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I am submitting herewith a dissertation written by Mark Fletcher Pierce entitled "Tolerance for Role Ambiguity among Executive Teams of Voluntary Organizations: A Nomological Network and Some Prescriptive Interventions." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Eric Sundstrom, Major Professor

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Tolerance for Role Ambiguity among Executive Teams of Voluntary Organizations:

A Nomological Network and Some Prescriptive Interventions

A Dissertation Presented for the Doctor of Philosophy Degree

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Mark Fletcher Pierce

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DEDICATION

This dissertation is dedicated to my wife, Cathy Spainhour Pierce, who has been the richest blessing of my life. She patiently supported and encouraged a "nontraditional student" husband who followed a life-long dream. My two grown sons, Scott and Ben Pierce also watched with amusement as Dad did his homework. To them I also owe a debt of thanks. Without their encouragement, this would not have been possible.

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Above all, I am grateful to God. As an ancient singer said, "Come and see what God has done, how awesome his works in man's behalf." Psalm 66:5.

Abstract

Research on the ability to tolerate role ambiguity has not kept pace with the studies of role ambiguity in general. There have been very few studies that focused on the ability of people to adapt to jobs that are naturally ambiguous. This field study examined a population of executive teams from voluntary organizations where role ambiguity is endemic. The study included 202 executive directors, program directors, and members of boards of directors from intact voluntary and nonprofit organizations. Perceived role ambiguity at work was measured with a new scale designed for this project. The study also tested a second new scale designed to measure tolerance for role ambiguity at work. The scores from these two scales were regressed on a series of situational and personality variables. The five-factor personality model, work formalization, social support, and several demographic variables were tested as predictors of perceived ambiguity at work and the ability of workers to tolerate ambiguity at work. The researchers expected to find that situational variables such as work formalization and social support explained most of the variance in perception and tolerance scores. The analyses showed that perceived ambiguity at work is inversely related to social support, conscientiousness, extraversion and having a written job description. Tolerance for role ambiguity is predicted by low neuroticism, openness, and social support. The results were used to create a diagram (nomological model) of the network of constructs around tolerance for ambiguity. The study also included some interventions that could be made by organizations to manage the phenomenon.

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CHAPTER 1

Introduction

The Purpose of the Study

This field study will identify and measure tolerance for role ambiguity at work and the related constructs that surround it in functioning voluntary organizations. The project fits squarely in the school of correlational psychology described by Lee Cronbach (1957) who said, "The correlator's mission is to observe and organize the data from Nature's experiments." This study is a first step toward creating a conceptual framework or "nomological network." The purposes of this nomological network are that organizations, specifically nonprofit organizations, will have a conceptual framework and some meaningful data on which they may make administrative decisions. Two latent purposes of this study are to encourage further research on the topic of role ambiguity, and to focus attention on a very important population of non-profit leader/managers who are only rarely studied empirically.

Paid executives and unpaid executive team members of voluntary (non-profit) organizations face challenges that are unique in contemporary work life. These leaders are required to adapt to some very specific and complex organizational conditions that are only rarely encountered in the for-profit world. Leaders in for-profit organizations have a system of extrinsic rewards that bind the organization together. For example, for-profit organizations have unifying supra-ordinate goals (market share, profitability, a paycheck, pension, etc.) that unite a diverse work force. Leaders in nonprofit organizations must satisfy diverse higher order needs such as affiliation, religious expression, recreation, or civic service. The lack of supra-ordinate goals has profound

effects on the nonprofit organizations and those who lead them. New members rarely take time to read foundational documents, especially at the lower levels. Even when they do, their reasons for participation may not be congruent with the charter. Motives for participation are often contradictory within and between individual members. The resulting complexity puts enormous pressure on the leaders of the organizations.

In addition, persons in for-profit organizations are usually chosen for membership based on knowledge, skill, or ability (KSAs). Such organizations use careful selection procedures. In nonprofit organizations, this is sometimes true, but the selection procedures are often much less rigorous. The entrance requirement may be nothing more complex than an expression of interest in the work of the group. This also has complex effects upon the leaders of the organizations.

There should be no surprise that role ambiguity among leaders is one factor in this complexity. Role ambiguity, according to one definition, is "a deficiency of knowledge about what is expected of a focal person in a role" (Beehr, 1995). It has been recognized in the few empirical studies on voluntary organizations that there is frequently role ambiguity and role conflict among leaders (Evers & Tomic, 2003, Hall, 1997, Ellison & Mattila, 1983). This ambiguity is associated with high turnover rates among both unpaid leaders such as board members, and also paid executive staff such as program directors, ministers, rabbis, executive directors, to name a few (Hall, 1997). Chronic ambiguity has also been correlated with serious health problems (Beehr, 1995). Role ambiguity is a factor the tendency of leaders to burnout (Maslach, 1993). Role ambiguity has also been negatively correlated with job satisfaction and career satisfaction (Olk and Friedlander, 1992).

Research Questions

The question of interest to this researcher is how leaders differ in their ability to tolerate role stress resulting from role ambiguity in these organizations. It is obvious that some voluntary organization executives survive or even thrive in the complex environment while others leave within a few months or years. How is it that some leaders tolerate the conditions while others do not? Asked in another way, are there personality and/or situational factors that contribute to tolerance of role ambiguity? It is the intention of this researcher to explore these issues so that organizations can: (1) remove unnecessary role ambiguity through appropriate interventions, (such as job redesign, job formalization, training, and feedback), and (2) to provide valid predictors of job satisfaction, turnover, occupational stress, and burnout to be used for selection of employees.

The executive teams of voluntary organizations are the primary research interest of this writer. These leaders are overlooked in the literature of industrial/organizational psychology because most research funding originates in the for-profit world. In spite of the fact that voluntary organizations number in the hundreds of thousands, and voluntary organizations generate 12-14% of the GDP, the leaders of these organizations receive very little attention in empirical studies (Letts, Ryan and Grossman, 1999). This dissertation will attempt to correct the oversight. These individuals deserve some attention from the research community because of the important work they do and because of their huge numbers in the work force.

Relevant Literature for the Study

This dissertation will integrate literature from personality psychology, industrial/organizational psychology, and occupational/health psychology. The literature on role theory, especially role ambiguity and role conflict will be examined in detail. The resurgent literature on personality and leadership will be briefly examined, along with the literature on tolerance of ambiguity.

Population of Interest

It is proper at this point to describe the population of interest more fully. Voluntary organizations are those groups in which people participate for expressive or intrinsic reasons rather than instrumental reasons (Katz & Kahn, 1978). In this paper, "voluntary" organizations and "non-profit" organizations are synonymous because they are generally governed in the same ways. Though there may be some legitimate debate as to whether or not they are the same, nonprofit and voluntary organizations usually have boards of directors and executive staff. They also share the characteristic of working for higher order needs rather than financial or otherwise quantifiable outcomes. These are the groups where people seek artistic expression, political expression, existential fulfillment, religious affiliation, social support, recreation, safety, power and other such needs. These needs are not always met in the organizations where people work for pay. It is fair to say that people gain salary, pensions, and other tangible benefits in one organization and more intrinsic rewards in others. It is probably very rare for a person to have both intrinsic and extrinsic needs met at work. The concept of "partial inclusion" means that the workplace does not seek and does not welcome every aspect of an individuals' life into the organization. Only those "knowledge-skills-abilities" that relate directly to the

job are included. The fact that one is a superb golfer or angler usually has nothing to do with the job of accountancy, manufacturing, or programming. Likewise, religious or political proclivities have only a little to do with the performance of work in most fields. Because these important parts of human life are often excluded from the work environment people seek membership in other organizations where their interests can be appropriately expressed. The number of organizations focusing upon these expressive needs is enormous. They are a major factor in modern life deserving more attention than they have received.

Executive Teams

This dissertation focused upon the leadership teams of these organizations. The boards of directors and executive staff members who are responsible for making and implementing strategic decisions were surveyed to explore the phenomena of role ambiguity and tolerance for role ambiguity. These leaders have no direct supervisor but rather are "supervised" by roles, codes, expectations, and standards from a wide variety of sources. They decide the strategic direction of the organization, and implement the programs related to these decisions. In this study they are classified as "executive teams." This restriction will confine the research to those who are most likely to be affected by role ambiguity. Support staff members (secretaries, facilities managers, etc.) and mid-level professionals (caseworkers, accountants, local group leaders, etc.) are more likely to have written job descriptions and a direct supervisor, and are less likely to be in a position where decisions are made for the entire organization. These mid-level and front-line workers can certainly experience role ambiguity, but the results are not as serious for the person or the organization.

Because there are so many kinds of voluntary organizations and because each uses its' own nomenclature for leadership job descriptions, it is a daunting task to identify the executive team. The same titles may have very different meanings across organizations. For example, it is notoriously difficult to define "director" and "coordinator" when looking at more than one independent organization. For this dissertation, the executive team included persons at the board of director level, the chief executive, and those who report directly to the board. This means that there is no higher-level body to which these leaders report, except of course to law enforcement and the courts. Religious groups are a serious problem for leadership taxonomy because of the vast number of faith systems and organizational structures. For this study, only those religious leaders who served on denominational executive boards, or independent organizations within a denomination, or religious groups that are locally autonomous were included in the study. The common themes for all of these groups are that they (1) determine the strategic direction for the organization and (2) that there is no higher authority (other than legal and divine) to which they must report or explain their decisions. This also makes the study of role ambiguity all the more important because there is no role from an authoritative superior. All sent roles come from the charter, the lower ranking members, cohorts in the leadership team, and the public.

Role Theory, Role Ambiguity, and Role Conflict in Organizations

Role Theory

Social scientists have always searched for effective ways to frame and communicate ideas, concepts, and constructs. Taxonomy is a difficult and unending part of scientific description of complex behaviors and attitudes. Industrial psychologists have

used a number of extended metaphors from sports, religion, mechanics, biology and many other domains to describe complex human behaviors in organizations. Describing organizational behavior in terms of "roles" (the nomenclature of the theater), has been shown to be very useful. This literary device has been used for centuries. The modern manifestation of "role theory" as a descriptor of organizational behavior was given fullest expression in a seminal book by Robert L. Kahn and his associates. In their classic book, *Organizational Stress: Studies in Role Conflict and Ambiguity,* the authors outlined ae theoretical framework for understanding the constancy of behaviors in organizations when the personnel of the organizations change (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964). People in organizations seem to be following a script of behaviors that remains constant over time even though individuals come and go within the organization. This "psychological linkage" of people in a contrived organization causes the behaviors to remain constant in the face of steady turnover (Kahn, et al. 1964).

