DISPOSITIONAL ANTECEDENTS OF ALTERNATIVE WORK ARRANGEMENTS: CPAS AS INDEPENDENTS, OWNERS, AND EMPLOYEES

by

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Abstract

DISPOSITIONAL ANTECEDENTS OF ALTERNATIVE WORK ARRANGEMENTS: CPAS AS INDEPENDENTS, OWNERS, AND EMPLOYEES

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Person-environment theory was used to develop and test hypotheses related to differences in work characteristics and personality profiles of individuals working in three different work arrangements: as owner/non-employers (self-employed owners of businesses who had no employees), owner/employers (self-employed owners of businesses with employees), and employees of others. Self-report data on perceived work characteristics (opportunities for achievement, affiliation, autonomy and dominance) and personality variables (needs for achievement, affiliation, autonomy, dominance, and self-efficacy) were collected through surveys. The sample consisted of 322 CPAs working in New York State as sole practitioners with no employees (n = 98); sole practitioners with employees, partners with substantial ownership interest, and owners of other firms (n = 129); and employees (n = 95). Hypotheses were tested using multivariate analysis of variance and covariance. Perceived work characteristics differed significantly and substantially across the three work arrangements with the effect sizes for opportunities for autonomy and dominance most pronounced, exceeding the threshold for large. The personality variables also varied significantly and substantially across the work arrangements although the magnitudes of differences were smaller with the differences with respect to needs for autonomy and dominance being most pronounced. Consistent with person-environment fit, the levels of opportunities and needs were congruent (that

is, work arrangements providing greater opportunities for dominance were composed of individuals with greater needs for dominance. Self-efficacy was related to individuals attaining their preferred work arrangement. The results were consistent with the model based on person-environment fit theories but given the cross-sectional design causality could not be established.

Acknowledgements

I arrived at this point in my second career only with the support (tangible and intangible, emotional and instrumental) of numerous people and want to claim my prerogative to express my appreciation to a few of the many. Over the last four years, Hannah Rothstein has, as program director, instructor, collaborator, friend, and most recently as Chair of my committee, worked with kindness, patience, and expertise to make me a better scholar and my work of a higher quality than it would otherwise be. Similarly, in a variety of roles, on and off my committee, inside and outside of the classroom, Abraham Korman has consistently provided guidance and advice (some of which I have heeded, but all of which I considered, respected, and highly valued). I appreciate the time and help that Ramona Heck and Matthew Johnson provided as members of my committee.

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I also appreciate the help and support that my cohort, Jeanne Andreassi and Yunxia He have provided from the beginning of the journey and that Joe Weintrop has provided as Executive Officer nearer to its end.

This work is dedicated, for numerous reasons, to Kathy Waldron.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF DIAGRAMS

CHAPTER 1. PURPOSE AND ORGANIZATION

> But it is not merely physical effort that is contributed, nor merely materialistic material inducements that are offered. A, being a capable individualist, dislikes the restrictions on personal freedom involved – social inducements are negative – so that he is barely induced to cooperate... A therefore decides to put forth less effort or secure more product… C accomplishes the ejection of A… (Barnard, 1938, pp. 246-248).

New business models that respond to economic, social, and technological changes have resulted in new employment relationships between organizations and the people who work for them (Arthur & Rousseau, 1996; Kraut & Korman, 1999; Korman, 1999; Reich, 2002). Although most people continue to work under traditional arrangements that are characterized by work that is (i) performed at a location specified by the employing organization, (ii) under the supervision of someone employed by the same organization, (iii) based on the expectation of a continuing employment relationship, and (iv) full-time (Kalleberg, 2000), there has been growth in alternative work arrangements. Corporate strategies that emphasize internalizing core competencies, externalizing peripheral activities, reducing the fixed expense base, and maximizing labor flexibility have reduced the opportunities for workers to be employed in the traditional way. On the other hand, these same strategies have created opportunities for those who want to sell their own labor services to organizations through alternative work arrangements. Similarly, technological innovations have created greater opportunities for workers to provide their services under alternative work arrangements. However, despite the recognition that traditional work arrangements are becoming less prevalent and that most of managerial theories and models have been developed to explain behavior in traditional work arrangements (Korman, 1999; Pfeffer & Baron, 1988), there has been little research

on alternative work arrangements or workers (Connelly & Gallagher, 2004; Sullivan, 1999).

Significance of the Issue

This research focused on people who are in the largest alternative work arrangement category: "owners/non-employer," (a term I will use throughout rather than other synonymous terms such as freelancers, independent contractors, independents, own-account workers, free agents, independent workers, or sole practitioners to describe self-employed individuals who own businesses that employ no others and who provide services or goods to customers that they are responsible for finding. It has been difficult for the government and others to identify and track the employment of owners/non-employer (Norris, 2003; Uchitelle, 2004a, 2004b) but it is evident they represent a significant portion of the American labor force (6.4% (over 8 million people) according to U.S. Bureau of Labor Statistics (Cohany, 1996, 1998; DiNatale, 2001 with other estimates such as from Bond et al., 2003; Pink, 2001; U.S. Census Bureau (Census Bureau), 2001 being as high as 30 million). The U.S. Bureau of Census reported that the number of business establishments with no employees rose from 14.7 million in 1992 to 17.6 in 2002 (1997, 2005). Additionally, the phenomenon does not appear limited to the United States as self-employment in the thirty-countries that are members of the Organisation for Economic Co-operation and Development (OECD) has grown more rapidly than organizational employment. In 1997, 66.2% of the self-employed in the OECD had no employees (OECD, 2000).

Owners/non-employer form the largest single category of "non-standard" workers (4 times the number of on-call workers, 7 times temporary help agency workers, and

almost 13 times contract firm workers). The majority of the self-employed are owners/non-employer independents rather than owners/employer (Bond et al., 2003; Census Bureau, 2001; OECD, 2000; Stanworth & Stanworth, 1995). Although freelancing is often associated with the new knowledge-, information- and technology-based economy (Malone & Laubacher, 1998), it has long been a common work arrangement in such traditional and disparate sectors: housekeeping, beauticians, gardeners, shoeshine stands, tailoring, plumbing, carpenters, child-care providers, fortune tellers, personal trainers, acupuncturists, photographers, writers, actors, graphic designers, physical therapists, court reporters, nurses, computer technicians, proof readers, truck drivers, doctors, lawyers, accountants (Dennis, 1996; Dickson, 1985; DiNatale, 2001; Form, 1982; Pink, 2001; Steinmetz & Wright, 1989; U.S. Census Bureau, 2003;Whitmyer & Raspberry, 1994; Whittlesey, 1982). Owners/non-employer then represent an important source of employment for individuals and labor for organizations. Understanding the motivational profiles of owners/non-employer could help the organizations that rely on these workers to devise management practices and practices oriented to them (Connelly & Gallagher, 2004; Gould & Levin, 1998; Korman, 1999; Sullivan, 1999).

There is considerable evidence that the majority of individuals currently working as owners/non-employer are in that work arrangement as a matter of choice rather than necessity and are generally more satisfied than their organizationally employed counterparts (Bond, Thompson, Galinsky, & Prottas, 2003; Census Bureau, 2001; Cohany, 1996, 1998; Dennis, 1996; DiNatale, 2001; Hipple & Stewart, 1996; Kalleberg, Reskin, & Hudson, 2000; Pink 2001; Polivka, 1996b; Prottas, 2004; Stanworth &

Stanworth, 1995, 1997; VandenHeuvel & Wooden, 1997). Popular books such as Daniel Pinks' *Free Agent Nation* (2001) depict a generally rosy view of freelancing where individuals take advantage of the opportunities presented by technological change and new business models to reap the psychological and material benefits of working outside of the traditional organizational confines.

However, litigation brought by employees of companies such as Allstate and State Farm against their employers' attempts to reclassify the employment relationship from "employee" to "independent contractor" shows that some see this "opportunity" to be a owners/non-employer as an effort to reduce the quality of their jobs and their income or circumvent age discrimination laws (Treaster, 2004; Zinkewicz, 2003). Additionally, individuals within certain occupations, such as book editors, may find their industry offers no opportunities for traditional employment (Stanworth & Stanworth, 1995, 1997). If economic changes force greater numbers of workers who prefer traditional employment to work as owners/non-employer, illuminating possible discordance between the characteristics of the work environment and the personality profiles of the involuntary independent may assist in the reduction or resolution of undesirable outcomes for individuals and organizations.

Approach and Purpose of this Research

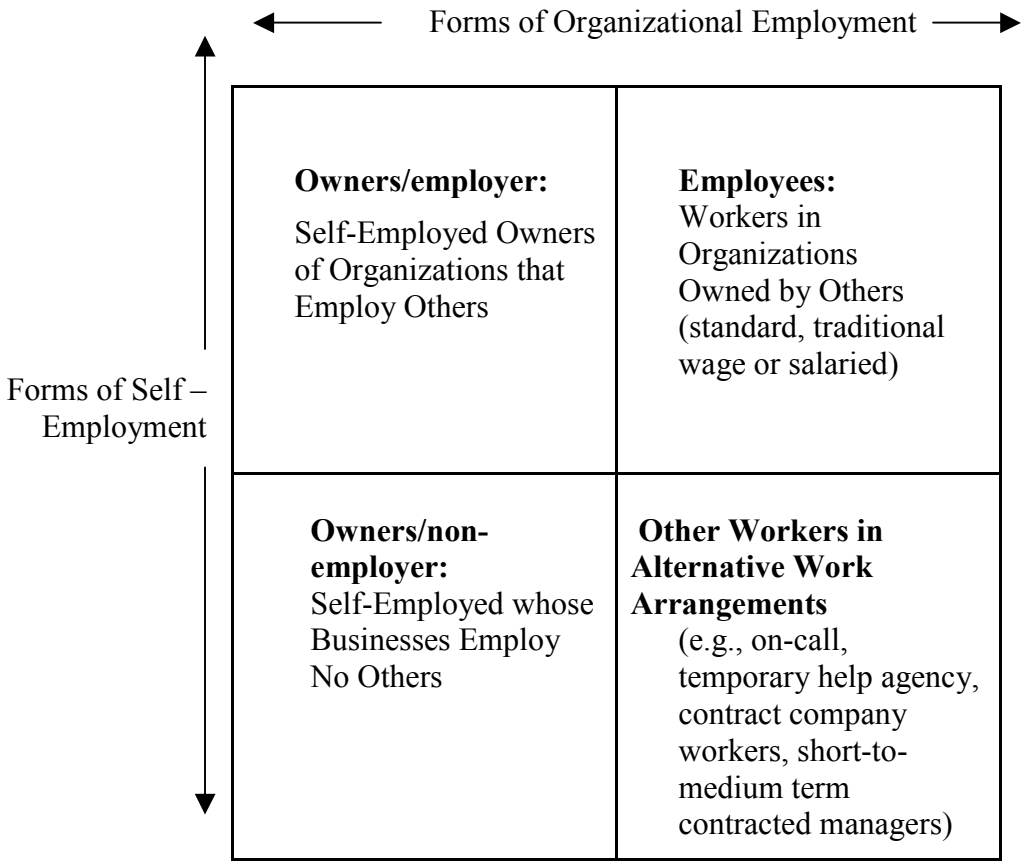
Based on person-environment fit theory, this research assessed and compared specific aspects of the perceived work environments of individuals within the same professional qualification (CPA) who work either as owners/non-employer (self-employed who employ no others), owners/employer (self-employed who employ others), or employees (standard wage or salaried employees of organizations owned by others)

(see Diagram 1-1). It then compared several personality traits of the individuals who work in each of these distinct work arrangements as well as of those who aspire to work in each arrangement. Finally, it tested the hypothesis that generalized self-efficacy would be related to the attainment of the preferred work arrangement.

The research is intended to answer four primary research questions:

1. Do the individuals in each of three work arrangements differ with respect to the opportunities they perceive for satisfaction of needs for achievement, affiliation, autonomy, and dominance?
2. Do the individuals who prefer to work in each arrangement differ in their needs for achievement, affiliation, autonomy, and dominance, and in their perceived generalized self-efficacy?
3. Do the individuals who actually work in each arrangement differ in their needs for achievement, affiliation, autonomy, and dominance as well in their perceived generalized self-efficacy?
4. Is perceived generalized self-efficacy associated with individuals attaining their preferred work arrangement?

Diagram 1-1. Mapping the Varieties of Work Arrangements



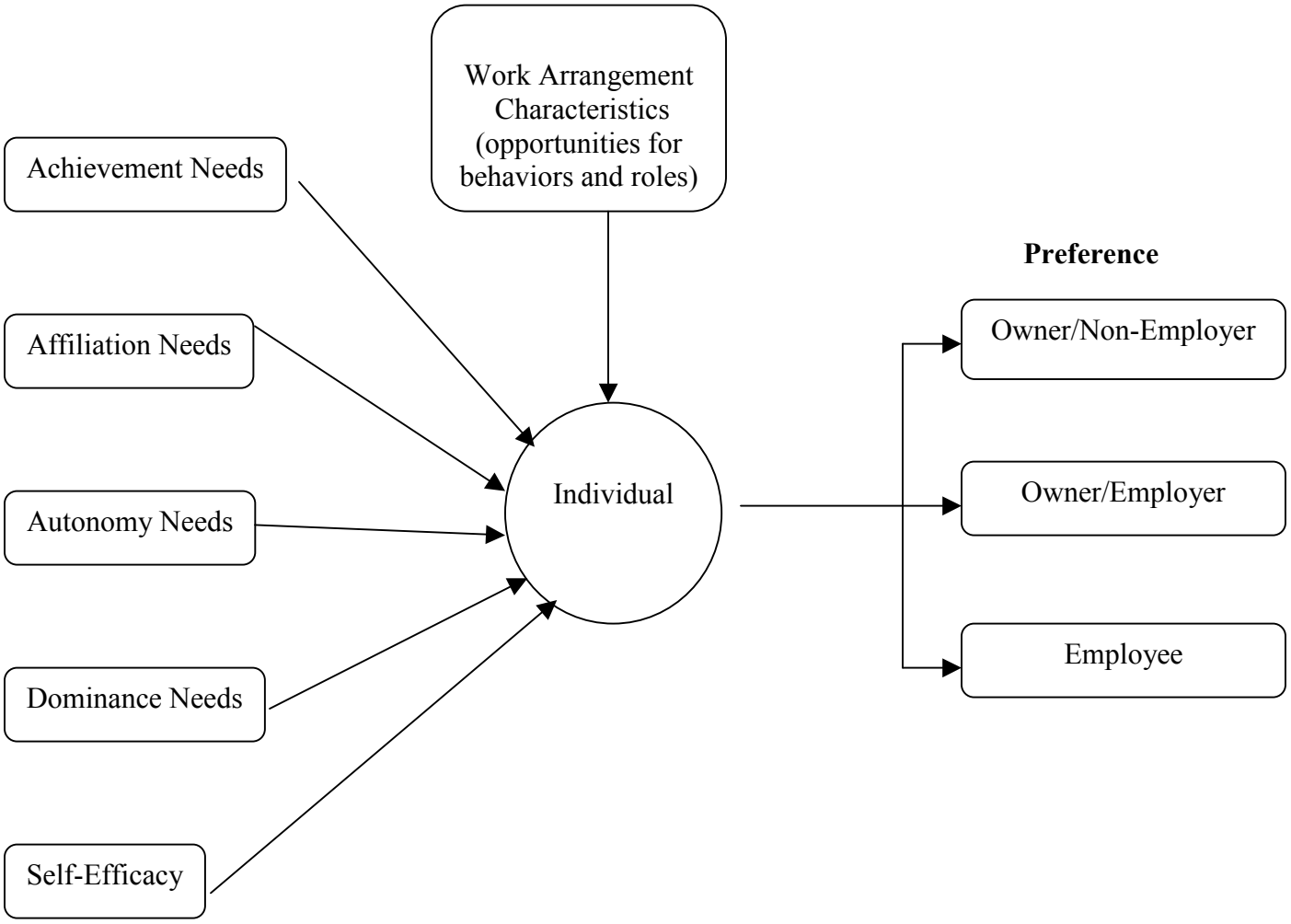
Contributions of the Study

The same economic and social dynamics that make the research of practical importance also make it important to expand the existing theoretical models of person-environment fit. Much of the person-environment fit literature relates to the interaction between an individual and his or her employing organization. For the increasing numbers of owners/non-employer, single organizations do not constitute their work environment and person-organization fit as traditionally viewed is irrelevant. In the context of the owner/non-employer, "person-organization fit" appears oxymoronic. Although recent systematic reviews of the person-environment fit literature (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005) discussed other foci of person-environment fit (job, group, and vocation), the research to date has addressed the subject of fit only in an organizational context. Kristof (1996) viewed "the broadest level of the work environment with which a person may fit is the vocational level," but an equally broad level, but as yet unstudied, may be that of person-*any*-organization fit. I am proposing that person-arrangement fit is a neglected, but potentially important determinant of work attitudes and behaviors. As studies of the different foci of fit (such job, organization, work group) have shown that each of the types of fit have independent effects on individual outcomes (such as attitudes towards their jobs and organizations (Kristof-Brown, Jansen, & Colbert, 2002) adding work arrangement is likely to further increase our understanding of the relationships between individuals and their attitudes and behaviors.

Theoretical Origins of the Model

The model presented (see Diagram 1-2) below is based on several theories that share the assumption that individuals prefer, move towards, and tend to remain in, work environments that are compatible with their personalities and satisfy their psychological needs (Barnard, 1938; Bretz & Ash, & Dreher, 1989; Bretz, & Judge, 1994; Cable & Judge, 1994; Chusmir, 1985; Dawis & Lofquist, 1984; Edwards, 1991; Holland, 1985; House, 1988; Lofquist & Dawis, 1969; McClelland, 1985; Medcof, 1990; Medcof & Hausdorf, 1995; Murray, 1938; Schein, 1975, 1978, 1990, 1993, 1994, 1996; Schneider, 1987; Schneider, Goldstein, & Smith, 1995; Stahl, 1986; Turban & Keon, 1993). While person-environment fit has focused on compatibility between the individual and occupation, work-group, and organization, this research extends the arena of fit to that of the individual and the work arrangement. My model hypothesizes that there are systematic differences across the work arrangements with respect to the opportunities they provide to satisfy individuals' needs for achievement, affiliation, autonomy and dominance and compares how the perceived opportunities for need satisfaction varied among each of the three work arrangements. It additionally hypothesizes that the self-concept of generalized self-efficacy is related both to the types of work environments individuals would find attractive as well as to the likelihood that they will attain their preferred work arrangements.

Diagram 1-2
Model – Work Arrangement Preference



Organization

Chapter 2 reviews the related theoretical and empirical literature related to the research questions and presents the hypotheses to be tested. Much of the theory comes from the person-environment literature, but most of the empirical research is related to trait-oriented entrepreneurial research. Chapter 3 describes the methodology, including the population, the measures, and statistical methods to be used for the analysis of the data and the hypotheses to be tested. Results of the study are presented in Chapter 4 with the discussion, conclusions, and suggestions for further research appearing in Chapter 5. The limitations of the study appear in Chapter 6 with implications of the research for theory and practice appearing in Chapter 7. Relevant appendices and references then follow.

CHAPTER 2. REVIEW OF THE RELATED LITERATURE

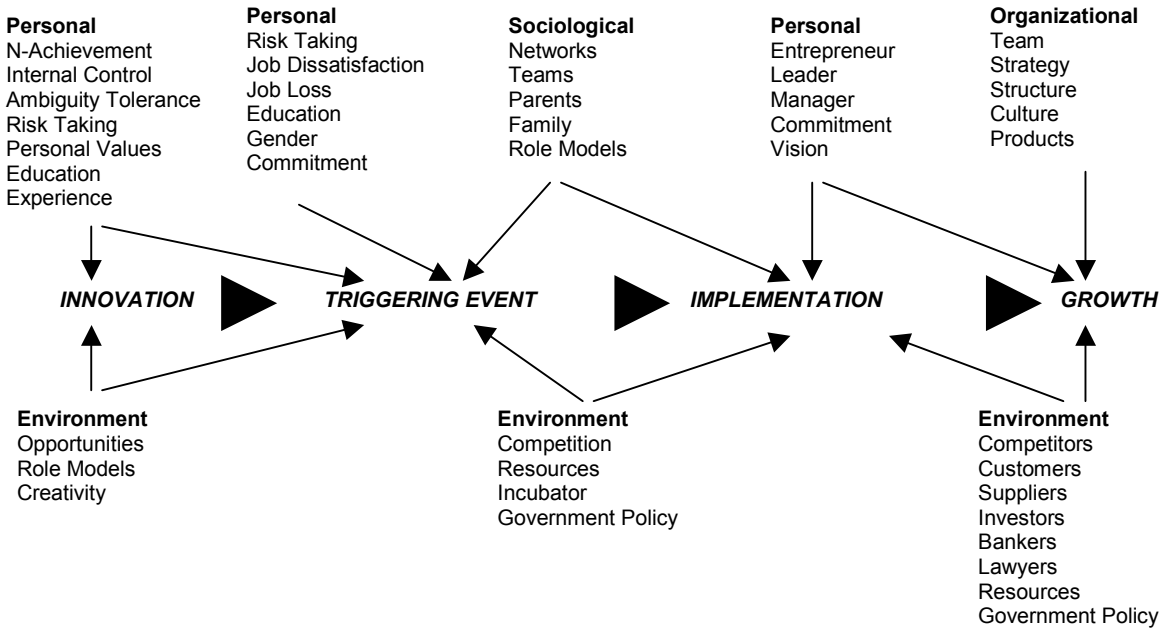
Introduction

Increasingly, individuals are earning their livings working under alternative work arrangements rather than as traditional employees. However, there has also been limited effort to apply or extend theory to the phenomenon. There has been little empirical research on the characteristics of these work arrangements or the motivations of the individuals working under them. This research is rooted in theories of person-environment fit and represents an attempt to extend the concept to explain why some individuals prefer to work as owners/non-employer independents while others prefer to work as employees or as owners/employer.

Working as an owner/non-employer is a form of self-employment. There is, of course, an extensive literature related to entrepreneurship and entrepreneurial self-employment. My present research should be situated within this literature to avoid confusion and to benefit from aspects of its theory and empirical findings that are relevant. While there is a lack of consensus as to the exact natures of the constructs related to entrepreneurship, the entrepreneurial literature is oriented towards studying individuals, processes, and environmental factors associated with innovation and the creation of new markets, technologies, products, and organizations. Owners/non-employer who work for and by themselves are not intentional subjects of their studies. However, the theory and empirical research related to the self-employed who create organizations and employ others is relevant to studying the non-entrepreneurial self-employed who work alone.

The entrepreneurial self-employment literature provides a framework which is useful to situate my research on the non-entrepreneurial self-employed. Bygrave (1989) elaborated on Moore's 1986 Entrepreneurial Model as an organizing frame for theory and research on venture creation and growth (see Diagram 2-1). Within this framework, my research focuses on individual personality factors as they relate to individuals' preferences for and attainment of different work arrangements.

Diagram 2-1
Entrepreneurial Model



This chapter first reviews person-person environment fit theories. It then describes the process by which I applied the principles of person-environment fit to develop a model that would relate individual personality factors to preferences for different work arrangements. I then review the empirical literature related to the characteristics of the work arrangements and the personalities of individuals working in each. Finally, I present my hypotheses.

Person Environment Fit Literature

Overview

As described below, there are a number of person-environment theories. They share a number of assumptions: (i) individuals vary with respect to their psychological needs and values, (ii) different work environments make differing demands on individuals with respect to required behaviors, (iii) different work environments offer differing inducements or rewards to individuals, and (iv) individuals tend to move purposefully toward environments in which their needs can be satisfied and away from environments in which they are not. They are all interactionistic in nature. The person-environment fit theories are not performance models per se. They are concerned with individuals entering or leaving the environment as a result of needs being more or less satisfied. They do not advance the argument that a satisfied worker is a productive worker. Neither do they suggest that individuals enter environments where they are likely to perform best.

The theories differ primarily in the aspect of the environment in which they are interested (i.e., vocation versus organization). This study expands their conceptual work by characterizing the aspect of environment of interest as being the "work arrangement."

Needs-Environment Interaction Theories

In 1938, Murray published his taxonomy of psychological needs as a constructs which "organize perceptions, apperception, intellection, conation, and action in such a way as to transform in a certain direction an existing, unsatisfying situation." He conceptualized that these needs would give rise to patterns of typical behaviors or trends with respect to the movement of a person towards (or away from) objects or situations

("presses" in his terminology) that would create satisfaction or dissatisfaction with respect to the need. His taxonomy consisted of twenty manifest or overt needs: abasement, achievement, affiliation, aggression, autonomy, counteraction, deference, defendence, dominance, exhibition, harmavoidance (apprehensive avoidance of physical pain or injury), infavoidance (apprehensive avoidance of situations that could damage self-regard), nurturance, order, play, rejection, sentience, succorance, and understanding and eight latent or inhibited needs (abasement, aggression, cognizance, dominance, exhibitionism, sex, homosexuality, and succorance). Murray's needs theory was applicable to all aspects of the individual's environment and not only the work-related. It served as basis for subsequent work-related theories (such as Holland's RIASEC) and measures (such as Edwards Personal Preference Schedule and Jackson's Personality Research Form, or Personality Research Form (PRF)).

In the same year, Barnard's *Functions of the Executive* and its contribution-inducements theory addressed the reciprocal interaction between the needs of the individual and the environmental setting of a work organization. He postulated that there was substantial variation among individuals with respect to both their abilities to contribute and the values they would place on different types of inducements. He felt that the most valued inducements for most individuals were social and psychological rather than material in nature: "the opportunities for distinction, prestige, personal power, and attainment of dominating positions are much more important in the development of all sorts of organizations, including commercial organizations" (Barnard, 1938, p. 143).

In his view, the most intangible, subtle, and essential element of any organization was its ability to satisfy the need for communion and provide an opportunity for

comradeship and mutual support. However, he also felt that individuals varied substantially in their needs and that some individuals would find inclusion in a social system to be onerous and repellent rather than rewarding and attracting. In his simplified hypothetical discussion of the process by which organizations were formed and evolved, he identified one of the founding members of an emergent organization as "being a capable individualist, [who] dislikes the restrictions on personal freedom – social inducements are negative – so that he is barely induced to cooperate" (1938, p. 246). Despite this individual being more productive on an individual basis than any of the other members, he was quickly separated from the organization because he required outsized material inducements to compensate for what he perceived as the negative value of the required social interaction (to which other members ascribed positive value). As Barnard was interested primarily in the formation and maintenance of organizations, in his example he continued to follow the progress of the emergent organization as it grew and developed rather than following the career of the "capable individualist" to see if he ever became part of an organization, or earned his living as an owner/non-employer.

