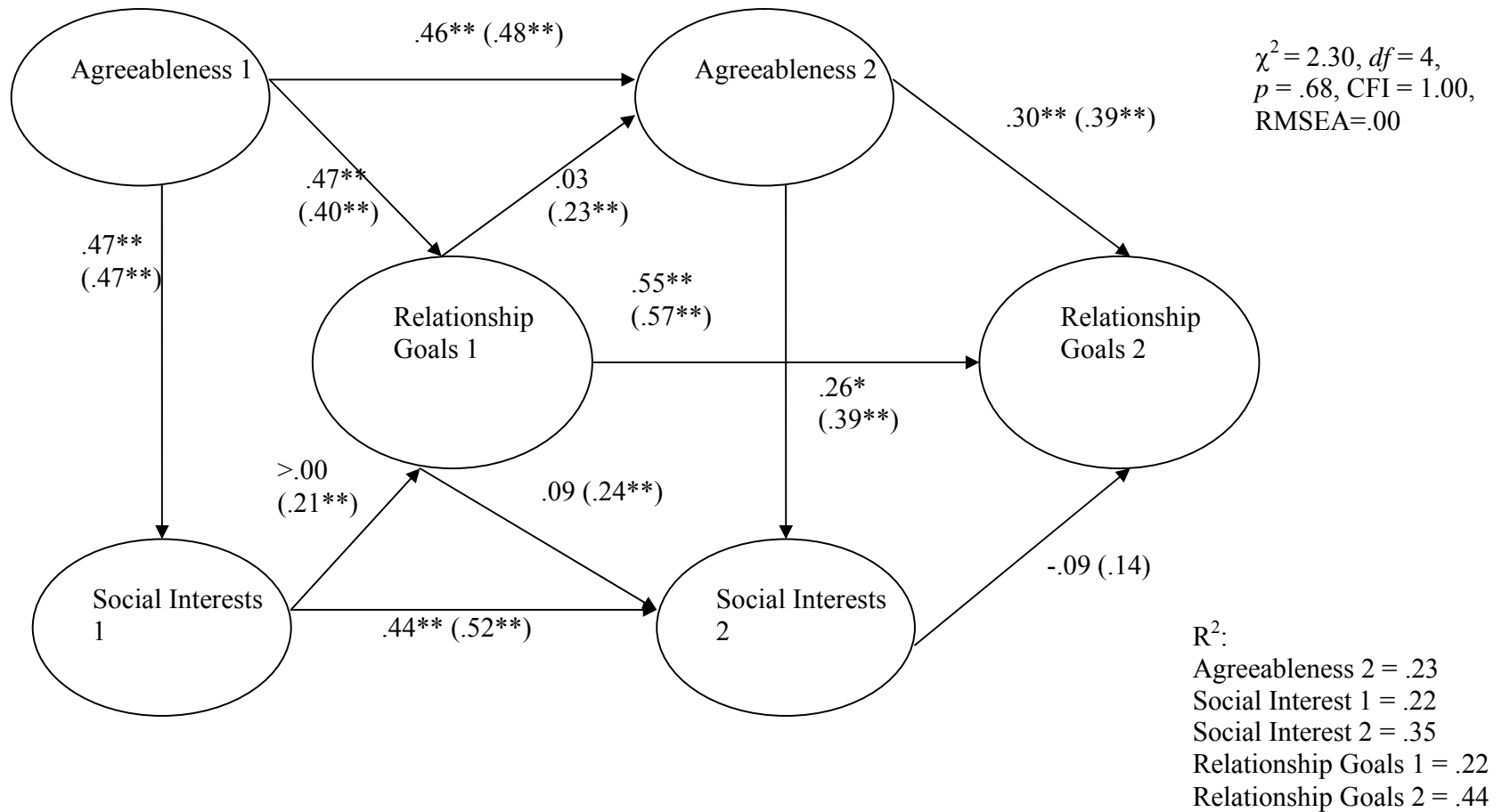


Figure 33. Standardized effects for Study 2 Model 1 full model. The standardized coefficients in the parentheses are the direct effect between two conjunction variables without controlling for other variables in the model.

Note: * $p < 0.05,$ ** $p < 0.01$

In study 2 model 2 (figure 34), after controlling other variables, the path between Conscientiousness personality and Economic goals was significant in time 1 ($\beta = .26, p < .01$). The path between Enterprising interests and Economic goals was significant in both time points (Time 1: $\beta = .44, p < .01$; Time 2: $\beta = .38, p < .01$). The paths of the same variable between both time points were all significant (Conscientiousness across time: $\beta = .64, p < .01$; Economic goals: $\beta = .39, p < .01$; Enterprising interests: $\beta = .48, p < .01$). The specific indirect effect from time 1 Conscientiousness through time 1 Economic goals to time 2 Economic goals was significant ($\beta = .10, p < .05$). This suggested time 1 Conscientiousness can predict future Economic goals. Moreover, the significant paths from time 1 Enterprising through time 2 Enterprising interests to time 2 Economic goals ($\beta = .18, p < .01$), and the specific indirect effect from time 1 Enterprising interests through time 1 Economic goals to time 2 economic goals ($\beta = .17, p < .01$) indicated that time 1 Economic interests can predict future Economic goals. The chi-square value for this proposed model is 8.20 ($df = 4, p = .08, CFI = .97, RMSEA = .10$), which indicated reasonable fit.

Both time 1 Conscientiousness and Enterprising interest together explained 25 % variance of time 1 Economic goals. 43 % variance of time 2 Conscientiousness was explained by both time 1 Conscientiousness and Economic goals. 25 % variance of time 1 Enterprising interests was explained by time 1 Enterprising interests, Economic goals, and time 2 Conscientiousness. 40% variance of time 2 Economic goals was explained by time 1 Economic goals, time 2 Conscientiousness and Enterprising interests.