Role sender's expectation for performance take the form of "role pressures" when they are perceived by the focal person. There are objective and subjective components to this role pressure. The objective pressure is environmental and measurable through organizational analysis. For example, formalization can be analyzed by written job contracts and descriptions. Subjective pressure is an internal state in the focal person. The subjective component is identifiable through interviews, self-reports and other appropriate research methods (Kahn et al. 1964).

Accordingly, role behavior is the recurring action of an individual (focal person), appropriately interrelated with the activities of others in the organization so as to yield a predictable outcome. Each member "plays a part." (Kahn, et al. 1964). This

conceptualization of behavior helped researchers understand organizations as systems. Various roles can be combined to create an interdependent set of behaviors that produce a predictable outcome. Without these roles, organizations would cease to exist.

It is easy to see why this conceptualization became dominant in the literature of organizational research. Common metaphors for organizational behavior up to the time of Kahn included organization as organism and organization as machine. The biological conceptualization was appealing to some degree, but it had to be pushed too far to describe constancy amid change and the interlocking nature of behaviors in organizations. The machine metaphor also had some appeal, but it also lacked the ability to describe interaction with the environment. Thinking of organizations as machines is "closed system" thinking that does not adequately place the organization in external social context. The description of organizational behavior in terms of roles has been so appealing that it has almost ceased to be a metaphor. Role theory has appeared in several branches of organizational science literature, including organizational change and development, organizational effectiveness, leadership and structure, employee health, and many others.

The conceptualization of organizations as systems of interdependent roles was restated in an equally influential book, *The Social Psychology of Organizations* (Katz & Kahn, 1978). The vocabulary of role theory included conceptualizations of how roles are "sent" and "received" by "focal persons" (Katz & Kahn, 1978). It became possible with systems theory to describe "role episodes" as a sequence of events in which a role sender directs role expectations toward a focal person, who receives (and possibly modifies) these expectations to produce appropriate role behavior (Katz & Kahn, 1978). The

flexibility and utility of this way of describing organizations is enormous. It is hard to overstate the influence of this model. Most organizational researchers have used the theoretical model illustrated in Figure 1 on the next page to explain a "role episode."

It should be noted that Kahn did not create this metaphor, but gave it the best and most widely accepted expression in the literature of organizational science. Several theorists before 1964 were using very similar terminology. Roles have been discussed in the literature of clinical psychology for decades (Frenkel-Brunswik, 1949, 1951 Budner, 1962). Even in industrial/organizational psychology the study of organizational roles predates Kahn by a number or years (Merton, 1949, Parsons, 1951, Gross, Mason & McEachern, (1958). However, the work of Katz & Kahn standardized the taxonomy and spurred a new emphasis on organizations as systems that still dominates organizational studies.

Organizational Problems Associated with Roles

With the Katz & Kahn role theory model as a theoretical framework for understanding complex human behaviors in organizations it is easy to explain common organizational problems. One obvious organizational problem that is well described by this model is that sent roles are often vexing to the focal person. The sent role may include inaccurate, inadequate, excessive, or contradictory information. This means that the focal person is not receiving a clear message from the role senders, or is overloaded with expectations that cannot be met. The focal person may therefore experience role stress because he/she must determine what behaviors are appropriate in response to the sent roles.

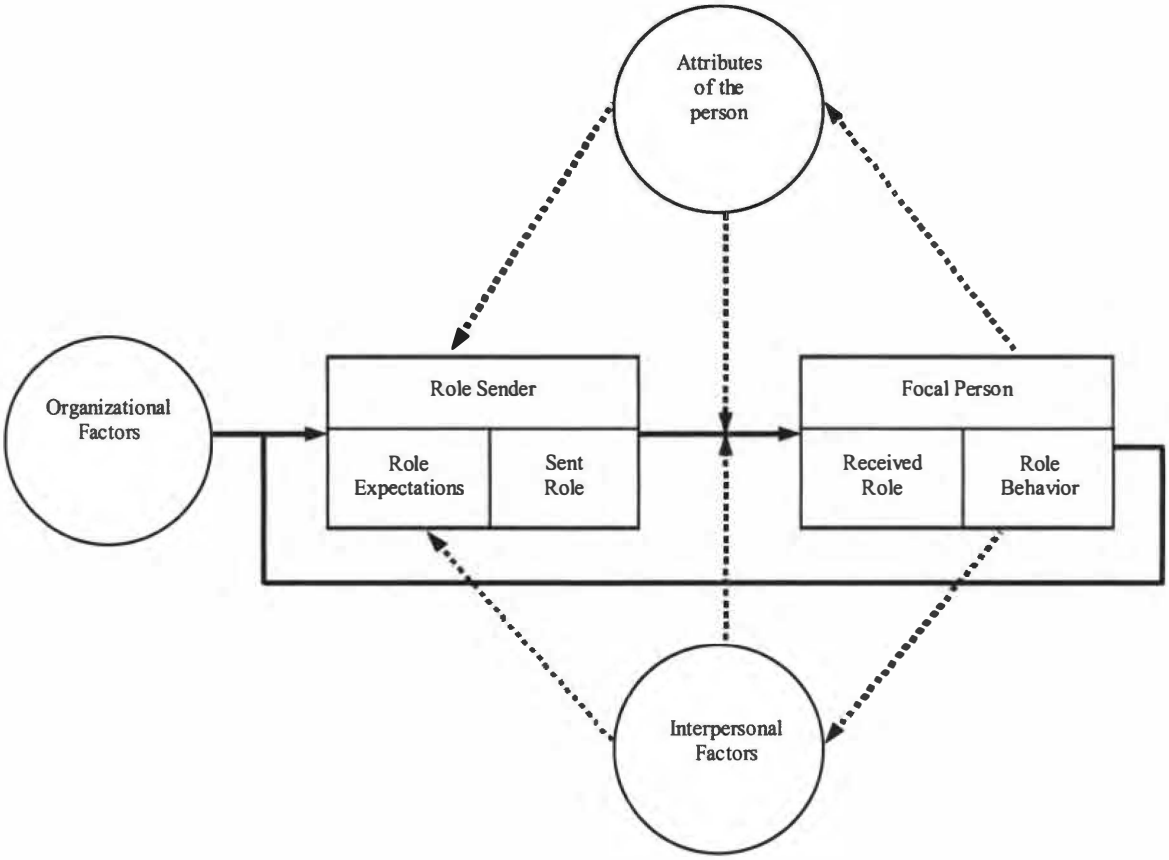

Figure 1. A Role Episode
Adapted from Katz, R.L., Kahn, D. (1978). *Social Psychology of* Organizations, 2nd Ed. John Wiley & Sons, New York. Dotted lines indicate moderating relationships. Solid lines indicate the direction of the sent role toward the focal person.

Role Ambiguity

Role ambiguity and role conflict are so often discussed together that care must be taken to distinguish one from the other. Role ambiguity is generally conceptualized to mean either a deficiency of knowledge or as confusion on the part of the person in the focal role (Beehr, 1995). Researchers have presented role ambiguity in both these ways. Pearce (1981) noted that role ambiguity has been considered both as information deficiency and as uncertainty that results in the focal person not being able to predict the correct role behavior. Kahn, et al. (1978) identified two major types of role ambiguity. The first of these, task ambiguity, results from "lack of information concerning the proper definition of the job, its goals and the permissible means for implementing them." The authors stated that there is ambiguity regarding what is required, regarding how responsibilities are met, and regarding role senders, (Kahn et al. 1964). Task ambiguity is a situation in which the focal persons experiences socio-emotional stress due to ambiguity (Katz, et al. 1964).

Other researchers make "uncertainty" a moderator variable from the organization (Beehr & Baghat, 1985). Confusion (uncertainty) about the role by the focal person has been conceptualized as a "micro" approach to role ambiguity (Galbraith, 1977). The broader level of analysis of uncertainty among all the members of the role set makes it a "macro" variable (Beehr & Newman, 1978). This is really a level of analysis problem because both conceptualizations are valid and helpful to those who wish to study role ambiguity. As long as the population of interest is clearly defined, and appropriate operational definitions are given, it is proper to study both levels. It is difficult to separate the two because in classic role theory roles interlock. It is not really possible to study at a

"micro" level without considering the "macro" influence of all other members of the role set. In this paper role ambiguity will be conceptualized as information deficiency in the sent role (Beehr, 1995). This is consistent with the definition of role ambiguity as "lack of the necessary information available to a given organizational position" (Kahn, et al. 1964).

Measurements of this construct are usually undertaken with self-report inventories of the focal persons and from organizational level analysis (such as formalization). It must be admitted that what is being studied is more accurately "perceived ambiguity." All of the typical and well documented problems of self-report inventories come to bear upon this study, but the perceptions of the focal persons are tremendously important in their job performance, job satisfaction and its' correlates, and the health risks among the population of the study. Perceptions are too powerful to ignore, even though measurements are subject to psychometric criticism. When a focal person experiences this deficiency of information, they are likely to become dissatisfied with the role and to perform poorly. Various coping behaviors, some of which are ineffective, will be attempted to bring resolution to the situation (Kahn, et al. 1964).