Career/Vocation Fit Theories

Holland (1985) acknowledged Murray's (1938) formulation of personal needs as being the stimulus for the development of his framework of personality types and environments. His person-environment fit model emphasizing the 'fit' with occupation or vocational. His theory has four basic assumptions: (i) most individuals can be characterized as being one of six distinct personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional), (ii) there are six corresponding or congruent work environments which are defined primarily with respect to vocation, (iii)

people search for work environments that allow them to exercise their skills, express their attitudes and values and take on agreeable problems and roles, and (iv) behavior is determined by the interaction between the personality and the environment. Holland developed his theory and its application primarily within the context of traditional organizational employment. He emphasized congruence with "vocation" with less emphasis on organizational level. For example, his enterprising occupations were primarily sales and managerial occupations with such disparate levels as bank president, contractor, and administrative assistant. He theorized that there was a pattern of profiles that would be predictive of higher vocational aspirations or achievements. Individuals with profiles that were highest in Enterprising, followed by Social, Artistic, Investigative, Conventional and Realistic, would be more likely to achieve higher hierarchical levels.

The Theory of Work Adjustment (Dawis & Lofquist, 1984; Lofquist & Dawis, 1969) was similar to Barnard's model as it premised that the world of work was an arena where people sought to satisfy a wide variety of needs and was not simply a place where money was earned. Dawis and Lofquist conceptualized work adjustment as the interaction among tasks to be performed by the individual, the skills required to perform them, and the compensation the person required. They characterized the degree to which the requirements of the individual and the work environment were both satisfied as "correspondence" Work adjustment was the process by which correspondence was achieved, resulting in satisfaction for the individual, "satisfactoriness" for the environment, and prolonged organizational tenure as both the result of and indicator of correspondence having been achieved.

They used the Minnesota Importance Questionnaire and its 20 needs and generated six primary factors of needs which individuals would bring into the work arena: Achievement (with facets of Ability Utilization, Achievement); Comfort (Activity, Dependence, Variety, Compensation, Security, Working Conditions); Status (Advancement, Recognition, Authority, Social Status), Altruism (Coworkers, Moral Values, Social Service); Safety (Company Practices, Supervision-Human Relations, Supervision-Technical), and Autonomy (Creativity, Responsibility). Like Holland, they viewed that the demands of the work environment (and the types of behaviors it would require from the individual and reinforce) were determined largely by nature of the occupation.

Schein's (1978, 1990, 1996) theory of career development was a person-environment fit model that emphasized the interactions between the individual and the characteristics of the work environment (as well as the interactions among the individual's biosocial life cycle, work/career cycle, and family of procreation cycle). However, unlike Dawis, Lofquist, Holland, and Barnard, his theory addressed personality factors as relevant in determining whether a person would be organizationally employed or self-employed. Further, he considered the self-employed to be heterogeneous with respect to their personalities and the needs they were attempting to satisfy. He proposed that individuals developed career anchors as a function of three evolving components: self-perceived talents and abilities, self-perceived motives and needs, and self-perceived attitudes and values. He initially identified five basic anchors: technical-functional competence, managerial competence, security and stability drives, autonomy and independence, and entrepreneurial creativity (Schein, 1978) but later added three more:

security and dedication to a cause, pure challenge, and lifestyle (Schein, 1987, 1990, 1996). The career anchor of "creativity" for Schein characterized the true entrepreneurs who were the organization-creating and innovative individuals who transformed markets and economies (one of Schumpeter's (1934) dynamic agents of change). In contrast, those anchored by "autonomy and independence" included those "who would be maximally free of organizational constraints, such as consultants, proprietors of a small retail business, independent contractors and a professor of business" (Schein, 1978, p. 56). He argued those with autonomy anchors were far different than entrepreneurs in terms of their motivations:

> In fact, on the surface it is not too easy to differentiate the autonomy and creativity groups because the entrepreneurs also enjoy autonomy and freedom as they become successful. But as one listens to the entrepreneurs, it becomes obvious that they are much more preoccupied with building something, whereas the primary need of autonomy seekers is to be on their own, setting their own pace, schedules, life-styles, and work habits. (1978, p. 157).

Schein strongly felt the self-employed were non-homogenous in terms of their aspirations as well as their personalities. While seeing the need to study both entrepreneurs (the innovative creators of organizations) and the far more common small business owners, he saw entrepreneurs who founded business as distinct from owners of small businesses:

> Their self-concept has much less to do with autonomy and far more to do with building and self-aggrandizement. They are more narcissistic, self-confident, creative, and assertive. Autonomy-oriented persons are often compensating for a deep insecurity and see in self-employment a level of security not always found working for others. (1994, p 88)… founders not only have a high level of self-confidence and determination, but they typically have strong assumptions about the nature of the world, the role that organizations play in that world, the nature of human nature and relationships, how truth is arrived at, and how to manage time and space. They will, therefore, be quite comfortable in imposing those views on their partners and employees as the fledgling organization copes" (1993, p. 212).

Schein (1983, 1993) saw entrepreneurs as both forceful creators of organizations and their cultures. They hired people who shared their values and view of how the world worked and tended to be particularistic, treating people as individuals rather than trying to apply universalistic standards. On the other hand, the typical small business owner was motivated by a desire for autonomy and would in fact seek to limit the growth of his or her own firm in order to preserve it.

> Many people discover that they have autonomy anchors and decide somewhere along the line that the only way they will be content is to work for themselves. They become teachers, consultants, or autonomous professionals of various sorts, but they do not build enterprises. In fact, I have seen many cases where their success led to the need to hire others and the autonomy-anchored person then abandoned what he had built and went back to working on his own. Many work for organizations in jobs that permit a great deal of autonomy and only leave when they are forced into a more dependent role. At that point many leave and start their own businesses, but when one examines carefully why and how they do it, one discovers a very different pattern. For example, they often will buy a business and run it rather than creating it. They will sometimes team up with a spouse and run a kind of "Mom and Pop" business. But what they want is freedom and economic security. (1994, p. 88).

Schein explicitly characterized owners/non-employer as part of the category of autonomy driven people who purposefully restrained the growth of their businesses. His entrepreneurs, on the other hand, enjoy autonomy but are driven by needs to create, achieve, and exhibit their achievements and thrive on their ability to control and dominate others and to create an organization whose members share and reflect their values and values.

Person-Organization Fit

There is a large body of research related to fit between individuals and specific organizations (cf., Kristof, 1996; Kristof-Brown et al., 2005). Schneider's attraction-selection-attrition (ASA) framework (Schneider, 1987; Schneider, Goldstein, & Smith, 1995) is prominent. ASA focused on the behaviors of organizations rather than

individuals and on the congruence between the values of the organization ("goals, structures and processes that attract people to organizations are determined by the founders' choices, that is, by his or her choices to found a particular kind of organization" (1987, p. 443) and the individual. The primary unit of analysis of ASA theory was the established organization, and not the individual. Schneider was concerned with implications of the ASA process on organizational homogeneity. Other than positing the founder as the first mover of each organization's culture, Schneider's ASA framework has limited application to the study of self-employment or entrepreneurship.

Others (Angle & Perry, 1983; Buchanan, 1974; Chatman, 1991; Chatman & Jehn, 1994; Hrebiniak & Alutto, 1972; O'Reilly, Chatman, & Caldwell, 1991; Parasuraman, 1982; Patchen, 1970) studied the interaction of the person with a specific organization fit from the perspective of the individuals. They found that congruence between the individual's values and the values of the organization were associated with greater commitment, greater satisfaction, and longer tenure. Their research was organized around the degree of fit between individuals and singular organizations. It did not investigate whether there were individuals who would achieve low levels of fit with any organization such that they would work for and by themselves.

McClelland's Need for Achievement

McClelland's (1961) *The Achieving Society* and its argument that economic development was a function of the societal level of the need for achievement was one of the earlier, and most cited works, associating entrepreneurial activity with personality traits. However, McClelland's terminology lends itself to some confusion. For example, his conceptualization of entrepreneurial activity was broad. His classification of

positions as entrepreneurial included those in real estate and insurance sales, managing one's own business (including a family business), management consulting, fund raising, and being officers of large companies. McClelland wrote "for example, money management at lower levels is not classified as 'entrepreneurial' (for example, establishing consumer credit), but Vice-President of a large New York commercial bank in charge of credit is classified as 'entrepreneurial' " (1965, p. 390). McClelland, then, saw that individuals who were high in need for achievement were likely to seek commercial or industrial professions where they could attain some hierarchical authority and responsibility that might or might not be related to self-employment or creating their organizations in which they would have ownership interests.

Development of the Model

Specifying Differences in Dimensions across Arrangements

The applicability of person-environment fit concepts to the development of a model of work arrangement preference was predicated upon the assumption that there would be differences among the work arrangements with respect to the types of behaviors that would be required or permitted. From a needs-supply perspective, the opportunities represent supplies. If there were systematic differences with respect to the opportunities to satisfy needs, then according to person-environment theory, individuals with corresponding needs to satisfy would tend to gravitate into those work arrangements. The specification of expected differences in opportunities to exhibit certain types of behaviors was the first step in constructing a testable model.

Gartner (1989) critiqued the personality-oriented research on entrepreneurship the approach for failing to achieve any consensus as to what constituted the essence of the

entrepreneur as well as their methodological shortcomings with respect to their classification of the individuals who were the subjects of their study. He argued that the essence of "entrepreneurship is the creation of new organizations" (p.61) and argued for a behavioral approach such that researchers would focus on how individuals best performed that activity rather than on their personalities. Recognizing the validity of that critique, my specification of expected differences in opportunities to exhibit behaviors was intended to be related to types that would be required in each work arrangement. In other words, it assumed that what people had to, and could do, varied by work arrangement.

My approach to model development was also shaped by the advice given by House and Shane in their defense of dispositional research:

> If one's purpose is to categorize individuals, a broad taxonomy may be appropriate. If one wants to predict or explain specific behaviors, a more fine-grained conceptualization of dispositions will be necessary. Using the same logic, the type of behavior being explained or predicted also should be related to the type of disposition that is hypothesized to affect such behavior. If an investigator is interested in interpersonal behavior or psychological adjustment, one set of personality factors, traits, or dispositions may be appropriate. (1996, p. 218).

They felt research had been less productive than it could have been because "dispositional researchers have often relied on an 'off-the-shelf' approach for investigating dispositions. Need for achievement, tolerance for ambiguity, self-esteem, and locus of control are examples of 'favorites,' which seem to be recruited whenever dispositional effects are hypothesized, controlled, or discounted." (p.220).

I developed my model by (1) defining the construct of the owner/non-employer, (2) identifying dimensions or characteristics of the environment that should differ across work arrangements, (3) specify opportunities or requirements for behaviors that would be

related to these differences, and (4) identify personality traits that would correspond to these different opportunities for behaviors.

This research used a definition of an owner/non-employer as a self-employed person whose primary occupation is working for himself or herself in a for-profit venture regardless of legal form or industry, and, who has no other full-time employees. This definition excluded individuals who work under the alternative work arrangements such as on-call workers, temporary help agency workers, and workers employed and provided by contract firms ("leased workers"). It is consistent with the definitions of U. S. Bureau of Labor Statistics (Polvika, 1996a) except that it agrees with Dennis's (1996) critique that the BLS criteria included portions of the construction and wholesale industry but arbitrarily excluded individuals with storefronts and agricultural workers and was problematic with respect to self-employed office workers. This definition encompasses individuals (including those who were employees of organizations wholly-owned by themselves) who had no employees as an owner/non-employer regardless of industry or sector. This definition was the same as used by Bond et al. (2003).

In order to identify work characteristics that might differ among work arrangements, I drew upon Kalleberg et al. (2000). They proposed that standard and non-standard (independent contractors, on-call/day laborers, temporary help agency employees, and contract company workers) work arrangements could be differentiated along six situational dimensions: *de Jure* employer (the entity for whom the person works on a legal or contractual basis), *de facto* employer (the entity to whom the person effectively provides the good or service and who remunerates the person), whether the individual has the assumption of continued employment with both the *de Jure* and *de*

facto employers, full-time/part-time hours worked, and who was responsible for directing the individual's work. Along those dimensions, owners/non-employer work on either a full or part time basis, they are their own *de Jure* employer, their clients are their *de facto* employer, there is no assumption of continued employment by their clients, and they are responsible for directing their own work. The owners/non-employer's set of work dimensions differed from those of standard workers as well as other alternative workers.

I agreed with Kalleberg et al.'s classification of owners/non-employer along the dimensions but feel their taxonomy is incomplete. In order to more thoroughly distinguish salient differences among work arrangements, I expanded on their taxonomy by adding as a work arrangement "self-employment where the person employs others." As shown in Table 2-1, I also added three additional dimensions by which the work arrangements can be differentiated: responsibility for directing the work of others, requiring membership in a stable work-related organizational social system, and responsibility for maintenance of the *de Jure* employer. The added dimensions are relevant with respect to definition and classification as they imply required or permitted behaviors that might attract or repel individuals with different personality traits.

Owners/employer and employees who are managers must direct and influence the behavior of other organizational members. As Katz (1994) stated, "self-employment by definition places the individual on the top of the firm's hierarchy" and he distinguished between the owners of firms that employ others and those who don't: "The owner of a one-person firm would be seen as having power over no one. Hence, the owner of a one person firm has less hierarchy than the owner of a 100-employee firm." (p. 26) The work arrangements of the two types of self-employed differ with respect to whether the

individual is responsible for managing and directing the activities of others in a work setting (i.e., being the boss of others). Owners/employer must perform such management functions while the typical owner/non-employer has no such responsibilities or opportunities (although there is a small category of owners/non-employer known as "interim executives" (Frase-Blunt, 2004; Zipkin, 2004) who would be required to direct and manage subordinates in a hierarchical setting). The amount of responsibility and ability of an employee to direct the work of others varies, of course, with his or her level in both formal and informal organizational structures. However, even the newest hire without any form of formal or informal responsibility or power to direct the activities is entering a system whereby the potential for gaining such organizational influence exists (some individuals may have no aspirations to gain such influence or, even if they do, may be frustrated in their attempts to gain or exercise such influence).

People are not, of course, limited to influencing only organization members. Owners/employer also need to interact with and influence external constituencies (customers, suppliers, lenders, regulators, etc.). Employees, depending on their hierarchical level and functional responsibilities, may also have the need and ability to influence external others. Beyond their own personal power, both owners/employer and employees have their ability to influence strengthened, to varying degrees, by their organizational membership (the owner of a Fortune 500 size company clearly has more influence than does the owner of a small neighborhood retail establishment). The owner/non-employer's requirements to develop and maintain their own customer base would also require some influencing behaviors, but the number and variety of persons

that they are required and able to influence are likely to be more limited than either owners/employer or employees.

The second added dimension relates to whether the work arrangement requires membership in a relatively stable social system. As Barnard (1938) noted, joining a work organization requires the individual to enter into a social system. The standard worker is usually required to work at a site and time chosen by the employer (although technological change and the increasing emphasis on a service rather than manufacturing based economy may provide employers and employees with more options than in the past). He or she usually works in the company of a stable group of others (superiors, peers, or subordinates). The owner/employer is also part of the organizational social system. He or she must work with employees (and sometimes partners) as well maintain ongoing relationships with customers, suppliers, and other external parties. On the other hand, while the owner/non-employer may need to maintain ongoing relationships with clients or other parties, he or she is not a member of a work-related organization.

The third added dimension recognizes that a distinction between the self-employed and traditional employees is that the latter have "maintenance free" employment as others are responsible for maintenance of both the *de facto* and *de Jure* employers (Eden, 1975; Katz, 1994). Paolillo (1987) found that managers in different functional areas (sales, production, and staff) when asked to rate the importance of each of Mintzberg's ten management functions (e.g., figurehead, disseminator, disturbance handler) to their jobs, produced profiles that differed among the three groups whereas the owners have responsibilities that encompass all of these functional areas (and others). Owners/employer have organization maintenance responsibilities such as maintaining

payroll, paying employee-related taxes, hiring, disciplining, firing, negotiating remuneration with suppliers, customers, etc. (Eden, 1975; Katz, 1994; Mintzberg, 1979) but even owners/non-employer have a broader range of responsibilities and areas of decision than do employees: bookkeeping, financial management and control, information management, setting up and equipping maintaining physical space work space, marketing, legal, negotiating with suppliers (including subcontractors), negotiating with customers, obtaining health and business insurances, paying and managing taxes, etc. (Dickson, 1985; Pink, 2001; Whitmyer & Raspberry, 1994; Whittlesey, 1982).

The dimensions are useful in identifying key characteristics of each work arrangement, but it should be recognized that they represent overlapping continua. For example, today's traditional employees likely feel less confident in their assumption of continued employment by their employers than did traditional employees in prior decades when the relationship was characterized by the assumption of lifetime employment and steady progression up internal career ladders in exchange for loyalty and effort. Employees who are aware that their industry or employer is going through a period of constriction or down-sizing are unlikely to feel sanguine about their prospects for continued employment. Conversely, some self-employed individuals may, based on legal agreements, past relationships, possession of specialized knowledge, skills, or ability, be confident that their clients (their *de Facto* employers) are likely to continue to use their services or buy their products.

Table 2-1
Differing Dimensions by Work Arrangement

	Dimensions of Work Arrangements								
			Assumption of Continued Employment by				Responsibility for		
Work Arrangement	*de Jure* Employer	*de Facto* Employer	*de Jure* Employer	*de Facto* Employer	Work Directed by	Hours of Work	Maintenance of *de Jure* Employer	Directing the Work of Others	Member of Stable Work Related Organizational Social System
Standard	Org A	Org A	Yes	Yes	Org A	Full-time	Others	Sometimes	Yes
Part-time	Org. A	Org A	Sometimes	Sometimes	Org A	Part-time	Others	Sometimes	Yes
On-call/day laborer	Org. A	Org A	No	No	Org A	Full-time or part-time	Others	No	No
Temporary Help Agency	Agency	Org A	Sometimes	No	Org A	Full-time or part-time	Others	No	No
Contract Company	Contract Company	Org A	Yes	No	Contract Company	Full-time or part-time	Others	Sometimes	No
Owner /employer	Self	Client(s)	Yes	No	Self	Full-time or part time	Self	Yes	Yes
Owner/non-Employer	Self	Client(s)	Yes	No	Self	Full-time or part-time	Self	No	No

Based on Kalleberg et al. (2000), p. 258. Highlighted rows and columns added for this research.

Similarly, some traditional employees may have tasks and utilize technologies that allow them to telecommute or otherwise work in relative isolation from and have very limited social interactions and relationships with other standard employees. An owner/non-employer providing management consulting services under a medium term contract may spend considerable time on site at his or her client's location and become for a period of time part of their social system.

Specifying Corresponding Personality Traits and Self-concepts

My model of work arrangement preference assumed that differences among with the work arrangements with respect to these dimensions would have implications for the types of behaviors that would be allowed or required. The opportunity to display behaviors would allow individuals to satisfy different needs. Following House and Shane (1996), I specified personality traits which should correspond to the specific opportunities for behaviors that I hypothesized would differ across the work arrangements. That is, the dimensions imply differing (i) requirements to engage in a wider variety of roles, tasks, and activities to maintain the organization would provide differing levels of opportunities to achievement, (ii) opportunities to direct and manage the work of others would provide differing opportunities to dominate, (iii) opportunities to be part of a social system would provide differing opportunities to affiliate, and (iv) opportunities to direct one's own work would provide differing opportunities to be autonomous. Based on their corresponding needs for achievement, affiliation, autonomy, and dominance, individuals would be attracted towards different work arrangements. These traits are based on Murray's (1938) taxonomy as operationalized through Jackson's Personality Research Form – E ("PRF"). A description of the traits appears in Table 2-2.

Table 2-2
Personality Research Form Scale Descriptions for High and Low Scores

Description of High Scores	Defining Trait Adjectives	Description of Low Scores	Defining Trait Adjectives
Achievement			
Aspires to accomplish difficult tasks; maintains high standards and is willing to work hard towards distant goals; responds positively to competition; willing to put forth effort to attain excellence	Striving, accomplishing, capable, purposeful, attaining, industrious, achieving, aspiring, enterprising, self-improving, productive, driving, ambitious, resourceful, competitive	Tends not to set ambitious goals; prefers easy work over difficult challenges; does not strive for excellence; may respond negatively to challenges and competition; overestimates or exaggerates obstacles.	Unmotivated, indolent, non-competitive, unproductive, enervated, underachieving, non-perfectionist, lackadaisical
Affiliation			
Enjoys being with friends and people in general; accepts people readily; makes efforts to win friendships and maintain associations with people.	Neighborly, loyal, warm, amicable, good natured, friendly, companionable, genial, affable, cooperative, gregarious, hospitable, social, affiliative, good willed.	Satisfied being alone; does not actively seek out the company of others; has little urge to meet new people; does not initiate conversations; keeps people at an arm's length.	Abrupt, uncommunicative, unsociable, standoffish, aloof, inaccessible, alienated, unapproachable, unpropitious, laconic, introverted, non-participating.
Autonomy			
Tries to break away from restraints, confinement or restrictions of any kind; enjoys being unattached, free, not tied to people, places, or obligations; may be rebellious when faced with restraints.	Unmanageable, free, self-reliant, independent, autonomous, unconstrained, individualistic, ungovernable, self determined, non-conforming, noncompliant, undominated, resistant, lone-wolf.	Willingly accepts social obligations and attachments; prefers to follow rules imposed by people or by custom; listens o the advice and opinions of others, including superiors and leaders; is amenable to being easily led or influenced; is reliant on others for direction.	Controllable, tractable, manageable, conforming, conventional, reconcilable, obedient, governable.

Dominance			
Attempts to control environment, and to influence or direct other people; expresses opinions forcefully; enjoys the role of leader and may assume it spontaneously.	Governing, controlling, commanding, domineering, influential, persuasive, forceful, ascendant, leading, directing, dominant, assertive, authoritative, powerful, supervising	Avoids positions of power, authority, and leadership; does not like to direct other people; prefers not to impose opinions on other others; rarely expresses opinions other than to agree.	Unassertive, unauthoritative, unpersuasive, passive, uninfluential.

Another set of individual difference related to professional aspirations and attainments are core evaluations as patterns of belief that are appraising and evaluative with the objects of evaluation being the self, the world, and others (Judge, Locke, & Durham, 1997; Judge, Locke, Durham, & Kluger, 1998). Judge and his colleagues (Judge et al., 1997; Judge et al., 1998; Judge, Erez, Bono, & Thoresen, 2003 as well as Korman (1966, 1967a, 1967b, 1968a, 1968b, 1970) believed that evaluations of the self (self-esteem, self-worth, and self-efficacy) was associated with both vocational and non-vocational aspirations, behaviors, and attitudes. Self-efficacy has been linked in theory to entrepreneurial intent and activity (Boyd & Vozikis, 1994; Krueger & Brazeal, 1994; Scherer, Adams, Carley, & Wiebe, 1989).

Bandura (1977) described self-efficacy as the individual's belief in his or her ability to perform a task or specifically execute a specified behavior successfully. As originally presented, the concept was task-specific, although Bandura did discuss the concept at both a domain-linked and general level. Researchers expanded the concept beyond the task-level and developed instruments to assess them (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982; Judge, Locke, Durham & Kluger,

1997; Markman, Balkin, & Baron, 2002). In this research, I used the conceptualization as put forth and then operationalized by Judge et al. (1997):

> "self-efficacy" pertains to one's belief in one's capacity to perform, that is to mobilize skills, energy, and self-control of emotions so as to bringing about specific attainments. (p. 167)

General self-efficacy may be associated with preferences for and achievement of the different work arrangements in several ways. The responsibility for maintenance of the *de Jure* employer requires both the owners/employer and owners/non-employer to engage in a wider array of tasks than does working as traditional employee. Judge and his associates and Korman believed that high self-efficacy would be related to vocational aspirations with respect to level and complexity of jobs to which they aspired.

In addition to the possible relationship between general self-efficacy and finding the more demanding dimensions of self-employment to be appealing, self-efficacy may also be related to the individual's attaining self-employment. The standard work arrangement continues to be the most commonly available form of work and one which continues to offer, in general, an expectation of continued employment. Most self-employed have at some point in their careers moved from standard employment toward self-employment and it is likely that those with high self-efficacy are more likely to transform a desire to be self-employed into action to achieve that status. Similarly, those with high self-efficacy may evaluate the probability that they will achieve the type of relationships with their clients (their *de Facto* employer) that will give them as much income security as they would achieve by entrusting their fate to an employing organization. However, to the extent that self-efficacy might be related to individual's wanting to be self-employed and then attaining that status, it should also be related to

individuals in general attaining their desired work arrangement, whether that is to be an independent, an owner, or the employee of an organization.

Relevant Empirical Literature

The limited research on alternative work arrangements has produced little academic literature on the characteristics of their work environments or their motivations (Connelly & Gallagher, 2004; Sullivan, 1999). For example, in one of the few studies of independent contractors, VandelHeuvel and Wood (1997) compared the job satisfaction of Australian independent contractors and traditional workers but did not study the characteristics of their jobs or their motivations. In this section, I review three data sets that provide some descriptive information on the demographics and work characteristics of independents as compared to owners and employees. I will then review other relevant empirical studies related to each of the four personality traits and self-efficacy.

Almost all of these studies came from the entrepreneurial self-employment stream of research. The typical research design was a comparison of individuals that were labeled as actual or aspiring entrepreneurs to non-entrepreneurs. As Johnson (1990) critiqued, many of these studies collected data on convenience samples of the self-employed. None of the samples consisted solely of independents or identified them as a discrete subgroup. Some samples consisted of owners/employer only, some consisted of both owners/employer and owners/non-employer, and others did not provide sufficient information to know what type of self-employed were included in the sample. Accordingly, these studies provide limited evidence with respect to the differences between owners/non-employer and owners/employer, and between owners/non-employer and employees.

There have been three studies that specifically identified owner/non-employers and provided relevant descriptive information: (i) Bureau of Labor Statistics series (DiNatale, 2001 will be used for discussion purposes here although the findings were consistent across waves), (ii) the 2002 National Study of the Changing Workforce (Bond et al., 2003), and (iii) my own 2002 study of translators (Prottas, 2004). My study's small sample size (165 distributed unequally among the three groups) is one of the obvious limitations of the study and any quantitative meta-analysis would provide it with relatively low weighting with respect to the other two larger, more systematic and across-industry studies. The BLS data compares independents and other alternative workers to traditional employees but does not include owners/employer as a group. Both Bond et al. (2003) and Prottas (2004) present data on all three work arrangements.

The studies showed there were important demographic differences among the three groups. Numerous studies indicate that the self-employed tend to be older, more highly educated, and more likely to be male than traditional employees (cf., Aronson, 1991). As shown Table 2-3, DiNatale (2001), Bond et al. (2003), and Prottas (2004) found employees were younger than both owners/employer and owners/non-employer. Bond found owners/employer were older than owners/non-employer while Prottas found the inverse. These findings are consistent with theory that self-employment may be facilitated by the accumulation of human, social, and financial capital. The three studies also found that employees were least likely to be male and both Bond and Prottas found owners/employer were most likely to be male. All three studies showed employees and owners/non-employer were similarly likely to have completed college while Bond found owners/employer were most likely. The data sets suggest owners/non-employers are at

least as satisfied with their work arrangement as employees with owners/employer being the most satisfied. In summary, there was no evidence that owners/non-employer represented a socially disadvantaged group that had been forced into their work arrangement.