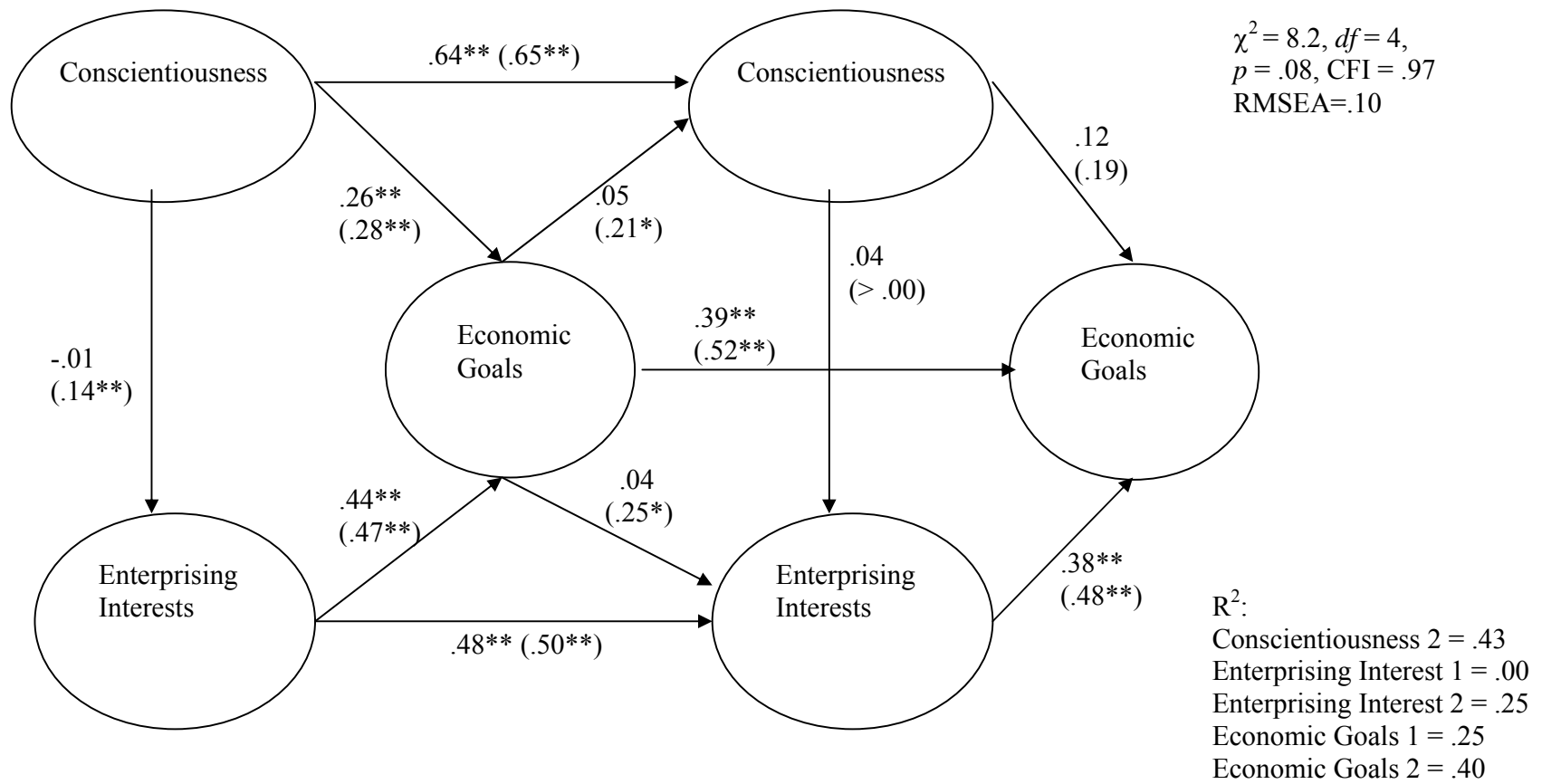


Figure 34. Standardized effects for Study 2 Model 2 full model. The standardized coefficients in the parentheses are the direct effect between two conjunction variables without controlling for other variables in the model

Note: * $p < 0.05$, ** $p < 0.01$

For comparison purposes, simple regressions were run for each path in the model in order to see the magnitude of association without controlling for the rest of the variables in the model. The results showed that Agreeableness can predict Relationship goals, and the Relationship goals can further predict future Agreeableness personality. By the same token, Social interests predicted Relationship goals, and Relationship goals predicted time 2 Social interests. Similar results were found in model 2, the Conscientiousness – Enterprising interests – Economic goals domain. In addition, from simple regression coefficient, the strength of the association at different time points can be compared. In time 2, the relationship between Agreeableness and Social interest decreased from .47 to .39, both are statistically significant. The relationship between Agreeableness and Relationship goals decreased from .40 to .39, and the path between Social interests and Relationship goals decreased from .21 to .14. In model 2, the relationship between Conscientiousness and Enterprising interests decreased from .14 to nearly .00. The association between Conscientiousness and Economic goals went down from .28 to .19. The only path that didn't decrease is the one between Enterprising interests and Economic goals, changing from .27 to .48.

CHAPTER 4

DISCUSSION

The current study sought to investigate how and to what extent life goals are influenced by other psychological dispositions. Two studies were proposed to provide comprehensive models to understand the relationship among major life goals, personality traits, vocational interests, and values. In study one, a hypothesis was proposed that personality traits first predict vocational interests, values, and then goals. Moreover, mediation effect was found in some cases. In the proposed model, interests serve as a mediator between personality traits and life goals; values serve as a mediator between personality traits and goals, and between interests and goals. The results showed that there are significant associations among personality traits, interests, values and major life goals.

In study two, the results indicated that personality, interests, and major life goals are stable across time. In addition, both personality and interests are enduring psychological dispositions that can predict future major life goals. However, there is no systematic trend that indicates the relationships among personality interests and goals would become stronger over time as individuals mature. The models also show that some variables are more capable of explaining and predicting major life goals when other variables were controlled. Last but not least, during emerging adulthood, goals that are congruent with social expectations such as having a stable career and a relationship showed expected relationships with personality traits and interests.

Relationships among Personality, Interests, Values, and Major Life Goals

In emerging adulthood, personality, interests, and values are three major psychological dispositions that influence individuals' life goal settings. The findings of the current study support previous research that major life goals are influenced by value priorities (Schwartz & Bilsky, 1987; Eccles, 1984; Eccles & Harold, 1994) and are expressions of the motivated behavioral patterns described by personality traits (Bilsky & Schwartz, 1994) and interests (Denissen, et al. 2007; Fredricks & Eccles, 2002; Sun, 2008). Major life goals can be predicted by a profile of personality traits, interests, and values. In addition, though detailed magnitude may vary by specific domains, the result generally supports the idea that personality trait is a broader and more fundamental disposition than interest and goals (Kaiser, Ozer, 1994; Holland, 1997). Furthermore, both values and major life goals are not as stable as traits (e.g., personality and interest) and play a down-stream role in the channel from natural disposition to the end product of behaviors (Cantor, 1990; Eccles, 2002; Little, Lecci, & Watkinson, 1992; Rokeach, 1979).

Another conclusion drawn from study 1 is the mediation effect. Interest may serve as a mediator between personality and major life goals in certain domains (i.e., model 1, Extraversion-Enterprising interests-Power values domain; model 4, Agreeableness-Social interest-Benevolence values domain; model 6, Conscientiousness-Enterprising interests-Achievement values domain), while values mediate between personality and major life goals (model 6, Conscientiousness-Enterprising interests-Achievement values domain), and between interests and goals (model 1 Extraversion-Enterprising interests-Power values domain, and model 3 Extraversion-Social interests-Benevolence values).

The present results support the argument that interest is a reflection of personality (Holland, 1997) and thus mediates the association between personality and major life goals, where goals are viewed as expressions of personality (McCrae & Costa, 1999; Roberts et al. 2000, 2004). Both personality and interest are dispositions that involve motivation process, and there is a conduit relationship and phenomenon that an individual with a specific pattern of thought, emotions, and behaviors (i.e., personality) develops specific set of preference to engage in certain activities and environments, and this lead to the formation of a certain aspirations and goals. Similarly, the mediation effect of values confirms the Expectancy-Value (E-V) theory that individuals' subjective task value is influenced by interests and will further influence the task choices, goal settings, and task investment (Denissen, et al. 2007; Fredricks & Eccles, 2002).

Some traits explain the proposed study 1 model better than the other. In the domain of Extraversion personality, Enterprising interest, and Economic goals, Power values shows more significant path to other variables in the model, compared to Achievement values. Similarly, Agreeableness personality is a stronger predictor of the proposed model than Extraversion personality when it comes to the social and benevolence domain as shown in model 3 and 4. In other words, compared to extraverted people who are outgoing, energetic and seeking for stimulation from the environment, people who are friendly, compassionate, and cooperative (Agreeableness personality) may have a stronger tendency to show interest in being cooperative, supporting and helping (Social interests), may value helpfulness, friendship, honesty, loyalty and responsibility (Benevolence values), and set goals to help others in needs and promoting others' welfare (Social goals).

The longitudinal Study of the Relationships among Personality, Interests, and Major Life

Goals

The first finding of study 2 supported previous research that personality traits, vocational interests and major life goals demonstrated stability and continuity cross time. There are significant magnitude of association between two time points for the same variable in both models in study 2 and significant correlations shown in Table 4. This is congruent with the research on stability of personality traits and interests (Roberts & Caspi, 2003; Lows et al, 2005). The result also supported Roberts and his colleagues (2004) arguments that major life goals demonstrate trait-like property and thus is a reflection of personality traits (McCrae & Costa, 1999).