Role Conflict

Role conflict, another common organizational problem, is usually defined as two or more sets of expectations on the focal person such that compliance with one would make the other difficult or impossible (Kahn, et al. 1964). Role conflict almost always accompanies role ambiguity, but it must be considered that the two can occur independently. The focal person can receive two very specific and unambiguous yet contradictory roles from the role senders. The focal person can also receive two or more

ambiguous sent roles that are not mutually exclusive. The same psychometric concerns that were raised about role ambiguity must be raised with role conflict. The appropriate level of analysis must be identified. Is role conflict an individual or organizational variable? Some earlier researcher suggested that role conflict arose from having too many persons supervise an employee (Rizzo, House, Lirtzman, 1970). This approach makes role conflict a problem of organizational structure (a macro approach). Others have suggested that role conflict is a personal variable (a micro approach) that would be more appropriately addressed by clinical psychologists (Beehr, 1985). Once again, both levels of analysis are beneficial to those who wish to understand organizations. Care must be taken to prepare the appropriate research design, operational definitions and to identify the population of interest. It is really not necessary to reject one of these two levels of analysis as long as the study is carefully framed and described. This dissertation did not attempt to separate the person and the organization. Albert Bandura was probably correct in assuming that the person and environment are "reciprocally determined" (Bandura, 1986). This is congruent with systems thinking, specifically that organizations have interlocking roles that make it difficult to separate member and group. Though role conflict is a fascinating topic, it is not the purpose of this paper to study it in detail. For this dissertation, role conflict was mentioned only in reference to, and as a correlate of role ambiguity.

Post-Kahn Research on Role Ambiguity and Role Conflict

The Rizzo, House, and Lirtzman Scale

Another very important line of research on role ambiguity set the stage for hundreds of other studies, usually done in very specific job types. Rizzo, House, and

Lirtzman, (1970) published a paper entitled *Role Conflict and Ambiguity in Complex Organizations*. This study described a scale for empirically measuring role conflict and ambiguity. Versions of this scale are still in use today. One important empirical result of this study was that role conflict and role ambiguity were identified as two distinct factors (Rizzo, et al. 1970). The discriminant validity of these constructs has been and will continue to be debated, but there is general agreement that they are different. Another result of this study was that researchers had for the first time an accessible instrument to measure the constructs. (This instrument is called the RHL scale in this dissertation.) The intuitive appeal of the constructs and the availability of an instrument stirred others to look for domain specific applications. Research has also continued on correlates and moderator variables. Several personality variables, such as need for achievement (nAch) and locus of control were then studied as moderators using this scale (Abdel-Halim, 1980, Organ & Green, 1974, etc.).

Some researchers noted that the very influential work of Rizzo has an unintended consequence. Beehr lamented the fact that the RHL scale was so influential that few other researchers attempted to develop similar scales for purposes of cross validating the constructs (Beehr, 1995). Breaugh &Colihan (1994) made the same assertion and developed a newer version of the scale designed to correct some perceived deficiencies in the RHL scale. More will be said about this scale in Chapter 2.

Early Meta-analytic Studies

By 1983, there were enough studies on this popular topic to justify the first of several meta-analyses. Fisher & Gitelson, (1983) compiled a list of 43 published studies generally dealing with role ambiguity based on the RHL scale. The authors found 18

correlates from 42 of the studies (Fisher & Gitelson, 1983). The correlates of role ambiguity included propensity to leave, organizational commitment, job involvement, tension/anxiety, job satisfaction, satisfaction with pay, satisfaction with supervisors, satisfaction with promotions, satisfaction with work content, self-rating, superior rating, boundary spanning activity, participation in decision making, formalization, tenure, education and age. The mean correlations ranged from r = -.51 for participation in decision making to r = .32 for propensity to leave (Fisher & Gitelson, 1983).

The moderators of role ambiguity in those first 43 published studies included need for achievement, locus of control, job scope, need for role clarity, tenure, higher order need strength, and organizational level. The results were inconsistent. Fisher & Gitelson recommended that more moderator research be conducted to identify differences across samples and artifacts that could not be controlled in the meta-analysis.

The most relevant of their conclusions for this dissertation is that complex jobs at higher levels of organizational rank are naturally more ambiguous (Berkowitz, 1980). The results were not inconsistent for this point. Boundary spanning activities also were positively correlated with role ambiguity (Abdel-Halim, 1981).

Two years after the Fisher & Gitelson meta-analysis, Jackson & Schuler conducted an even more thorough review. They collected 200 studies, 93 of which were included in the meta-analysis (Jackson & Schuler, 1985). Most of these studies also relied upon some version of the RHL scale measuring role ambiguity. The authors proposed that their study would resolve some of the empirical discrepancies reported to that date. They identified 29 correlates of role ambiguity and role conflict. Ten of these were organizational level context variables, specifically task/skill variety, job autonomy,

feedback, task identity, leader consideration and initiating structure, formalization, organizational level, and participation in decision making. The assumption from earlier research was that job and task characteristics are determinants of role ambiguity and conflict. The results were mixed. The strongest average correlation between role ambiguity and these organization level variables was between ambiguity and participation in decision making at r = -.36. Jackson & Shuler (1985) reported that five of the 39 correlates were individual characteristics, specifically locus of control, self-esteem, tenure, age and education. The strongest average correlation for these was r = -.21 for self-esteem. Jackson & Schuler (1985) reported that ten of the 29 correlates were affective reactions, specifically job satisfaction (6 different measures), tension/anxiety, commitment and involvement, and propensity to leave. The strongest average correlation was r = -.36 for general job satisfaction. The authors also reported four behavioral reactions in the studies, specifically absence and performance (three measures). The strongest average correlation in the studies was r = -.24 for self-ratings of job performance.

The reviewers concluded that many of these correlations were "substantial and significant" for the organizational context variables (Jackson & Shuler, 1985). The individual characteristics are not as strongly related to role conflict and ambiguity. The authors also reported that affective reactions are better supported in the literature than behavioral reactions. Most relevant for this dissertation, they suggested that more research should be done in how individuals cope with role ambiguity and conflict, among other recommendations for future research.

Role Ambiguity in the Decade of the 90s

Interest did not fade for these topics in the decade of the 90s. King & King (1994) assessed the construct validity of role conflict and role ambiguity. They suggested that there were some problems with the content validity of the measures, a lack of convergent validity, and discriminant evidence (King & King, 1990). The authors noted that the RHL scale dominated the research on role ambiguity. While this scale has been generally considered adequate, the authors suggested that refinement and expanded research on the scale itself would be beneficial. Specifically, King & King made note of the fact that the RHL scale does not include any items to measure socio-emotional forms of role ambiguity (King & King, 1990). This would imply that the scale does not measure the full content of the construct (criterion deficiency) and therefore lacks validity. They concluded as follows.

> "In conclusion, the Rizzo et al. (1970) scales seem to be lacking in the degree to which they represent the breadth of the role conflict and role ambiguity constructs, the correspondence between item statements and the particular form of role conflict purportedly measured, and the precision or clarity of item presentation. Moreover, reliability, although not poor should have prompted researchers to seek improved instrumentation, considering the centrality of the constructs in organizational research." (King & King, 1990).

King & King (1990) asked the important question of whether or not role ambiguity and role conflict are in fact different enough to warrant being measured separately. There is little doubt that the two constructs are highly correlated. The debate has centered on the operational definitions of role ambiguity. Berkowitz (1980) suggested that the construct "role strain" and some behavioral outcomes are very difficult to distinguish from the Kahn-Rizzo model of ambiguity. King & King (1990) recommended

that future research clarify the definitions, inquire into role senders and role sending process, clarify the contextual variables, and expand the theoretical framework.

In 1994, a second major review of the validity of the constructs concluded that the validity of the RHL scale was suspect (Breaugh & Colihan, 1994). The authors stated that the RHL ambiguity subscale wording represented non-stressful characteristics of the role, while the role conflict subscale wording represented stressful role characteristics (Breaugh & Colihan, 1994). Some researchers had already concluded that the intended meaning of the subscales for ambiguity and conflict were therefore totally confounded with this wording difference (Tracy & Johnson, 1981). These conclusions have been intensely debated. House, Schuler, & Levanoni (1983) attempted to rebut this criticism, but other researchers have agreed with the critics of the RHL scale (McGee, Ferguson & Seers, 1989). It is one of the purposes of this dissertation to resolve some of these issues.

Breaugh & Colihan (1994) went so far as to propose an alternate scale that measured job ambiguity with three subscales. They suggested that job ambiguity (which is correlated with but not identical to role ambiguity) is divided into performance criteria ambiguity, scheduling ambiguity, and method ambiguity (Breaugh & Colihan, 1994). The authors proposed and tested a 9-item scale that treated role ambiguity as a domain specific measure rather than a global measure. This re-conceptualization made the study of role ambiguity more focused upon job roles, and to some degree removed the clinical or purely dyadic aspects from the study. The Breaugh & Colihan scale avoided the use of "stressful" or "non-stressful" language in the wording of the items. All the items were positively worded to avoid the introduction of covariance (Breaugh & Colihan, 1994).

A modified version of this instrument was used in this dissertation. It was chosen because it is more domain specific (within work context) when measuring role ambiguity than the earlier RHL scale. One purpose of this dissertation is to expand and reframe the discussion about role ambiguity allowing for the inclusion of tolerance for role ambiguity. To accomplish this, one additional measure, goal ambiguity, was added to the Breaugh & Colihan scale in this dissertation. This point will be discussed more thoroughly in Chapter 2 of this dissertation.

Recent Reviews and Meta-analyses of Role Ambiguity

In 1994 the third of the meta-analytic reviews appeared. This paper focused upon the correlates of role ambiguity (Abramis, 1994). Abramis analyzed 88 studies including many of those used in the Jackson & Shuler meta-analysis. His analysis was oriented toward the relationship of ambiguity with job performance and job satisfaction. There was not as much discussion of the validity of the constructs, though Abramis did make note of the fact that the RHL scale is a global measure of role ambiguity (Abramis, 1994). The conclusions from this meta-analysis were consistent with Fisher & Gitelson and with Jackson & Shuler. The studies suggested that: (1) the correlations between role ambiguity and job satisfaction are significant, moderate and negative, (2) use of the RHL scale slightly increases the size of the correlations, and (3) there is substantial "true" variation across studies (Abramis, 1994). Abramis also noted that 11 of the studies correlated role ambiguity and job performance. In these studies the correlations were weak and negative (average $r = -.08$) when using independent assessments of job performance. When using self-assessment, the average correlation was $r = -.24$ (Abramis, 1994).