The data suggest there are differences in how the owners/non-employer work. Specifically, owners/non-employer worked on average fewer hours and were more likely to work part-time (less than 35 hours) than owners/employer or employees. Both Bond et al. (2003) and Prottas (2004) found the owners/employer worked the most hours and had the highest individual and household incomes. Bond et al. (2003) found no statistically significant differences between the personal income of the owners/non-employer and employees although the household income of owners/non-employer was greater. In contrast, Prottas (2004) found no difference between household incomes but the individual income of owners/non-employer was less than that of employees. Bond et al. (2003) found workers in all three work arrangements contributed 76-77% of household income. In contrast, Prottas (2004) found greater disparity among the groups with owners/employer producing 85% of household income and owners/non-employer only slightly more than half. Prottas (2004) results were consistent with an image of the owners/non-employer working fewer hours to produce supplemental income such that total household earnings would be similar to the household income of employees. Bond et al. (2003) saw no such evidence with respect to earnings patterns or percentage of household income contributed by individuals in the different work arrangements.

The demographic data was important with respect to expectations regarding analysis of the data for this study. First, I anticipated that a large majority of individuals

within each group would report their actual work arrangement as their preferred. I expected owners/employer would be the most satisfied with their arrangement. I anticipated that up to 30% of each group would express a preference to be in a different group. Accordingly, with respect to person-arrangement fit, I expected to be able to classify individuals into over-lapping sets: first, according to their actual work arrangement, and second, according to their preferred work arrangement.

Additionally, I expected that the groups would differ with respect to two demographic characteristics that are likely to have their own relationships with the personality characteristics: age and sex. To the extent there is causality in these relationships can be assumed to be unidirectional (age and sex not being readily changed by personality traits or other factors). Whether due to effects of aging itself or a cohort effect (as argued by McCrae and Costa (1984), a group consisting of older persons might differ from a group of younger persons with respect to the personality traits. Accordingly, the analysis of the data needed to be statistically control for these expected and relevant differences in sex and age.

Bond et al. (2003) and Prottas (2004) provided data comparing aspects of the work environments of each of the three arrangements. These findings are relevant to the model of work arrangement preference and are summarized in Table 2-4. In both studies, perceived job autonomy varied across work arrangements. Owners/employer reported higher levels than owners/non-employer who in turn reported higher levels than employees. Bond et al. (2003) reported differences among the work arrangements with respect to the amount of support provided by coworkers and demands of the jobs. As would be expected given that their work arrangement does not involve being part of an

organizational social system, owners/non-employer reported the least amount of coworker support whereas owners/employer reported the most. Owners/employer reported the greatest level of job pressures and owners/non-employer the least. The data suggests then, that the requirements of maintaining an organization that employ others is more demanding in terms of job pressures and time than working for someone. On the other hand, even though owners/non-employer have to maintain their own business, they perceive fewer job pressures and, as shown above, worked fewer hours than traditional employees.

Bond et al. (2003) found that owners/employer were far more likely (71.9%) than employees (38.1%) to say that supervising others was a major part of their job. This is consistent with the dimensional characteristic in which owners generally have responsibility to manage the work of others while only some employees were so empowered. The question was also put to a small portion of owners/non-employer (79 out of 422) who were technically employees of the companies that they owned. Almost 42% of that subset of owners/non-employer said supervising others an important part of their job. The finding that owners/non-employer report similar supervisory responsibilities to employees is not supportive of the conceptualization that owners/non-employer have relatively little opportunity or requirement to direct the activities of others. However, it may be that the minority of owners/non-employer who incorporated their businesses differ in this respect from the majority of owners/non-employer who operate as sole proprietorships.

Table 2-3

Summary of Demographic Variables from Three Studies of Independents

	NSCW 2002 (Bond et al., 2003)			Prottas (2004)			BLS 2001	
	Owners/ non-employer *M (sd)*	Owners/ employer *m (sd)*	Employees *m (sd))*	Owners/ non-employer *m (sd)*	Owners/ employer *m (sd)*	Employees *m (sd)*	Owners/ Non	Emp
Age (in years)	44.60 (14.29)	48.60 (12.39)	41.71 (12.59)	47.83 (16.55)	41.92 (15.23)	39.70 (13.87)	-	-
% > 44 years old	50.1%	63.0%	44.2%	60.6%	46.2%	30.0%	41.71%	34.6%
% Married	61.9%	77.9%	63.7%	79.6%	80.0%	65.0%	-	-
% Male	50.8%	63.5%	41.6%	29.3%	38.5%	22.5%	64.5%	52.2%
% ≥ College Ed.	37.3%	52.3%	38.8%	98.0%	92.3%	97.5%	34.7%	32.0%
% Prefer Arrange	71.3%[1]	86.3%[1]	-	78.7%	96%	78.7%	83.4%[3]	-
Turnover Plans[2]	-	-	-	.50 (.45)	.18 (.45)	.52 (.75)	-	-
% with children	40.7%	39.6%	46.5%	36.1%	37.5%	28.2%	-	-
% Full-time	66.4%	86.3%	86.1%	52.1%	88.5%	82.1%	51.0%	83.1%
Hours Worked	42.2 (22.32)	51.60 (19.98)	44.89 (13.11)	34.41 (15.39)	48.19 (16.98)	41.22 (10.53)	-	-
Individual	57,843	114,810	48,192	37,446	83,500	52,132 (23,307	-	-
Income	(112,567)	(160,267)	(75,113)	(80,184)	(34,483)			
Household	84,679	140,405	70,498	80,184	98,269	78,716	-	-
Income	(130,583)	(136,694)	(94,856)	(32,963)	(31,581)	(34,468)		
Ind as % HH	.77 (.30)	.76 (.26)	.77 (.28)	52% (.31)	85.4% (.25)	71.1% (.26)	-	-

Note. [1] Item asked if person would prefer regular job working for someone else.
[2] Item asked likelihood person would look for a new job in the next year. [3] Item asked if person would prefer traditional employment.

Table 2-4
Summary of Situational Variables from Two Studies of Independents, Owners, and Employees

	NSCW 2002 (Bond et al. 2003)			Prottas (2004)		
	Owners/ non-employer	Owners/ employer	Employees	Owners/ non-employer	Owners/ employer	Employees
	m (sd)	*m (sd)*	*m (sd)*	*m (sd)*	*m (sd)*	*m (sd)*
Job Autonomy	.46 (.50)	.57 (.41)	-0.1 (.65)	4.26 (.80)	4.83 (.27)	3.91 (.81)
Coworker Support	-.13 (.96)	.15 (.69)	0.0 (.81)	n/a	n/a	n/a
Job Pressure	-.14 (.66)	.12 (.58)	.01 (.62)	n/a	n/a	n/a

Note. NSCW 2002 scales constructed using standardized variables.

My small scale study of translators provided empirical data on personality traits of owners/non-employer, owners/employer, and employees. Notwithstanding its limitations, it provided some evidence that traits, as well as demographic and work characteristics, varied among the three groups. Using two sets of personality measures (the Jackson Personality Research Form which I used in this study and the Heckert et al. (2000) Needs Assessment Questionnaire (NAQ) that I did not use given concerns about its validity) multivariate analysis of variance supported hypotheses that the groups varied with respect to the constellation of their needs for achievement, affiliation, autonomy, and dominance (with a medium effect size). I will discuss findings with respect to each of the specific traits below.

Empirical Research Regarding Autonomy

As in table 2-1, the work arrangements differ with respect to whether the person was responsible for directing their own work. To the extent that owners/employer and owners/non-employer manage their own work, they should experience more job autonomy than employees whose work is managed by others. Indeed, Schein (1975, 1978, 1990, 1996), economists (Aronson, 1991; Caudron, 1999; Douglas & Shepherd;

Eisenhauer, 1995; Hamilton, 2000; Levésque, Douglas, & Shepherd, 2002) and popular writers (Pink, 2001) have assumed that the desire for autonomy and independence led people to pursue self-employment because it allowed them to be their own bosses. Buttner and Moore (1997) and Scott (1986) indicated that "being one's own boss" had been an important reason they had become self-employed. Studies have found that students believed that self-employment offered greater opportunities for independence and autonomy than traditional employment (Brenner, Pringle, & Greenhaus, 1991; Kolvereid, 1996; Scott & Twomey, 1988). Studies by Eden (1975), Hundley (2001) and Tetrick, Slack, Da Silva, and Sinclair (2000) found that self-employed reported higher perceived job autonomy than employees. Other studies found that self-employed people had greater needs for autonomy or independence than did traditional employees (Birley, 1989; Cromie, 1987; DeCarlo & Lyons, 1977; Feldman & Bolino, 2000; Hornady & Aboud, 1971; Neider, 1987; Sexton & Bowman-Upton, 1990; Taylor, 1996).

Lengermann (1971) studied the perceptions of the amount of professional autonomy that 278 CPAs had, who were working in different settings: sole practice, local firm, regional firm, small office national firm, large office national firm, and non-CPA organizations. Professional autonomy was conceptualized as a specific form of work-related autonomy related to the freedom that the professional felt in doing their job in accordance with his or her training and the profession's standards. Each CPA was asked to evaluate the extent to which others in each setting had "freedom to exercise one's own professional judgment in carrying out one's work." CPAs in all settings saw sole practioners as having had the greatest professional autonomy. In general the amount of perceived professional autonomy declined as the firms became larger. CPAs in each

setting were also asked to indicate how much professional autonomy they themselves had. The rankings of the settings based on the amount of self-reported autonomy were similar to the rankings by perceived availability.

If the self-employed as a group may have higher opportunities and needs for autonomy than employees, there remains the question of whether there are differences between the owners/employer and owners/non-employer. Schein (1978; 1994) and Katz (1994) saw the self-employed as heterogeneous with distinct career anchors. Individuals with higher needs for autonomy would purposefully constrain the growth of their businesses. There were two studied that found supporting evidence. Lee and Tsang's (2001) study of 168 Chinese entrepreneurs furnished empirical support for this view, finding that self-reliance (a construct related to need for autonomy) had an indirect negative effect on organizational size (by decreasing the number of partners). Robichaud, McGraw and Roger (2001) assessed entrepreneurial motivations among 315 Canadian entrepreneurs and found a factor labeled as independence/autonomy (personal freedom, personal security, be my own boss, control over my own destiny) was negatively related to organizational sales.

Bond et al. (2003) and Prottas (2004) found that owners/employer perceived greater opportunities for autonomy than owners/non-employer (who reported greater opportunities than employees). Prottas (2004) also measured needs for autonomy among the three work arrangements. As shown in Table 2-5, he found that owners/non-employer had higher needs than owners/employer as assessed by the Jackson PRF scale.

Table 2-5
Group Differences Needs for Autonomy (data from Prottas, 2004)

Group	Need for Autonomy NAQ Scale	PRF Scale
Owners/employer (0/E): *m (sd)*	4.37 (.57)	5.67 (3.09)
Employees (E): *m (sd)*	4.15 (.55)	5.79 (3.45)
Owners/non-employer (O/N): *m (sd)*	4.15 (.71)	8.00 (3.42)
Univariate Relations		
Work Arrangement Wilks λ *F*	1.24	4.77*
Arrangement Partial Eta Squared (η^2)	.02	.10
d (O/E – E)	.40	-.04
d (O/E – O/N)	.35	-.70*
d (E – O/N)	-.01	-.64

Note. MANOVA for all NAQ Scales: owners/employer, n = 26, employees, n = 40, owners/non-employer, n = 99. Work arrangement multivariate F (8, 318) = 6.61, $p < .001$, partial $\eta^2 = .14$. MANOVA for PRF Achievement/Autonomy Scales: owners/employer, n = 15, employees, n = 24, owners/non-employer, n = 47. * $p < .05$, 2-tailed; ** $p < .01$, 2-tailed.

The finding that owners/employer perceived higher levels of job autonomy than owners/non-employer but that owners/non-employer had higher needs for autonomy is consistent with Schein's view of the different career anchors. For the self-employed individuals with an autonomy anchor (such as owners/non-employer) the primary objective would be to achieve autonomy. For those with creativity and growth anchors, the primary objective might be to have a large business. Having employees to whom work could be assigned might provide greater autonomy but that autonomy would be a byproduct rather than the primary objective.

Empirical Research Regarding Affiliation

Owners/non-employer are distinguished from both employees and owners/employer in that they choose not to earn their living as a member of a work organization. As Barnard (1938) emphasized, membership in a work organization entails becoming part of a social system. The opportunity to affiliate could be either positive or

negative for an individual based on his or her personality. If it would follow that owners/non-employer would have relatively lower needs for affiliation than employees who are organizational members, the question remains how owners/employer's affiliative opportunities and needs would relate. Do owners/employer as organizational members who are leaders and managers sitting on the top of an organizational hierarchy, have work environments that permit them to exhibit behaviors which satisfy needs for affiliation or do their responsibilities as leaders and managers discourage affiliative need satisfying behaviors? Unlike autonomy, there has been limited research regarding differences in opportunities or needs for affiliation among individuals in different work arrangements.

The need for affiliation as conceptualized and operationalized in this research is related to the Five Factor Model factor of extraversion. Owners/employer need to demonstrate leadership qualities and behaviors. Judge, Bono, Ilies and Gerhardt's (2002) meta-analysis found that extraversion ("the tendency to be sociable, assertive, active, and to experience positive affects such as energy and zeal" (p. 767) was the strongest correlate of leadership (ρ = .31), followed by conscientiousness (ρ =.28) while agreeableness ("the tendency to be trusting, compliant, caring, and gentle" was the weakest (ρ = .08). When examining relationships with leader emergence and leadership effectiveness, however, they found that agreeableness correlated more strongly with leadership effectiveness (ρ = .21) than with leadership emergence (ρ = .05) whereas extraversion and conscientiousness were more strongly related to leadership emergence (ρ =.33 and ρ =.33) than leadership effectiveness (ρ = .24 and ρ = .16, respectively). They concluded, "extraversion emerged as the most consistent correlate of leadership.

Not only was it the strongest correlate of leadership in the combined analysis, but it also displayed a nonzero effect in all analyses – when controlling for the other Big Five traits – and when broken down in the moderator analysis by criteria and sample type" (p. 773), adding, "overall, Agreeableness was the least relevant of the Big Five traits" (p. 774).

In their milestone meta-analysis, Barrick and Mount (1991) found extraversion was a valid predictor across criterion types for both managers and sales (although the ρ's were less than .20) as well as for training proficiency while "the results for Agreeableness suggest it is not an important predictor of job performance, even in those jobs containing a large social component (e.g., sales or management). Such results are in contrast with the other socially based personality dimension extraversion. Thus, it appears that being courteous, trusting, straight forward and soft-hearted has a smaller impact on job performance than being talkative, active, and assertive" (p. 21).

In their meta-analysis of Big Five personality dimensions and entrepreneurial status, Zhao and Seibert (in press) found that agreeableness was negatively related to entrepreneurial status (corrected d = -.16). Although the corrected d for extraversion was positive (.20), its wide confidence intervals (-.01 to .45) spanned zero. The substantial unexplained variance for extraversion (as well as neuroticism and openness to experience) left the authors to suggest that situation contingencies needed to be explored more thoroughly.

A desire to be with and work with other people would also likely be related to individuals' having social capital which would include social and professional networks. Such networks have been shown to be an important factor in individuals' attaining self-employment (Allen, 2000; Renzulli, Aldrich, & Moody, 2000) as the networks may

provide valuable informational as well as tangible resources. Individuals with higher affiliative needs should be more likely to engage in behaviors and activities that would develop these social networks.

It should be noted that theorists such as McClelland (1985), Winter (2002) and Yukl (1989) thought that having a high need for affiliation would be detrimental to individuals becoming effective managers and leaders. However, their views and related empirical work that appears to conflict with the above meta-analytical findings can be explained as the result of different conceptualizations of the construct of the need for affiliation. They believed that individuals with high needs for affiliation would be characterized by a strong desire to be liked. Individuals with a high desire to be liked would not be able to effectively practice the basic principles of bureaucratic management and apply rules universally and impartially. Their conceptualization of the need for affiliation was more related to the Five Factor Model of agreeableness than it was to extraversion. As discussed above, agreeableness was not related to leadership or professional success in business settings.

Their conceptualization of the need for affiliation was carried over to instruments that were used for research. Stahl (1986) developed the Judge Choice Exercise (JCE), a pen and paper test which presented different job scenarios which offered differing levels of opportunities for (i) "establishing and maintaining friendly relationships," (ii) "influencing the activities or thoughts of a number of individuals," and (iii) "accomplishing difficult (but feasible) goals and later receiving detailed information about your personal performance." For each job, subjects were asked to rate the attractiveness of the job and how much effort they would exert to get the job. The JCE

produced individual scores for the latent needs for achievement, power, and affiliation as conceptualized by McClelland. A series of studies based using the JCE were conducted within the accounting profession (Harrell & Eickhoff, 1988; Harrell & Stahl, 1984; Rasch & Harrell, 1990; Snead & Harrell, 1991; Street & Bishop, 1991). They all found that the need for affiliation (as conceptualized by the JCE) was negatively related to success (usually expressed as remaining in the firm or hierarchical level).

Coworker support is likely related to opportunities for affiliation and as shown in Table 2-4, owners/employer reported more support from coworkers than did employees with owners/non-employer having the least support. As shown in Table 2-6, Prottas (2004) assessed needs for affiliation for individuals in different work arrangements. Using the NAQ scale, owners/employer had highest need for affiliation while owners/non-employer had the lowest (with only the difference between owners/employer and owners/non-employer being statistically significantly different). Perhaps due to the smaller sample size and less power for the Jackson PRF instrument, there were no statistically significant differences (although owners/employer also reported highest needs for affiliation).

Table 2-6
Group Differences Needs for Affiliation (data from Prottas, 2004)

Group	Need for Affiliation NAQ	PRF
Owners/employer (0/E): *m (sd)*	3.36 (.54)	10.09 (3.39)
Employees (E): *m (sd)*	3.01 (.63)	7.75 (4.60)
Owners/non-employer (O/N: *m (sd)*	2.78 (.67)	8.49 (3.33)
Univariate Relations		
Work Arrangement Wilks λ *F*	8.85**	1.39
Arrangement Partial η^2	.10	.04
d (O/E – E)	.59	.56
d (O/E – O/N)	.90**	.48
d (E – O/N)	.35	-.21

Note. MANOVA for all NAQ Scales: owners/employer, n = 26, employees, n = 40, owners/non-employer, n = 99. Work arrangement multivariate F (8, 318) = 6.61, $p < .001$, partial $\eta^2 = .14$. MANOVA for PRF Affiliation/Dominance scales: owners/employer, n = 11, employees, n = 16, owners/non-employer, n = 527. Work arrangement multivariate: F (4, 150) = 2.70, $p < .05$, partial $\eta^2 = .07$. Significance of paired post hoc intergroup comparisons made with Bonferroni adjustment.
* $p < .05$, 2-tailed; ** $p < .01$, 2-tailed.

In summary, there is limited data to support the view that owners/non-employer will be lower in need for affiliation than organizational members although that relationship seems the most intuitive. There is evidence that being an owner/employer provides ample opportunities for affiliation and that having a high need for affiliation would be compatible with owners/employer need to be leaders, occupy hierarchical positions of authority, and to develop the social and professional networks that would facilitate their establishing and growing their business.

Empirical Research Regarding Dominance

Barnard (1938) recognized that one of the potential inducements of organizational membership was the attainment of personal power and attainment of dominating positions while Schein claimed "founders not only have a high level of self-confidence and determination but they typically have strong assumptions about the nature

of human nature and relationships, how truth is arrived at, and how to manage time and space. They will, therefore, be quite comfortable in imposing those views on their partners and employees as the fledgling organization copes" (1993, p. 212). Owners/employer have the responsibility to direct the work of others while employees, as members of organizations with both formal and informal systems of control and influence, have the opportunity or the potential to do so. Winter (1973) thought high latent needs for power (a construct similar to the need for dominance as above) would lead people into careers such as business management and self-employment (he was not explicit that his concept of self-employment involved owning a business that employed others). In the absence of any hierarchical authority, owners/non-employer would appear to have extremely limited opportunities.

There is limited discussion or research in the entrepreneurial or self-employment literature with respect to need for dominance. Compared to need for autonomy, desire for dominance or power does not often appear among the professed reasons for people wanting to own and operate their own businesses. Perhaps reflecting Kanter's (1979) assertion that "power is America's last dirty word, it is easier to talk about money – and much easier to talk about sex – than it is to talk about power. People who have it deny it; people who want it do not want to appear to hunger for it; and people who engage in its machinations do so secretly" (p. 65), the desire to boss others does not commonly appear as a self professed motive for seeking self-employment. However, Kolvereid (1996) found students who had a preference for self-employment also valued authority more highly than those who preferred working for others (while I expect the responses were based on the students' conceptualization of self-employment as being ownership and

management of a business that employs others, there is no evidence within the study that supports that conjecture). Hornaday and Aboud (1971) found entrepreneurs were higher in leadership than were employees while Decarlo and Lyons (1997) found them higher in dominance as well as autonomy. Baum et al. (1993) found US entrepreneurs were higher than US counterpart managers in need for dominance.

Owners/employer must manage and lead others within their organizations. Some employees also have leadership responsibilities. Judge et al. (2002) meta-analysis of lower order traits found dominance was associated with leadership (ρ = .37). Costa and McCrae (1988) found that PRF Dominance loaded positively on extraversion (.38) and openness to experience (.45) and negatively on agreeableness (-.46) and dominance correlated most highly with Extraversion (.49) and the facet of assertiveness (.64). As in the discussion on extraversion, to the extent that need for dominance 'behaves' like extraversion, we would expect to be associated with organizational membership and hierarchical position.

As shown in Table 2-7, Prottas (2004) compared needs for dominance across the three work arrangements. The effect sizes of work arrangement as a variable were the largest of the four needs measured (achievement, affiliation, autonomy, and dominance) and the results were consistent across both scales.

Table 2-7
Group Differences Needs for Dominance (data from Prottas, 2004)

Group	Need for Dominance NAQ	PRF
Owners/employer (0/E): *m (sd)*	4.21 (.54)	10.64 (3.85)
Employees (E): *m (sd)*	3.68 (.80)	7.38 (4.07)
Owners/non-employer (O/N): *m (sd)*	3.22 (.73)	6.63 (3.95)
Univariate Relations		
Work Arrangement Wilks λ *F*	21.05**	4.65*
Arrangement Partial η^2	.21	.11
d (O/E – E)	.75*	.81
d (O/E – O/N)	1.42**	1.02
d (E – O/N)	.61**	.18

Note. MANOVA for all NAQ Scales: owners/employer, n = 26, employees, n = 40, owners/non-employers, n = 99. Work arrangement multivariate F (8, 318) = 6.61, $p < .001$, partial $\eta^2 = .14$. MANOVA for PRF Affiliation/Dominance scales: owners/employer, n = 11, employees, n = 16, owners/non-employer, n = 527. Work arrangement multivariate: F (4, 150) = 2.70, $p < .05$, partial $\eta^2 = .07$. Significance of paired post hoc intergroup comparisons made with Bonferroni adjustment. * $p < .05$, 2-tailed; ** $p < .01$, 2-tailed.

Empirical Research Regarding Achievement

McClelland's (1961) need for achievement has long been cited as a trait that would distinguish between entrepreneurs and non-entrepreneurs and there were numerous studies by entrepreneurial researchers. Collins, Hanges, and Locke's (2003) meta-analysis of 41 studies of achievement motivation found a mean *r* of .21 to employees in general when contrasting entrepreneurs to managers and .35 (medium) when contrasting entrepreneurs to all others.

Research then has shown that consciousness and need for achievement is associated with greater leadership abilities, success in the work organizations, hierarchical level within work settings, and entrepreneurial activity. If the expectation is owners/employer will have higher needs for achievement than employees the question remains how owners/non-employer will compare with respect to this trait. As shown in Table 2-8, Prottas' (2004) study suggested that owners/employer have the highest needs.

Table 2-8
Group Differences Needs for Achievement (data from Prottas, 2004)

Group	Need for Achievement NAQ	PRF
Owners/employer (0/E): *m (sd)*	4.53 (.45)	12.87 (3.07)
Employees (E): *m (sd)*	4.25 (.38)	11.35 (2.33)
Owners/non-employer (O/N): *m (sd)*	4.04 (.56)	11.13 (2.72)
Univariate Relations		
Work Arrangement Wilks λ *F*	10.38**	2.29
Arrangement Partial η^2	.11	.05
d (O/E – E)	.69	.54
d (O/E – O/N)	.91**	.66
d (E – O/N)	.40	.08

Note. MANOVA for all NAQ Scales: owners/employer, n = 26, employees, n = 40, owners/non-employer, n = 99. Work arrangement multivariate F (8, 318) = 6.61, $p < .001$, partial $\eta^2 = .14$. MANOVA for PRF Achievement/Autonomy Scales: owners/employer, n = 15, employees, n = 24, owners/non-employer, n = 47. * $p < .05$, 2-tailed; ** $p < .01$, 2-tailed.

Need for achievement appears to differ from other needs in that it incorporates an implicit object or target. It implies an "achieve '*what*'?" As McClelland, Murray, and Veroff acknowledged, the need for achievement might be expressed differently depending on what the individual viewed as an "achievement." Veroff (1982) suggested, for example, that women with high need achievement might value a happy family as their achievement. Accordingly, it is crucial to examine the conceptualization of the trait and its specific operationalization to determine the implicit *what* that is embedded in it. Specifically, the question is whether the conceptualization and the implicit *what* would be more or less likely to be able to be satisfied by working as a member of an organization than by working by oneself.

Referring to his conceptualization, McClelland later wrote (1987) that "as work on it progressed, it became apparent that it might have been better named, *efficiency motive,* because it represents a recurrent concern about the goal state of doing something

better. Doing something better implies some standard of comparison – either internal or external – and is best conceived in terms of efficiency or an input/output ratio" (p. 595). Jackson (1999) described someone high in need for achievement as striving, aspiring to accomplish difficult tasks, competitive, and enterprising. An examination of items in the Jackson scale shows that some items assess some behaviors that apparently independent of the work setting "I enjoy difficult work" while other items suggest competitive desires ("I will not be satisfied until I am the best in my field of work") that might be best satisfied in a organizational setting where the person may more directly evaluate his or her performance. Additionally, there are items that appear as well to relate to the centrality of work such as "I do not let my work get in the way of what I really want to do" and "I don't mind working while other people are having fun."

As discussed above, the three data sets that identified and then compared owners/non-employer to owners/employer and employees (Bond et al., 2003; DiNatale, 2001; Prottas, 2004) all found that owners/non-employer worked fewest hours and were most likely to be part-time workers. Additionally, Bond et al. (2003) found owners/non-employer perceived the least job pressures. The evidence suggests owners/non-employer might epitomize the type of self-employed person who Schein felt (1978) was motivated by concerns such as lifestyle rather than by a need to create and achieve in the work domain.