Another hypothesis in study 2 was that the relationship among personality, interests, and major life goals should become stronger over time. Entering college and getting involved in different activities help individuals to crystallize the idea of who they are and what they aspire in life. At this developmental stage, individuals first expand their activities and experiment with different opportunities (Arnett, 1998). They learn more about what they enjoy doing and want are congruent with their patterns of thinking, feeling and behaving. After the abundant new experiences, they gradually narrow down their interests and goals due to the limited resources, such as energy, time and money (Baltes, 1997). The current study thus proposed the idea that the relationship of the remaining traits should become stronger as individuals teased out traits that are less representative, interesting, or enjoyable to them. However, the result didn't support this argument. It is possible that the association among personality, interests and goals is not as strong as expected. It is also likely that there might be other important psychological

factors at emerging adulthood other than personality traits and interests that may better predict major life goals. This current finding is congruent with Roberts's (2004) finding that the relationship between personality and major life goals don't become stronger as individual mature during emerging adulthood.

In addition, from the proposed study 2 model 1, Agreeableness personality can predict Social interests at both time points. Furthermore, though both Agreeableness personality and Social interests are significantly correlated with Relationship goals from Table 4, compared to Social interests, Agreeableness is a stronger predictor for Relationship goals according to the model result. In other words, people with agreeable personality that are friendly, helpful, considerate, and value getting along with others may be more likely to set relationship goals such as wanting to have a satisfying relationship and having children, when taken into account the effect of the tendency to enjoy helping others, be supportive and cooperative. Agreeableness personality has direct effect on Relationship goals at a single time point, and indirect effects on Relationship goals across time during emerging adulthood. The stability of the relationship between Agreeableness personality and Relationship goals is congruent with the special development tasks at this stage of life while transitioning from adolescent to adulthood. Individuals are trying to build a socially accepted self and demonstrate their commitment to goals that are socially expected, such as building a family (Robert et al. 2000). However, Relationship goals don't reinforce Agreeableness personality after controlling the previous existing Agreeableness traits. Social goals do not lead to the development of vocational interests either, after taken into account the effect of Agreeableness. At the same time, without controlling for other variables, the reciprocal relationship between Agreeableness and

Relationship goal, and between Social interests and Relationship goals was observed via simple regression. This supported the idea that emerging adults who are more Conscientious and agreeable may set goals that help them build conventional social roles. While working toward a socially accepted self image, their agreeable traits and social interests are reinforced in the process.

Similar situation is observed in the Conscientiousness personality – Enterprising interests – Economic goals domain. Both Conscientiousness personality and Enterprising interests can predict Economic goals. Though Economic goals time 1 are positively and significantly related to Conscientiousness time 2, the reciprocal relationship between Economic goals and Conscientiousness personality and between Economic goals and Enterprising interests are not significant after controlling other direct effect in the model. In general, current personality traits and vocational interests can predict future life goals through either direct or indirect paths as discussed in the result section. However, the reciprocal relationship is significant without controlling other variables. For example, a conscientious person may set goals that follow the conventional social practice, such as having a stable career and be financially capable of raising a family of his/her own. In the process of fulfilling this set of goals, the person becomes more conscientious. The overall results of study 2 showed that, after controlling for some variables, certain traits can better predict other traits compared to the rest of the variables in the model.

To sum up, both personality and interest can predict future major life goals. In addition, major life goals demonstrate a reciprocal relationship with personality and interests. The detailed strength of each path in the longitudinal model may vary across different domain, and some traits can better predict one another compare to other traits.

Practical Implications

The result shows major life goals can be understood and predicted by personality interests and values. It provides important practical implications that if clients are confused about their life goals, and are struggling in choosing the relevant activities to engage in, in order to achieve their goals, career or psychological counselors can help them to exam their vocational interests and personality traits, as a way to sort out their tendencies and preferences, and further understand their life goals.

Moreover, the result also provides a roadmap in conceptualizing client's psychological issues. For example, if clients are not satisfied in the current situation in terms of the major or the activities they take part in, examining major life goals, interest, values and personality aspects, and how they intertwine with one another is important and beneficial, and may lead to effective outcome of psychotherapy. The reason is that each or all of these four important factors play a part in whether individuals enjoy the activities one is engaging in, the ability to perform and cope, how long they can stay in the environment and conducting the same behaviors, as well as feeling there is a meaning or purpose of their lives.

Limitations and Future Research

There are several limitations of this study. First, although there were nearly 400 participants for study 1, there were only 92 people participated in study 2. The attrition rate was high and might have significant impact on the stability and generalizability of the results and finding. In addition, it might be helpful to control participants' age and the year in college, in order to get a more precise developmental

trajectory trend. Moreover, the other limitation of this study falls in the issue of generalizability. This study was conducted with a sample of college students. Even though nearly 400 college students from different academic majors were recruited, they were mostly in their emerging adulthood, predominantly Caucasian, and were concerned about their career outlooks by taking the same elective career course. This leaves the question open that if the association among major life goals, personality, and interest remains invariant across different age groups and cultural background, although there is a significant amount of research supporting that the FFM of personality (Digman, 1990) and Holland's (1985, 1997) interest model and personality are valid models across age and cultural groups (e.g., McCrea, Costa, Del Pilar, Rolland, & Parker, 1998; Day & Rounds, 1998).

In addition, future research is encouraged to continuously examine Robert's (2000) major life goal measure in terms of its validity and reliability. This study supported most of Robert's classification of major life goals with some minor variations. It is also encouraged to investigate the measure across different age, race, and ethnicity, in order to get a clearer sense that whether the same classification and/or the selection of major life goal items would stay the same across age and cultural group.

In sum, the current study set a foundation of the research attempting to investigate the relationship among major life goals, interests, personality and values both at the same time point and across time. The findings validate that there are significant associations among these variables. Future research is encouraged to further build on current findings to help understand the properties and relationships of these psychological dispositions.

REFERENCES

- Ackerman, P. L., & Heggestad, E. D. (1997). Intelligence, personality, and interest: Evidence for overlapping traits. *Psychological bulletin*, *121*, 219-245.
- Arnett, J. J. (1998). Learning to stand alone: The contemporary American transition to adulthood in cultural and historical contest. *Human Development*, *41*, 295-315.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469-480.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, *52*, 366-380.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development*, *72*, 187-206.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.
- Barrick, M. R., Mount, M. K., & Gupta, R. (2003). Meta-analysis of the relationship between the Five-Factor Model of personality and Holland's occupational types. *Personnel Psychology*, *56*, 45-74.
- Bloom, M. (1964). Life-span analysis: A theoretical framework for behavioral science research. *Journal of Human Relations*, *12*(4), 538-554.
- Blustein, D. L., Phillips, S. D., Jobin-Davis, K., Finkelberg, S. L., & Roarke, A. E., (1997). A theory-building investigation of the school-to-work transition. *Counseling Psychologist*, *25*, 364-402.
- Bollen, K.A. (1989). *Structural equations with latent variables*. New York, NY: John Wiley & Sons.
- Brown, D., & Crace, R. K. (1996). Values in life role choices and outcomes: A conceptual model. *The Career Development Quarterly*, *44*, 211-224.
- Campbell, D. P. (1971). *Handbook for the Strong Vocational Interest Blank*. Stanford, CA: Stanford University Press.
- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology*, *53*, 1178-1191

- Cantor, N. (1990). From thought to behavior: "Having" and "doing" in the study of personality and cognition. *American Psychologist*, 45, 735-750.
- Caspi, A., Robert, B. W., & Shiner, R. (2005). Personality development. *Annual Review of Psychology*, 56, 453-484.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112 (1), 155-159.
- Cole, N. S., & Hanson, G. R. (1987). An analysis of the structure of vocational interests. *Journal of Counseling Psychology*, 18(5), 478-486.
- Costa, P. T., Jr., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of Personality and Social Psychology*. 54(5), 853-863.
- Costa, P. T., Jr., & McCrae, R. R. (1992a). Four ways five factors are basic. *Personality and Individual Differences*, 13, 653-665.
- Costa, P. T., Jr., & McCrae, R. R. (1992b). *NEO-PI-R professional manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. Heatherton & J. Weinberger (Eds.), *Can personality change?* (pp.21-40). Washington, DC: American Psychological Association.
- Costa, P. T., Jr., & McCrae, R. R. (2006). Age change in personality and their origins: Comment on Roberts, Walton, and Viechtbauer (2006). *Psychological Bulletin*, 132 (1), 26-28.
- Cropanzano, R., James, K., & Citera, M.(1992). A goal hierarchy model of personality, motivation, and leadership. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior*, 15, 267-322. Greenwich, CT: JAI Press.
- Day, S. X. & Rounds, J. (1998). Universality of vocational interest structure among racial and ethnic minorities. *American Psychologist*, 53, 728-736.
- Day, S. X., Rounds, J. & Swaney, K. (1998). The structure of vocational interest for diverse racial-ethnic groups. *Psychological Science*, 9, 40-44.
- Denissen, J. J. A., Zarrett, N. R., & Eccles, J. S. (2007). I like to do it, I' able, and I know I am: Longitudinal couplings between domain-specific achievement, self-concept, and interest. *Child Development*, 78(2), 430-447.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417-440.