The most recent of the meta-analyses re-examined the earlier meta-analysis of Jackson & Schuler. This paper, entitled *Jackson and Schuler (1985) Revisited: A Meta-Analysis of the Relationships Between Role Ambiguity, Role Conflict, and Job Performance* (Tubre & Collins, 2000). The authors selected 47 studies that included at least one correlation between role ambiguity and/or conflict with job performance (Tubre & Collins, 2000). This review is more specific than the earlier reviews and meta-analyses because it focused upon job performance. In spite of the relatively small number of studies, the "n" was quite large compared to other reviews, (n = 21,608), with 128 correlations (Tubre & Collins, 2000). This review also included several studies that were unavailable for the earlier meta-analyses. They found that the average correlation between role ambiguity and job performance was r = -.21 (Tubre & Collins, 2000). The average correlation between role conflict and job performance was a much more modest r = -.07 (Tubre & Collins, 2000). Like the other researchers, they also suggested that the relationship between role ambiguity and job performance was moderated by a number of personality and contextual variables. They also suggested that efforts to moderate role ambiguity by organizational interventions could have significant effects on job performance (Tubre & Collins, 2000). The correlations between role conflict and job performance are not meaningful according to the authors.

Recent Research Directions on Role Ambiguity and Role Conflict

During the decades of the 80s and 90s scholars developed interest in related topics such as organizational stress, the consequences of stress, and correlates of stress (Beehr, 1995, Beehr & Newman, 1978, Beehr & McGrath, 1992). The topic of organizational stress kept role ambiguity and conflict in the forefront of organizational research. Beehr

& Newman (1978) proposed a model of occupational stress that included role ambiguity and role conflict as important moderators between work environment and human consequences. The consequences of ambiguity included adverse states of health, anxiety, tension, and fatigue, among others (Beehr & Newman, 1978).

These lines of research have continued well into the 21st century and will likely continue far into the future as human resource managers and other professionals continue to seek improvements in working conditions. There is no indication that interest in role ambiguity and role conflict is waning. It appears that it may even be growing because the topics of stress and health are increasing in popularity and will keep the ambiguity construct in the minds of researchers. Role ambiguity appears to be an unpleasant fact. It is reasonable to expect even more serious research will be directed toward this important topic.

Role Ambiguity in Voluntary Organizations

It should be reiterated that leaders of nonprofit organizations are required to adapt to very complex organizations working conditions. This dissertation will illuminate the nature of voluntary organizations, demonstrating that ambiguity is a major source of stress for those who serve on the executive teams.

Role Ambiguity and Formalization

In their meta-analytic review of role ambiguity, Jackson & Schuler (1985) noted that employees whose job performance ratings depend upon social interaction rather than tangible outputs are more likely to experience role ambiguity. For example, managerial jobs require the focal person to train, supervise, motivate, and even discipline others. It has been very difficult to find consistent and quantifiable measures that would allow an

objective performance evaluation of managers. Employees or supervisors observing the same behaviors can very easily evaluate a manager differently. There is a large and relevant body of literature on performance evaluation that could be mentioned, but it is not the purpose of this dissertation to explore that avenue of research. It is sufficient to say here that leaders of nonprofit organizations are evaluated by the success or failure of social interactions more than workers who produce easily quantifiable products and services. They have a complex job that often lacks formalization allowing for convenient evaluation. This lack of formalization results in role ambiguity (Naylor, Pritchard, & Ilgen, 1980). Formalization is defined in a number of ways, but in this study, formalization includes: (1) having a written job contract or description, (2) a regular performance appraisal by a designated member or members of the organization, and (3) professional standards of performance from within the organization or from a credentialing body such as a state board.

Role Ambiguity and Organizational Rank

Other researchers reported that role ambiguity is more likely to occur at higher levels of organizational rank (Ilgen & Hollenbeck, 1991). The people at the lower levels of organizations certainly experience role ambiguity, but the consequences are less serious for the person or the organization. The leadership team has a more complex job and therefore is subject to more serious ambiguity than their subordinates. For voluntary organizations, this situation is especially relevant. The executive team members are in positions where they have no direct supervisors to whom they must report. The job descriptions for these leaders are often developed from the charter, or from historical precedent within the organization, or from public pressure to solve a social problem, or

from their cohorts in the organization and similar organizations. There are a large number of people with a stake in the outcomes. This alone can create ambiguity and conflict. The sent roles for the executive teams do not come from an authoritative superior, but from a competing set of expectations of a broad spectrum of stakeholders.

Role Ambiguity and Authority

A related issue is how boards and paid executives define their relationship. In some organizations, the executive staff is regarded as the highest level of authority (staff-driven organizations) whiles the board functions as a support team (Daily & Schwenk, 1996). In some organizations of this type, the board is weak, little more than a "rubber stamp" or a check and balance against poor performance or inappropriate behavior on the part of the staff. In other organizations, the board is strong and the staff members are considered employees of the board (board-driven organizations). This should be conceptualized as continuum with most organizations falling somewhere toward the middle of these two extremes (Daily & Schenk, 1996). It is easy to see how role ambiguity and role conflict develop in organizations where the exact relationship of the board and executive staff is not clearly defined by charter or precedent. In an organization with a very proactive board, the staff receives sent roles from the board. If the paid executives lack sufficient information (poor communication) about the role, they experience role ambiguity or conflict.

A related kind of role ambiguity and conflict will occur if the board and staff members do not agree about "who is in charge around here." If some of the board members consider the organization "board-driven" and others consider it "staff driven," both sets of leaders are immediately placed in a situation of role ambiguity and conflict.

Sometimes these lines of authority are not clear. The organization is not quite sure about who supervises whom.

Role Ambiguity and Power

It is also worth mentioning that the basis of power is different for nonprofit and for-profit leaders. French & Raven (1960) noted that there are several bases of power in organizations, including reward power. Both for-profit and nonprofit leaders have reward power, but there are important differences in the type and valence of the rewards. Executives in for-profit organizations have the power of the paycheck, while nonprofit leaders hold this power with only a few subordinate staff members. The more subtle rewards dispensed by nonprofit leaders include access to the resources of the organization, praise, affiliation, or some other type of intrinsic reward. The differences in reward power change the dyadic relationship between leader and member. The relationships between leader and follower in organizations are often determined by the ability to reward. If this ability is limited, the sent role from member to leader will be modified by this fact. Their relationship will be more symmetrical, and some of the power actually shifts toward the follower who donates and votes in the organization. (Who is rewarding whom?) This is a potential source of role ambiguity.

The same could be said of "punishment" or coercive power. Nonprofit leaders have very little ability (or desire) to inflict punishment on members of the group. A nonprofit leader can deny a member access to resources or deprive them of some form of affiliation, and while this can be quite powerful, it is not the same as the ability to move a worker to an undesirable location, shift, or to deny them a bonus, or even to fire them. Nonprofit leaders must generally learn to lead with less possibility of using coercion or

punishment as a tool of leadership. This also changes the dyadic relationship between leader and member. The relationship between nonprofit leader and member is once again more symmetrical than that of a for-profit leader and subordinate. In nonprofit organizations, donors and volunteers can leave freely and with few undesirable social or career consequences. This means that the roles sent to the leaders are likely to be more casual and open, and therefore more ambiguous.

Consequently, the nonprofit leader must learn to depend very heavily on expert power and referent power. It is necessary for the voluntary organization leaders to demonstrate knowledge, skills and abilities (KSAs) such that the membership of the organization willingly follows directions. The establishment of these KSAs is through some process of credentialing, or a demonstration of a valued skill for that organization. If the nonprofit leader cannot manifest these KSAs in amounts sufficient for the satisfaction of the volunteers, then his/her power is compromised. Nonprofit leaders must be willing to establish "legitimate power" by demonstrating skill to those they are tasked to lead. There is a complexity of roles because of this. (Who is supervising whom?)

The nonprofit leader must also rely upon referent power. Referent power can be very powerful in any type of organization. This has been defined as "charismatic influence" that is built upon identification with the leader (Conger, 1989). This is especially important in those situations where reward and coercive power are not factors. However, influence is not evenly distributed across the members of the organization. Contingency theory suggests that some group members are more open to the influence of a leader than others (Fiedler, 1978). This situation automatically creates role ambiguity or even role conflict. Some organizational members send "friendly" roles while others send

"formal" roles toward the focal person. The voluntary leader is then required to determine how to respond to a complex or inconsistent set of sent roles from constituents with different dyadic contexts. It may mean that the leader will have to choose which faction sent an "acceptable" role. The result is that leaders are uncertain of what is expected from them.

Role Ambiguity and Boundary Spanning

In for-profit organizations, it has been noted that persons who must deal with outsiders on a regular basis are more subject to role ambiguity (Abdel-Halim, 1981). This would certainly be true in nonprofit organizations. In all types of organizations, the source of the ambiguity for boundary spanning positions derives from the differing expectations of the role senders. Role senders from the outside have not experienced the socialization that takes place inside the organization, and therefore bring different expectations from those sent by insiders. In voluntary organizations, the executives must deal with all the stakeholders, including donors, recipients of the services, government agencies, for-profit organizations, volunteers, suppliers, and a host of others. The sheer number of roles sent to these executives is a source of role ambiguity, conflict and overload. Unpaid board members are automatically boundary-spanning persons. They most often work in one organization and serve on the boards of others voluntarily. This means that they could bring with them very diverse expectations from their own work. It is easy to see that role ambiguity and conflict could occur when several volunteers are assembled as a board of directors. It is likely that they have different world-views, values, and expectations. Combining these people in one functional board is sometimes a difficult task.

Organizational Factors and Role Ambiguity

Cultural Diversity and Role Ambiguity

Some of the role stress experienced by the leaders does not originate in the leadership position but in the organization itself. For example, it has also been noted that persons in very diverse organizations are more subject to role ambiguity (Arvey & Anderson, 1997). The demographic composition of nonprofit groups varies greatly. This variation requires very intensive communication efforts by all members of the organization. Even when communication levels are high, there is still the possibility that there will be uncertainty about what is expected role behavior. Role expectations vary greatly across cultures (Gong, Shenkar, Luo & Nyaw, 2001). In modern pluralistic nations, it is likely that individuals from widely differing cultures will inhabit the same voluntary organization. One obvious result of this diversity is that roles will lack clarity due to cultural expectations. (Who has the correct assumptions?)