In summary, given as the construct of need for achievement is related competitive desires and centrality of work, in addition to a desire to do a job well or thoroughly and to tap into an underlying value system, the data suggests that owners/employer will be

characterized by stronger needs for achievement than both employees and owners/non-employer and that owners/non-employer are likely to have the lowest needs.

Empirical Research Regarding Self-Efficacy

While there is considerable research (discussed above) regarding the relationship between self-efficacy and task preference, hierarchical aspirations and accomplishment, the empirical evidence on the relationship between self-efficacy and entrepreneurial activity is limited. Markman, Balkin, and Baron (2002) found that 55 inventors who had founded businesses to commercialize their inventions were higher in general self-efficacy than 162 inventors who had not (d = .36).

There has been a greater amount of research relating to locus of control. According to Judge, Locke, Durham, and Kluger (1998), locus of control, generalized self-efficacy, and self-esteem are strongly related facets of an individual's core-self evaluation which load on to the same factor. Accordingly, the associations between general self-efficacy and various outcomes should be similar to those involving locus of control and self-esteem. In their meta-analysis, Judge et al. (2002) found locus of control and self-esteem were positively related with leadership (ρ = .13 and .19, respectively). There have also been a series of studies in the entrepreneurial research field that suggest internal locus of control is associated with entrepreneurial activity (Ahmed, 1985; Begley& Boyd, 1986; Borland, 1975; Brockhaus & Nord, 1979; Caird, 1988; Chay, 1993; Cromie, & Johns, 1983; Engle, Mah, & Sadri, 1997; Green, David, Dent, & Tsyhkovksy, 1996; Kassicieh, Radosevich, & Umbarger, 1996; Kaufman, Welsh, & Bushmarin, 1995; Muller ,2000; Perry, Macarthur, Meredith, & Cunnington, 1986; Robinson, Stimpson, Huefner, & Hunt, 1991; Venkatapathy, 1983; Waddell, 1983).

The prior research on self-efficacy then suggests that owners/employer should perceive themselves as more efficacious than employees. There is no data related to the self-efficacy of owners/non-employer as a group.

Hypotheses

The vast majority of trait oriented research on the self-employed has treated them as a homogenous group with very little research done on work characteristics or traits of the self-employed divided into the categories of owners/employer and owners/non-employer. Accordingly, the research provides evidence for a guided exploration of the research questions. This study tested three sets of hypotheses:

1. Opportunities for Behaviors in Work Arrangements

(1a) After controlling for anticipated between-group differences in age and sex, there will be differences (magnitudes below) with respect to the constellation of opportunities for achievement, affiliation, autonomy, and dominance reported by individuals in each of the three different work arrangement as well as differences with respect to each of the dimensions of (1b) achievement, (1c) affiliation, (1d) autonomy, and (1e) dominance.

With respect to the differences between groups, owners/employers will report greater opportunities for achievement than both (1f) owners/non-employer and (1g) employees and (1h) owners/non-employer will report greater opportunities for achievement than employees; (1i) owners/employer will report greater opportunities for affiliation than owners/non-employer and (1j) employees will report greater opportunities for affiliation than owners/non-employer; (1i) owners/employer will report greater opportunities for autonomy than both (1k) owners/non-employer and (1l) employees and

(1m) owners/non-employer will report greater opportunities for autonomy than employees; owners/employers will report greater opportunities for dominance than both (1n) owners/non-employer, and (1o) employees and (1p) employees will report greater opportunities for dominance than owners/non-employer. With respect to the group membership there will be a medium-effect size (the effect sized measure the multivariate and univariate relationships between work arrangement as the fixed factor and each of the work characteristics will be the partial eta-squared (η_p^2) with Cohen's benchmark of .06 for a medium effect size (compared to .01 for a small effect size, .06 for a medium effect size and .14 for a large effect size according to Cohen (1977) and Stevens (1996). The effect size measure for the between-group differences will be the standardized mean difference (*d*) with Cohen's (1992) benchmarks of .50 for a medium effect size (compared to .20 for a small effect size and .80 for a large effect size).

2. Needs and Self-Efficacy

(2a) After controlling for anticipated between-group differences in age and sex, there will be differences with respect to the constellation of needs for achievement, affiliation, autonomy, and dominance and self-efficacy reported by individuals in each of the three different work arrangement as well as differences with respect to each of the facets of (2b) achievement, (2c) affiliation, (2d) autonomy, and (2e) dominance, and (2f) self-efficacy.

With respect to the differences between groups, owners/employer will report higher needs for achievement than both (2g) owners/non-employer and (2h) employees and (2i) employees will have higher needs for achievement than owners/non-employer; (2j) owners/employer will have higher needs for affiliation than owners/non-employer as

will (2k) employees; (2l) owners/employer will have less need for autonomy than owners/non-employer but (2m) more than employees and (2n) owners/non-employer will have greater needs for autonomy; owners/employer will report greater needs for dominance than both (2o) owners/non-employer and (2p) employees and (2q) employees will have greater needs for dominance than owners/non-employer; (2r) owners/employer will report higher self-efficacy than employees as will (2s) owners/non-employer. With respect to the group membership there will be a medium-effect size as discussed above. These relationships will maintain both when groups are composed by individuals based on their (a) their actual work arrangement or (b) the work arrangement for which they express a preference.

3. Self-Efficacy and Attainment of Preferred Work Arrangement

(3a) After controlling for expected differences in sex and age, self-efficacy will be positively related to individuals actually working under the work arrangement they prefer. Those working under their preferred work arrangement will report higher self-efficacy than those not working under their preferred arrangement. The effect size of the difference will be medium (e.g., $d = .50$ for the difference or $\eta_p^2 = .06$ for matched as a fixed factor in an analysis of covariance).

CHAPTER 3. DATA COLLECTION AND ANALYSIS

This study was designed to determine whether (i) perceived work characteristics differ across three different work arrangements along any or each of four dimensions, (ii) the personalities of individuals working in each arrangements differ with respect to any or each of four specified traits and the core self-evaluation of generalized self-efficacy, and (iii) whether self-efficacy was associated with individuals' attainment of their preferred work arrangements. The research questions and hypotheses guided the development of the methodology.

Data Collection Methods

A cross-sectional design was used to collect self-report data from CPAs working in New York State. The surveys collected data related to the hypothesized relationships among perceived work characteristics (i.e., opportunities to satisfy needs for autonomy, affiliation, autonomy, and dominance), personality traits (i.e., needs for autonomy, affiliation, autonomy, and dominance and generalized self-efficacy) as well as personal demographic information (including age, years of professional experience, sex, marital status, number of children, individual and household income) and work demographics (including title, organizational size, industry). I also collected data on attitudinal variables (job satisfaction, life satisfaction, and occupational commitment) which are not part of the current study

Subjects and Sample

The sampling frame consisted of individuals who were members of the New York State Society of Certified Public Accountants (NYSSCPA) in the fourth quarter of 2004. I used the membership directory from the publicly accessible portion of the NYSSCPA

website (http://www.nysscpa.org/leadership/directory.asp.) to select individuals. I selected from individuals whose entries: (i) provided both regular and email addresses, (ii) specified their "position (member-supplied information with categories such as sole practitioner, partner/principal/shareholder, managing partner/administrative partner/partner in charge, CEO/president/owner, CFO, manager, accountant, and other corporate titles) so that I could make a preliminary assessment about whether they were likely to be independents, owners, or employees. The majority of CPAs selected were resident or working in one of ten counties (Albany, Bronx, Duchess, Kings, Manhattan, Nassau, Putnam, Queens, Richmond, and Suffolk).

One advantage of using a within-professional qualification design is that the participants share a common base of knowledge, skills, and abilities. Additionally, restricting the sample to CPAs working or living in the limited geographic area should produce a sample of individuals facing similar labor market conditions with those labor markets offering opportunities for both organizational and self-employment. The common qualifications base, and the shared labor markets with numerous employment alternatives minimizes confounding of cross-professional differences in traits and preferences with those related to work arrangement differences. Similarly, a relatively homogeneous labor market minimizes the effects of labor market differences on employment choice and should allow me to more easily discern the operation of traits and preferences on this outcome.

On the other hand, vocational choice theories (Dawis & Lofquist, 1984; Holland, 1985; Lofquist & Dawis, 1969) suggest that this design is likely to produce a sample with personality and other characteristics that differ from the general population and that are

restricted in range. However, prior research with CPAs as subjects indicated that there is likely to be sufficient variation within the profession with respect to work settings and personality characteristics to allow differences to show themselves (Aranya & Wheeler, 1986; Chatman, 1991; Harrell & Eickhoff, 1988; Lengermann, 1971; Rasch & Harrell, 1990; Snead & Harrell, 1991; Street & Bishop, 1991).

There are about 15,000 NYSSCPA members registered in the ten countries (out of a total state-wide membership of about 30,000). I systematically selected 1,200 (about 8%) individuals on a stratified basis. My objective was to attain a final sample composed of three groups of about 100 individuals in each work arrangement. The three arrangements were: (i) owners/non-employer (sole practitioners with no employees), (ii) owners/employer (consisting of partners of public accountancy firms with at least one-third partnership interest and owners of other firms), and (iii) employees of organizations (including partners of public accountancy firms who have less than one-third partnership interests, employees of public accountancy firms, and employees of other types of organizations). The information provided on the website did not appear to correspond accurately to those categories. For example, individuals who classified themselves as sole practitioners were likely to include CPAs with no employees (who I would classify as independents) as well as CPAs with a few employees (who I would classify as owners/employer). There was no *a priori* way of distinguishing between the two types based on the web entries. Similarly, those who label themselves as partners/principals/shareholders likely included individuals with significant ownership interests (such as named partners in small public accountancy firms) as well as partners in large public accountancy firms (such as an Ernst & Young) with insignificant true

ownership interests. Additionally, as the website serves a marketing function, some sole practitioners who have no employees may classify themselves as partners to make their businesses appear more substantial. In other words, some of the "partners" may, based on additional information provided in the surveys, be ultimately be classified as owners/non-employer, owners/employer, or employees. Those who identified their positions using standard organizational employee titles (such as CFO, managers, directors, etc.) were likely to actually be employees.

I used (i) multivariate analysis of variance and covariance to assess the importance of work arrangement classification of the traits and GSE, and (ii) between group comparisons of mean differences to test my hypotheses. For a .05 probability of a Type I error , three groups, and eight variables (Lauter, 1978) suggested there needed to be 72 individuals in each group to have power of .8 to detect moderate size effect, while 160 individuals per group would be needed to reach a power of .80 for a small effect. I did not use random sampling of the general membership to obtain my sample as I wanted roughly equal numbers of respondents in each work arrangements. As according to the U. S. Department of Labor only about 10% of accountants are self-employed, I needed to over-sample individuals who were owners and independents.

My target response rate was 25%. As my preliminary identification of who were "independents" and "owners" was unreliable, I over-sampled those who self-classified as sole practitioners (n=500) on the assumption that some of those respondents would be subsequently be classified as owners/employers. I similarly over-sampled individuals who classified themselves as partners/principals/shareholders and managing partners/administrative partner/partner in charge (n=500) as some of those respondents

would be subsequently be classified as employees. Under the assumption that the preliminary classification of those who identified themselves with traditional organizational titles would correspond highly with their actual classification, I sampled only 200 individuals with organizational titles and affiliations with the expectation that my final target of around 100 employees would be obtained from those 200 as well as some of the 500 who were preliminarily classified as partners.

The sample was stratified by county and self-identified position. The proportion of participants from each county was roughly proportional to number of members registered in each county. Membership lists were available on a per county basis with about 100 names and organizational affiliation displayed on each electronic page. I then clicked on names to see the full profile and determine if the individual met the inclusion criteria, and to make a preliminary work arrangement classification, and. I systematically reviewed the membership list for each county and used a quota system to select the targeted number of eligible participants in each category. That is, I collected names in each category for each county until I had harvested the target number of sole practitioners, partners, and employees from that county and then moved to the next county. I maintained a rough per page "quota." For example, there are 2,523 CPAs in Nassau county providing a target of about 210 names (87 sole practitioners, 87 partners/owners, and 36 employees distributed over 25 pages so I would, starting from the top of each page, go down until about 4 sole practitioners, 4 partners, and 2 employees were collected) and then move on to the next page. This procedure was intended to produce a sample that was geographically representative of countries of interest and to reduce the possibility that there might be some not readily apparent bias

with respect to alphabetical ordering within counties. The majority (940, or, 78%) were, based on first names, male.

My stratified sampling was intended to generate groups of roughly equal size individuals in each of the three categories in order to maximize my statistical power (as well as reduce the effect of any heterogeneity in the variances of the variables on the accuracy of the *F* statistic (Stevens 2002).

My survey procedures were intended to employ several techniques that have been shown to increase over-all response rates:

1. I sent a brief pre-advise email addressed to each participate by name (Appendix A) during the first weeks of January 2005.
2. My cover letters (Appendix B) were individually addressed and hand-signed.
3. Baruch and Zicklin logos were prominently displayed on all aspects of the survey packet (envelopes, cover letters, and the survey – Appendix C) which I mailed from one to two weeks later.
4. I enclosed stamped self-addressed envelopes.
5. I provided participants with multiple methods of completing and returning the survey (including an electronic version which could be downloaded from Baruch website and filled out manually or electronically and returned by email, fax, or regular mail).
6. I sent follow up emails individually addressed to each participant with an embedded link to Baruch website for downloading survey) sent during the first weeks of February 2005 (Appendix D). The website greeting is shown in Appendix E.

7. I offered to provide summary research findings to those who enclosed a business card.
8. I sent individually addressed follow up emails during the first week of May 2005 (Appendix F).

Only fourteen of the mailed packets were returned as undeliverable; about 2% of the emails sent on each emailing were 'bounced' back due to faulty email addresses. I received 322 useable responses, for a response rate of 27% of mailings that were not returned. This response rate is comparable to those of other studies that sampled members of accountants who were members of groups such as the American Institute of Certified Public Accountants (Fogarty, Singh, Rhoads, & Moore, 2000). Response rates were similar between males and females.

Instruments

The six-page (three-page double-sided) survey instrument is attached together with a summary of the 121-items (Appendix E). I had reviewed earlier versions with five CPAs. The primary changes I made in response to their comments were to increase the number of work arrangements that participants could choose from and to prime their expectations through the cover letter and survey introduction that the items would assess their personality. Based on pre-tests, the survey required 15-20 minutes to complete

1. Work Arrangement Classification. Participants were asked to classify themselves by checking one of seven possible work arrangements: (a) "sole practitioner (with no full-time employees other than yourself); (b) sole practitioner (with one or more non-CPA employees), (c) partner (with at least one-third partnership interest) in a public accountancy firm; (d) partner (with less than one-third partnership interest) in a public

accountancy firm; (e) employee of a public accountancy firm (non-partner); (f) employee of other than a public accountancy firm; and (g) "other."

I provided seven categories instead of three for a variety of reasons. First, from comments from my test group, I was concerned employees who had the title of partner would react unfavorably to having to classify themselves as employees in the same category as lower level employees. Second, knowing that some CPAs who used the label "sole practitioner" would have employees and some would not, I wanted to explicitly differentiate between the two types so that respondents who worked alone as owners/non-employer according to my criteria would be accurately self-identified. Similarly, while for my purposes I was not concerned whether the CPA who had employees labeled himself or herself as a "sole practitioner" or "partner", I wanted to provide labels that were used in the profession. Third, while the distinction between working in public accounting and industry is not germane for the research questions in this study, I wanted the ability to classify the participants according to that criteria for later analysis outside of this research (particularly with respect to the attitudinal variables).

I classified only those sole practitioners who report they have no employees as owners/non-employers. Sole practitioners with employees and partners with at least one-third partnership interest were classified as owners/employers. Additionally, the seven individuals who chose "(g) other" provided sufficient information for me to classify them as owners of firms that were not dedicated to public accountancy (such as payroll services) so that I included them as owners/employers. Partners with less than one-third partnership interests, employees of public accountancy firms, and employees of non-public accountancy firms were all classified as employees.

Participants were asked to indicate their preferred work arrangement using the same seven categories. The seven categories were reduced to three as above. I created a dummy variable, called *matched,* which was coded 1 if their actual work arrangement was the same as their preferred work arrangement, and 0 if they were distinct.

2. Individual and Family Demographics. Single items assessed age, sex, marital status, years as a CPA, years in current work arrangement, martial status (0=Single; 1 = Married or living with a partner in a similar arrangement), number and ages of children, and individual and household income. Income was transformed into natural logs for all statistical analysis.

3. Workplace Demographics. Participants were asked to complete single items with open-ended responses to indicate the typical number of hours worked per week, the number of employees other than themselves in their organizational (if any), their title (if they indicated they were an employee), and the industry in which they worked (if they indicated they did not work in a public accounting firm).

4. Work Characteristics. The opportunity to satisfy the need for achievement was measured by five items from Medcof and Hausdorf (1995); the opportunity to satisfy the need for dominance was measured by four-items each from the same source (they used the term "power" rather than "dominance"). The opportunity to satisfy the need for affiliation was measured by three items from Medcof and Hausdorf (1995) plus one additional item from Sims, Szalagyi, & Keller, 1976). Sample items are "On this job, I work towards clear challenging goals" (achievement); "To do my job properly, I have to spend quite a bit of time influencing others" (dominance); "On this job, I spend a great deal of time with other people" (affiliation). Medcof and Hausdorf developed their

instrument using a sample of 1,155 working adults with an average of 14.4 years in the work force. The sample worked in a variety of settings and were classified as blue collar (6%, managers, 26%, professionals, 29%, secretarial/clerical, 8%, technical, 11%, and other, 20%.The development of these scales is described in Medcof and Hausdorf (1995); the opportunities to satisfy needs scales distinguished among supervisors/managers, technicians, secretaries/clerks, and other blue collar workers. Cronbach alphas for the three scales were .79 (achievement), .84 (dominance), and .72 affiliation (the addition of the additional item, "On my job, I have opportunities to form friendships with the people I work with" was intended to improve the reliability of the scale. In this study, the internal reliability of the three original items was .61; adding the fourth item increased reliability of the scale to .66. No other published studies using this instrument were located

Job autonomy was measured using four items from Beehr (1976). A sample item is "I have a lot to say over what happens on my job." The original internal consistency reliability was .74 (the Cronbach alpha in my study of translators was .87). Respondents were asked to indicate the extent to which each items accurately or inaccurately described their current job with using a Likert-type scale with options from 1 (=Very inaccurate) to 7 (=very accurate) (Medcof and Hausdorf (1995) used a five option scale). The Cronbach alpha in this study for job autonomy was .83.

5. Traits.

Needs for achievement, affiliation, autonomy, and dominance were assessed by four scales consisting of sixteen items each from the Jackson Personality Research Form E. The development of the PRF Scales is described in Jackson (1999). The PRF is

rooted in Murray's identification of personality variables. Responses are limited to True or False. Items are included in as #38 through 101 in the current survey. Sample items are: "I often set goals that are very difficult to reach" (achievement); "Often I would rather be alone than in a group of friends" (affiliation); "My greatest desire is to be independent and free" (autonomy"); "In an argument, I can usually win others over to my side" (dominance).

The Jackson instrument appears to be a valid and reliable of the personality constructs of interest and has been employed in numerous studies of needs-supply conceptualizations of person-environment fit (such as Borges & Gibson, 2005; Bretz, Ash, & Dreher, 1988). The Jackson Personality Research Form E was favorably reviewed in by Kelley and Anastasi in the *7th Mental Measurement Yearbook* (1972) and by Hogan and Wiggins the *10th Mental Measurement Yearbook* (1989). According to Hogan:

> The technical qualities of the PRF are, in a word, excellent. There are 12 tables of normative data, and four tables of scale intercorrelation matrices. KR20 reliabilities for the standard scales vary between .78 and .94; parallel form reliabilities vary between .60 and .85; odd-even reliabilities vary between .50 and .91; in all cases the median reliability coefficients are in the high .80 range. The manual contains a wealth of information regarding the psychometric characteristics of the PRF scales; from the perspective of formal test theory, the scales are well constructed indeed" and "the scale construction procedures for the PRF were the most detailed of any standard personality inventory. The result is a set of scales with high internal consistency, minimal overlap, good test-retest reliability, and minimal item ambiguity. It is also apparent from the manual that the test author has taken great pains to develop scales that are relatively free of acquiescence and social desirability response bias.

Wiggins believed Jackson "succeeded admirably" in developing sets of personality scales and an item pool which might be useful in personality research and

"would recommend PRF-E over any other inventory of Murray's needs (e.g., EPPS) on substantive, structural, and external grounds."

The Jackson PRF then appeared to have demonstrated validity and to be an instrument commonly used in academic research in the organizational behavior and management fields. Moreover, it appeared more appropriate for my research questions than other commonly used personality measures such as McCrae and Costa's or Hogan's Five Factor oriented instruments. I viewed the Jackson model as being superior to the alternatives as it included autonomy-related needs as a specific facet of personality. The other Five Factor-oriented instruments did not explicitly include such needs or attempt to assess such a facet (Costa & McCrae, 1988; Paunonen & Jackson, 2000, Paunonen, Rothstein &Jackson, 1999).

Cronbach's alpha for the scales in this study were: achievement, .59; affiliation, .82, autonomy, .66, and dominance, .80. Other recent studies have shown greater internal consistency: Heintz and Steele-Johnson (2004) study of 228 university students, achievement, .74 and dominance, .79; Heckert et al., 1999 study involving 185 undergraduates students: achievement, .77; affiliation, .77, autonomy, .65, and dominance, 84; and 385 adult alumni: achievement, .80, affiliation, .69, autonomy, .68, and dominance, 84; Tonges (1997) study of working nurses, affiliation, .84; Randolph and Wood (1998) study of undergraduate students: achievement, .64, autonomy, .65, affiliation, .78, and dominance, .74. My study of translators, which consisted of working adults with an average age of 44 years almost all having an undergraduate degree or more produced Cronbach alphas of achievement, .69; affiliation, .79, autonomy, .77, and dominance, .85.

The Cronbach alphas for achievement and autonomy fall below Nunally's (1967) suggested minimum of .70. Low reliability in a measure would attenuate the differences, if any, that might be related to the work arrangement. However, given the lack of reliability of the instrument in this study of CPAs, the scores for need for achievement can not be considered as a reliable measure of the underlying construct so the hypotheses related to this personality trait can not be tested.

I was concerned with the relative lack of internal reliability with respect to this sample and examined the responses to individual items on each of the scales. One explanation for the low reliabilities for this sample appears to be there were a number of items for which there were extreme endorsement proportions in that a large percentage of participants had the same response. In developing items for the PRF-E scale Jackson discarded items which prompted extreme responses (i.e., 80% or higher agreement) as "such items carry little information, tend to have unstable correlations, are usually extreme in desirability, and generally possess only modest reliabilities and validity." (Jackson 1999: 33). In my sample, six out of the sixteen achievement items produced such extreme responses (as did three affiliation items, four autonomy items, and two dominance items). The relatively low reliability of the achievement and autonomy scales appears attributable then at least partially to a relatively large percentage of the items providing little information that discriminated among participants.

The only items whose removal would improve the internal reliabilities of their respective scales were #67 (achievement: "I do not let my work get in the way of what I really want to do) which increases the alpha to .62; #90 (affiliation: "I trust my friends completely") which increases the alpha to .83; and #48 (autonomy: "Family obligations

make me feel important") which increases the alpha to .68. Given the items are binary in nature, removing only one 'bad' item would likely have less of an impact on the Cronbach alpha then if it were a Likert-type scale. I calculated alphas for scales with a reduced number of items (eliminating the extreme response items in one variant and eliminating the items that did not correlate at least .30 with the scale in another). The results are shown in Table 3-1. Eliminating the low correlating items makes only a slight improvement in the alphas of both achievement and autonomy. All analyses in this study were conducted on the scales consisting of all sixteen items.

Table 3-1
Reliabilities of Alternative Jackson PRF E Scales

	Ach		Aff		Aut		Dom	
Form of Scale	α	#	α	#	α	#	α	#
All Sixteen	.59	16	.82	16	.66	16	.80	16
Excluding extreme items	.51	10	.83	13	.59	12	.79	14
Excluding items where *r* with scale ≤ .30	.63	12	.82	15	.67	13	.80	16

Note. α is the Cronbach alpha. # refers to number of items in each version of the scale.

PRF norms for a variety of populations are shown in Table 3-2. The means for dominance for male and female CPAs appear higher than for the other populations while the variance appears smaller. This would suggest possible range restriction. However, the average age (52 years) of the sample of CPAs in this study is far older than those in the PRF norm groups, and there does not appear to be norm data available on a group comparable with respect to age to the sample in this study. Thus, while indirect range restriction appears possible, I decided that it would be inappropriate to attempt to make adjustments using the available norms.

Table 3-2
Comparison of Male and Female CPA Needs to Male and Female Norms

PRF Scale	Sample Male CPAs		Male Norms: College Students		Male Norms: Gen. Adults		Male Norms: Enlistees	
	m	*Sd*	*m*	*sd*	*m*	*sd*	*m*	*sd*
Ach	11.30	2.50	10.98	3.12	10.40	2.66	10.99	2.74
Aff	9.57	3.70	8.33	3.70	9.15	3.14	10.52	3.21
Aut	6.91	2.81	9.54	3.59	8.10	2.63	6.80	2.86
Dom	11.03	3.44	10.19	4.31	9.91	3.73	9.67	3.66

PRF Scale	Sample Female CPAs		Female Norms: College Students		Female Norms: Gen. Adults	
	m	*sd*	*m*	*sd*	*m*	*sd*
Ach	11.30	2.49	10.00	3.41	9.97	3.02
Aff	10.11	3.91	8.93	4.03	9.82	2.89
Aut	7.29	3.08	7.11	3.23	6.47	3.09
Dom	10.14	3.79	7.60	4.40	8.51	3.84

Note. CPAs: male n = 235, female n = 80. College students: male n = 1350, female n =1415; general adults (single adult Canadians chosen randomly), male = 58 and female = 77; Enlistees Canadian military, n = 2,141 (not explicitly all male so may have some female enlistees as well) from Jackson (1999).

6. Generalized Self-Efficacy (GSE). GSE was assessed by an eight-item scale from Judge, Locke, Durham, & Kluger, (1998). Items are # 102 to 109. A sample item is "I feel competent to deal with the real world." The development of the scale as well as it relationships to other core-concepts are described in that article. The response options in my scale were Likert-type from 1 (=Very Inaccurate) to 7 (=Very Accurate).

In their original study, Cronbach alpha reliabilities for the three studies of physicians, college students, and Israelis were .90, .77, and .72 (Judge et al., 1998). Cronbach reliabilities in later studies ranged from .80 to .89 (Judge, Bono, & Locke, 2000 ;(Judge, Erez, Bono, Thoresen, 2003). Judge and his associates provided Likert-type response options that went from 1 to 10. The Cronbach alpha for this study of CPAs was the same as that obtained in the population of physicians: .90. The GSE scale

departed most substantially from normality with respect to skewness (-2.42) and kurtosis (7.81). For statistical analysis, I transformed the GSE scores by squaring them, producing a new variable which was more normally distributed (skewness, -1.32 and kurtosis, 2.16).