- Eccles-Parsons, J. S., Adler, T. F., Futterman R., Goff, S. B., Kaczala, C. M., Meece, J., & Midgley, C. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.). *Achievement and achievement motives*. San Francisco: Freeman.
- Eccles, J. S. & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual review of Psychology*, *53*, 109-132.
- Emmons, R. A. (1989). The personal striving approach to personality. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 87-126). Hillsdale, NJ: Lawrence Erlbaum.
- Emmons, R. A. (1997). Motives and life goals. In R. Hogan, J. Johnson, & S. Briggs (Ed.), *Handbook of personality psychology* (pp. 485-512). San Diego, CA: Academic Press.
- Ennett, S. T., & Bauman, K. E. (1994). The contribution of influence and selection to adolescent peer group homogeneity: The case of adolescent cigarette smoking. *Journal of Personality and Social Psychology*, *67*, 653-663.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.
- Feather, N. T. (1988). Values, valences, and course enrollment: testing the role of personal values within an expectancy-value framework. *Journal of Educational Psychology*, *80*, 381-91.
- Feather, N. T. (1992). Values, valences, expectations, and actions. *Journal of Sociology*, *48*, 109-124.
- Ford, M. E. & Nichols, C. W. (1987). A taxonomy of human goals and some possible applications. In M. Ford & D. Ford (Eds.), *Humans as self-constructing living systems: Putting the framework to work* (pp. 289-311). Hillsdale, NJ: Lawrence Erlbaum.
- Fouad, N. A., Harmon, L. W., & Borgen F. H, (1997). Structure of interests in employed male and female members of US racial-ethnic minority and nonminority groups. *Journal of Counseling Psychology*, *44*(4), 339-345.
- Fredricks, J. & Eccles, J. S. (2007). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male-sex-typed domains. *Developmental Psychology*, *38*, 519-533.
- Freund, A. M., & Baltes, P. B. (2002). Life-management strategies of selection, optimization, and compensation: Measurement by self-report and construct validity. *Journal of Personality and Social Psychology*, *82*, 642-662.
- Funder, D.C. (2001). *The personality puzzle* (2nd ed.). New York: Norton.

- Goldberg, L. R. (1990). An alternative “description of personality”: The Big-Five Factor. *Journal of Personality and Social Psychology*, 59, 1216-1229.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34.
- Goh, D. S. & Leong, F. T. (1993). The relationship between Holland’s theory of vocational interest and Eysenck’s model of personality. *Personality and Individual Differences*. 15(5), 555-562.
- Gottfredson, G. D., Jones, E. M., & Holland, J. L. (1993). Personality and vocational interests: The relation of Holland’s six interest dimensions to five robust dimensions of personality. *Journal of Counseling Psychology*, 40, 518-524.
- Guilford, J. P. (1959). *Personality*, McGraw-Hill, New York.
- Hogan, R. (1991). *Personality and personality measurement*. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 2, 2nd ed., pp. 327-396). Palo Alto, CA: Consulting Psychology Press.
- Holland, J. L. (1959). *A theory of vocational choice*. *Journal of Counseling Psychology*, 6, 35-45.
- Holland, J. L. (1966). *The psychology of vocational choice: A theory of personality types and model environments*. Waltham, MA: Blaisdel.
- Holland, J. L. (1973). *Making vocational choices: A theory of careers*. Englewood Cliffs, NJ: Prentice-Hall.
- Holland, J. L. (1985). *Making vocational choice: A theory of careers*. Englewood Cliffs, NJ: Prentice Hall.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*. 65 (4), 599-610.
- Hunsley, J. & Meyer, G. J. (2003). The incremental validity of psychological testing and assessment: Conceptual, methodological, and statistical issues. *Psychological Assessment*, 15 (4), 446-455.

- Kaiser, R. T., & Ozer, D. J. (1994). *The structure of personal goals and their relationship to personality traits*. Paper presented at the 102nd convention of the American Psychological Association, Los Angeles.
- Kanfer, R. Ackerman, P. L., & Heggstad, E. D. (1996) Motivational skills and self-regulation for learning: A trait perspective. *Learning and Individual Difference*, 8, 185-209.
- King, L. A. (1995). Wishes, motives, goals, and personal memories: Relations of measures of human motivation. *Journal of Personality*, 63, 985-1007.
- King, L. A., & Broyles, S. J. (1997). Wishes, gender, personality, and well-being. *Journal of Personality*, 65, 49-76 .
- Kluckhohn, C. (1951). Values and value-orientations in the theory of action: An exploration in definition and classification. In T/ Parsons & E. Shils (Eds), *Toward a general theory of action*. Cambridge, MA: Harvard University Press.
- Larson, L. M., Rottinghaus, P. J., & Borgen, F. H., (2002). Meta-analyses of Big Six interests and Big Five personality factors. *Journal of Vocational Behavior*, 61(2), 217-239.
- Lattimore, R. R. & Borgen, F. H. (1994). Validity of the 1994 Strong Interest Inventory with racial and ethnic groups in the United States. *Journal of Counseling Psychology*, 46(2), 185-195.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79-122.
- Lent, R. W., Brown, S. D., & Hackett, G. (1996). Career development from a social cognitive perspective. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development* (3rd ed., pp. 373-422). San Francisco: Jossey-Bass.
- Leong, F. T. L. (Ed.). (1995). *Career development and vocational behavior of racial and ethnic minorities*. Vocational psychology. Hillsdale, NJ, England: Lawrence Erlbaum Associates.
- Levy, S. & Guttman, L. (1974). *Values and Attitudes of Israeli High School Youth*, Israel Institute of Applied Social Research, Jerusalem.
- Little, B. R. (1983). Personal project: A rationale and method for investigation. *Environment and Behavior*, 15, 273-309.
- Little, B. R. (1987). Personal and the Environment. In D. Stokols & I. Altman (Eds.) *Handbook of Environmental Psychology*. New York: Wiley.