Participational Motivation and Role Ambiguity

Motivation for participation in organizations is also a source of complexity that results in role ambiguity. It is not a redundancy to mention that people participate in nonprofit organizations on a voluntary basis. This means that the set of motives brought to a nonprofit organization are potentially very complex, and that motives to some degree influence the role expectations of the participants. Among these motives are higher order needs such as the needs for affiliation, achievement, and power (McLelland, 1975). These vary from individual to individual and even within an individual over time. A related complexity for executive teams is that volunteers often bring several of these needs, sometimes unrelated or even contradictory, to the same organization hoping for

resolution. Nonprofit leaders, paid and unpaid, must contend with the resulting mixed motives or nebulous motives or contradictory motives in the people they are tasked to lead. It is easy to see that the sent roles from lower ranking members will vary from person to person, and that role ambiguity is almost a certainty for the leadership team. (What I need from you is . . . .)

Group Composition and Role Ambiguity

Arrow & McGrath (1993) demonstrated in lab studies that the composition of a group has effects upon structure, process, and performance of the group. Their study was conducted among university students in small groups. Generalizing the results of this study to intact organizations is admittedly tenuous. However, many other lines of research have confirmed the effects of group composition upon group structure and performance (Arrow & McGrath, 1993). Arrow & McGrath (1993) tested and confirmed, "the arithmetic of group change matters." This involves addition, subtraction, and replacement of group members. When new people are added to any group, there are necessarily changes in the structure, processes, and perhaps the performance of the group. This can be extended to the roles of the group. Every addition or subtraction means that new role expectations are added or subtracted. The delicate coalitions that form in groups must be adjusted to fit the reality of one or more new persons. This is especially true in nonprofit organizations where sent roles are not always formally defined at the entry level. The leadership team must recognize the new influences that have been introduced or adapt to the ones that have been lost. (Things are different now that . . .).

Arrow & McGrath, (1993) also confirmed "who changes matters." Members are not interchangeable like standardized parts of machines. The addition or subtraction of

one or two key members can change the dynamics of the entire group. This is certainly the case in nonprofit organizations. If a key member of an organization is removed, the leadership could be called upon to assume roles that were previously filled by the person who left the group. The leadership team might also be required to meet a new role set from the persons who replaced the absent member. It is fair to say that leader's roles are potentially redefined each time an addition, subtraction or replacement occurs. (When *he* was here we used to . . .).

Attraction-Selection-Attrition and Role Ambiguity

It has been adequately documented that organizations stabilize around a certain set of traits that some researchers call the "modal personality" (Schneider, 1987, James & Mazerolle, 2003). Schneider (1987) posited the "attraction-selection-attrition" hypothesis, stating that organizations will eventually become homogeneous given enough time. However, in a voluntary organization this pressure for uniformity is more likely to take place at the top of the organization that is relatively stable compared to the lower levels. The constant "attraction-selection-attrition" at the bottom creates a dynamic set of new sent roles for the leaders of such groups. (We need to let the new people know how things are done around here.)

Membership Selection and Role Ambiguity

It is also true that for-profit and nonprofit organizations use very different criteria for selecting members of the organization. For-profit employees are selected for knowledge-skills-abilities (KSAs) in some very systematic way and with legal accountability. Non-profit organizations use a much simplified selection criterion such as willingness to participate. It is also quite common for people to self-select an

organization on an exploratory basis. People often think that an organization looks "interesting" and will "give it a try." Often these people stay only a short time. The financial and social consequences of these "trial and error" memberships are often very slight for the individual compared to the same behaviors in a for-profit environment. This creates a level of diversity and turnover in the nonprofit organization that is only rarely seen in for-profit organizations. This researcher can conveniently dismiss the diversity of skills of nonprofit organizations as a topic for future research but the leaders of the nonprofit organizations cannot do so. They must contend with an extremely diverse organization and high turnover on a daily basis. This form of diversity obviously creates ambiguity of roles that are sent to the executive team.

Socialization and Role Ambiguity

The process of socialization and training is conducted to create a set of "shared assumptions" among new members of organizations (Schein, 1990). However, new members often bring with them very inappropriate, unrealistic, or inadequate role expectations with which the executive team must contend. Often new members leave before the socialization can be completed or the "shared assumptions" can be taught. Members are often resistant to the socialization process and there are few consequences for doing so. During this process of socialization, the executives were required to expend energy and resources to deal with the expectations of new people. One can easily see that the sent roles are a function cognitive schema of the members who are constantly rotating in and out of the organization. The result for the executive teams is that they face an almost constantly shifting set of role expectations from the organization they are trying to lead. (I expected that you would . . .).

The nonprofit leader must adapt to these conditions. This means, among other things, that the nonprofit leader must be able to deal with a large number of sent roles, often contradictory, incomplete, or unrealistic. The ability to adapt to this complexity is the primary focus of this study. It will be shown in the sections that follow that tolerance (or intolerance) of ambiguity has been very difficult to define. Beehr (1995) has described tolerance/intolerance for ambiguity as a "meta-construct." This implies that tolerance for ambiguity consists of several subsets of possible variables, including cognitive variables, affective variables, traits, situational variables, and organizational variables that are independent but converge at a point of the sent role from role sender to focal person. It is possible to discuss tolerance/intolerance of ambiguity in a global sense, apart from work roles. As it will be demonstrated in the following sections, this has serious implications for discussions of construct validity, operational definition, and development of scales. An operational definition of tolerance for role ambiguity for the proposed study will be given after discussing several important aspects of the history of the study of tolerance/intolerance of ambiguity.

Approaches and Levels of Analysis

This study approached role ambiguity and tolerance for role ambiguity from a systems perspective. Organization and individual are interlocking parts of a meaningful whole. This does not imply that studying role ambiguity from either an individual or an organizational perspective is inappropriate. There are large and important bodies of literature on coping, hardiness, stress, and burnout that address this topic from an individual perspective. There are also important bodies of literature on organizational

structure, productivity, and leadership that address the issue at the organizational level of analysis (Judge, Bono & Locke, 2000). Both of these approaches have value. Neither of these perspectives claims to exhaust the topic.

Tolerance for Ambiguity in Clinical Psychology

Clinical psychologists have studied tolerance for ambiguity for several decades (Frenkel-Brunswik, 1949, 1951, Budner, 1962). These studies measured tolerance for ambiguity as a general personality trait. Budner defined tolerance for ambiguity as "the tendency to perceive ambiguous situations as desirable," and intolerance of ambiguity as "the tendency to perceive ambiguous situations as a source of threat" (Budner, 1962). Researchers in clinical psychology later added "willingness to change" and "coping with new experiences" to the construct discussion (Rydell, 1966). Tolerance/intolerance was usually studied as a correlate of authoritarianism (Frenkel-Brunswik, 1949). The results were mixed in these early clinical studies linking intolerance of ambiguity to authoritarianism.

Other early clinical scales used to measure tolerance (or intolerance) of ambiguity included the Walk/O'Conner Scale (1952), the Coulter/Eysenck Scale (1954), and the Princeton Scale (Saunders, 1955). Rydell (1966) examined tolerance of ambiguity and semantic differential ratings. Freeston, Rheaume, Letarte, Dugas, & Ladouceur (1994) developed the latest clinical scale measuring intolerance of ambiguity. This scale of 27 items, the Intolerance of Uncertainty Scale (The IUS), is used in counseling. It assesses several aspects of intolerance, specifically emotional and behavioral consequences of being uncertain, expectations of being able to predict the future, frustration, attempts to control situations, and all-or nothing responses to control (Freeston, et al. 1994). The

authors of the IUS linked intolerance of ambiguity to generalized anxiety disorder (Freeston, et al. 1994).

Tolerance for Ambiguity in Organizational Research

The clinical scales have been beneficial to our general understanding of personality, but they did not specifically examine tolerance for role ambiguity in work or in organizations. Organizational researchers immediately saw the utility of the subject and began extensive research in several related fields. There have been several scales developed to measure tolerance/intolerance of ambiguity from an organizational perspective. Lorsch & Morse (1974) developed a commonly used seven-item scale. Gupta & Giovidarajan (1984) later modified this scale. Norton (1975) also developed a scale. The latest published scale was by McLain (1993) for use in educational settings. These scales measure tolerance of ambiguity in work or school context. For example, "I function poorly whenever there is a serious lack of communication in a job situation." (Lorsch & Morse, 1974).

Correlates of Tolerance for Ambiguity

Research in organizational psychology examined the relationship of tolerance/intolerance with work-related role strain or anxiety. Keenan & McBain (1979) reported a positive relationship between intolerance of ambiguity and role strain among managers. A similar study found a negative relationship between tolerance for ambiguity and anxiety levels in job interview situations (Keenan, 1978). Notice that the research in both clinical and organizational psychology alternated between tolerance and intolerance of ambiguity, even within the writings of the same authors. This is an indication that the construct had not been thoroughly defined at that point. Even with this being the case,

research continued on tolerance, especially as a correlate of organizational change. In change management studies, Ashford (1988) studied the effects of the divestiture of AT&T. This study reported that tolerance for ambiguity was positively correlated with several coping skills. Hamilton (1988) also found that tolerance for ambiguity was a predictor of successful change agents among military officers. Most of these studies used operational definitions similar to those of Budner or Frankel-Brunswik.

Construct Validity and Tolerance for Ambiguity

The literature of organizational development has generally focused upon macro level variables, but in the last decade, there has been a revival of interest in dispositional research focusing upon the person in the organization. Along these lines, a recent study examined managerial coping from a dispositional perspective (Judge, Thorensen, Pucik, & Welbourne (1999). The authors used the construct of tolerance for ambiguity as one of seven moderators of manager's response to organizational change. They also included locus of control, generalized self-efficacy, self-esteem, positive affectivity, openness to experience, and risk aversion (Judge, et al. 1999). After a factor analysis of the results, the authors reduced the predictors of coping to two factors, positive self-concept and risk aversion. They did not mean to imply that tolerance for ambiguity did not predict, but rather that the construct was subsumed and measured with two other predictors. Openness to experience, tolerance for ambiguity, and risk aversion load highly on the same factor, which they called "risk aversion" (Judge, et al. 1999). This aggregated construct significantly predicted the ability to cope with change.