Scale Summary. Statistics on scales (reliabilities, means, standard deviations, range, skewness and kurtosis for all participants are shown in Table 3-3 while the statistics for the scales for each group are shown in Table 3-4. Given the nature of the profession, opportunities for achievement and autonomy and general self-efficacy are skewed (and likely suffer from range restriction similar to that for the needs).

The correlations among the scales are shown in Table 3-5. The correlations among the measures of opportunities were similar to what Medcof and Hausdorf (1995) reported in their sample of working adults. They reported that opportunity for affiliation correlated .44 with both achievement and dominance (versus 37 and .60 in my sample) and that achievement correlated .41 with dominance (versus .34 in my sample). The correlations among the needs scales were similar to the correlations among college student norms reported by Jackson (1999), who broke scale intercorrelations down by gender. Correlations between autonomy and affiliation were negative (-.37 for males and -.45 for females; and positive between dominance and achievement (males .34, females, .26) as they were in my sample. The correlations between needs for autonomy and dominance between the college males (.00) and females (.12) fell below Cohen's (1992) threshold for a small effect size as did the correlation in my sample (-.14). Jackson reported little relationship between need for dominance and affiliation (males, -17, females, .16) whereas the correlation in this sample was negative with a larger effect size

(.37). As both needs for affiliation and dominance require interactions with others, the correlation found in my sample appears reasonable. The actual intercorrelation, as well as conceptual linkage, confirms that multivariate, rather than univariate analysis, would be appropriate for testing the hypotheses with respect to both work characteristics and personality traits.

Data Analysis

Initial data analysis included calculation of descriptive statistics, reliabilities of the measures, calculation of the correlations and investigation of evidence of range restriction. Descriptive statistics were calculated for the entire sample and then for the participants divided into the three work arrangements. Individuals could be assigned based on either their actual or preferred work arrangements. With respect to the analysis of opportunities for behaviors as work characteristics, all analysis was done based on individuals being assigned to groups based on their actual work arrangement. For the analysis of differences with respect to personality variables, I first performed the analysis with individuals classified to their actual arrangement. I then performed the analysis with individuals classified by their preferred work arrangement. As most people reported their preferred work arrangement as being the same as their actual arrangement, the results of the analyses were similar.

Table 3-3
Scale Reliabilities and Statistics (all participants)

Scale	Alpha	# of Items	*n*	*m*	*(sd)*	Range	Skewness	Kurtosis
Opportunity: Achievement	.78	5	320	6.10	.78	2.25-7	-1.38	3.04
Opportunity: Affiliation	.67	4	320	5.46	.98	1.75-7	-1.05	1.51
Opportunity: Autonomy	.83	4	320	6.33	.80	2.25-7	-1.79	4.60
Opportunity: Dominance	.86	4	320	4.55	1.52	1.00-7	-.42	-.89
Self-Efficacy	.90	8	319	6.02	1.03	1.00-7	-2.42	7.81
Self-Efficacy[2]	n/a	8	319	37.31	10.09	1.0-49	-1.32	2.16
Need: Achievement	.59	16	317	11.29	2.49	3.5-16	-.45	.12
Need: Affiliate	.82	16	317	9.68	3.76	1.0-16	-.46	-.58
Need: Autonomy	.66	16	317	7.00	2.87	1.0-16	.25	-.28
Need: Dominance	.80	16	317	10.79	3.54	1.0-16	-.69	-.27

Table 3-4
Scale Reliabilities and Statistics by Work Arrangement (group means and sd's appear in Table 4-1

	Owners/non-employers			Owners/employers			Employees		
	Alpha	Skew	Kurtosis	Alpha	Skew	Kurtosis	Alpha	Skew	Kurtosis
Op: Achievement	.78	-1.56	3.46	.70	-1.02	1.24	.83	-1.39	3.20
Op: Affiliation	.64	-.66	.01	.67	-1.34	3.22	.63	-.95	2.67
Op: Autonomy	.75	-1.71	2.73	.68	-1.11	.62	.68	-1.28	2.22
Op: Dominance	.79	.40	-.78	.83	-.79	.10	.85	-.78	-.14
Self-Efficacy	.92	-2.24	6.93	.87	-2.33	8.28	.92	-2.45	7.14
Self-Efficacy[2]	n/a	-1.17	1.29	n/a	-1.32	2.72	n/a	-1.40	2.43
Need: Achievement	.58	-.45	.04	.57	-.40	.13	.63	-.50	.25
Need: Affiliation	.83	-.56	-.62	.81	-.45	-.37	.84	-.33	-.92
Need: Autonomy	.71	.11	-.35	.59	.31	-.02	.64	.24	-.54
Need: Dominance	.77	-.45	-.84	.80	-.95	.40	.82	-.75	-.08

Table 3-5
Scale Correlations (*from Table 4-1)*

Variables	*n*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Opportunity: Achievement	320	(.78)								
2. Opportunity: Affiliate	320	.37**	(.67)							
3. Opportunity: Autonomy	320	.48**	.22**	(.83)						
4. Opportunity: Dominance	320	.34**	.60**	.05	(.86)					
5. Self-Efficacy[2]	319	.24**	.15*	.24**	.07	(.90)				
6. Need: Achievement	317	.35**	.21**	.06	.15**	.14*	(.59)			
7. Need: Affiliation	317	.18**	.25**	.20**	.16**	.22**	.13*	(.82)		
8. Need: Autonomy	317	-.11	-.18**	.03	-.21**	-.01	-.04	-.34**	(.66)	
9. Need: Dominance	317	.24**	.29**	.13*	.32**	.27**	.33**	.37**	-.14*	(.80)

Note. * $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Hypothesis Testing. I analyzed differences among the three groups with respect to individual demographics (age, sex, years as a CPA, marital status, number of children, individual income, household income, and individual incomes as a percentage of household income, and whether the actual work arrangement matched the preferred), and work demographics (professional level, hours worked, and organizational size) on a univariate basis.

I used the SPSS general linear model to conduct multivariate analysis of covariance for testing the first set of hypotheses with the four opportunities for behaviors as the dependent variables, actual work arrangement as the fixed factor and age and sex as covariates. I examined the multivariate *F* statistic for the Wilks Lambda (Λ) (which for a three group analysis is an exact *F* rather than an approximation) for statistical significance and the partial eta squared (η_p^2) for the effect size. I then examined the univariate *F*s to see if there were statistically significant differences between each dependent variable and work arrangement. I examined the multivariate and univariate η_p^2 as the effect size with reference to Cohen's benchmarks of .01 for a small effect size, .06 for a medium effect size, and .14 for a large effect size (Cohen, 1977; Stevens, 2002). Although I had *a priori* hypotheses related to the differences between groups, I was interested in all of the permutations among the work arrangements. I therefore conducted a *post hoc* analysis using a Bonferroni adjustment to avoid capitalizing on chance, and used the results of that analysis to determine whether the differences between groups were statistically significant. For each intergroup comparison, I also calculated the standardized mean difference (*d*) as the effect size and used Cohen's (1992) benchmarks of .20 to denote a small effect size, .50 for a medium, and .80 for a large effect size. My

hypotheses were predicated on there being medium effect sizes and my target sample size with respect to total participants as well as the participants in each of the three groups was determined on that basis with a desired power of .80 and a Type 1 error rate of .05. Accordingly, my power to detect an effect size which was in the small to medium range was smaller than .80 (and the probability of a Type II error correspondingly higher).

I tested the set of hypotheses relating to traits and self-efficacy using multivariate analysis of covariance with work arrangement as the fixed factor and age and sex as covariates. As with the first set of hypotheses, I first looked for statistical significance with the multivariate *F* statistics for the fixed factor and covariates and their respective η_p^2s and then looked at the corresponding univariate relationships. In addition to determining if the differences between each pairs of groups were statistically significant, I calculated the standardized difference of the means (*d*) as adjusted for the covariates. While my hypotheses were tested using Model 2, I also presented the MANOVA outcomes. The analyses were conducted with participants classified according to their actual work arrangement and when classified according to their preferred arrangement.

I tested my third hypothesis by both univariate analysis of covariance with self-efficacy as the dependent variable and using the dichotomous categorical variable, matched (1= actual work arrangement = preferred work arrangement, 0 = actual work arrangement different than preferred) as the fixed factor and using age and sex as covariates. I calculated the standardized mean difference between individuals whose preferred work arrangement matched their actual work arrangement and those where it did not match.

CHAPTER 4. RESULTS

Descriptive Statistics

Demographic Characteristics of Participants

Table 4-1 provides basic descriptive statistics and correlations for the 322 participants used in this study. The majority of the 322 participants were male (74.5%) and married or in a similar relationship (82.8 %). A slight majority had children living with them (51.9%) with the average number of .80 (*sd* = 1.05) children. Their average age was 52.9 years (*sd* = 11.69) and they averaged 24.8 years (*sd* = 11.7) of experience working as CPAs and had been in their current work arrangement an average of 13.2 years *(sd* = 9.5). Their median individual income was $135,000 (*m* = $179,444, *sd* = $180,373) with median household income of $180,000 (*m* = 235,817, *sd* = $221,519). Based on information they provided in the surveys, the 322 participants were first classified into to six categories: (a) sole practitioners who employ no others; (b) sole practitioners who employ others; (c) partners with at least one-third partnership interests in public accounting firms; (d) partners in public accounting firms who have less than one-third partnership interests; (e) other employees of public accounting firms; (f) employees of other types of organizations. All seven respondents who selected "g. other" in the survey provided sufficient information in their comments for me to classify them as owners (of other than a public accounting firm)

For purposes of this analysis, the individuals were further classified into three groups: owners/non-employer (category (a), sole practioners who employ no others, owners/employer (categories b, c, and g), and employees (categories d, e, and f). Groups

were formed based on both actual work arrangement and the work arrangement respondents said they would most prefer.

My final sample consisted of 322 individuals that were classified into three groups based on their actual work arrangement: owners/non-employer, 98 (30.4%), owners/employer, 129 (40.1%), and employees, 95 (29.5%). While ideally the groups would have been of equal size with respect to statistical power, the ratio of the largest to smallest size was less than 1.5 such that results of ANOVA and MANOVA would be robust again any violations of the assumptions of homogeneity of variance and covariance matrices (Stevens, 1996).

Individual and Work Demographics by Work Arrangement

Consistent with prior studies of the self-employed, males represented a greater proportion of owners (82.9%) than independents (67.3%) and employees (70.5%). The breakdown of the sample is shown in Table 4-2.

Table 4-2
Participant Composition by Sex

	Male		Female	
Owners/non-employer	66	(67.3%)	32	(32.7%)
Owners/employer	107	(82.9%)	22	(17.1%)
Employees	67	(70.5%)	28	(29.5%)
Total (n = 322)	240	(74.5%)	82	(25.5%)

Note. X^2 (*df* 2) = 8.28, $p < .05$, two-sided.

Table 4-1.
Basic Statistics and Correlations (Owners, Independents, and Employees)

Variables	M	SD	N	1	2	3	4	5	6	7	8
1. Gender	.25	.44	322	-							
2. Age	52.93	11.69	318	-.26**	-						
3. Years as CPA	24.80	11.70	312	-.37**	.90**	-					
4. Years in Arrangement	13.15	9.52	320	-.17**	.43**	.46***	-				
5. Marital Status	.83	.38	320	-.25**	.13*	.15**	.11	-			
6. Number of Children	.80	1.05	320	-.05	-.40**	-.35***	-.17**	.26**	-		
7. Individual Income	179,444	180,373	280	-.32**	.14*	.24***	.26**	.18**	.02	-	
8 Household Income	235,817	221,519	279	-.22**	.21**	.31***	.30**	.32**	-.03	.85**	-
9. Matched	.76	.43	322	-.11*	.00	.04	.15**	.08	-.01	.20**	.22**
10. Hours Worked	46.20	11.45	315	-.14*	-.27**	-.23**	-.07	.01	.18**	.35**	.22**
11. Organizational Size	3309.0	18147.13	322	.04	-.19**	-.14*	-.08	.08	.02	.06	.05
12. Opportunity: Achieve	6.10	.78	320	.01	-.00	-.01	.11*	-.05	.04	.10	.11
13. Opportunity: Affiliate	5.46	.98	320	-.04	-.12*	-.08	.04	-.00	.03	.27**	.19**
14. Opportunity: Autonomy	6.33	.80	320	-.04	.22**	.21**	.20**	.03	-.04	.11	.17**
15. Opportunity: Dominance	4.55	1.52	320	-.11*	-.10	-.05	.09	.05	.06	.35**	.26**
16. Generalized Self-Efficacy	6.02	1.03	319	.05	-.03	-.02	.04	-.02	.04	.09	.14*
17. Need: Achieve	11.29	2.49	317	.00	-.03	-.06	-.07	-.03	.01	.09	.10
18. Need: Affiliate	9.68	3.76	317	.07	-.14*	-.10	.08	-.04	.08	.00	.08
19. Need: Autonomy	7.00	2.88	317	.06	.03	.01	-.05	-.18**	-.05	-.07	-.08
20. Need: Dominance	10.79	3.54	317	-.11	-.15**	-.12*	-.07	.04	.02	.19**	.19**

Note. Categorical variables: Gender (0 = Male, 1 = Female); Matched (0 = Preferred arrangement not same as actual, 1 = Preferred arrangement = actual; Marital (0 = Single, 1 = Married or in similar relationship). [1] X^2 values for categorical variables. For calculations, personal and household incomes were transformed into natural logs and generalized self-efficacy was squared.
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Table 4-1 (cont.)
Basic Statistics and Correlations (Owners, Independents, and Employees)

Variables	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender												
2. Age												
3. Years as CPA												
4. Years in Arrangement												
5. Marital Status												
6. Number of Children												
7. Individual Income												
8 Household Income												
9. Match	-											
10. Hours Worked	.12*	-										
11. Organizational Size	.09	.12*	-									
12. Opportunity: Achieve	.20**	.23**	-.02	(.78)								
13. Opportunity: Affiliate	.16**	.18**	-.01	.37**	(.67)							
14. Opportunity: Autonomy	.14*	.01	-.23**	.48**	.22**	(.83)						
15. Opportunity: Dominance	.13*	.29**	.13*	.34**	.60**	.05	(.86)					
16. Generalized Self-Efficacy	.14*	.05	-.07	.24**	.15*	.24**	.07	(.90)				
17. Need: Achieve	.06	.32**	.00	.35**	.21**	.06	.15**	.14*	(.59)			
18. Need: Affiliate	.09	.04	-.03	.18**	.25**	.20**	.16**	.22**	.13*	(.82)		
19. Need: Autonomy	-.01	-.01	-.08	-.11	-.18**	.03	-.21**	-.01	-.04	-.34**	(.66)	
20. Need: Dominance	.08	.22**	.04	.24**	.29**	.13*	.32**	.27**	.33**	.37**	-.14*	(.80)

The breakdown by marital status is shown in Table 4-3. Most participants (82.8%) were married or living in a similar arrangement. Consistent with prior research, owners/employer were more likely to be married (90.6%) than employees (84.2%) and owners/non-employer (71.1%).

Table 4-3
Participant Composition by Marital Status

	Single		Married	
Owners/non-employer	28	(28.9%)	69	(71.1%)
Owners/employer	12	(9.4%)	116	(90.6%)
Employees	15	(15.8%)	80	(84.2%)
Total	55	(17.2%)	265	(82.8%)

Note. X^2 (*df* 2) = 14.91, $p < .01$, two-sided.

Despite the differences in marital status, groups did not differ with respect to having children at home Table 4-4) or the average number of children (Table 4-5):

Table 4-4
Participant Composition by Children

	No Children		Children	
Owners/non-employer	51	(52.0%)	47	(48.0%)
Owners/employer	61	(47.3%)	68	(52.7%)
Employees	43	(45.3%)	52	(54.7%)
Total	155	(48.1%)	167	(51.9%)

Note. X^2 (*df* 2) = .95, *ns*.

Table 4-5 shows group means and the results of the univariate of analysis for all variables with the 322 participants divided into the three groups. As expected there were differences among the groups with respect to age and experience. Owners/employer and owners/non-employer at 55.6 and 54.7 years were older than employees at 47.5 ($d = .75$ and $= .61$, $p < .01$). Owners/non-employer's individual earnings $117,812 were less than those of owners/employer $193,829 ($d = .55$, $p < .01$) and employees' $222,095 ($d = .60$, $p < .01$).

Table 4-5

Group Means and Univariate Tests of Between Group Differences for All Variables by Actual Work Arrangement

	Owners/employer			Owners/non-employer			Employees			ANOVA	
Variables	*m*	*sd*	*n*	*m*	*sd*	*n*	*m*	*sd*	*n*	F^1	*df*
Demographic											
Age	55.60	10.22	128	54.68	12.07	96	47.51	11.47	94	15.91**	2, 315
Years as CPA	27.28	10.87	125	25.93	12.19	97	20.16	11.04	90	11.01**	2, 309
Years in Arrangement	15.30	9.58	129	12.38	9.31	96	11.03	9.16	95	6.15**	2, 317
Number of Children	.77	1.06	129	.73	1.08	98	.93	1.00	95	.94	2, 319
Individual Income	193,829	152,174	111	117,812	78,808	85	222,095	256,963	84	15.99**	2, 277
Household Income	255,409	183,778	110	168,671	130,179	85	309,137	312,313	84	13.07**	2, 276
Work Demographics											
Hours Worked	48.23	10.12	128	42.42	13.70	93	47.15	9.81	94	7.72**	2, 312
Organizational Size	7.32	13.33	129	.0	.00	98	11206	32174	95	13.78**	2, 319
Work Characteristics											
Opportunity: Achievement	6.21	.69	128	6.11	.81	97	5.94	0.86	95	3.45*	2, 317
Opportunity: Affiliate	5.69	.90	128	5.03	1.11	97	5.58	0.78	95	14.69**	2, 317
Opportunity: Autonomy	6.54	.56	128	6.59	.57	97	5.81	1.01	95	35.84**	2, 317
Opportunity: Dominance	5.03	1.28	128	3.45	1.41	97	5.01	1.34	95	46.83**	2, 317
Traits											
Self-Efficacy	6.18	.86	127	5.93	1.10	98	5.90	1.16	95	2.69	2, 316
Need: Achievement	11.42	2.37	127	10.93	2.54	97	11.49	2.58	93	1.48	2, 314
Need: Affiliation	10.04	3.55	127	9.15	3.90	97	9.74	3.86	93	1.53	2, 314
Need: Autonomy	6.83	2.65	127	7.98	2.99	97	6.20	2.76	93	10.00**	2, 314
Need: Dominance	11.08	3.45	127	9.84	3.49	97	11.38	3.55	93	5.38**	2, 314

Note. Matched (0 = preferred arrangement not same as actual, 1 = Preferred arrangement same as actual). Individual and household incomes transformed into natural logs and self-efficacy squared for statistical analysis.

* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

The results for household income were similar. The comparisons for hours worked were consistent with the income results as owners/non-employer worked fewer hours (42.4) than owners/employers (48.2 hours, $d = .40$, $p < .01$) and employees (47.2 hours, $d = .49$, $p < .05$) while there was no statistically significant difference between owners/employers and employees ($d = .11$).

There were also significant differences among groups with respect to whether their preferred work arrangement was the same as their existing one (matched = 1). As shown in Table 4-6, while the majority in each work arrangement was in their preferred arrangement, the owners/employer were the most satisfied (92.2%) and the owners/non-employer were the least (59.2%). However, as shown in Table 4-7, the majority of owners/non-employer and employees who preferred an arrangement other than the one they were in wanted to be owners/employer.

Table 4-6
Match (Preferred = Actual Work Arrangement) By Work Arrangement

Actual Work Arrangement	Actual not Preferred		Actual = Preferred	
Owners/non-employer	40	(40.8%)	58	(59.2%)
Owners/employer	10	(7.9%)	119	(92.2%)
Employees	26	(27.4%)	69	(71.7%
Total	76	(23.6%)	244	(76.4%)

Note. X^2 (*df* 2) = 34.83, $p < .01$.

Table 4-7
Preferred Work Arrangement by Actual Work Arrangement

Actual Arrangement		Preferred Arrangement					
	N	Independents		Owners		Employees	
Owners/non-employer	98	58	(59.2%)	34	(34.7%)	6	(6.1%)
Owners/employer	127	5	(3.9%)	119	(92.2%)	5	(3.9%)
Employees	95	1	(1.1%)	25	(26.3%)	69	(72.6%)
Total	322	64	(19.9%)	178	(55.3%)	80	(24.8%)

Note. X^2 (df *4*) = 287.53, $p < .01$.

As shown in Table 4-8, all forms of self-employment were, for the most part, small organization settings while being an employee was, for most, a larger organization experience.

Table 4-8
Organization Size by Work Arrangement

Actual Work Arrangement	Mean	*sd*	Median (range)
Owners/non-employer	.0	.0	.0
Owners/employer	7.32	(13.33)	3.0 (1-110)
Employees (All)	11,205.83	(32,174.33)	100.0 (3-164,000)
Total	3,309.00	(18,147.13)	3.0 (0-164,000)

In conclusion, the demographic differences were largely as expected given prior research on self-employment. Both owners/employer and owners/non-employer were older and more experienced than employees while owners/employer were most likely to be male. Owners/non-employer worked fewer hours and earn less than owners/employer and employees. Employees and owners/employer reported a similar number of hours worked as well as similar individual and household income. This individual and household income pattern of this sample differed from both Bond et al. (2003) and Prottas (2004) in that owners in both of those studies reported higher income than both employees and owners/non-employers. As with the 2002 NSCW (Bond et al., 2003) owners/employer seem to be the most content with their work arrangement.

With specific reference to the model and the hypothesis, the demographic differences supported the decision to test the hypotheses regarding personality variables with sex and age as covariates. The groups differed with respect to those variables and, as shown in Table 4-1, the first order correlations between age and opportunity to affiliate, opportunity to act autonomously and needs for affiliation and dominance were statistically significant although their effect sizes ranged only from -.12 to .22. Only the

correlation with gender (being female) was statistically significant with an effect size of only .11. The data also presents a picture where the majority of all participants say they are working under their preferred work arrangement with the primary exceptions being a minority of employees and independents who want to be owners.

Hypothesis Tests

My hypotheses were tested through multivariate analysis of variance and covariance with the effect sizes expressed as partial eta-squared (η_p^2) and standardized mean differences (*d*) between groups. η_p^2 as an effect size represents the proportion of explained by the effect (sum of squares $_{effect}$) over the (sum of squares $_{effect}$ sum of squares $_{error}$)) whereas eta-squared η^2 is the proportion of variance explained by the effect over the sum of squares $_{total}$. According to Stevens (1996) the difference between η_p^2 and η^2 is small when total sample size is about 50 or more. Following, Cohen (1977) the benchmarks for effect size for η_p^2 are .01 as small, .06 as medium, and .14 as large whereas the effect size benchmarks for *d* are .20 as small, .50 as medium, and .80 as large. As my hypotheses and power analysis were predicated on their being medium effect sizes, my probability of a Type II error with smaller effect sizes would be greater than 20%. Throughout my analysis I will discuss both the effect sizes and statistical significance, if any, of the findings.

Hypotheses Set 1: Work Characteristics – Opportunities for Behaviors

My first set of hypotheses related to differences among work arrangements with respect to perceived opportunities for behaviors (achievement, affiliation, autonomy, and dominance). A summary of hypotheses and findings are shown in Table 4-9. I indicate whether each hypothesis was supported with respect to statistical significance (at the .05

level), effect size, and directionality (that is, whether the amount of the opportunity as perceived by one group was higher or lower than the amount perceived by the other group). My first hypothesis related to whether one or more of the four opportunities, considered together, varied across work arrangements. The next four hypotheses related to whether each of these work characteristics differed across the work arrangements. The final hypotheses related to differences among groups with respect to each of the perceived opportunities.

The results of the multivariate analysis of variance (Model 1) and covariance (Model 2) appear in Table 4-10. Hypothesis 1a regarding the differences in the constellation of the four opportunities was supported as in Model 2 the multivariate statistic for work arrangement as the fixed factor, the Wilk's lambda (Λ) $F(8,614) = 18.75$, $\eta_p^2 = .20$, $p < .01$. The null hypothesis that there was no difference among the groups with respect to one or more of the four work characteristics was rejected. Additionally, the effect size ($\eta_p^2 = .20$) with the work arrangement accounting for 20% of the variance, exceeded both my hypothesized medium magnitude (.06) as well as the large threshold (.14). The set of opportunities for each of the behaviors as perceived by individuals working in each of the three different work arrangements differed significantly and substantially.

The rejection of the null hypothesis for Hypothesis 1a provided support that there were differences across the groups with respect to the perceptions of group members with respect to at least one of the four work characteristics. My hypotheses 1b to 1d asserted that there would be differences across the groups with respect to perceptions of each and every one of the four characteristics (opportunities to achieve, affiliate, act autonomously,

and dominate). As shown in Table 4-10, these hypotheses were largely supported as the univariate *F* statistics for work arrangement in Model 2 were statistically significant for all four opportunities: achievement ($\eta_p^2 = .02, p < .05$), affiliation ($\eta_p^2 = .08, p < .01$), autonomy ($\eta_p^2 = .15, p < .01$) and dominance ($\eta_p^2 = .20, p < .01$). The effect size for opportunity for achievement only reached Cohen's threshold for small whereas the effect size for autonomy reached the .06 threshold for medium and the effect sizes for both autonomy and dominance exceeded the threshold for large (.14). In other words, there were statistically significant differences among individuals in the different work arrangements with respect to their perceptions of opportunities for each of the four types.

Hypotheses 1f through 1p related to differences between the perceptions of individuals in the three work arrangements regarding each of the four opportunities. The results of the between group analysis appear in Table 4-11. Table 4-11 shows the means and standard deviations for each group (visually ordered from highest to lowest for each variable), the standardized mean differences of each paired-comparison, and the statistical significance of each paired differences (with Bonferroni adjustment). With respect to the opportunity to achieve, only one of the three hypothesized relationships was partially supported: owners/employer perceived greater opportunities than employees ($d = .36, p < .05$, two-tailed). The effect size did not reach the threshold for medium (.50) although it exceeded the threshold for small (.20). Owners/non-employers perceived greater opportunities to achieve than employees with an effect size that reached the .20 threshold but the difference was not statistically significant.