- Little, B.R., Lecci, L., & Watkinson, B. (1992). Personality and personal project: Linking Big Five and PAC units of analysis. *Journal of Personality*, 60, 501-525.
- Low, K. S. D., Yoon, M., Roberts, B. W., & Rounds, J. (2005). The stability of vocational interests from early adolescence to middle adulthood: A quantitative review of longitudinal studies. *Psychological Bulletin*, 131(5), 713-737.
- Low, K. S. D., & Rounds, J. (2006). Vocational interests: Bridging person and environment. In D. L. Segal & J. Thomas (Eds.), *Comprehensive handbook of personality and psychopathology*, Volume I: Personality and everyday functioning (pp. 251-267). NY: Wiley.
- Lubinski, D., & Benhow, C. P. (2000). States of excellence. *American Psychologist*, 55, 137-150.
- Luk, C. L., & Bond, M. H., (1993). Personality variation and values endorsement in Chinese university students. *Personality and Individual Differences*, 14(3), 429-437.
- Lykken, D. T., Bouchard, T. J., McGue, M., & Tellegen, A. (1993). Heritability of interests: A twin study. *Journal of Applied Psychology*, 78(4), 649-661.
- MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variables effects. *Psychological Methods*, 7, 83-104.
- McCrae, R. R., & Costa, P. T., Jr. (1989). Reinterpreting the Myers-Briggs Type Indicator from the perspective of the five-factor model of personality. *Journal of Personality*, 57, 17-40
- McCrae, R. R., Costa, P. T., Jr., Del Pilar, G. H., Rolland, J., & Parker, W. D. (1998). Cross-cultural assessment of the five-factor model: The Revised NEO Personality Inventory. *Journal of Cross-Cultural Psychology*, 29, 171-188.
- McCrae, R. R., & Costa, P. T., Jr. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139-153). New York: Guilford Press.
- McCrae, R. R., & Costa, P. T., Jr. Ostendorf, F., Aneleitner, A., Hrebickova, M., Avia, M. D., et l. (2000). Nature over nurture: Temperament, personality, and life span development. *Journal of Personality and Social Psychology*, 78, 173-186.
- Moloney, D. P, Bouchard, T. J., & Segal, N. L. (1991). A genetic and environmental analysis of the vocational interests of monozygotic and dizygotic twins reared apart. *Journal o Vocatoinal Behavior*, 39, 76-109.

- Mount M. K., Barrick, M. R., Scullen, S. M., & Rounds, J. (2005). Higher-order dimensions of the big five personality traits and the big six vocational interest types. *Personnel Psychology*, 58, 447-478.
- Nichols, R. C. (1967). Personality change and the college. *American Educational Research Journal*, 4(3), 173-190.
- Novacek, J., & Lazarus, R. S. (1990). The structure of personality. *Journal of Personality*, 58, 693-715.
- Palys, T. S. & Little, B. R. (1983). Perceived life satisfaction and the organization of personal project systems. *Journal of Personality and Social Psychology*, 44(6), 1221-1230.
- Plomin, R., & Nesselroade, J. R.. (1990). Behavioral genetics and personality change. *Journal of Personality*, 58, 191-220.
- Plomin, R., & Caspi, A. (1999). Behavioral genetics and personality. In L. A. Pervin, & J. P. Oliver. *Handbook of personality: Theory and research* (2nd ed.). (pp. 251-276). New York, NY, US: Guilford Press.
- Roberts, B. W., & Caspi, A. (2003). The cumulative continuity model of personality development: Striking a balance between continuity and change in personality traits across the life course. In R. M. Staudinger & U. Lindenberger (Eds.), *Understanding human development: Lifespan psychology in exchange with other disciplines* (pp. 183-214). Dordrecht, Netherlands: Kluwer.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126, 3-25.
- Roberts, B. W., & Robins, R. W. (2000). Broad dispositions, broad aspirations: The intersection of personality traits and major life goals. *Personality and Social Psychology Bulletin*, 26, 1284-1296.
- Roberts, B. W., O'Donnell, M., & Robins, R. W. (2004) Goal and personality trait development in emerging adulthood. *Journal of Personality and Social Psychology*. 87 (4), 541-550.
- Roberts, B. W., Walton, K. E., Viechtbauer, W. (2006). Personality traits change in adulthood: Reply to Costa and McCrae (2006). *Psychological Bulletin*, 132 (1), 29-32.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rounds, J. B. & Armstrong, P. I. (2005). Assessment of needs and values. In S. D. Brown & R. W. Lent (Eds.). *Career development and counseling: Putting theory and research to work*. New York, NY: John Wiley & Sons.

- Royce, J. B., & Powell, A. (1983). *Theory of personality and individual difference: Factors, systems, processes*. Englewood Cliffs, NJ: Prentice Hall.
- Sagiv, L. (2002). Vocational interest and basic values. *Journal of Career Assessment*, 10 (2), 233-257.
- Schunk, D. H. (1990). Goal setting and self-efficacy during self-regulated learning. *Educational Psychologist. Special Issue: Self-regulated learning and academic achievement*, 25(1), 71-86.
- Schwartz, S.H. and Billsky, W. (1987). Toward a universal psychological structure of human values, *Journal of Personality and Social Psychology*, 53, 550-562
- Schwartz, S.H. and Billsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology*, 58, 878–891
- Schwartz, S. H. (1992). Universal in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). Orlando, FL: Academic Press.
- Sullivan, B. A., & Hansen, J. C. (in press). Construct validity of the interest scales on the Campbell Interest and Skill Survey. *Journal of Vocational Behavior*.
- Sullivan, B. A., & Hansen, J. C. (2004). Mapping association between interests and personality: Toward a conceptual understanding of individual differences in vocational behavior. *Journal of Counseling Psychology*, 51, 287-298.
- Sun, J. T. (2008). *Understanding major life goals of college students: Contribution of interests and personality*. Unpublished master's thesis, University of Illinois at Urbana-Champaign. USA
- Super, D. E. (1995). Values: Their nature, assessment, and practical use. In D. E. Super, & B. Sverko (Eds.), *Life roles, values, and careers: International findings of the work importance study* (pp. 54-61). San Francisco: Jossey-Bass.
- Strong Interest Inventory Manual. Consulting Psychologists Press, Inc. Palo Alto, California.
- Strong, E. K. (1943). *The vocational interest of men and women*. Stanford, CA: Stanford University Press.
- Swanson, J. L. (1999). Stability and change in vocational interests. In M. L. Savickas & R. L. Spokane (Eds.), *Vocational interests: Meaning, measurement, and counseling use* (pp. 135-158). Palo Alto, CA: Davies-Black.

- Schmitt-Rodermund, E. & Vondracek, F. W. (1999). Breadth of interests, exploration, and identity development in adolescence. *Journal of Vocational Behavior*, 55(3), 298-317.
- Tracey, T.J., & Rounds, J. (1993). Evaluation Holland's and Gati's vocational-interest models: A structural meta-analysis. *Psychological Bulletin*, 113, 229-243.
- Tellegen, A. (1988). The analysis of consistency in personality assessment. *Journal of Personality*, 56, 621-663.
- Tellegen, A., Lykken, d. t., Bouchard, T. J., Wilcox, K. J., Segal, N. L., & Rich, S. (1988). Personality similarity in twins reared apart and together. *Journal of Personality and Social Psychology*, 54 (6), 1031-1039.
- Toker, D. M., Fisher, A. R., & Subich, L. M. (1998). Personality and Vocational behavior: A selective review of the literature, 1993-1997. *Journal of Vocational Behavior*, 53, 115-153.
- Wachs, T. D. (1994). Fit, context, and the transition between temperament and personality . In C. F. Halverson, Jr., G. A.. Kohnstamm, & R. P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 209-220). Hillsdale, NJ: Erlbaum.
- West, S. G., & Graziano, W. G. (1989). Long-term stability and change in personality: An introduction. *Journal of Personality*, 57, 175-193.
- Williamson, R. C. (1968). Social class and orientation to change: Some relevant variables in a Bogota sample. *Social Forces*, 46(3), 317-328.
- Winnel, M. (1987). Personal goals: The key to self-direction in adulthood. In M. Ford (Eds.), *Humans as self-constructing living system: Putting the framework to work* (pp. 261-287). Hillsdale, NJ: Lawrence Erlbaum.
- Winter, D. A., John, O. P., Stewart, A. J., Klohnen, E. C., & Duncan, L. E. (1998). Traits and motives: Toward an integration of two traditions in personality research. *Psychological Review*, 105(2), 230-250.