This aggregation also indicates that the construct of tolerance/intolerance of ambiguity has still not been adequately defined and validated as a single organizational or

dispositional variable. No one seriously questions that tolerance for ambiguity is a meaningful measure, and that it is a correlate of several other important constructs. However, at this point there is no consensus on an operational definition or a way to measure tolerance for ambiguity, probably because it contains more than one factor. Clinicians have focused upon tolerance, or more commonly intolerance, as a stable trait, sometimes linking it to other coping behaviors. Clinicians have also focused upon the abnormal extremes of tolerance/intolerance of ambiguity. Industrial psychologists have focused upon correlates and have not spent as much time on construct validity. This is an area where much research is needed.

The Contribution of this Study

This study is not merely an attempt to finally define and validate the construct. Rather, this study is an attempt to describe the nomological network of tolerance for ambiguity within the domain of non-profit organizational leadership. The study considered tolerance for ambiguity as a meta-construct having cognitive (Judge & Locke, 1993), affective (Maslach, 1993), dispositional and situational factors (Netemeyer, Johnson & Burton, 1990). It is probably true that tolerance for ambiguity has organizational dimensions. Some organizations may be more tolerant of ambiguity than others. This could be especially true in organizations with political, philosophical, or religious mission statements.

Operational Definition of Tolerance for Role Ambiguity

With this discussion in mind, tolerance for role ambiguity in this study is **the ability to adapt to undefined social interactions at work without experiencing symptoms of burnout**. This definition includes a cognitive component (the ability to

frame or reframe undefined events in positive ways). The cognitive proclivity of framing events in positive rather than negative ways is a necessary component of coping and adapting. The definition also includes an affective component (emotional resilience). Emotional resilience is also necessary for positive adaptation (Wright & Capanenza, 1998, Posig & Kickul, 2003). The organizational component is included by the phrase "at work." This distinguishes role ambiguity at work from a global tolerance/intolerance of ambiguity.

Personality Research, Leader Disposition, and Tolerance for Ambiguity

One possible source for construct clarity is the study of personality, especially the five-factor model of personality that now dominates personality research. As it has already been stated, there has been a revival of interest in dispositional research in organizations. The renewed interest in personality studies coincides with several important developments in general psychology. One of the most influential of these is the work of Albert Bandura, especially the idea of reciprocal determinism (Bandura, 1986). Bandura challenged the "outside in" emphasis of behaviorism, and the "inside out" emphasis of psychoanalytic psychology. He suggested that internal and external factors "operate as interlocking determinants of each other" (Bandura, 1986). This new emphasis unlocked a flood of new literature on personality. It avoided the over-extensions of behaviorism and psychoanalysis by allowing for person-situation interaction.

A second factor in renewed interest in personality was from industrial psychology. Industrial psychologists discovered that personality measures avoided the legal issues of discrimination because personality measures are nearly "discrimination free" (Hogan & Roberts, 2001). This allowed psychologists to use personality traits as

predictors of job performance and as tools for selection, assuming that the proper validation studies were conducted. There are now hundreds of studies in industrial psychology that use personality measures as correlates or predictors.

A third factor in the renewal of personality studies was the rise of the five-factor model of personality. This model unified a very diverse field of study. Before the five-factor model there were several competing theories concerning personality, a wide array of taxonomies, and far too many instruments claiming to measure personality in a meaningful way. The five-factor model brought the field together, not with complete unanimity, but at least to a starting place for discussion among competing points of view. The idea of five uncorrelated factors of personality was expressed in the 60s (Tupes & Christal, 1961) but received the fullest expression in the 80s (McCrae & Costa, 1987, Costa & McCrae, 1988). Many others tested the model and the consensus is that it is valid (Digman, 1990, Jackson & Rothstein, 1991). The five-factor model is now the dominant paradigm in personality studies.

Openness to Experience and Role Ambiguity

One of the five factors, openness to experience, has an immediate intuitive connection to studies of tolerance for role ambiguity. Openness will almost certainly correlate highly with tolerance for role ambiguity. This factor is usually defined as "proactive seeking and appreciation of experience for its own sake: toleration for and exploration of the unfamiliar" (Costa & McCrae, 1988). On the surface, this sounds much like the definition of "risk aversion" that was reported by Judge, et al, in 1999. Judge and his associates proposed that "risk aversion" as a factor included the subscales of openness to experience, tolerance for ambiguity, and risk aversion (Judge, et al. 1999). The scale

used by Judge and his associates included some similar items, but not all of the subscales used to measure openness in the NEO-PI (Judge, et al. 1999). This line of research needs further exploration in order to validate the construct of tolerance (or intolerance) of ambiguity in a general sense. The fact that one is open to experience in a general sense is highly correlated with openness to experience at work, but the constructs are not identical. Obviously, a person could be more or less open to experience in a job setting than they would normally be in other circumstances.

Summary and Hypotheses

This dissertation will address tolerance for role ambiguity among executive teams of voluntary organizations. To reiterate, these leaders (1) are responsible for strategic decisions and (2) have no direct supervisor. They receive their roles from the charter of the organization, from their cohorts, from the members, and from public pressure to resolve some social problem. They must work in an environment where role ambiguity is endemic. They work at the top level of organizations, across boundaries, sometimes with poorly written job descriptions, sometimes without written job descriptions, with a diverse work force that was not carefully selected and that constantly changes, and with people they cannot punish and can scarcely reward. How is it that some of them thrive while others burn out?

This study is one of many steps to help these organizations make appropriate interventions and careful personnel selection to increase efficiency and reduce negative health consequences. The study will (1) propose a new scale for measuring the perception of ambiguity at work, (2) define and measure tolerance of ambiguity in context of leading these organizations (3) look for a network of significant predictors.

This study will measure two variables, perceived role ambiguity at work and tolerance for role ambiguity at work. The five-factor model of personality will be measured. Demographic variables and organizational variables will be measured. These measures will be examined to look for significant relationships and differences between groups.

Hypotheses for Contextual Variables

H_{1A}: Job formalization will predict tolerance for role ambiguity.

H_{1B}: Social support will predict tolerance for role ambiguity.

H_{1C}: Job formalization will inversely predict perceived role ambiguity at work.

H_{1D}: Social support will inversely predict perceived role ambiguity at work.

Hypotheses for Five-Factor Personality Variables

H_{2A}: Openness to experience will predict tolerance for role ambiguity.

H_{2B}: Low neuroticism (emotional stability) will predict tolerance for role ambiguity.

H_{2C}: Demographic variables (age, gender, education level, and tenure) will not significantly predict perception of role ambiguity.

Other Personality Hypotheses

H_{3A}: Locus of control scores that indicate internal locus will predict tolerance for role ambiguity.

H_{3B}: Rational-analytic thinking style scores will predict tolerance for role ambiguity.

Hypotheses for Demographic Variables

H_4: Demographic variables (age, gender, education level, and tenure) will not predict tolerance for role ambiguity.

CHAPTERt2

Methods

Research Design

Procedures

The study included a series of scripted interviews with experienced executives of voluntary organizations (subject matter experts), and a self-report inventory administered to a population of executive teams in functioning organizations. The scripted interviews with six subject matter experts were designed to provide construct clarity in the measures. The self-report inventory was administered to members of the boards of directors and chief executive officers (the executive team) of functioning voluntary organizations. Only those officers at the top level of the organization were included. Titles and descriptors varied from organization to organization, but the community service and political organizations were generally led by executive directors. Recreational organizations frequently used the title of program director. Titles for leaders of religious organizations varied according to the statements of faith of their denominations. The members of the boards of directors were frequently titled directors, board members, or trustees, depending upon the laws of the state where they are chartered. The two identifying characteristics of all these workers are (1) they share the responsibility of strategic decision making for their organization, and (2) they have no accountability to higher-ranking organization members.

Approximately 800 surveys were distributed to over 100 agencies in more than a dozen states. In some cases, the entire board of directors and executive staff agreed to participate. In other cases, one or two persons from a large group completed the surveys.

There is no way to ascertain the exact number of participating organizations because there is no place on the returned surveys for a group identifier. Because of this, there was no attempt to aggregate scores or to form group measures.

Permission to survey the participants was gained by making telephone contact with either the chairperson of the board of directors and/or the chief executive. In two cities in the southeastern United States, a mailing list was secured from United Way administrative offices listing the CEO and/or chairperson of the organizations operating under their umbrella. Several contacts were made from these two lists. We contacted several religious organizations individually because they are autonomously functional organizations within a larger organization or denomination. Several surveys were distributed to executive teams at a major national convention-exhibition specializing in religious agencies. The convention was held this year in the southwestern United States. Participating organizations received the appropriate number of surveys, return envelopes, and consent forms by mail or personal delivery. Each participating organization received a cover letter including a written explanation of the project. In two organizations, the executive directors included a separate cover letter indicating approval of the study.

Controlling for Mode of Administration Effects

All surveys were collected by mail to minimize or eliminate mode of administration effects. While it is usually true that having the researchers present during the administration increases the rate of return, it was not possible to be present at each administration. Since the organizations functioned in several different states, the distance and time required to attend a meeting with all of the participants made it impossible to collect all the surveys with the researcher present. Therefore, to minimize potential

context or experimenter effects the researchers were never present when the surveys were completed. All surveys were returned by mail. Community service organizations, recreational organizations, political organizations, and locally autonomous religious organizations were surveyed to assure that the results were not a function of organizational type.

Scripted Interviews Assessing Content Validity

In order to establish the content validity of the measures in the survey, six subject matter experts granted interviews to discuss the validity of the measures. Subject matter experts were chosen on the bases of academic or professional experience in leadership of voluntary organizations. Two subject matter experts were theology professors who teach in a school for ministers. One subject matter expert was a recently retired director of a major recreational/community service organization. Two were counseling psychologists in private practice with extensive experience working with executive leaders. The sixth was a veteran administrator of a community service organization with over 30 years of experience in fund raising and program administration for voluntary organizations. The researcher conducted personal interviews after securing permission by phone.