Table 4-9

Summary of Hypotheses Related to Work Characteristics

#	Hypotheses	Supported? Stat. Sig.	Supported? Direction	Magnitude Of Effect Size	Actual Effect Size
					η_p^2
1a	Multivariate Constellation of Opportunities	Yes	N/A	> Large	.20
1b	Univariate Opportunity: Achievement	Yes	N/A	Small	.02
1c	Univariate Opportunity: Affiliation	Yes	N/A	> Medium	.08
1d	Univariate Opportunity: Autonomy	Yes	N/A	> Large	.15
1e	Univariate Opportunity: Dominance	Yes	N/A	> Large	.20
#	Hypothesized Between Group Relationships				*d*
1f	Achievement $^{\text{Owners/employer}}$ > Achievement $^{\text{Owners/non-employer}}$	No	Yes	< Small	.16
1g	Achievement $^{\text{Owners/employer}}$ > Achievement $^{\text{Employees}}$	Yes	Yes	> Small	.36
1h	Achievement $^{\text{Owners/non-employer}}$ > Achievement $^{\text{Employees}}$	No	Yes	Small	.19
1i	Affiliation $^{\text{Owners/employer}}$ > Affiliation $^{\text{Owners/non-employer}}$	Yes	Yes	>Medium	.68
1j	Affiliation $^{\text{Owners/non-employer}}$ < Affiliation $^{\text{Employees}}$	Yes	Yes	>Medium	.48
1k	Autonomy $^{\text{Owners/employer}}$ > Autonomy $^{\text{Owners/non-employer}}$	No	No	< Small	-.04
1l	Autonomy $^{\text{Owners/employer}}$ > Autonomy $^{\text{Employees}}$	Yes	Yes	>Large	.86
1m	Autonomy $^{\text{Owners/non-employer}}$ > Autonomy $^{\text{Employees}}$	Yes	Yes	>Large	.90
1n	Dominance $^{\text{Owners/employer}}$ > Dominance $^{\text{Owners/non-employer}}$	Yes	Yes	>Large	1.11
1o	Dominance $^{\text{Owners/employer}}$ > Dominance $^{\text{Employees}}$	No	Yes	<Small	.05
1p	Dominance $^{\text{Owners/non-employer}}$ < Dominance $^{\text{Employees}}$	Yes	Yes	>Large	1.05
	Non-Hypothesized				
	Affiliation $^{\text{Owners/employer}}$ > Affiliation $^{\text{Employees}}$	N/A	N/A	< Small	.19

Note. Effect sizes related to Model 2 (MANCOVA).

The negative sign for *d* indicates the relative scores of the group were the opposite of those hypothesized.

With respect to the opportunity for affiliation, both hypothesized relationships were supported with respect to both statistical significance and effect size as both owners/employer and employees perceived greater opportunities to affiliate than owners/non-employer ($d = .68$, $p < .01$, two-tailed and $d = .48$, $p < .01$, two-tailed, respectively). I did not hypothesize any relationship between owners/employer and employees; the difference was not statistically significant, and the effect size ($d = .19$) did not quite reach the .20 for small.

With respect to the opportunity for autonomy, two out of three hypothesized relationships were supported as both owners/non-employer and owners/employer perceived greater opportunities than employees ($d = .90$, $p < .01$, two-tailed and $d = .86$, $p < .01$, two-tailed, respectively). In each case, the effect size exceeded the threshold for large (.80), although my hypothesized magnitude was medium (.50). However, the hypothesis that owners/employer would perceive greater opportunities for autonomy than owners/non-employer was not supported: the difference between the two groups was not statistically significant, the effect size ($d = .04$) failed to reach a small threshold, and difference was in favor of owners/non-employer.

With respect to the opportunity for dominance, two out of three hypothesized relationships were supported as both owners/employer and employees perceived greater opportunity than owners/non-employer ($d = 1.11$, $p < .01$, two-tailed and $d = 1.05$, $p < .01$, two-tailed, respectively). In each case, the effect size exceeded the threshold for large (.80), although the hypothesized magnitude was medium (.50). However, the hypothesis that owners/employer would perceive greater opportunities than employees

was not supported: the difference between the two groups was not statistically significant and the effect size (d = .05) was trivial.

In summary, the results supported that there were significant and substantial differences across work arrangements with respect to the perceptions of group members of their work characteristics with the most pronounced differences being with respect to opportunities to be autonomous and to dominate and with lesser, but still substantial differences with respect to affiliation. As anticipated, the two types of organizational members (e.g., owners/employers and employees) were most similar with respect to opportunities for behaviors that might be facilitated by belonging to work organizations with other members: affiliation and domination. Owners/non-employer differed most substantially with respect to their perceived opportunities to dominate. However, with respect to the opportunity to act autonomously, the two types of self-employed (e.g., owners/employer and owners/non-employer) were most similar with employees perceiving markedly less opportunity.

Table 4-10

Multivariate Analysis of Differences with Respect to Work Characteristics by Actual Work Arrangement

			Univariate Relationships							
	Multivariate Relationships		Opportunity for Achievement		Opportunity for Affiliation		Opportunity for Autonomy		Opportunity for Dominance	
Variables	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2
Model 1 (without covariates)										
Arrangement	22.96**	.23	3.45*	.02	14.69**	.09	35.84**	.18	46.83**	.23
Model 2 (with sex and age as covariates)										
Arrangement	18.75**	.20	3.39*	.02	12.92**	.08	27.07**	.15	39.57**	.20
Sex	1.18	.02	.17	.00	.38	.00	.05	.00	3.20	.01
Age	3.20*	.04	.37	.00	4.83*	.02	3.36	.01	2.64	.01

Note. *F* Statistic Wilks Lambda, η_p^2= partial eta squared. Model 1 n: owners/employer, 128; owners/non-employer, 97; employees, 95, work arrangement, *df* = 8, 628. Model 1 n: owners/employer, 127; owners/non-employer, 95; employees, 94, work arrangement, *df* = 8, 616.

* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Table 4-11

Group Means and Differences of Work Characteristics by Actual Work Arrangement

Opportunity for Achievement				Opportunity for Affiliation				Opportunity for Autonomy				Opportunity for Dominance			
	M	*sd*	*d*		*m*	*sd*	*d*		*m*	*sd*	*d*		*m*	*sd*	*d*
Model 2 (with sex and age as covariates)															
O/E	6.22	.80		O/E	5.71	.95		O/N	6.56	.74		O/E	5.02	1.36	
	d = .13				*d* = .19				*d* = .04				*d* = .02		
O/N	6.09	.80	.36*	Emp	5.58	.78	.68**	O/E	6.52	.74	.95***	Emp	4.96	1.34	1.11**
	d = .20				*d* = .48**				*d* = .86**				*d* = 1.05**		
Emp	5.93	81		O/N	5.07	.95		Emp	5.85	.75		O/N	3.52	1.37	

Note. Ns: O/E (owners/employer, 125; O/N (owners/non-employer), 97; employees, 94. *d* = standardized mean difference between groups, with statistical difference calculated with Bonferroni adjustment. The *d* between the highest and the middle, and between the middle and lowest scores appear in the rows between groups; the *d* between the highest and lowest scores appear in the column to the right of each variable and are indicated by brackets. The Group means estimated evaluated at age = 52.9; sex = .25. * $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Hypotheses Set 2: Needs and Self-efficacy

The second set of hypotheses related to differences among those in different work arrangements with respect to their personality variables (needs for achievement, affiliation, autonomy, and dominance and generalized self-efficacy). Hypothesis 2a was that individuals in the three different work arrangements would differ with respect to the constellation of traits and self-concept and that the effect size of work arrangement (η_p^2) would reach the threshold of .06 to be considered medium. Hypotheses 2b to 2f related to the expectation that individuals in the work arrangements would differ with respect to each of the four traits and as well as self-efficacy and that the effect size of the work arrangement (η_p^2) would reach the threshold of .06. Hypotheses 2g through 2s related to the expected differences among individuals in each of the three work arrangements with respect to each of the four traits and self-efficacy. As discussed above, given the non-normal distribution of self-efficacy, a transformed variable (self-efficacy squared) was used in all analyses.

The summary of hypotheses and findings appears in Table 4-12. I had anticipated that there would be differences across work arrangements with respect to the age and sex. The hypotheses included age and sex as control variables and thus were tested through MANCOVAs with work arrangement as the fixed factor and age and sex as covariates (Model 2). I had hypothesized that these relationships would hold whether individuals were classified according to their actual as well as preferred work arrangements and therefore MANCOVA with age and sex as covariates was performed with actual work arrangement as the fixed factor (results shown in Table 4-13) and with preferred work arrangement as the fixed factor (Table 4-14). The results of MANOVA (Model 1) are

also shown in the tables although they do not related to the hypothesized relationships and will not be discussed in this section.

Hypothesis 2a regarding the differences in the constellation actual work arrangement and the constellation of needs and self-efficacy was supported. As shown in Table 4-13, for actual work arrangement, the Model 2 $F(10,608) = 3.41$, $\eta_p^2 = .05$, $p < .01$. As shown in Table 4-14, the results for preferred work arrangement as the fixed factor were similar: the Model 2 multivariate Wilks Λ $F(10,608) = 4.07$, $\eta_p^2 = .06$, $p < .01$. The results were supportive that there were significant differences among individuals across work arrangements with respect to least one of the four traits and self-efficacy. This difference held whether individuals were classified according to their actual work arrangement or the one they preferred.

Table 4-12

Summary of Hypotheses and Findings Related to Needs and Self-efficacy

#	Hypotheses	Supported? Stat. Sig.	Supported? Direction	Magnitude Of Effect Size	Actual Effect Size
					η_p^2
2a	Multivariate Needs and Self-efficacy	Yes	N/A	< Medium	.05
2b	Univariate Need for Achievement	No	N/A	< Small	.01
2c	Univariate Need for Affiliation	No	N/A	< Small	.01
2d	Univariate Need for Autonomy	Yes	N/A	Medium	.06
2e	Univariate Need for Dominance	Yes	N/A	Small	.02
2f	Univariate General Self-Efficacy	Yes	N/A	Small	.02
	Hypothesized Between Group Relationships				*d*
2g	Achievement $^{\text{Owners/employer}}$ > Achievement $^{\text{Owners/non-employer}}$	No	Yes	Small	.20
2h	Achievement $^{\text{Owners/employer}}$ > Achievement $^{\text{Employees}}$	No	No	< Small	-.04
2i	Achievement $^{\text{Owners/non-employer}}$ < Achievement $^{\text{Employees}}$	No	Yes	> Small	.22
2j	Affiliation $^{\text{Owners/employers}}$ > Affiliation $^{\text{Owners/non-employer}}$	No	Yes	> Small	.18
2k	Affiliation $^{\text{Owners/non-employer}}$ < Affiliation $^{\text{Employees}}$	No	Yes	< Small	.10
2l	Autonomy $^{\text{Owners/employer}}$ < Autonomy $^{\text{Owners/non-employer}}$	Yes	Yes	< Medium	.40
2m	Autonomy $^{\text{Owners/employer}}$ > Autonomy $^{\text{Employees}}$	No	Yes	> Small	.24
2n	Autonomy $^{\text{Owners/non-employer}}$ > Autonomy $^{\text{Employees}}$	Yes	Yes	> Medium	.63
2o	Dominance $^{\text{Owners/employer}}$ > Dominance $^{\text{Owners/non-employer}}$	Yes	Yes	> Small	.32
2p	Dominance $^{\text{Owners/employer}}$ > Dominance $^{\text{Employees}}$	No	No	< Small	-.05
2q	Dominance $^{\text{Owners/non-employer}}$ < Dominance $^{\text{Employees}}$	Yes	Yes	> Small	.36
2r	Efficacy $^{\text{Owners/employer}}$ > Efficacy $^{\text{Employees}}$	No	Yes	> Small	.30
2s	Efficacy $^{\text{Owners/non-employer}}$ > Efficacy $^{\text{Employees}}$	No	Yes	< Small	.06
	Non-Hypothesized				
	Affiliation $^{\text{Owners/employer}}$ > Affiliation $^{\text{Employees}}$	N/A	N/A	< Small	.18
	Efficacy $^{\text{Owners/employer}}$ > Efficacy $^{\text{Owners/non-employer}}$	N/A	N/A	> Small	.24

Note. Negative sign in *d* indicates between group difference was not in the direction hypothesized.

Hypotheses 2b to 2f related to the expectation that the individuals in the different work arrangements would differ with respect to each and every need as well as self-efficacy. As shown in Model 2 of Table 4-13, when classified according to their actual work arrangement, univariate *F*s for actual work arrangement were significant for autonomy ($\eta_p^2 = .06, p < .01$), dominance ($\eta_p^2 = .02, p < .05$) and self-efficacy ($\eta_p^2 = .02, p < .05$). The effect size (η_p^2) for autonomy reached the threshold of .06 for medium while η_p^2 for need for dominance and self-efficacy did not (although they exceeded the .01 for small). The *F*s for need for achievement or affiliation were not statistically significant although their effect size reached the .01 threshold for small. However, as noted above, the internal reliability of need for achievement was well below the minimum recommended level such that it should not construed as representing a reliable measure of the underlying construct for this sample. As shown in Table 4-14, when individuals were classified according to their preferred work arrangement, rather than their actual, needs for autonomy and dominance remained significant ($\eta_p^2 = .08, p < .01$ and $\eta_p^2 = .03, p < .01$, respectively) but self-efficacy was not.

Hypotheses 2g to 2s related to the expected differences between groups with respect to each of the needs for achievement, affiliation, autonomy, dominance and self-efficacy. Table 4-15 shows the relations among group means with actual work arrangement as the fixed factor for Model 2 (with age and sex as covariates) and Model 1 (without covariates). For Model 2, the standardized mean difference statistic is calculated after adjusting for the covariates.

Consistent with the finding that the work arrangement was not statistically related to differences with respect to needs for achievement and affiliation, none of the between-

group differences with respect to those needs were significant and none of standardized mean differences reached the .50 threshold for a medium effect size. I had hypothesized that owners/employers would have greater need for achievement than employees who in turn would have greater needs than owners/non-employers. There was a small effect size deficit of owners/non-employer relative to both employees (d = .22) and owners/employer (d = .20) but given the lack of reliability of the measure, it can not interpreted as being encouraging that there might be a small difference in the greater population. I had hypothesized that both owners/employer and employees would have higher needs for affiliation than owners/non-employer with a medium effect size; the results were supportive of those relationships, although in neither case did the effect size reach the .20 threshold for small (or, statistical significance).

Hypotheses 2l through 2n that owners/non-employer would have greater needs for autonomy than owners/employer who in turn would have greater needs than employees were partially supported. owners/non-employer had greater needs than owners/employer (d = .40, p < .01, two-tailed) and employees (d = .63, p < .01, two-tailed). While failing to reach statistical difference, owners/employer had greater needs for autonomy than employees (with d = .24, crossing the threshold of .20 for a small effect size).

Hypotheses 2o through 2q regarding need for dominance were also partially supported. I had hypothesized that owners/employer would have greater needs (d = .50 for a medium effect size) than employees who would have greater needs than owners/non-employer, paralleling the hypotheses that I had made with regarding opportunities for dominance. The results indicated that employees and owners/employer

had virtually identical needs (d = .05) with owners/non-employer having less than employees (d = .36, p < .05, two-tailed) and owners/employer (d = .32, *ns*).

The hypotheses 2q and 2r that both owners/employer and owners/non-employer would have higher self-efficacy than employees were not supported. owners/non-employer and employees were virtually the same (d = .06). While the differences were not statistically significantly different, the effect size of excess of owners/employer *vis-à-vis* both owners/non-employer (d = .24) and employees (d = .30) exceeded the small threshold.

In summary, the results support the view that there are significant and substantial differences in personality traits of individuals in the different work arrangements. However, as found with the analysis of opportunities, the most significant differences were related to the needs for autonomy and dominance. Owners/non-employer had greater needs for autonomy than owners/employer who in turn had greater needs than employees. Both owners/employer and employees were virtually the same with respect to their needs for dominance with owners/non-employer having the least. The differences with respect to self-efficacy were small, and relate primarily to the greater self-efficacy of the owners/employer.

Table 4-13
Multivariate Analysis of Differences with Respect to Needs and Self-Efficacy by Actual Work Arrangement

			Univariate Relationships									
	Multivariate Relationships		Need for Achievement		Need for Affiliation		Need for Autonomy		Need for Dominance		Self-Efficacy	
Variables	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2
Model 1 (without covariates)												
Arrangement	3.46**	.05	1.41	.01	1.63	.01	10.08**	.06	5.31*	.03	2.49	.02
Model 2 (with covariates of age and sex)												
Arrangement	3.41**	.05	1.46	.01	2.19	.01	9.47**	.06	3.69*	.02	3.29*	.02
Sex	2.46*	.04	.02	.00	1.07	.00	.20	.00	4.60*	.02	1.69	.01
Age	2.17	.03	.10	.00	4.66*	.02	.10	.00	7.72**	.02	.40	.00

Note. *F* Statistic Wilks Lambda, η_p^2= partial eta squared. Self-Efficacy is generalized self-efficacy squared.
Model 1 n: owners/employer, 126; owners/non-employer, 97; employees, 93, arrangement multivariate, *df* 10, 618.
Model 2 n: owners/employer, 125; owners/non-employer, 96; employees, 92, arrangement multivariate, *df* 10, 608.
* $p < .05$, two-tailed; ** $p < .01$, two-tailed..

Table 4-14

Multivariate Analysis of Differences with Respect to Needs and Self-Efficacy by Preferred Work Arrangement

			Univariate Relationships									
	Multivariate Relationships		Need for Achievement		Need for Affiliation		Need for Autonomy		Need for Dominance		Self-Efficacy	
Variables	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2
Model 1 (with covariates)												
Arrangement	4.36**	.07	2.75	.02	.90	.01	14.70**	.09	5.96**	.04	.31	.00
Model 2 (with age and sex as covariates)												
Arrangement	4.07**	.06	2.69	.02	.76	.01	13.92**	.08	5.29**	.03	.12	.00
Sex	2.54*	.04	.01	.00	.57	.00	.60	.00	6.09*	.02	.84	.00
Age	2.33*	.04	.10	.00	4.12*	.01	.13	.00	9.71**	.03	.07	.00

Note. *F* Statistic Wilks Lambda, η_p^2= partial eta squared.
Model 1 n: owners/employer, 175; owners/non-employer, 63; employees, 78, work arrangement, *df* 10, 618.
Model 2 n: owners/employer, 173; owners/non-employer, 62; employees, 78, work arrangement *df* 10, 608.
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Table 4-15

Groups Means and Differences of Needs and Self-efficacy by Actual Work Arrangement

Need for Achievement				Need for Affiliation				Need for Autonomy				Need for Dominance				Self-Efficacy			
	m	*sd*	*d*		*m*	*sd*	*d*		*m*	*sd*	*d*		*m*	*sd*	*d*		*m*	*sd*	*d*
Model 1 (without covariates)																			
Emp	11.49	2.58		O/E	10.07	3.54		O/N	7.98	2.99		Emp	11.39	3.55		O/E	38.83	9.00	
	d = .04				*d* = .09				*d* = .42**				*D* = .09				*d* = .26		
O/E	11.39	2.36	.22	Emp	9.74	3.86	.25	O/E	6.81	2.65	.62**	O/E	11.06	3.46	.44**	O/N	36.35	10.64	.27
	d = .19				*d* = .15				*d* = .22				*d* = .35*				*d* = .02		
O/N	10.93	2.54		O/N	9.15	3.90		Emp	6.20	2.79		O/N	9.84	3.49		Emp	36.15	10.78	
Model 2 (with age and sex as covariates)																			
Emp	11.47	2.58		O/E	10.20	3.76		O/N	7.96	2.85		Emp	11.26	3.56		O/E	39.18	10.09	
	d = .02				*D* = .18				*d* = .40*				*d* = .05				*d* = .24		
O/E	11.43	2.52	.22	Emp	9.52	3.87	.28	O/E	6.82	2.83	.63**	O/E	11.10	3.45	.36*	O/N	36.17	10.15	.30
	d = .20				*d* = .10				*d* = .24				*d* = .32				*d* = .06		
O/N	10.92	2.53		O/N	9.15	3.78		Emp	6.15	2.91		O/N	10.01	3.47		Emp	36.09	10.41	

Note. Model 1 ns: O/E (owners/employer), 126; O/N (owners/non-employer), 97; employees, 93. Model 2 ns: O/E, 125; O/N, 96; employees, 92. Model 2 group means estimated at age = 52.9 and sex = .25.*d* = standardized mean difference between groups, with statistical difference calculated with Bonferroni adjustment. The *d* between the highest and the middle, and between the middle and lowest scores appear in the rows between groups; the *d* between the highest and lowest scores appear in the column to the right of each variable and are indicated by brackets.

* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Hypothesis Set 3: Self-Efficacy and Attainment of Preferred Work Arrangement

The third hypothesis was that individuals who reported that their actual work arrangement was the same as their preferred arrangement (match = 1) would report greater self-efficacy (with a medium effect size) than those who expressed a preference for a different arrangement (matched = 0) after controlling for age and sex. The hypothesis was supported with respect to statistical significance and direction of difference. However, I had hypothesized a medium effect size ($\eta_p^2 = .06$) whereas the result of $\eta_p^2 = .02$ fell short (although it exceeded the small threshold). Results suggested there was a significant, but moderate, relationship between self-efficacy and individuals reporting their actual work arrangement was the same as their preferred.

The hypothesis was tested using univariate analysis of covariance with matched as the fixed factor and age and sex as covariates. As discussed above, due to its non-normal distribution, I squared generalized self-efficacy scores for this analysis. The F for the variable "matched" (i.e., the actual work arrangement being the same as the preferred was 6.07, $p < .05$, two-tailed, $\eta_p^2 = .02$. I also performed MANCOVA with the variable matched as the fixed factor and age and sex as covariates and self-efficacy and the four needs as dependent variables. As shown in Table 4-16, the results were similar to the univariate analysis as the F for matched was 5.03, $p < .05$, two-tailed, $\eta_p^2 = .02$. As shown in Table 4-17, those actually working in their preferred arrangement had greater self-efficacy ($d = .32$, $p < .05$, two-tailed) than those who were not.

Table 4-16

Multivariate Analysis of Needs and Self-efficacy by Matched (Actual Work Arrangement = Preferred Work Arrangement)

			Univariate Relationships									
	Multivariate Relationships		Need for Achievement		Need for Affiliation		Need for Autonomy		Need for Dominance		Self-Efficacy	
Variables	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2	*F*	η_p^2
					Model 1 (with covariates)							
Matched	1.56	.03	.94	.00	2.83	.01	.02	.00	2.03	.01	6.01*	.02
					Model 2 (with age and sex as covariates)							
Matched	1.56	.03	.92	.00	2.83	.01	.00	.00	.87	.00	5.93*	.02
Sex	2.93*	.05	.00	.00	.80	.00	1.02	.00	6.10*	.02	1.56	.01
Age	2.55*	.04	.33	.00	4.43*	.01	.44	.00	11.03**	.03	.05	.00

Note. Model 1 ns: Actual work arrangement = preferred, 240; Not equal, 76. Matched multivariate *df* (5, 310). Model 2 ns: Actual work arrangement = preferred, 238; Not equal, 75. Matched multivariate *df* (5, 305). Model 2 coefficients, age negatively related to affiliation ($p < .05$) and dominance ($p < .01$) and sex (female) negatively related to dominance ($p < .05$).
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Table 4-17

Group Means and Differences by Matched (Actual Work Arrangement = Preferred Work Arrangement

Need for Achievement			Need for Affiliation			Need for Autonomy			Need for Dominance			Self-Efficacy		
Group	*m*	*sd*	Group	*m*	*sd*	Group	*m*	*sd*	Group	*m*	*sd*	Group	*m*	*sd*
Matched	11.37	2.50	Matched	9.88	3.73	No Match	6.98	2.90	Matched	10.92	3.46	Matched	38.13	10.03
d = .13			*d* = .23			*d* = .00			*d* = .12			*d* = .32*		
No Match	11.04	2.51	No Match	9.04	3.75	Matched	6.97	2.90	No Match	10.49	3.47	No Match	34.88	10.06

Note. Ns: actual = preferred, 238, actual not same as preferred, 75. Group means estimated with covariates evaluated at Age = 52.9, Sex = .25. *d* = standardized mean differences. The standardized mean difference between groups appears in the row between.
* $p < .05$, two-tailed.

CHAPTER 5. DISCUSSION, CONCLUSIONS, AND FURTHER RESEARCH

The primary purpose of this research was to increase knowledge of the perceived work characteristics and motivations of individuals who work for and by themselves (owners/enon-employers) by comparing and contrasting them with traditional employees and owners of small businesses that employ others. The discussion presented in this chapter is organized around the original research questions, with emphasis on the findings as related to independents.

- Do the individuals in each of three work arrangements differ with respect to the opportunities they perceive for satisfaction of needs for achievement, affiliation, autonomy, and dominance?
- Do the individuals who prefer to work in each arrangement differ in their needs for achievement, affiliation, autonomy, and dominance, and in their perceived self-efficacy?
- Do the individuals who actually work in each arrangement differ in their needs for achievement, affiliation, autonomy, and dominance as well in their perceived generalized self-efficacy?
- Is perceived generalized self-efficacy associated with a match between preferred and actual work arrangement?

The research tested aspects of a model based in the needs-supply conceptualization of person-environment fit. The model was premised on the assumption that individuals with different personality traits, expressed as needs, would have a preference for and tend to migrate towards or remain in work arrangements in which they perceived greater opportunities to satisfy these needs (and away from environments

which were viewed as offering fewer opportunities for need satisfaction). The model also assumed that the core self-concept of generalized self-efficacy would be related to the type of work arrangement individuals preferred as well as their ability to attain their preferred work arrangement (whichever it might be).

In this chapter I will review the results of the data and the extent to which hypotheses were supported. I will discuss the extent to which the results of the hypothesis testing supported my model and consider alternative explanations of the results. I will end with recommendations regarding future research.

Discussion of Results and Tests of Hypotheses

The hypotheses were developed and tested in three sets. The first set related to perceived opportunities for behaviors, the second related to personality traits (needs) and generalized self-efficacy of individuals, and the third set consisted of a single hypothesis related to the generalized self-efficacy of those who were working under their preferred work arrangement and those who were not. For the first set of hypotheses (opportunities for behaviors) individuals were classified into three groups based on their actual work arrangement whereas for the second set (needs and self-efficacy) they were classified into three groups according to both their preferred and actual work arrangement. For the third hypothesis (attainment of preferred arrangement) participants were classified into two groups based on whether their actual work arrangement was the same as their preferred. As the dependent variables in each of the first two sets of hypotheses were conceptually and statistically related, there were several levels of analysis related to each set. For example, with respect to perceived opportunities to achieve, affiliate, act autonomously, and dominate, the first question was whether there were statistically significant

differences across the groups with respect to *any* of these four variables and whether the magnitude of the effect (η_p^2) reached the hypothesized size? The second question was whether the groups differed with respect to each of four variables *individually* and whether the magnitude of each of the effects (η_p^2) reached the hypothesized medium effect size? The next and more finely grained analysis addressed the questions of how individuals in *each* work arrangement compared to individuals in *each* of the other two work arrangements with respect to the *each* of the four perceived opportunities for behaviors. The between-group analysis included the level of statistical significance of the differences between each paired-group, the magnitude (effect size) of the difference, and the direction (i.e., which group perceived greater opportunities).

In the discussion of the effect sizes I will refer to the following thresholds for small, medium, and large effect sizes. The magnitudes of all the effect sizes were hypothesized to be medium.