APPENDIX A

TABLES

Table 1: Demographics Information

Variable	Mean, (<i>SD</i>)
Age	19.62 (7.42)
Gender	# of Participants (%)
Female	239 (62.1)
Race/ethnicity	
White or European-American	226 (59.2)
Black or African-American	83 (21.7)
Hispanic/Latino/Chicano	24 (6.3)
Asian or Asian-American	28 (7.3)
Multi-Racial	6 (1.6)
Other	13 (3.4)

TABLE 2: Mean, Standard Deviation, and Reliability Coefficients

Variables	Total Sample Mean (SD)	Men	Women	Alpha (average correlation)
Time 1				
Personality				
Extraversion	3.46 (.59)	3.34 (.56)*	3.54 (.59)	.89 (.30)
Agreeableness	3.81 (.48)	3.65 (.42)*	3.91 (.49)	.86 (.25)
Conscientiousness	3.45 (.58)	3.33 (.49)*	3.52 (.62)	.88 (.28)
Openness	3.51 (.45)	3.52 (.45)	3.51 (.45)	.83 (.20)
Interests				
Enterprising	3.18 (.78)	3.13 (.79)	3.22 (.78)	.86 (.39)
Social	3.28 (.80)	2.97 (.79)*	3.47 (.75)	.88 (.44)
Artistic	2.71 (.96)	2.65 (.94)*	2.76 (.96)	.92 (.53)
Values				
Power	-1.16 (1.21)	-.98 (1.2)*	-1.3 (1.2)	.81 (.51)
Achievement	.48 (.59)	.48 (.60)	.49 (.59)	.77 (.46)
Benevolence	.49 (.58)	.41 (.58)*	.54 (.57)	.80 (.45)
Self-Directive	.18 (.60)	.13 (.64)	.21 (.58)	.76 (.39)
Goals				
Economic	3.99 (.60)	3.97 (.65)	4.00 (.57)	.78 (.35)
Social	3.94 (.78)	3.72 (.75)*	4.08 (.77)	.78 (.54)
Relationship	4.63 (.53)	4.51 (.59)*	4.70 (.46)	.62 (.39)
Aesthetic	2.45 (.97)	2.42 (1.01)	2.47 (.95)	.83 (.51)
Time 2				
Personality				
Agreeableness	4.02 (.49)	3.79 (.45)*	4.11 (.48)	.89 (.32)
Conscientiousness	3.67 (.67)	3.64 (.61)	3.68 (.70)	.93 (.40)
Interests				
Enterprising	3.20 (.87)	3.44 (.82)	3.11 (.88)	.91 (.49)
Social	3.50 (.74)	3.20 (.69)*	3.60 (.73)	.86 (.38)
Goals				
Economic	3.76 (.66)	3.99 (.69)*	3.67 (.63)	.73 (.25)
Relationship	4.62 (.57)	4.42 (.84)*	4.69 (.41)	.65 (.40)

Note: $N = 385$. Standard deviations are shown in parentheses.

* Indicate that means are significantly different at $p < .05$

Table 3: Correlations among Observed Variables in Study 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. P_ Extraversion	1														
2. P_ Agreeableness	.48**	1													
3. P_ Conscientiousness	.24**	.35**	1												
4. P_ Openness	.49**	.41**	.29**	1											
5. I_ Enterprising	.15**	-.05	.14**	.11*	1										
6. I_ Social	.20**	.45**	.09	.14**	.16**	1									
7. I_ Artist	-.02	-.01	-.21**	.19**	.15**	.26**	1								
8. V_ Benevolence	.01	.36**	.05	-.03	-.20**	.26**	.02	1							
9. V_ Achievement	.20**	.15**	.12*	.11*	.05	.03	-.10	.02	1						
10. V_ Self-Directive	.05	-.02	-.13*	.26**	-.06	-.02	.30**	-.03	.05	1					
11. V_ Power	.03	-.34	-.05	-.12*	.30**	-.20**	-.12**	-.50**	.07	-.23**	1				
12. G_ Economic	.18**	.00	.26**	.06	.47**	-.03	-.07	-.22**	.14**	-.19**	.41**	1			
13. G_ Social	.15**	.42**	.03	.16**	-.00	.61**	.13*	.27**	.04	-.01	-.35**	.02	1		
14. G_ Aesthetic	-.02	-.06	-.14*	.19**	.02	.15**	.65**	-.03	-.12*	.25**	-.11*	.02	.22**	1	
15. G_ Relationship	.23**	.40**	.26**	.14**	.13*	.21**	-.15**	.18**	.07	-.21**	-.03	.324**	.21**	-.13*	1

Note: $N = 382$

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

Table 4: Correlations Among Observed Variables in Study 2

	1	2	3	4	5	6	7	8	9	10	11	12
T1 1. Agreeableness Personality	1											
2. Conscientiousness Personality	.42**	1										
3. Social Interest	.47**	.20	1									
4. Enterprising Interest	-.08	-.01	.16	1								
5. Economic Goals	.05	.25*	.02	.44**	1							
6. Relationship Goals	.46**	.50**	.22*	.12	.35**	1						
T2 7. Agreeableness Personality	.48**	.27**	.26*	.03	-.06	.24*	1					
8. Conscientiousness Personality	.30**	.65**	.07	-.09	.21*	.34**	.35**	1				
9. Social Interest	.37**	.13	.52**	.07	-.02	.25*	.39**	.18	1			
10. Enterprising Interest	-.03	.04	.10	.50**	.25**	.02	-.10	.00	.19	1		
11. Economic Goals	.03	.17	.00	.20	.51**	.19*	.01	.19	-.05	.48**	1	
12. Relationship Goals	.28**	.26*	.10	.16	.28**	.61**	.40**	.26**	.16	.03	.27**	1

Note: $N = 92$

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

APPENDIX B
SURVEY DOCUMENT

Interests & Life Goals Survey

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Please indicate the last 5-digits of your STUDENT ID NUMBER

(This information will only be used to match your answers to your interest profile)

Please tell us a little bit about yourself.

1. Age: _____

2. Sex/Gender: _____

3. In terms of ethnic/racial group, I consider myself to be _____

4. Family Social Class (Check the most applicable)

- Working Class
- Lower-Middle Class
- Middle-Class
- Upper-Middle Class
- Wealthy

5. Mother's Education Level (Check the most applicable)

- Some High School
- High School
- Some College or Community College
- College
- Graduate School or Professional School

6. Father's Education Level (Check the most applicable)

- Some High School
- High School
- Some College or Community College
- College
- Graduate School or Professional School

7A. Besides being a student, what is your current job? _____ (list the job you spent the most time at if you have more than one job)

Please give a brief description of the job you just listed.

7B. If you are currently not working, what was your last job? _____ (leave empty if you have filled in your current job)

Please give a brief description of the job you just listed.

8. What occupation do you intend to enter when you leave school? _____ (please describe job activity if you are unsure of the job title)

9. Please list three goals in the order that are most important to you.

a. _____

b. _____

c. _____

10. Please list three occupations in the order that interest you the most.

a. _____

b. _____

c. _____

Please rate the personal **IMPORTANCE** of the following major life goals:

Life Goals	Not Important to Me	Somewhat Unimportant to Me	Neither Important nor Unimportant to Me	Somewhat Important to Me	Very Important to Me
1. Having a career	1	2	3	4	5
2. Produce good artistic work	1	2	3	4	5
3. Having fun	1	2	3	4	5
4. Having a high standard of living and wealth	1	2	3	4	5
5. Feeling a real purpose in life	1	2	3	4	5
6. Be well read	1	2	3	4	5
7. Supporting artistic activities and the fine arts	1	2	3	4	5
8. Make my parents proud	1	2	3	4	5
9. Being an outstanding athlete	1	2	3	4	5
10. Being accomplished in one of the performing arts	1	2	3	4	5
11. Having an easy life	1	2	3	4	5
12. Helping others in need	1	2	3	4	5
13. Having good grades	1	2	3	4	5
14. Taking part in volunteer community and public service	1	2	3	4	5
15. Having an exciting lifestyle	1	2	3	4	5
16. Having harmonious relationships with my parents and my siblings	1	2	3	4	5
17. Having children	1	2	3	4	5
18. Be influential in public affairs	1	2	3	4	5
19. Becoming a community leader	1	2	3	4	5
20. Having an influential and prestigious occupation	1	2	3	4	5
21. Having new and different experiences	1	2	3	4	5
22. Having satisfying marriage/relationship	1	2	3	4	5
23. Devoting attention to my spiritual life	1	2	3	4	5