In each interview, the script was closely observed so that the subject matter experts analyzed the same material. The subject matter experts read the survey and a detailed summary of the scales. They assessed the validity of the measures for executive leaders. They provided suggestions for measures that should have been included. The results of the interviews will be discussed in the next chapter.

TORAQ-1, Part 1

The four-page survey was named the TORAQ-1 (Tolerance for Role Ambiguity Questionnaire, Version 1) and was printed on one sheet of 11 x 17 paper. There were 99 items on the survey. Participants were instructed to skip questions if they wished, and that they could withdraw from the study at any time. The survey was designed so that it would require approximately 15 minutes for completion. The survey did not include personal or group identifiers, and this seemed to increase the willingness of executive leaders to grant permission to administer the survey.

Part 1, consisting of 32 items on page two, measured perceived role ambiguity at work (12 items) and tolerance for role ambiguity at work (20 items). All of the items on Part 1 were phrased as 5-point Likert scale questions ranging from "strongly disagree" (1) to "strongly agree" (5). The items are listed in Appendices A and B.

TORAQ-1, Part 2

TORAQ-1 Part 2 consisted of 67 items measuring the predictors. Of these, 55 items used a 5-point Likert scale, and the remaining 12 items were fill-in blanks. The first subscale measured a version of the five-factor personality scale based upon the Goldman (1992) adjectives and written by the researcher for this dissertation (30 items). Part 2 also included a measure of rational-analytic thinking style (Epstein, 1994) consisting of eight items. There was a locus of control measure (eight items) written for this survey. There were three items measuring social support, and six items measuring cognitive rigidity. Not all of the items or subscales were used in this dissertation.

The 12 demographic and contextual variables were measured with yes/no boxes, or fill-in blanks. The demographic variables were measures of age, gender, tenure, rank,

and education level. The contextual variables were measures of organizational type, organizational size (board size and staff size), and formalization of work roles (three items). All items on Part 2 are included as Appendices D to H.

Measures and Variables

Ambiguity Variables

There were two main variables in this dissertation. In order to understand the nomological network around tolerance for role ambiguity, it is first necessary to identify and measure perceived role ambiguity. Both of these variables will be presented as core variables in the nomological model to follow in the next chapter.

Perception of Role Ambiguity at Work

Perceived role ambiguity at work is an extension of the work of Breaugh & Colihan (1994). As was discussed in the introduction to this dissertation, Breaugh & Colihan attempted to correct the apparent validity problems in the earlier scale by Rizzo, House, & Lirtzman (1971). The Breaugh & Colihan scale is regarded as an improvement, at least when measuring perceived role ambiguity at work as opposed to role ambiguity as a global measure. In this dissertation, role ambiguity at work included the following three measures of the Breaugh & Colihan scale: (1) method ambiguity, a deficiency of information in the sent role concerning *how* to do a job (procedures, skills, techniques), (2) schedule ambiguity, a deficiency of information in the sent role about *sequencing* of work activities in a job (when to do specific components of the job), and (3) performance criteria ambiguity, a deficiency of information about how work will be *evaluated* (what is acceptable performance?).

One additional subscale was added to the Breaugh & Colihan scale for this dissertation. Goal ambiguity was added using similar wording and subscale form. Goal ambiguity was defined as a deficiency of information regarding the perceived strategic goals for the organization. It was measured with three items that are written to match the language and direction of the Breaugh & Colihan items. The scale for this dissertation could therefore be considered "Breaugh & Colihan Plus One." (Appendix A).

Justification for Adding Goal Ambiguity

Goal ambiguity is a deficiency of information regarding the overall strategic direction of the organization (Sawyer, 1992). The focal persons, executive teams in this case, are required to determine the general direction of their organization. It is quite common for factions within organizations to have differing strategic goals, especially in democratic organizations where members vote with ballots and donations or "with their feet." It is also possible that even within an individual member of the organization there is confusion about what the appropriate goals really are. The leaders are put in the ambiguous situation of filtering and sorting all the role information about organizational goals that are included in role episodes.

The inclusion of the goal ambiguity subscale is not an attempt to redefine the construct, but rather to reduce construct deficiency and to increase content validity. The omission of goal ambiguity in previous studies has also been considered a serious criterion deficiency by this researcher. According to the scripted interviews conducted to establish content validity, this subject is often mentioned by executives who are in role conflict with other members of the organization. The four-factor model used in this

dissertation should explain more than the original three-factor model, and it will not introduce criterion contamination.

Tolerance for Role Ambiguity at Work

The main core variable, tolerance for role ambiguity at work, was measured as a meta-construct as described in Chapter 1. The operational definition of tolerance for role ambiguity in this dissertation is "***the ability to adapt to undefined social interactions in the work environment without symptoms of burnout.***" The scale measuring this construct consisted of 20 items using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Appendix B contains the items.

This construct is a "meta-construct" because it subsumes at least three possible latent variables that are probably factors. The factor structure of the measure will be discussed in the next chapter, and will be addressed again in a future study with a larger population. As mentioned in the introduction, tolerance/intolerance for ambiguity has been studied by clinicians as a global personality trait. It is almost certainly a stable and global trait, and it is entirely appropriate to measure it that way, but the other important core variable in this dissertation is constructed entirely in the work environment. It is appropriate to therefore measure tolerance for role ambiguity at work.

In addition, it should be admitted that tolerance for role ambiguity probably varies across situations. A person may be very tolerant of ambiguity in general, but may have serious adjustment problems when the ambiguity has repercussions on job security, salary, and retirement. Conversely, a person may be very intolerant of ambiguity in personal relationships, but very tolerant of it at work. Global tolerance for ambiguity and tolerance for role ambiguity at work are almost certainly correlated, but they are certainly

not identical. One can be experienced without the other, or they can be experienced differently in context. In the TORAQ-1, tolerance for role ambiguity is therefore measured strictly within the context of work.

Possible Latent Variables in the Tolerance Scale

The TORAQ-1 Part 1 conceptually combines the self-efficacy measure, the risk tolerance measure and the affective measure of resistance to burnout (emotional resilience).

Self-Efficacy in Undefined Social Interactions

The TORAQ-1 Part 1 includes 10 items phrased to measure the ability to frame undefined social interactions at work in positive ways. For example, item 19 says, "A little surprise at work is a good thing now and then." Item 6 says, "Environmental turbulence sometimes presents an opportunity to make positive changes in our organization." These items measure high self-efficacy, which is cognitive predisposition towards framing undefined (ambiguous) events or social interactions as opportunities rather than precursors of a negative emotional state.

Risk Tolerance

The TORAQ-1 included four items modeled after the risk tolerance measure used by Judge, et al (1999). For example, item 9 says, "I don't mind taking a chance now and then if the potential benefits are great enough." Item 17 says, "I can cope with the unexpected better than most people." These items measure ability of the of the focal person to adapt to uncertainty at work. As mentioned in the introduction, Judge, et al. (1999) have already demonstrated that risk tolerance varies across a population of managers. It can be expected to vary among non-profit executives in this study.

Resistance to Burnout

The remaining six items measured resistance to burnout. The subscale for resistance to burnout is conceptually similar but not identical to existing hardiness scales. It is not the purpose of this dissertation to discuss hardiness and burnout. However, these affective measures will be evaluated as a three-factor construct as described by Maslach (1993). Burnout includes (1) emotional exhaustion (2) cynicism toward the recipients of the services rendered by the organization, and (3) loss of personal sense of efficacy and accomplishment, (Maslach & Leiter, 1997). The emotional exhaustion component of the Maslach measures serves as the affective dimension of the tolerance for role ambiguity in this dissertation. An example of emotional resilience (hardiness?) is item 14, "I can usually maintain my enthusiasm for the job even if things are not perfect."

Predictors and Correlates

Formalization of Work Roles

Formalization was measured with three yes/no questions concerning job structure. The participants were asked the following: (1) Do you have a written job description? (2) Do you have a regularly scheduled performance evaluation by a designated member of the organization? (3) Do you have established professional standards of performance or licensure for your position? Scores for these variables were added such that each participant had a scale score from 0 to 3. Participants with a score of three answered "yes" to all three questions, indicating the highest level of job formalization possible on this survey. Participants scoring zero have no measured indicators of job formalization in this study. The individual items were analyzed to determine if any one of the three measures had more influence. The results will be discussed in the next chapter.

Social Support

Social support from peers or other organizational members was measured with three items using a 5-point Likert scale. Supervisor support is often measured in leader-member studies, but in this population, there are no supervisors to whom the executive team reports. They *are* in fact the supervisors. Social support for executive teams must arise from satisfying personal interaction with other executives or lower ranking members. An example of one item measuring social support is Item 2 in Part-Two, "I have a lot of friends in this organization." The scores on these three Likert scale items were averaged to form a social support scale. High scores indicated the perception of social support.

Other Contextual Variables

Contextual variables included organizational type and size. The TORAQ-1 was administered to community service, political, recreational, and religious organizations. One fill-in item with five blanks (one for "other") assessed the type of organization. It should be admitted that the distinction between the types is sometimes blurred, but the participants who responded had no confusion about selecting a category. There was no way to check inter-rater consistency because there is no group identifier on the survey. It is safe to assume that the executive teams understood what type of organization they led. This may be a moot point because in previous research with the same population there were no significant differences between the organizational types on any measure (Pierce, 2003).

Organizational size was assessed with two fill-in items. One item asked for the number of persons serving on the board of directors. A second item asked for the number of staff persons serving with the organization.

Demographic Measures

To identify any possible differences between paid executives and unpaid executives or board members, the survey had one item to distinguish organizational position. Item 57 asked, "Which of the following best describes your position in the organization?" Six anchored response blanks indicated position, including unpaid board member, paid board member, unpaid executive, paid executive, religious leader and "other." The participants provided their age, how long they had been in the organization, how long they had been in the position, and their gender. Anchored response blanks assessed the education level of each participant. Each respondent was to choose from nine anchored blanks from "some high school" to "Ph.D or Ed.D." (Appendix H).