Table 5-1
Effect Size Benchmarks (Cohen, 1977; Stevens, 2002)

Effect Size Statistic	Benchmarks for Magnitude of Effect Size		
	Small	Medium	Large
η_p^2	.01	.06	.14
d	.20	.50	.80

Discussion of Findings with Respect to Opportunities for Behaviors

The answer to the first research question regarding perceived opportunities for different behaviors was affirmative. The perceptions of CPAs of the opportunities they had to achieve, affiliate, act autonomously, and dominate varied significantly and substantially across the three work arrangements. The effect size of $\eta_p^2 = .23$ for work arrangement in the multivariate analysis of variance meant that about 23% of the variance

in their set of perceived opportunities was attributable to the work arrangement. The magnitude of the effect size well surpassed the hypothesized medium effect.

Furthermore, the perceptions of the CPAs varied across the work arrangements with respect to each of the opportunities to achieve, act autonomously, affiliate and dominate. However, the magnitude of the effect sizes varied among these opportunities. The variance related to work arrangement for opportunities to achieve exceeded the threshold for small (η_p^2 = .02) but did not reach the threshold for medium. The effect size for affiliation (η_p^2 = .09) exceeded the medium threshold, while the effect sizes for opportunities to act autonomously (η_p^2 = .18) and dominate (η_p^2 = .23) exceeded both the medium and large thresholds. Thus, for three of the four variables, the hypothesized effect size was reached or exceeded, while for one it was in the hypothesized direction but not of the hypothesized size. In other words, the results indicated that the different work arrangements differed in the opportunities they offered for individuals to engage in behaviors that could satisfy different corresponding personality traits.

The results indicated the work environments as perceived by owners/non-employer differed significantly and substantially from both employees and owners/employer. As hypothesized, owners/non-employer, not being members of an organizational social system, perceived lesser opportunities to affiliate than employees and owners/employers. The effect sizes (d = .57 and .67) exceeded the medium threshold. Similarly, owners/non-employer working by themselves with no hierarchical subordinates or organizational peers, perceived lesser opportunities to dominate than both employees and owners/employer. The effect sizes (d = 1.13 and 1.19) far exceeded the threshold for large. Consistent with their having no hierarchical superiors, owners/non-

employer perceived greater opportunities to act autonomously than employees. The effect size (d = .93) that exceeded the threshold for large. On the other hand, the differences between owners/non-employer and the other groups with respect to opportunities to achieve were not statistically significant and effect sizes were small.

Owners/employer appeared to have the greatest perceived opportunities for each of the four behaviors. They perceived greater opportunities to achieve than employees (d = .35), to affiliate than employees and owners/non-employer (d = .57 and .67), to act autonomously than employees (d = .95) and to dominate than owners/non-employer (d =1.19).

The attempt to extend the concept of person-environment fit to person-work arrangement fit was supported by the findings that differences existed with respect to opportunities to display certain behaviors. From a needs-supply perspective, the opportunities to exhibit the different behaviors represent a "supply." For person-environment fit conceptualization to be relevant to the work arrangement, the existence of differences among work arrangements is a necessary, but not sufficient, condition for the model to hold.

However, the conclusion that differences existed in opportunities for behaviors across the work arrangement and therefore could differentially attract individuals with distinct personality profiles needs has to be qualified. First, all of the information on opportunities in each group is based on the reports of individuals working in each group (incumbents). The perceptions of incumbents in one work arrangement (such as independents) as to the opportunities they have might differ from perceptions of CPAs in other work arrangements (such as employees) viewing the opportunities from outside of

that arrangement. From the perspective of motivating movement out of one arrangement towards another, the opportunities as perceived by outsiders would be more relevant than the opportunities as perceived by incumbents (or, even as assessed by objective observers). For example, if a person who worked as an employee had a high need for autonomy, he or she would not be motivated to leave and attempt to work as an owners/non-employer if he or she did not think there would be greater opportunity to act autonomously, regardless of whether owners/non-employer as a group reported greater autonomy than did employees as a group.

The survey did not, for reasons including a concern about the length of the instrument, ask CPAs to report on their perceptions of characteristics of work arrangements other than their own. However, there are reasons to believe that the perceptions of CPAs outside of each arrangement would be related to the perceptions of incumbents. First, Lengermann (1971) provided evidence that perceptions of work characteristics of settings were shared across accountant settings. CPAs who worked in sole practices, local firms, regional firms, small office national firms, large office national firms, and non-CPA organizations assessed the amount of professional autonomy they had in their own work setting as well as the amount they felt CPAs in each of the other settings had. CPAs in all work settings assessed the sole practice setting as offering the highest opportunity for professional autonomy. These findings were consistent with the perceived general job autonomy found in this study and additionally indicated that the perceptions of incumbents and outsiders with respect to relative opportunities for autonomy were shared.

Second, individuals in this sample were likely to be familiar with the perceptions of CPAs in other work arrangements. Participants in this study averaged over thirteen years working as CPAs and were members of a professional organization so likely would have social and professional connections with CPAs in work arrangements other than their own. Additionally, given the certification requirements, all of the owners/employers and owners/non-employer would have worked as employees at some phase of their careers and would have opportunities to directly assess the opportunities. As a result, I would expect there to be a strong relationship between perceptions of incumbents and outsiders as to the relative amounts of opportunities for behaviors.

Discussion of Findings with Respect to Needs and Self-Efficacy

The testing of the second set of hypothesis answered the research question affirmatively of whether individuals in the different work arrangements also had different personality characteristics. The personality traits (needs for achievement, affiliation, autonomy, and dominance and self-efficacy) of individuals working in each of these three work arrangements differed statistically and substantially (before and after controlling for differences in sex and age). However, after controlling for age and sex, the effect size of $\eta_p^2 = .05$ fell slightly short of the benchmark for medium effect size. Further, only three out of the five personality variables varied significantly by work arrangement. The effect sizes for dominance and self-efficacy ($\eta_p^2 = .02$) barely exceeded the threshold for small while only the effect size for autonomy ($\eta_p^2 = .06$) reached the medium threshold.

The model extending person-environment fit to person-work arrangement fit would be supported if opportunities for behaviors (supplies) and the corresponding needs varied across work arrangements. In addition, the model would be supported if the

between-group relations with respect to needs were consistent with the between-group relationships with respect to the corresponding opportunities. For example, in addition to their being differences across work arrangements with respect to opportunities and needs for dominance, individuals with relatively high needs for dominance should, if the model were to be supported, work in environments with relatively high opportunities to dominate and individuals with relatively low needs should work in environments with relatively low opportunities.

The model was largely supported as the relationships among the groups with respect to needs were largely consistent with the relationships with respect to opportunities. Owners/non-employer had the lowest needs for dominance (d = .36 and .32, relative to employees and owners/employers) and, as above, perceived the least opportunities for dominance. Owners/non-employer had the highest need for autonomy (d = .63 and .40, relative to employees and owners/employers) and perceived greater opportunities for autonomy than employees. Although the differences were not statistically significant, owners/non-employer had the lowest needs for affiliation (d = .10 and .18) and perceived the least opportunities.

The magnitudes of the differences across groups for needs was more pronounced for the perceived opportunities for behaviors (η_p^2 = .23) than it was for needs (η_p^2 = .05). Relative to the anticipated magnitudes of the differences across work arrangements, it appears that the hypotheses *under*-estimated the differences with respect to opportunities and *over*-estimated the differences with respect to the personality differences. The difference in relative magnitudes of the variations across work arrangements does not undercut the validity of the model but it does suggest that the desire to satisfy the four

measured psychological needs has a more limited impact on actual movement from one work arrangement to another than anticipated. There are a number of explanations. First, even with respect to needs satisfaction as a factor leading to movement, my research assessed only a small number of needs and opportunities for needs satisfying behaviors. It is possible that there were other unmeasured needs that were more strongly motivating work arrangement preference.

The difference in order of magnitude appears to be consistent with the findings of Kristof-Brown et al.(2005) that the relationships between fit and attitudes were stronger than the relationships between fit and behaviors (such as turnover). As they observe, there may be significant barriers to individuals leaving environments which were not satisfying their psychological needs. For example, the greater monetary income available to a CFO of a large corporation might lead a person with a high need for autonomy to remain in that arrangement rather than leaving for a lower paying, but more autonomous, life as a sole practitioner. Similarly, an individual with a high need for dominance might, because of family obligations, feel he or she is unable to work the longer hours required to be an owner of a firm or a partner in a large public accountancy firm.

Additionally, the magnitudes of the variations across groups with respect to both work characteristics and personality traits were likely also limited by the use of a sample of individuals with CPAs who worked in public accountancy firms and industrial settings. The primary premise of vocation oriented person-environment fit theorists (Dawis & Lofquist, 1984; Holland, 1985; Lofquist & Dawis, 1969) was that both the environments and the personalities of the individuals within a given vocation would differ from those of the general population. My research design accepted that the benefits

of a within-profession design would result in a sample that would likely differ from the general population with respect to both work characteristics and personality traits that were variables of interest. Indeed, prior studies of working CPAs found that although there was variation of personality types across settings within the profession that certain personality types dominated. For example, CPAs across all work settings appeared to have higher needs for achievement relative to their needs for power or affiliation (Harrell & Rash, 1988; Street & Bishop, 1991). Aranya and Wheeler (1986) used Holland's framework to categorize the personality types of over 3,600 Canadian and US chartered and certified accountants. They found 28% were conventional and 22% were enterprising and concluded that there was more variance among CPAs then Holland suggested, their data indicates that CPAs are still concentrated among certain types. As with other person-environment research utilizing within-industry or with-in organization designs (cf. Borges & Gibson (2005) study of needs across medical specializations, Chatman (1991) study of employees of public accountancy firms) the design choice necessarily brings with it questions of generalizability to the general population (or, other populations).

Discussion of Findings Related to Self-Efficacy and Attainment

The data supported the hypothesis that generalized self-efficacy would be related to individuals actually working under their preferred work arrangement was supported. The generalized self-efficacy of individuals working under their preferred arrangement was greater than those who were not, although the difference was not as pronounced as hypothesized. The actual effect sizes (η_p^2 = .02 in the multivariate analysis and d = .50 as

the difference between the two groups) fellow between the thresholds for medium (η_p^2 = .06 and d = .50) and small effect sizes (η_p^2 = .01 and d = .20).

As with the others variables of interests, the within-profession design may have produced a sample that differed from the general population with respect to generalized self-efficacy. Given the demanding educational and other requirements for certification, those with lower levels of self-efficacy may have decided not to pursue the credential. Additionally, the sample consisted of individuals who had successfully completed the requirements. As general self-efficacy is partially the result of prior experiences with success and failure, their certification itself would likely have further increased their perception of themselves as being effective.

Causality

As with other person-environment models, the model assumed that differences in the personality profiles of the individuals among the work arrangements was the result of individuals having moved towards environments that were perceived as satisfying their needs and away from environments that were not. Given the cross-sectional research design, there is no direct evidence as to the cause of the differences found across work groups. Person-environment fit theories focus on the interaction between the individual and environment but they assume that the needs of the individual are not directly directed by the environment and that the individual does little to affect the amounts of supply offered by a given environment. In contrast, critics of dispositional research (cf., Davis-Blake & Pfeffer, 1989) have argued that situational characteristics can have a significant influence on people's attitudes and behaviors. From that perspective, it is possible that when individuals entered each of the work arrangements they had similar personality

profiles but that over time their dispositions were affected by the behavioral requirements and opportunities of the work arrangement. In other words, it is possible that if personality differences had no relationship to arrangement preference and that personality profiles that did not initially differ diverged over time as individuals reacted to the environments in which they worked.

Similarly, one explanation of the great amount of self-efficacy reported by those who were working in their preferred work arrangement was that individuals who were higher in self-efficacy were more likely to try to attain their preferred arrangement and be more persistent and capable in the pursuit of it. An alternative explanation was that factors unrelated to self-efficacy allowed individuals to attain their preferred work arrangement, and that their self-efficacy was raised by their success in attaining what they wanted.

As all data in this study is cross-sectional in nature, it can provide no direct evidence of the process or the causality related to the apparent differences in personality profiles among the work arrangement. There has been limited longitudinal research demonstrating migration based on individuals' personal characteristics: Wilk and Sackett (1996) used two sets of cohort data and found that over a 15 year period individuals gravitated towards jobs where there was a greater congruency between their general mental abilities (measured in high school) and the complexity of jobs held at distinct time periods over the following years. They found that over time, individuals tended to gravitate in terms of job complexity (upward or downward) to jobs that were compatible. Wilk, Desmarais, and Sackett (1995) used five year longitudinal data from the two prior data sets and added a cross-sectional analysis which showed somewhat lesser variance in

cognitive abilities between incumbents who had been in a given job longer versus incumbents who had been in the job less time. The cross-sectional comparison provides some evidence, admittedly weak, that over time people 'sorted' themselves better. Judge, Higgins, Thoresen, and Barrick (1999) used longitudinal studies in which data was collected on the same individuals over 60 years. They compared personality traits measured at childhood with the characteristics of their adult jobs as classified according to Holland's taxonomy. In addition to finding the personality traits stable over time, they found that traits corresponded with the job aspects. For example, early childhood measures of extraversion were negatively related with jobs that were classified under Holland's RIASEC as Realistic but positively with jobs classified as Social.

Proponents of person-environment fit and trait or disposition-oriented research have acknowledged the need for more longitudinal research to better specify the causal relationships and identify mechanisms through which interactions between the trait and the environment affect behaviors (House et al., 1996; Johnson, 1990; Kristof-Brown et al., 2005; Shane, Locke, & Collins, 2003). A research design whereby personality traits of individuals were assessed as they received their CPA and then related to their future career progression would provide more direct causal evidence then possible through this present cross-section sample. However, this study does provide some limited evidence that traits may lead to individuals selecting into work arrangements rather than work arrangements affecting the personalities of the individuals.

Person-environment fit theory supposes that individuals would formulate a preference for a given environment based on their perceptions that their needs could be more satisfied in that other environment. However, there are obstacles to individuals

moving from one work arrangement to another. To the extent that individuals formulate preferences based on perceived opportunities to satisfy their needs but are prevented from attaining their preferred work arrangement, the differences in personality profiles between people based on their preferred work arrangement should be larger than the differences based on their actual working arrangement. Conversely, if differences in personality profiles are primarily the result of the situational characteristics of the work arrangement affecting the personality, the relations between people based on their actual working work arrangement should be larger. However, in this sample, the effect sizes of work arrangement as the fixed factor in the two MANCOVAs with needs and self-efficacy as the dependent effect sizes were similar whether individuals were classified according to their preferred (η_p^2 = .06) or actual work arrangement (η_p^2 = .05).

However, the finding that the vast majority of individuals who preferred to be in different work arrangements were owners/non-employer and employees who wanted to be owners/employer (see Table 4-7) allows an indirect test of causality. Were personality traits to lead to a preference for an arrangement (and, in some cases, subsequent movement) into that arrangement, the personality profiles of owners/non-employer and employees who preferred to be owners/employer should be more similar to those of matched owners/employer than they would be to those of their counterparts who were satisfied in their actual arrangements. It is possible with this sample to create non-five overlapping groups and compare their personality profiles: (i) owners/non-employer who preferred their actual arrangement ("matched owners/non-employer"), n= 58, (ii) owners/non-employer who preferred being owners/employer, n =34, (iii) employees who preferred their actual arrangement ("matched employees"), n=69), (iv) employees who

preferred being owners/employer (n=25), and (v) owners/employer who preferred their actual arrrangement ("matched owners"/employer), n=119. Of the 322 participants, only 17 fell into other groups (owners/non-employer preferring to be employees, employees preferring to be owners/non-employer, or owners/employer preferring to be owners/non-employer or employees). The means of each of each of these groups on the four needs appear in Table 5-1.

I conducted two sets of MANOVAs to explore whether owners/non-employer and employees who preferred being owners were more similar to matched owners than they were to matched owners/non-employer and matched employees. In the first set, I compared owners/non-employer that preferred being owners/employer to matched owners/non-employer and then compared owners/non-employer that preferred being owners to matched owners/employers. In comparison of the two groups of owners/non-employer, the multivariate Λ, $F(4,86) = 2.18$, $\eta_p^2 = .09$, *ns,* with the univariate relationship for autonomy ($\eta_p^2 = .06$, $p < .05$). The multivariate effect size exceeded the threshold for medium although given the small sample size the results were not statistically significant. There was evidence that there were substantial differences between these matched and unmatched owners/non-employer, most notably with respect to needs for autonomy. In contrast, the second analysis comparing the owners/non-employer who preferred to be owners/employer with matched owners/employer produced a multivariate Λ F $(4,146) = .77$, $\eta_p^2 = .02$, *ns* with none of the univariate relationships reaching statistical significance or an effect size of .02. In other words, it appears that owners/non-employer preferring to be owners/employers were more similar to matched owners/employer than they were to matched owners/non-employer. I similarly compared

employees who preferred being owners/employer to matched employees and then compared with the former with matched owners/employer. The multivariate Λ F (4, 87) = 1.41, η_p^2 = .06, *ns*. None of the univariate relationships were statistically significant but three had effect sizes that exceeded the threshold for small: achievement (η_p^2 = .02), affiliation (η_p^2 = .03), and dominance (η_p^2 = .03). The MANOVA comparing employees who preferred being owners/employer to matched owners/employer produced the multivariate Λ F (4,137), η_p^2 = .03, *ns* with none of the univariate relationships reaching statistical significance or an effect size that reached the threshold for small. It appears that employees who preferred being owners/employer were more similar to matched owners/employer than they were to matched employees. The results of the analyses findings comparing individuals based on their preferred work arrangements provided evidence that is both indirect and merely suggestive with respect to causality. As discussed below, research using different designs would be establish causality and identify mechanisms through which individuals established preferences for and attained different work arrangements.

Table 5-2
Means of Groups Preferring their Actual Work Arrangement and those Preferring to be Owners/employer

	Matched Owners/ non-employers		Owners/ Non-employers preferring to be employer		Matched Employees		Employees Preferring to Be Owners/ employer		Matched Owners/ Employer	
Need	*m*	*sd*	*m*	*sd*	*M*	*sd*	*m*	*sd*	*M*	*sd*
Achievement	10.86	2.50	10.84	2.71	11.79	2.43	10.94	2.64	11.38	2.41
Affiliation	9.24	3.98	9.10	3.61	10.21	3.71	8.70	4.03	9.99	3.61
Autonomy	8.61	3.08	7.32	2.87	6.00	2.59	6.54	3.18	6.76	2.68
Dominance	9.59	3.52	10.21	3.31	11.84	3.03	10.48	4.39	11.11	3.47

Note. Ns: matched owners/non-employer, 58; matched employees, 69; matched owners, 119; owners/non-employer beings preferring to be owners/employer, 34, employees preferring to be owners/employer, 25.

Recommendations for Future Research

The present research contributed to our knowledge of how the work characteristics and personalities of individuals working as owners/non-employers within one profession differed. The results were supportive of the model extending the needs-supply conceptualization of person-environment fit to the work arrangement as the focus of fit. Future research should build on these findings by addressing questions related to causality, mechanisms and processes, generalizability, and relationships within work arrangements among situational variables, personality variables, and outcomes (such as satisfaction and commitment with facets such as job, work arrangement, and profession).

Causality

The cross-sectional design produced results that were consist with a model whereby differences in personality characteristics across work arrangements were the result of individuals migrating toward more needs satisfying environments. The comparison of personality profiles of owners/non-employers and employees who preferred to be owners/employer, owners/employer, and matched employees and

owners/non-employers, was suggestive that migration was the cause of the differences in the profiles. However, a longitudinal research design where personality traits were measured as individuals began their professional careers could be provide more reliable evidence as to whether later across-work arrangement differences were more attributable to migration, the characteristics of the work arrangements affecting the personalities of incumbents, or some other mechanism. Similarly, a longitudinal research could enable us to better determine the causal relationship between generalized self-efficacy and individuals attaining their desired work arrangement.

Processes and Mechanisms

The model should be further expanded to include the processes by which needs-supply fit is achieved. To the extent that the across-work arrangement differences were a result of migration, migration would likely be the result of a multi-step process through which some individuals become dissatisfied with their work arrangement, form preferences for different arrangements and then exert effort to change their status. Further research should study how these preferences are formed and how different needs lead to preferences. For example, a possible process would be that individuals form a preference for the work arrangement which maximizes their satisfaction with respect to each and every need (in other words, individuals would take into account perceived opportunities to satisfy needs for achievement, affiliation, autonomy, dominance plus all other needs not assessed in this study). However, one finding of this research was that opportunities varied more sharply across-work arrangements for some behaviors (such as autonomy) than for others (such as achievement). An alternative process might be that individuals might limit the number of opportunities they focus to those where they

perceive differ most markedly across work arrangements. In this sample, it is possible that individuals perceived greater potential for a misalignment between autonomy-related needs and supplies than achievement-related needs and supplies so might have simplified their evaluation process by disregarding achievement opportunities from their evaluation. Alternatively, individuals might value the satisfaction of some needs as being more important satisfying others and may take only the former into account when determining their preferences.

Future research should also examine the processes by which the levels of need dissatisfaction or other factors precipitate migration. For example, the Unfolding Model of Voluntary Turnover describes a process by which low levels of satisfaction or specific events or shocks lead to individuals to examine their commitment to specific organizations and to consider alternatives to continue organizational membership (Lee & Mitchell, 1994; Lee, Mitchell, Wise, & Fireman, 1996; Lee, Mitchell, Holtom, McDaniel, & Hill, 1999; Mitchell, and Lee, 2001). Individuals may go through similar processes in examining whether they wish to remain in given work arrangement. The processes regarding work-arrangements may be more complex as individuals may need to assess their attitudes towards organizations in specific and organizations in general. Additionally, there may be different processes for individuals working in professions or occupations where there are ample employment opportunities in each work arrangement and those where there are not. For example, CPAs who decide they would prefer to work for and by themselves might be more prepared to migrate to that arrangement as they could do so without changing their profession. In contrast, individuals who work in

occupations with little opportunity to earn a living a one-person business might need to change vocations to achieve the desired work arrangement.

Generalizability

Future research should investigate the extent to which the findings of this study can be generalized to other groups. The within-profession research design provided numerous advantages but, consistent with person-environment fit, the characteristics of any vocation, and the personalities of the individuals working in than vocation, should be expected to differ from the general population. It is possible, for example, that individuals who have qualified as CPAs may have higher needs for achievement and generalized self-efficacy then the general population. Similarly, all professional settings in which CPAs work may provide greater opportunities for achievement than the population and other occupational subgroups.

To provide more support for generalizability of the findings, future research might replicate this study by including a sampling of individuals working in each of the work arrangements across a variety of occupations and vocations through random sampling. However, there appear to be practical obstacles to that approach. As owners/non-employer account for 21% and owners/employer for 9% of the work force (Bond et al., 2003) it would likely require about 4,500 surveys be sent out to have a final sample of a size and composition sufficient to detect even a medium effect size. The sample size would have to be increased even further to detect small effect sizes and to allow for any analysis of moderators, such as occupational type.

The findings with respect to CPAs might be expected to be generalizeability to occupations that were similar (i.e., knowledge workers in professions with a high

educational requirement and certification process such as doctors). An alternative tactic to find support for the generalizability would be to use a within-profession or within-occupation design with participants who were viewed as very dissimilar to the subjects of this study. For example, the sample might consist of individuals working in the different work arrangements in blue collar professions, such as truck drivers. To the extent that results are similar with dissimilar populations, comfort, there should be additional comfort that the results are generalizable.

Within Work Arrangement Relationships

This research sought to understand the nature of owners/non-employer by comparing and contrasting their work characteristics and personalities with employees and owners/employer. The across work arrangement analysis was an appropriate first step to determine if owners/non-employer were sufficiently different from each in terms of work characteristics and personality traits to warrant study as a distinct group or whether they should be aggregated either with traditional employees or the other form of self-employment. As it appears evident that owners/non-employer differ in significant ways from both, research should be expanded to focus on individuals within the work arrangement rather than comparing them to others. Future research should address the relationships among needs, traits and outcomes within the work arrangement. For example, although owners/non-employers appear to have lower needs for dominance than individuals in other work arrangements, future research might determine whether need for dominance was positively or negatively related to different outcomes (such as professional success or job or life satisfaction) for them. It may be that owners/non-employers with high needs for dominance might be dissatisfied because of the limited

opportunities to satisfy them in that work arrangement. Alternatively, as owners/non-employers are responsible for marketing their services and influencing their customers, it might be that those high needs for dominance perform those tasks better than less domineering owners/non-employers and as a result are more professionally successful.

CHAPTER 6. LIMITATIONS

While the study makes several contributions, it inevitably has some limitations. These limitations relate to choices and tradeoffs made with respect to the basic research design as well as decisions made under conditions of resource constraints (including the need to recognize the inverse relationships between survey length and response rates). Several of these limitations were discussed above and will be only listed below.

1. The cross-sectional design limits inference about the causality of relationships.

2. The within professional qualification constituted a threat to external generalizability of the findings to other populations.

3. The within professional qualification design may have lead to range restriction with respect to both opportunities for behaviors and personality characteristics that would have attenuated the differences across work arrangements.

4. All the data collected were self-reports and as such the study is jeopardized by the possibility of common source, common method bias, especially with respect to the perceived opportunities for behaviors and the needs. This danger was somewhat reduced by using the PRF scales which were developed to reduce the potential for social desirability bias. The danger that individuals might tend to present their needs and opportunities as being compatible was also reduced by using measures that differed markedly in form and focus. The items related to opportunities were focused exclusively on specific behaviors in the work domain whereas the items related to personality where related to preferences, attitudes, and behaviors, largely outside of the work domain.

5. Even if the perceptions of individuals within the work arrangement with respect to the characteristics of their arrangement were veridical, individuals would be motivated

to move towards a different work arrangement based on their perceptions of the characteristics of that arrangement. This study did not collect data on how individuals in each arrangement perceived the opportunities for behaviors in the other arrangements.

6. The internal reliabilities of some of the scales, specifically the need for achievement, are lower then recommended, even for exploratory research (Nunnally, 1967).

7. The response rate was relatively high for a survey sampling CPAs but only a minority of the original sampling frame participated in the research. The participants might not be representative of the sampling frame. As the research design was not intended to create a sample that was representative of the composition of the general CPA population with respect to distribution work arrangements or demographic variables such as age or sex, there is less concern that non-respondents might differ with respect to these factors. However, it is possible that non-response might be related to the variables of interest assessing work characteristics or needs. For example, it might be the case that individuals who were high in one need (for example, autonomy) might be less likely to respond to the invitation to participate than those who had lower levels of needs. However, as the purpose of the research was to compare across groups the impact of such a response bias would be less than if the purpose of the research required that the needs profiles of the sample as a group be representative of the larger population of CPAs. If there was a response bias was related to individuals who scored at more extreme values of the variables and if these individuals tended to be distributed unequally among the work arrangements, then the net effect would be to attenuate the magnitude of the across group differences.