24.	Doing well in school	1	2	3	4	5
25.	Owning my own business	1	2	3	4	5
26.	Having a job that is personally satisfying even if it does not make me rich	1	2	3	4	5
27.	Being a business executive	1	2	3	4	5
28.	Being in good physical condition	1	2	3	4	5
29.	Write good fiction and prose	1	2	3	4	5
30.	Preparing myself for graduate school	1	2	3	4	5
31.	Being an authority on a special subject in my field	1	2	3	4	5
32.	Living in aesthetically pleasing surroundings	1	2	3	4	5
33.	Being married to someone who has a career in addition to my own	1	2	3	4	5
34.	Earning enough to be comfortable, and no more	1	2	3	4	5
35.	Be an accomplished musician	1	2	3	4	5
36.	Avoiding hard work	1	2	3	4	5
37.	Being in a traditional marriage where the husband is the primary wage earner and the wife primarily cares for children	1	2	3	4	5
38.	Working to promote the welfare of others	1	2	3	4	5
39.	Participating in religious activities	1	2	3	4	5

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes *you*. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

Personality	Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
1 Am the life of the party.	1	2	3	4	5
2 Insult people.	1	2	3	4	5
3 Am always prepared.	1	2	3	4	5
4 Get stressed out easily.	1	2	3	4	5
5 Have a rich vocabulary.	1	2	3	4	5
6 Often feel uncomfortable around others.	1	2	3	4	5
7 Am interested in people.	1	2	3	4	5
8 Leave my belongings around.	1	2	3	4	5
9 Am relaxed most of the time.	1	2	3	4	5
10 Have difficulty understanding abstract ideas.	1	2	3	4	5
11 Feel comfortable around people.	1	2	3	4	5
12 Am not interested in other people's problems.	1	2	3	4	5
13 Pay attention to details.	1	2	3	4	5
14 Worry about things.	1	2	3	4	5
15 Have a vivid imagination.	1	2	3	4	5
16 Keep in the background.	1	2	3	4	5
17 Sympathize with others' feelings.	1	2	3	4	5
18 Make a mess of things.	1	2	3	4	5
19 Seldom feel blue.	1	2	3	4	5
20 Am not interested in abstract ideas.	1	2	3	4	5
21 Start conversations.	1	2	3	4	5
22 Feel little concern for others.	1	2	3	4	5

23	Get chores done right away.	1	2	3	4	5
24	Am easily disturbed.	1	2	3	4	5
25	Have excellent ideas.	1	2	3	4	5
26	Have little to say.	1	2	3	4	5
27	Have a soft heart.	1	2	3	4	5
28	Often forget to put things back in their proper place.	1	2	3	4	5
29	Am not easily bothered by things.	1	2	3	4	5
30	Do not have a good imagination.	1	2	3	4	5
31	Talk to a lot of different people at parties.	1	2	3	4	5
32	Am not really interested in others.	1	2	3	4	5
33	Like order.	1	2	3	4	5
34	Get upset easily.	1	2	3	4	5
35	Am quick to understand things.	1	2	3	4	5
36	Don't like to draw attention to myself.	1	2	3	4	5
37	Take time out for others.	1	2	3	4	5
38	Shirk my duties.	1	2	3	4	5
39	Rarely get irritated.	1	2	3	4	5
40	Try to avoid complex people.	1	2	3	4	5
41	Don't mind being the center of attention.	1	2	3	4	5
42	Am hard to get to know.	1	2	3	4	5
43	Follow a schedule.	1	2	3	4	5
44	Change my mood a lot.	1	2	3	4	5
45	Use difficult words.	1	2	3	4	5
46	Am quiet around strangers.	1	2	3	4	5
47	Feel others' emotions.	1	2	3	4	5
48	Neglect my duties.	1	2	3	4	5
49	Seldom get mad.	1	2	3	4	5
50	Have difficulty imagining things.	1	2	3	4	5
51	Make friends easily.	1	2	3	4	5

52	Am indifferent to the feelings of others.	1	2	3	4	5
53	Am exacting in my work.	1	2	3	4	5
54	Have frequent mood swings.	1	2	3	4	5
55	Spend time reflecting on things.	1	2	3	4	5
56	Find it difficult to approach others.	1	2	3	4	5
57	Make people feel at ease.	1	2	3	4	5
58	Waste my time.	1	2	3	4	5
59	Get irritated easily.	1	2	3	4	5
60	Avoid difficult reading material.	1	2	3	4	5
61	Take charge.	1	2	3	4	5
62	Inquire about others' well-being.	1	2	3	4	5
63	Do things according to a plan.	1	2	3	4	5
64	Often feel blue.	1	2	3	4	5
65	Am full of ideas.	1	2	3	4	5
66	Don't talk a lot.	1	2	3	4	5
67	Know how to comfort others.	1	2	3	4	5
68	Do things in a half-way manner.	1	2	3	4	5
69	Get angry easily.	1	2	3	4	5
70	Will not probe deeply into a subject.	1	2	3	4	5
71	Know how to captivate people.	1	2	3	4	5
72	Love children.	1	2	3	4	5
73	Continue until everything is perfect.	1	2	3	4	5
74	Panic easily.	1	2	3	4	5
75	Carry the conversation to a higher level.	1	2	3	4	5
76	Bottle up my feelings.	1	2	3	4	5
77	Am on good terms with nearly everyone.	1	2	3	4	5
78	Find it difficult to get down to work.	1	2	3	4	5
79	Feel threatened easily.	1	2	3	4	5
80	Catch on to things quickly.	1	2	3	4	5
81	Feel at ease with people.	1	2	3	4	5

82	Have a good word for everyone.	1	2	3	4	5
83	Make plans and stick to them.	1	2	3	4	5
84	Get overwhelmed by emotions.	1	2	3	4	5
85	Can handle a lot of information.	1	2	3	4	5
86	Am a very private person.	1	2	3	4	5
87	Show my gratitude.	1	2	3	4	5
88	Leave a mess in my room.	1	2	3	4	5
89	Take offense easily.	1	2	3	4	5
90	Am good at many things.	1	2	3	4	5
91	Wait for others to lead the way.	1	2	3	4	5
92	Think of others first.	1	2	3	4	5
93	Love order and regularity.	1	2	3	4	5
94	Get caught up in my problems.	1	2	3	4	5
95	Love to read challenging material.	1	2	3	4	5
96	Am skilled in handling social situations.	1	2	3	4	5
97	Love to help others.	1	2	3	4	5
98	Like to tidy up.	1	2	3	4	5
99	Grumble about things.	1	2	3	4	5
100	Love to think up new ways of doing things.	1	2	3	4	5

Please choose the answer that most closely represents **how you feel** about each of the activities

Interest	Strongly Dislike	Dislike	Neutral	Like	Strongly Like
1 Build kitchen cabinets	1	2	3	4	5
2 Lay brick or tile	1	2	3	4	5
3 Monitor a machine on an assembly line	1	2	3	4	5
4 Repair household appliances	1	2	3	4	5
5 Raise fish in a fish hatchery	1	2	3	4	5
6 Assemble electronic parts	1	2	3	4	5
7 Drive a truck to deliver packages to offices and homes	1	2	3	4	5
8 Test the quality of parts before shipment	1	2	3	4	5
9 Repair and install locks	1	2	3	4	5
10 Set up and operate machines to make products	1	2	3	4	5
11 Study ways to reduce water pollution	1	2	3	4	5
12 Conduct chemical experiments	1	2	3	4	5
13 Study the movement of planets	1	2	3	4	5
14 Examine blood samples using a microscope	1	2	3	4	5
15 Investigate the cause of a fire	1	2	3	4	5
16 Develop a way to better predict the weather	1	2	3	4	5
17 Work in a biology lab	1	2	3	4	5
18 Invent a replacement for sugar	1	2	3	4	5
19 Study weather conditions	1	2	3	4	5
20 Do laboratory tests to identify diseases	1	2	3	4	5
21 Write books or plays	1	2	3	4	5
22 Play a musical instrument	1	2	3	4	5
23 Compose or arrange music	1	2	3	4	5
24 Draw pictures	1	2	3	4	5
25 Create special effects for movies	1	2	3	4	5

26	Paint sets for plays	1	2	3	4	5
27	Design sets for plays	1	2	3	4	5
28	Write scripts for movies or television shows	1	2	3	4	5
29	Perform jazz or tap dance	1	2	3	4	5
30	Edit movies	1	2	3	4	5
31	Teach an individual an exercise routine	1	2	3	4	5
32	Help people with personal or emotional problems	1	2	3	4	5
33	Teach children how to read	1	2	3	4	5
34	Give career guidance to people	1	2	3	4	5
35	Perform rehabilitation therapy	1	2	3	4	5
36	Do volunteer work at a non-profit organization	1	2	3	4	5
37	Teach sign language to people with hearing disabilities	1	2	3	4	5
38	Help conduct a group therapy session	1	2	3	4	5
39	Take care of children at a day-care center	1	2	3	4	5
40	Teach a high-school class	1	2	3	4	5
41	Buy and sell stocks and bonds	1	2	3	4	5
42	Manage a retail store	1	2	3	4	5
43	Operate a beauty salon or barber shop	1	2	3	4	5
44	Manage a department within a large company	1	2	3	4	5
45	Start your own business	1	2	3	4	5
46	Negotiate business contracts	1	2	3	4	5
47	Represent a client in a lawsuit	1	2	3	4	5
48	Market a new line of clothing	1	2	3	4	5
49	Sell merchandise at a department store	1	2	3	4	5
50	Manage a clothing store	1	2	3	4	5
51	Develop a spreadsheet using computer software	1	2	3	4	5
52	Proofread records or forms	1	2	3	4	5
53	Load computer software into a large computer	1	2	3	4	5

	network				
54	Operate a calculator	1	2	3	4
55	Keep shipping and receiving records	1	2	3	4
56	Calculate the wages of employees	1	2	3	4
57	Inventory supplies using a hand-held computer	1	2	3	4
58	Record rent payments	1	2	3	4
59	Keep inventory records	1	2	3	4
60	Stamp, sort, and distribute mail for an organization	1	2	3	4

As a guiding principle in my life, this value is...

		Opposed to My Values	Not Important	Important					Very Important	Of Supreme Important
				1	2	3	4	5		
1	Equality (equal opportunity for all).	-1	0	1	2	3	4	5	6	7
2	Inner harmony (at peace with myself).	-1	0	1	2	3	4	5	6	7
3	Social power (control over others, dominance).	-1	0	1	2	3	4	5	6	7
4	Pleasure (gratification of desires).	-1	0	1	2	3	4	5	6	7
5	Freedom (freedom of action and thought).	-1	0	1	2	3	4	5	6	7
6	A spiritual life (emphasis on spiritual not material matters).	-1	0	1	2	3	4	5	6	7
7	Sense of belonging (feeling that others care about me).	-1	0	1	2	3	4	5	6	7
8	Social order (stability of society).	-1	0	1	2	3	4	5	6	7
9	An exciting life (stimulating experience).	-1	0	1	2	3	4	5	6	7
10	Meaning in life (a purpose in life).	-1	0	1	2	3	4	5	6	7
11	Politeness (courtesy, good manners).	-1	0	1	2	3	4	5	6	7
12	Wealth (material possessions, money).	-1	0	1	2	3	4	5	6	7
13	National security (protection of my nation from enemies).	-1	0	1	2	3	4	5	6	7
14	Self-respect (belief in one's own worth).	-1	0	1	2	3	4	5	6	7
15	Reciprocaion of favors (avoidance of indebtedness).	-1	0	1	2	3	4	5	6	7
16	Creativity (uniqueness, imagination).	-1	0	1	2	3	4	5	6	7
17	A world at peace (free of war and conflict).	-1	0	1	2	3	4	5	6	7
18	Respect for tradition (preservation of time-honored customs).	-1	0	1	2	3	4	5	6	7
19	Mature love (deep emotional and spiritual intimacy).	-1	0	1	2	3	4	5	6	7

20	Self-discipline (self-restraint, resistance to temptation).	-1	0	1	2	3	4	5	6	7
21	Detachment (from worldly concerns).	-1	0	1	2	3	4	5	6	7
22	Family security (safety for loved ones).	-1	0	1	2	3	4	5	6	7
23	Social recognition (respect, approval by others).	-1	0	1	2	3	4	5	6	7
24	Unity with nature (fitting into nature).	-1	0	1	2	3	4	5	6	7
25	A varied life (filled with challenge, novelty, and change).	-1	0	1	2	3	4	5	6	7
26	Wisdom (a mature understanding of life).	-1	0	1	2	3	4	5	6	7
27	Authority (the right to lead or command).	-1	0	1	2	3	4	5	6	7
28	True friendship (close, supportive friends).	-1	0	1	2	3	4	5	6	7
29	A world of beauty (beauty of nature and the arts).	-1	0	1	2	3	4	5	6	7
30	Social justice (correcting injustice, care for the weak).	-1	0	1	2	3	4	5	6	7
31	Independent (self-reliant, self-sufficient).	-1	0	1	2	3	4	5	6	7
32	Moderate (avoiding extreme of feeling and action).	-1	0	1	2	3	4	5	6	7
33	Loyal (faithful to my friends, group)	-1	0	1	2	3	4	5	6	7
34	Ambitious (hard-working, aspiring).	-1	0	1	2	3	4	5	6	7
35	Broadminded (tolerant of different ideas and beliefs).	-1	0	1	2	3	4	5	6	7
36	Humble (Modest, self-effacing).	-1	0	1	2	3	4	5	6	7
37	Daring (seeking adventure, risk).	-1	0	1	2	3	4	5	6	7
38	Protecting the environment (preserving nature).	-1	0	1	2	3	4	5	6	7
39	Influential (having an impact on people and events).	-1	0	1	2	3	4	5	6	7
40	Honoring of parents and elders (showing respect).	-1	0	1	2	3	4	5	6	7
41	Choosing own goals (selecting own purpose)	-1	0	1	2	3	4	5	6	7

42	Healthy (not being sick physically or mentally).	-1	0	1	2	3	4	5	6	7
43	Capable (competent, effective, efficient).	-1	0	1	2	3	4	5	6	7
44	Accepting my portion in life (submitting to life's circumstances).	-1	0	1	2	3	4	5	6	7
45	Honest (genuine, sincere).	-1	0	1	2	3	4	5	6	7
46	Preserving my public image (protecting my "face").	-1	0	1	2	3	4	5	6	7
47	Obedient (dutiful, meeting obligations).	-1	0	1	2	3	4	5	6	7
48	Intelligent (logical, thinking).	-1	0	1	2	3	4	5	6	7
49	Helpful (working for the welfare of others).	-1	0	1	2	3	4	5	6	7
50	Enjoying life (enjoying food, sex, leisure, etc.).	-1	0	1	2	3	4	5	6	7
51	Devout (holding to religious faith and belief).	-1	0	1	2	3	4	5	6	7
52	Responsible (dependable, reliable).	-1	0	1	2	3	4	5	6	7
53	Curious (interested in everything, exploring).	-1	0	1	2	3	4	5	6	7
54	Forgiving (willing to pardon others).	-1	0	1	2	3	4	5	6	7
55	Successful (achieving goals).	-1	0	1	2	3	4	5	6	7
56	Clean (neat, tidy).	-1	0	1	2	3	4	5	6	7