8. Several potentially important non-personality factors that might influence an individual's preference for and ability to attain a specific work arrangement were not included in the study. The within profession design with participants sharing a common base of professional knowledge, skills, and abilities and confronting similar employment markets which appeared to provide opportunities for employment as independents, owners, and employees, was intended to control for some non-personality variables. However, there are a number of variables which have been associated with individual's being self-employed which were not analyzed (such as the work arrangement of the individual's parents and spouse).

9. No information on the employment or personal histories of the participants was collected. No information collected on their professed reasons for their preference for a given work arrangement, nor were they asked about the aspects of their work arrangements that they liked or disliked.

10. The relationships between personality factors and work arrangements are likely bounded by the state of economic development. In developed market economies characterized by large employing organizations, self-employment may be an expression of personal preference. In contrast, in less developed countries self-employment for many individuals likely represents a tactic by which they create employment opportunities that do not otherwise exist rather than a tactic by which they attempt to find more psychologically compatible work environments. Additionally, the participants were purposefully selected to be residents of urban and suburban areas where opportunities for both organizational and self-employment were viewed as being ample. It is possible even within developed market economies that the factors contributing to

preference for work arrangements may be different in rural areas with fewer larger organizational employment alternatives.

CHAPTER 7. IMPLICATIONS OF THIS RESEARCH

This study presents a number of theoretical and practical implications. This chapter discusses the implications for theory building and extension and practical applications from the perspectives of individuals and organizations.

Implications for Theory Development and Research.

The findings and conclusions of this study make several important contributions to the theoretical knowledge of the relationships between individuals' personalities and their work environments. As Kristof-Brown et al. (2005) observed, person-environment fit has been prevalent in management literature for almost a century. In theory and empirical research, the specific foci of the work environment with which the person interacted included the vocation, the job, a specific organization, a specific work group or team, or a supervisor. With the exception of Schneider, (who was concerned that excessive homogeneity of organizational members would make organizations less resilient to changes in its environment), the closeness of fit between the person and his or her environment was generally conceived as being positively related to desirable outcomes and negatively related to undesirable outcomes for the individual. Additionally, closeness of fit was positively related to outcomes for that aspect of the environment (such as the organization or work group) with whom the individual was interacting. Indeed, meta-analyses (Kristof, 1996; Kristof-Brown et al., 2005) have found positive relationships between fit and job satisfaction, organizational commitment and negative relationships with intent to quit and actual turnover. These relationships held across all foci of fit. Additionally, the degree of fit with each focus (e.g., job or organization) appears to have a unique influence on a variety of individuals' attitudes. As

expected, the associations were strongest between the focus of fit and attitudes related to that focus (for example, the person-job fit was more strongly associated with job satisfaction than to organizational commitment whereas person-organizational fit was more strongly related to organizational commitment)..

These systematic reviews of the research indicate that exploration of the relationships between individuals and various aspects of their work environments continues to be viewed as theoretically and practically important. However, the reviews also confirm that the research in the field has studied the individual *qua* employee, within an organizational context. Prior research has not recognized the increasing phenomenon of individuals working independently and outside of an organizational context. The systematic reviews were not able to identify studies which addressed the question of fit between the individual and they worked alone or with others.

This research was an initial step in expanding the concept of person-environment fit to work arrangement by applying the need-supply conceptualization of fit. Accordingly, it first tested a necessary but insufficient condition, for person-environment fit to be applicable: were there perceived differences among the work arrangements with respect to opportunities for needs satisfying behaviors. It further tested an additional necessary, but insufficient condition, for person-environment fit to be applicable: that there were differences among the work arrangements with respect to the personality traits of the individuals in each arrangement. It further tested an additional necessary condition: the relationships between groups with respect to the needs of individuals should correspond to the relationships between the groups with respect to opportunities

for behaviors. As discussed above, additional research should address issues related to causality, generalizability, and processes.

My research contributes indirectly to the entrepreneurial research and theory by providing evidence that the self-employed are far from homogenous with respect to their personalities and work environments. The research provides empirical support to Schein's assertions that the self-employed with autonomy anchors (among which he explicitly included independent contractors) differ substantially, in terms of motivating personality traits and behaviors, from the self-employed who create organizations that employ others.

The findings of heterogeneity in the working environments and personality profiles provides additional evidence to support those entrepreneurial researchers who have argued that failure of trait-oriented research to find stronger relationships between entrepreneurial activity and traits is at least partially attributable to the tendency of may researchers to classify all self-employed as "entrepreneurs," without to distinguishing between those who wanted merely wanted to earn a living and those who wanted to grow their businesses (cf. Carland, Hoy, Boulton, & Carland, 1984; Miner, 1990; Stewart, & Roth, 2001; Stewart, Watson, Carland, & Carland, 1998).

Finally, this study provides empirical evidence to support the theoretical assertion that generalized self-efficacy would be associated with entrepreneurial activity as those higher in self-efficacy would both find the challenges of running their own businesses more appealing as well as being more likely to take the necessary steps to turn their preference into actuality. In fact, this study found the difference between individuals who were owners/employer and those who merely aspired to be owners/employer was the

greater self-efficacy of the former. In contrast, there was no apparent difference between employees and owners/non-employer with respect to self-efficacy, which might suggest that apparent challenges of, and obstacles to, setting up a one person company are not more daunting than those of working for larger organizations.

Implications for Organizations

Knowledge about the differences in personalities of traditional employees and owners/non-employer may benefit organizations as they make decisions whether to satisfy their labor needs through internalized or externalized markets. Regardless of whether they use internalized or externalized labor markets, organizations need to be concerned with attracting, selecting, training, and motivating the individuals who do the work. The disciplines of organizational behavior and industrial organizational psychology have developed their theories and applications to assist organizations to do so primarily within the context of the traditional internalized labor market (Korman, 1999; Pfeffer & Baron, 1988). Organizations relying on externalize markets may need to adjust their management practices to recognize the new labor relationships and differences that might exist in the motivations of people who work under them (Connelly & Gallagher, 2004; Gould & Levin, 1998; Korman, 1999; Sullivan, 1999).

The research found there were differences in the personality profiles between employees and owners/non-employer. This would suggest that traditional management practices might have different motivational outcomes depending on whether the organization was dealing with traditional employees or with owners/non-employer. For example, organizational reward systems often offer the promise of managerial responsibility as an inducement for performance for employees. This authority over the

work of others might be permanent and hierarchical or less formal and permanent (such as an assignment as a manager on a project). Given the different personalities, the offer of managerial responsibility might be viewed as positive and motivating by employees. However, the *potential* for such authority might be neutral and non-motivational for the owner/non-employer (while the *imposition* of such responsibility would likely be viewed as negative and demotivating).

In contrast, the owners/non-employer had substantially greater needs for autonomy than employees. Employees perceived markedly less job autonomy in their setting than owners/non-employer. This may implications for selection, job design, and performance management. For example, organizations hiring individuals to work as employees may select people who are willing to accept and/or need moderate-to-high levels of task supervision to perform adequately. In contrast, those hiring owners/non-employer may need to recognize these individuals may generally have greater need for autonomy and attempt to identify individuals with the ability to work with less task supervision. Additionally, with respect to monitoring work organizations may need to monitor owners/non-employer through direct work sampling (output) rather than by monitoring work processes.

In this study, owners/non-employer had similar needs for affiliation but perceived lesser opportunities to satisfy them. If owners/non-employer are similar to employees with respect to their needs for affiliation organizations that hire them might be advised to attempt to provide owners/non-employers with opportunities for affiliation. For example, while some owners/non-employers might enjoy the freedom to work off-site, many might prefer the option of working on-site and with others, even if working in proximity was

not required by the task. Similarly, organizations might want to offer owners/non-employer who routinely work for them the option of participating in same type of social events that it offers to traditional employees (such as company picnics, holiday parties, etc.).

The majority of individuals in this study who were owners/non-employer preferred that arrangement over other alternatives. Very few expressed a preference to be organizationally employed although a significant minority appeared to want to grow their businesses to where they had employees. The implications for organizational practices may be more complex as organizations face externalized labor markets which consist of both voluntary and involuntary owners/non-employer. In a given geographical or industrial labor market (such as that UK publishing industry described by Stanworth and Stanworth, 1995, 1997) there may effectively be no organizational employment opportunities. In that case, organizations may face a labor market consisting of voluntarily and involuntary owners/non-employer might need to further adjust their selection, job design, motivation, and performance monitoring practices.

There are implications for organizations that may try to convert existing traditional employees to a non-standard work arrangement. Some resistance is likely attributable to employee concerns, legitimate or otherwise, that they will suffer financially from the change in the contractual arrangement (as evidenced by litigation). It may be possible that some resistance is attributable to concerns that work characteristics that were satisfying to their psychological needs would change. Organizations trying to convert traditional employees might take measures to preserve elements of their environments. For example, the involuntary owners/non-employer would likely retain

the same desires for managerial responsibilities or other activities which could satisfy needs for dominance that he or she had before. Similarly, the involuntary owners/non-employer would likely be less sensitive to hirers supervising their work than would the voluntary owners/non-employer.

The findings of substantial differences in the personality profiles of individuals in the different work arrangements suggests that management practices based on the personality types prevalent among traditional employees likely need to be revisited as organizations externalize their labor needs. At this stage, the prescriptive suggestions are speculative and would require further research on organizational practices related to selection, motivation, job design, and performance monitoring of owners/non-employer vis-à-vis practices with respect to traditional employees. This research made no attempt to assess the interactions between owners/non-employer and their clients (or, even to determine whether their customers consisted primarily of individuals, small firms, or large organizations who had externalized their accounting functions).

Implications for Individuals

Individuals obtain vocational guidance directing them toward vocations that match their abilities, values, and personality and business schools offer courses in entrepreneurship. Indeed, while the majority of people work as employees but a large percentage of college students aspire to be self-employed (Brenner, Pringle, and Greenhaus, 1991; Kolvereid, 1996; Scott & Twomey, 1988) while Bond et al. (2003) reported 26% of employees planned to work for themselves at sometime in the future. This research suggests that while either form of self-employment may provide the individual with similarly large degrees of autonomy there are significant and substantial

differences with respect to other characteristics. Individuals with a desire for self-employment might be counseled to seek the form that is more compatible with their personality.

Individuals do not always have the option of selecting a work arrangement with work characteristics that are aligned with all aspects of their personality. Guided by knowledge of the likely supply of opportunities to satisfy needs within their work arrangements, individuals may be able to devise compensating tactics. For example, an owners/non-employer who has a high need for dominance may seek assignments where he or she may act a project leader. Or, he or she may become active in a professional association and seek some hierarchical position.

APPENDIX A: EMAIL PRE-ADVICE

Date: Fri, 07 Jan 2005 09:55:03 -0500
To: **[CPA Email Address]**
From: "David Prottas" <david_prottas@baruch.cuny.edu>
Subject: Baruch College Study: "The CPA Varieties of Work Project"

Dear [CPA Title and Surname]:

Have you wondered whether CPAs who work in different arrangements (e.g., as sole practitioners, as partners in public accountancy firms, or as employees of organizations) have different personalities? Or, have job characteristics that differ? Or, feel differently about their jobs, lives, and profession?

I am conducting a major academic research project to try to answer such questions. I have identified a number of CPAs, such as yourself, who work in different arrangements and will be mailing them survey packets consisting of a cover letter, a brief survey, and a stamped self-addressed envelope.

Your survey packet from Baruch College will arrive in the next couple of weeks. I realize this is a very busy time for many in the profession but ask you to please take the time to open it and anonymously complete the enclosed survey. The information that you and your colleagues provide will serve as a basis for analysis that should be of interest and use to both academics and practitioners in the accounting profession.

Thank you in advance for your time, attention, and help. Please feel free to contact me with any questions or comments on the project.

David J. Prottas
Department of Management
Baruch College
One Bernard Baruch Way
New York, NY 10010
Tel: (646) 312-3666
Fax: (646) 312-3621

APPENDIX B: SURVEY COVER LETTER

{Baruch Logo]

CPA Varieties of Work Project

January 4, 2005

[CPA Name], CPA
Address

Dear [CPA Title and Surname]:

Have you wondered whether CPAs who work in different arrangements (e.g., as sole practitioners, as partners in public accountancy firms, or as employees in private organizations) have different personalities? Or, have job characteristics that differ? Or, feel differently about their jobs, lives, and profession?

I am conducting a major academic study to attempt to answer such questions. I am asking you, and a number of other CPAs who work in different arrangements, to help me by spending about 15 minutes to complete the enclosed survey and return it in the self-addressed stamped envelope. Your participation is, of course, voluntary and anonymous and responses will be treated as confidential. You can also access the survey at http://faculty.baruch.cuny.edu/dprottas/cpa.htm and complete it on your computer (and either email it back or print and return by regular mail).

The results of the study will serve as basis for papers and articles that will be of value and interest to practioners as well as academics. I believe it will have implications for individuals with respect to career counseling and to organizations with respect to employee recruitment, selection, and retention. While the focus of my study is on CPAs, the findings should also be relevant to knowledge-oriented professionals working in other industries. If you would like to be advised when such papers are published, please enclose a business card with the survey (which I will immediately separate from the survey to preserve your anonymity).

Please do not hesitate to contact me any questions or comments at the above number or email me at david_prottas@baruch.cuny.edu. I thank you in advance for your time, attention, and help.

Very truly yours,

David J. Prottas
Principal Investigator

APPENDIX C: SURVEY

Baruch COLLEGE
The City University of New York

SCHOOL OF Zicklin BUSINESS

The CPA Varieties of Work Project

This study is intended to help us understand how people's careers unfold, and how their individual differences, including personality traits, affect their career choices and attitudes.

We would greatly appreciate your helping us by completing this survey and returning it to us. Your participation is voluntary and your responses anonymous.

You will note many items have similar wordings - this is necessary to accurately measure preferences and attitudes and we ask your patience.

Should you have any questions or comments on this survey or the study, feel free to contact David Prottas at david_prottas@baruch.cuny.edu or (646) 312 3666.

Please place an "x" next to the response you wish to select (or, underline it if you prefer).

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1. In what year did you become a CPA? ____

2. Which of the following best describes your current work arrangement? *(please check one):*
   a. Sole practitioner (with no full-time employees other than yourself).
   b. Sole practitioner (with one or more non-CPA employees).
   c. Partner (with at least one-third partnership interest) in a public accountancy firm.
   d. Partner (with less than one-third partnership interest) in a public accountancy firm.
   e. Employee of a public accountancy firm (non-partner). *(position/title:* _____
   f. Employee of other than a public accountancy firm. (*industry:* _____
      (position/title: _____
   g. Other (*specify:* _____

3. Other than yourself, about how many people work full-time in your current firm or organization? ___

4. For about how many years have you worked in that arrangement? ____

5. Using the same categories as #2, given a choice, under which arrangement would you most prefer to work? *a b c d e f g:*_____

For information about your rights as a research participant you may contact Keisha Petersen, Administrator to the Baruch College Institutional Research Board for Human Research Protections at (646) 312 3780.

The following items describe aspects of jobs. Please think of your current job, read each item and indicate how accurately or inaccurately each describes your job by writing a number from 1 to 7 in the space to the right.

1	*2*	*3*	*4*	*5*	*6*	*7*
Very Inaccurate	*Inaccurate*	*Somewhat Inaccurate*	*Uncertain*	*Somewhat Accurate*	*Accurate*	*Very Accurate*

6. On this job I can work towards clear challenging goals. ____

7. To do my job properly, I have to spend quite a bit of time influencing others. ____

8. On this job I spend a great deal of time with other people. ____

10. I have a lot to say over what happens on my job. ____

11. My job requires that I spend a great deal of time organizing and directing the activities of others. ____

12. This job gives most people a strong sense of worthwhile accomplishment. ____

13. My job is a "people" job. ____

14. I have enough authority to do my best. ____

15. On my job I work hard to attain difficult goals. ____

16. On this job I spend a great deal of time getting other people to do things. ____

17. This is a challenging job. ____

18. On this job I am able to pay attention to, and take account of, the feelings of others. ____

19. My job allows me to make a lot of decisions on my own. ____

21. I spend most of my time on this job supervising the work of others. ____

22. On this job I can work towards excellence. ____

23. On my job I have opportunities to form friendships with the people I work with. ____

24. I have enough freedom as to how I do my work. ____

The following items are intended to assess your attitudes towards your profession, job, and life in general. Please read each statement and express the extent to which you agree or disagree.

SA =Strongly Agree ***A =Agree*** ***N =Neither Agree/Disagree*** ***D =Disagree*** ***SD =Strong Disagree***

25. If I could get another job other than in accounting, and get paid the same amount of money, I would probably take it.	*SA*	*A*	*N*	*D*	*SD*
26. I definitely want a career for myself in accounting.	*SA*	*A*	*N*	*D*	*SD*
27. If I could do it all over again, I would choose to work in the accounting profession.	*SA*	*A*	*N*	*D*	*SD*

SA =Strongly Agree	A =Agree	N =Neither Agree/Disagree	D =Disagree	SD =Strongly Disagree

28. I would recommend a career in accounting to others.	*A*	*A*	*N*	*D*	*SD*
29. I am disappointed that I ever entered the accounting profession.	*SA*	*A*	*N*	*D*	*SD*
30. Generally speaking, I am very satisfied with my job.	*SA*	*A*	*N*	*D*	*SD*
31. I frequently think of leaving my job.	*SA*	*A*	*N*	*D*	*SD*
32. I am generally satisfied with the kind of work I do on my job.	*SA*	*A*	*N*	*D*	*SD*
33. In most ways, my life is close to my ideal.	*SA*	*A*	*N*	*D*	*SD*
34. The conditions of my life are excellent.	*SA*	*A*	*N*	*D*	*SD*
35. I am satisfied with my life.	*SA*	*A*	*N*	*D*	*SD*
36. So far I have gotten the important things I want in life.	*SA*	*A*	*N*	*D*	*SD*
37. If I could live my life over, I would change almost nothing.	*SA*	*A*	*N*	*D*	*SD*

The following items have been developed to assess general personality traits, preferences, and behaviors. Please read each statement and indicate whether, with respect to yourself, you think it is ***True*** (or mostly true) or ***False*** (or mostly false) by checking a box for either "T" or "F."

38.	I don't really have fun at large parties.	*T*	*F*
39.	I enjoy difficult work.	*T*	*F*
40.	I find that I can think better when I have the advice of others.	*T*	*F*
41.	I feel confident when directing the activities of others.	*T*	*F*
42.	I choose hobbies that I can share with other people.	*T*	*F*
43.	I seldom set standards which are difficult for me to reach.	*T*	*F*
44.	I delight in feeling unattached.	*T*	*F*
45.	I would make a poor military leader.	*T*	*F*
46.	I seldom put out extra effort to make friends.	*T*	*F*
47.	People should be more involved in their work.	*T*	*F*
48.	Family obligations make me feel important.	*T*	*F*
49.	I would like to be a judge.	*T*	*F*

50. I go out of my way to meet people. *T* *F*

51. I have rarely done extra studying in connection with my work. *T* *F*

52. People who try to regulate my behavior are a bother. *T* *F*

53. I avoid positions of power over people. *T* *F*

54. I am quite independent of the people I know. *T* *F*

55. I will not be satisfied until I am the best in my field of work. *T* *F*

56. I would feel lost and lonely roaming around the world alone. *T* *F*

57. I try to control others rather than permit them to control me. *T* *F*

58. People consider me to be quite friendly. *T* *F*

59. I try to work just hard enough to get by. *T* *F*

60. I could live alone and enjoy it. *T* *F*

61. I don't like to have the responsibility for directing the work of others. *T* *F*

62. I would not be very good at a job which required me to meet people all day long. *T* *F*

63. I would work as hard whether or not I had to earn a living. *T* *F*

64. I respect rules because they guide me. *T* *F*

65. I would like to play a part in making laws. *T* *F*

66. I truly enjoy myself at social functions. *T* *F*

67. I do not let my work get in the way of what I really want to do. *T* *F*

68. I would not mind living in a very lonely place. *T* *F*

69. I have little interest in leading others. *T* *F*

70. When I see someone I know from a distance, I don't go out of my way to say hello. *T* *F*

71. My goal is to do at least a little bit more than anyone else has done before. *T* *F*

72. Adventures where I am on my own are a little frightening to me. *T* *F*

73. In an argument, I can usually win others over to my side. *T* *F*

74. I spend a lot of time visiting friends. *T* *F*

75. In my work I seldom do more then is necessary. *T* *F*

76. I would like to be alone and my own boss. *T* *F*

77. I feel uneasy when I have to tell people what to do. *T* *F*

78. Sometimes I have to make a real effort to be sociable. *T* *F*

79. I often set goals that are difficult to reach. *T* *F*

80. I like to do whatever is proper. *T* *F*

81. The ability to be a leader is very important to me. *T* *F*

82. My friendships are many. *T* *F*

83. People seldom think of me as a hard worker. *T* *F*

84. I would like to have a job in which I didn't have to answer to anyone. *T* *F*

85. Most community leaders do a better job than I could possibly do. *T* *F*

86. I don't spend much of my time talking with people every day. *T* *F*

87. As a child I worked a long time for some of the things I earned. *T* *F*

88. I usually try to share my problems with someone who can help me. *T* *F*

89. I am quite effective in getting others to agree with me. *T* *F*

90. I trust my friends completely. *T* *F*

91. It doesn't really matter to me whether or not I become one of the best in my field. *T* *F*

92. I am quite independent of the opinion of others. *T* *F*

93. I am not very insistent in an argument. *T* *F*

94. Often I would rather be alone than with a group of friends. *T* *F*

95. I don't mind working while other people are having fun. *T* *F*

96. I don't want to be away from my family too much. *T* *F*

97. I would like to be an executive with power over others. *T* *F*

98. I try to be in the company of friends as much as possible. *T* *F*

99. I am not really very certain what I want to do or how to go about doing it. *T* *F*

100. My greatest desire is to be independent and free. *T* *F*

101. I would not want to have a job enforcing the law. *T* *F*

The following items relate to how you see yourself interacting with the world.
Please read each item and indicate the extent to which it accurately or inaccurately describes you.

1 =Very Inaccurate 2=Inaccurate 3=Somewhat Inaccurate 4=Uncertain 5=Somewhat Accurate 6=Accurate 7=Very Inaccurate

102.	I am strong enough to overcome life's struggles.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
103.	At root, I am a weak person.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
104.	I can handle the situations that life brings.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
105.	I usually feel that I am an unsuccessful person.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
106.	I often feel that there is nothing that I can do well.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
107	I feel competent to deal effectively with the real world.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
108.	I often feel like a failure.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
109.	I usually feel I can handle the typical problems that come up in life.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

The following questions are intended to help us better understand your personal and family background.

110. How old are you? ____ *years*

111. What is your sex? *Male* *Female*

112. About how many hours do you work at your job in a typical week? ____

113. Are you married or living with a partner? *No* *Yes*

114. Do you have any children who live with you more than half the time? *No* *Yes*

115. If you have children living with you, how old are they? _____

116. About how much did you earn through your work in 2003? *$ ____ , 000.*

117. Including the above, about how much was your total household income in 2003? *$ ____ ,000.*

Please return this survey by mail to David Prottas, Box 9/240, Baruch College, One Bernard Baruch Way, New York, NY 10010-5585, by fax to (646) 312 3621, or by email to david_prottas@baruch.cuny.edu.

If you would like to be notified when papers or articles based on this research are published, please include a business card with your email address. We will immediately separate the card from the survey to preserve the anonymity of your response.

Thank you very much for your time and help.

APPENDIX D: FIRST EMAIL FOLLOW-UP

Date: Fri, 16 Jan 2005 09:55:03 -0500
To: **[CPA Email Address]**
From: "David Prottas" <david_prottas@baruch.cuny.edu>
Subject: Baruch College Study: "The CPA Varieties of Work Project"

Dear [CPA Title and Surname]:

Earlier this month I mailed to you, and a select number of your fellow CPAs, a packet that included a brief survey to be completed and mailed back to me. If you completed and returned it anonymously, I thank you. If you have not, I once more ask your help so your response can be included in my study. I realize this is a very busy time for many CPAs but it should take only about 15 minutes to complete the survey.

If you prefer, you can access the survey by clicking on http://faculty.baruch.cuny.edu/dprottas/cpa.htm You can then complete it electronically on your computer (or print and fill it in manually) and return it via email, fax, or regular mail.

The survey is part of an academic study intended to improve our understanding of the relationships among how people work (as owners or partners of their own firms, by themselves as sole practioners, or as employees), their personality traits, and their attitudes towards their lives, jobs, and profession. The information that you provide will be used as a basis for analysis that should be useful to both academics and practioners in the accounting profession (as well as in other industries). I expect it will have implications for individuals with respect to career counseling and to organizations with respect employee recruitment, selection, and retention.

Please do not hesitate to contact me if you have any questions or comments.

Thanks again for your help.

David J. Prottas
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Baruch COLLEGE
The City University of New York

SCHOOL OF Zicklin BUSINESS

January 6, 2005

Thank you for participating in the
The CPA Varieties of Work Project

I appreciate your taking the time to help with my study of relationships between the arrangements in which CPAs work and their personalities and attitudes towards their job, life, and profession. It should take you about fifteen minutes to complete the survey.

By clicking on the links below, you can open two electronic versions of the survey that I mailed to you: Microsoft® Word .DOC and Adobe® Acrobat ..PDF files. You can fill out the Word document on your computer and then save the changed file and email it back as an attachment.

The .PDF file allows you to "check a box" by moving your cursor over the box you want to check, and then left-clicking your mouse on it (to "uncheck" a box, you just left-click again). You "fill in a blank" the same way: However, you have to have either Adobe® Acrobat 6.0 Standard or 6.0 Professional to be able to save the changed version. If you do not have those programs, you would need to print out the completed survey and mail or fax it back.

The results of the study will be published in academic and professional journals, which in turn, we hope, will help both individual CPAs and organizations that use their expertise. If you would like to be informed when such papers are available, please let me know (and make sure you include your email address). We will immediately separate any communication that includes your email address from your survey to protect your anonymity.

Thank you very much for your time and help.

Link: Microsoft Word Document (.DOC) *Link: Adobe Acrobat Document (.PDF)*

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APPENDIX F: SECOND EMAIL FOLLOW-UP

Date: Tue, 03 May 2005 13:11:29 -0400
To: **[CPA Email Address]**
From: "David Prottas" <david_prottas@baruch.cuny.edu>
Subject: Baruch College Study: "The CPA Varieties of Work Project"

Dear [CPA Title and Surname]:

I have received over 300 surveys from CPAs and am very grateful to those people for their help. I am about to intensively analyze the data (my preliminary analysis was very encouraging with respect to findings).

Some CPAs told me that my timing was bad and they could not take time to fill out the survey until after tax season over. As April 15th is behind us and as I would like to include information from as many individuals as possible, I once more invite your participation.

You can download the survey at http://faculty.baruch.cuny.edu/dprottas/cpa.htm (or, if you prefer, I would be pleased to mail you a new copy with a stamped return envelope).

If you already participated, I once again thank you.

Best regards,

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