The Five-Factor Model of Personality

The research questions that spurred this dissertation involved the personality of executive leaders in voluntary organizations. The dominant paradigm in modern personality research is the five-factor model, which is based upon the work of Costa, McCrae and others (Costa & McCrae, 1985, Digman, 1990). A 30-item scale was written for this study to assess the five-factor model of personality. There were six items for each of the "Big Five," with all questions measured as 5-point Likert scales. Four items from each factor were positively phrased so that an answer of five indicated high scores on the measure. Two items from each factor were negatively phrased and then reverse-scored so

that high scores indicated agreement with the statement. The items were based upon the oft-repeated adjectives used by Digman (1990) and Goldberg, (1992).

Operational definitions for the five-factor model used in this dissertation are as follows. (1) The emotional stability/neuroticism scale measures the traits of being realistic, emotionally stable, and having adequate coping skills. It is scaled so that high scores mean low neuroticism or high emotional stability. (2) The Extraversion scale measures activity level, intensity of personal interaction, and need for stimulation. The subscale is constructed so that high scores indicate extraversion. (3) Openness is measured to indicate proactive thinking, appreciation of experience and toleration for exploration. High scores indicate that the person is open to experience. This factor is usually defined as "proactive seeking and appreciation of experience for its own sake: toleration for and exploration of the unfamiliar" (Costa & McCrae, 1988). (4) Agreeableness is defined as compassionate, forgiving, cooperative, and straightforward. High scores indicate that the person is agreeable. (5) Conscientiousness is defined in this study as organization, persistence, and being goal-oriented. It is scaled so that high scores indicate high conscientiousness.

Locus of Control

The work of Julian Rotter (1966) on locus of control has been very influential in both personality psychology and industrial psychology. This survey included six items phrased or reverse scored so that high scores indicated internal locus of control. The items were 5-point Likert scale questions such as, "Success is usually the result of hard work," or "My job is what I make of it." High scores on this administration indicate that the individual is characterized by internal locus of control. Internal locus is

operationalized here as having influence upon the outcomes of the organization, and having control over rewards.

Thinking Style

Cognitive variables included Epstein's (1994) thinking styles (rational-analytic verses intuitive-experiential). Rational-analytic thinking is characterized by a preference for solving analytical problems, while intuitive-experiential thinking is characterized by affective oriented problem solving. High scores indicate a preference for analytic thinking as opposed to intuitive thinking.

Analyses

Internal Consistency

All variables written as multi-item scales were tested for internal consistency using Cronbach's Alpha method. By convention, no scale was included that produced alphas less than $\alpha = .70$. Several measures on the TORAQ-1 are single items, so no reliability check is possible or necessary. Age, tenure, organizational size, and formalization will obviously require no checks for internal consistency.

Regression Analyses

Tolerance for role ambiguity at work served as the main core variable for the study. This variable was regressed on the five-factor personality variables, locus of control, the demographic variables, and the thinking style variable in a regression analysis (Cohen, Cohen, West, & Aiken, 2003). This method will establish which of the variables significantly influences the R-square (proportion of variance accounted for in the core variable). Demographic variables (age, tenure, gender, and education) will be tested as a separate set of predictors. Variables that produce significant t-scores and

acceptable p-values ($\alpha \leq .05$), and that have positive coefficients will be considered predictors (Cohen, Cohen, West, & Aiken, 2003). Variables that produce significant t-scores, p-values, and negative coefficients will be considered inverse predictors. Several iterations of the model will be tested to produce the highest R^2 with significant predictors. The perception of role ambiguity at work was regressed on contextual variables. Job formalization, consisting of three items, was the first set. The second set was comprised of three items measuring social support. The third set included two items measuring organizational size. The iteration that produced the highest R^2 with all the predictors showing significant t-scores will be proposed as part of the nomological network surrounding tolerance for role ambiguity. Variables that produce significant negative beta coefficients will be considered as inverse predictor variables. The models were tested for multicollinearity.

Differences between Groups

Since the study included demographic and other categorical variables, analysis of variance was conducted to see if the resulting groups produced significant differences on scores for the core variables. Gender, educational level, and organizational rank were examined to look for differences. The study also included contextual variables such as organizational type and size. Analysis of variance was conducted to determine if differences were significant between large and small groups or types of organizations.

CHAPTER 3

Results

Descriptive Statistics

The Survey

Approximately 800 surveys were distributed to more than 100 agencies in several states. Two hundred and two executive team members responded. The rate of return was therefore approximately 25% (N = 202 usable surveys).There is no accurate way and no need to ascertain the exact number of participating organizations because there is no group identifier on the returned surveys. Table 1 on the following page reports the means, standard deviations and correlations from the demographic measures.

Survey Participants

Table 2 on the second following page reports the results for gender, organization type, job type, and three measures of job formalization. As described in the previous chapter, job formalization includes having a written job description, having professional licensure, and having a scheduled performance evaluation from someone in the organization.

The age of the participants (M = 49.08, SDt= 11.80) was consistent with other studies among executive teams (Pierce, 2003). The population was typically male (n = 144, or 71.6%). The number of females who responded (n = 57, or 28.4%) was higher than other studies conducted in this population, probably because the sampling was done in several types of organizations across several states (Pierce, 2003).

Table 1: Population Descriptive Statistics and Correlations

Measure	M	SD	1	2	3	4	5
1. Age	49.08	11.80	--	.30*	.45*	-.10	-.05
2. Job tenure	8.01	7.38		--	.39*	.09	.03
3. Organizational tenure	11.43	9.73			--	-.08	.04
4. Staff size	20.88	57.00				--	.18*
5. Board size	13.54	13.41					--

Note. N = 202. Correlations marked bye* are significant at $p < .05$. The age and tenure correlations are significant but meaningless. Staff size and board size correlations are also circular.

Table 2: Population Frequencies and Percentages

Measure	Frequency	Percentage
1. Gender		
Male	144	71.6%
Female	57	28.4%
2. Job Type		
Unpaid board member	27	13.4%
Paid board member	2	.5%
Unpaid executive staff	4	1.0%
Paid executive staff	48	23.9%
Religious leader	87	43.3%
Other	32	15.9%
3. Organization type		
Community service	24	1.9%
Political	1	.5%
Recreational	4	2.0%
Religious	159	79.1%
Other	32	15.9%
4. Level of education		
Some high school	1	.5%
High school graduate	15	7.5%
Some college	30	14.9%
Associates degree	14	7.0%
Bachelor's degree	39	19.4%
Some graduate school	17	8.5%
Master's degree	58	28.9%
Professional doctorate	15	7.5%
Research doctorate	10	5.0%
5. Written job description		
Yes	140	69.7%
No	61	30.3%
6. Professional licensure		
Yes	84	41.8%
No	115	57.2%
7. Scheduled performance review		
Yes	101	50.2%
No	100	49.8%

Note. N = 202. No measures of ethnicity were included in the study.

The participants had typically participated in the organization for more than a decade (M = 11.43 years, SD = 9.74 years). They had been in their present position on the executive team for slightly less time (M = 8.01 years, SD = 7.38 years).

The level of education item (item 67) produced responses indicating that the typical member of an executive team has taken graduate work A response indicating a masters degree (n = 58, or 28.9%) was the modal response. Responses indicating at least bachelors level education was also quite high (n = 39, or 19.4%). The number of professional or research doctorates (n = 25, or 12.5%) was also much higher than might be expected from the public. Only 16 of the 202 participants reported high school as their highest level of education. There was no question on the survey to measure ethnicity.

The modal response for the job type item (item 56) was "religious leader" (n = 87, or 43.3%). "Paid executive" was the next most common job type (n = 48, or 23.9%). "Unpaid board members" represented the next largest group (n = 27, or 13.4%). The remaining participants were paid board members (1%), unpaid executives (1%), or "other" (15.9%).

Measures of the Participating Organizations

The survey did not attempt to produce organization level variables. As has already been mentioned, there is no group identifier. The survey did include two items on organizational size. These were included to test the effect of organizational size on individual measures. Item 65 measured the number of board members in the organization (M = 13.54, SD = 13.41). The size of the boards varied from zero to 102. Item 66 measured the number of staff members in the organization (M = 20.88, SD = 57.00). The staff size varied from zero to 700.

Most of the organizations were were religious (churches, synagogues, or para-church agencies). Of the executive team members, 79.1% of them indicated that their organization was primarily religious. This does not necessarily mean that they were churches or synagogues. A wide variety of organizations have been started by religious groups, including youth services, drug rehabilitation, literacy, job services, and numerous other special function groups that consider themselves primarily religious. The remaining organizations were community service organizations (12%), recreational, political, or "other" (the remaining 8%).

Summary of the Population for the Study

To summarize, this population (N = 202) is typically male, middle-aged, well educated. They work with or for religious or community service organizations. They have been members of their organization for over a decade and have been in their present position for about 8 years. This means that great caution should be taken when generalizing any further results from this study to society as a whole. These individuals will produce a very restricted range of answers on most personality or organizational variables. However, they are very deliberately chosen as the focus of this study. The responses they provide are meaningful for research within the context of executive teams.

Reliability and Validity of the Core Variables

This dissertation is the first test of the two core variables. The first task of the analysis was to determine if the two variables are reliable and valid. In this study, the two new scales were: (1) perceived role ambiguity at work scale, and (2) tolerance for role ambiguity at work scale. Table 3 reports the reliability scores for the two new scales.

Table 3: Scale Reliability for the Perceived Role Ambiguity at Work Scale and the Tolerance for Role Ambiguity at Work Scale

Scale	*Cronbach's Alpha*
1. Perceived Role Ambiguity at Work Scale (12 items)	.89
Method Ambiguity Subscale	.62
Schedule Ambiguity Subscale	.79
Performance Criteria Ambiguity Subscale	.88
Goal Ambiguity Subscale	.71
2. Tolerance for Role Ambiguity at Work Scale	
Original form (20 items)	.83
Final form (14 items)	.78

Note. By convention, only scales with alpha > .70 remained in the analyses. One exception was made for method ambiguity subscale from the Breaugh and Colihan Scale because it has demonstrated adequate reliability in prior studies. The scale as a whole performed well even with the disputed item.

Reliability of the Scales

The researcher tested the internal consistency of the scale using Cronbach's Alpha method. There were 12 items for this construct included on the survey. (Appendix A). As mentioned earlier, the scale is a re-development of the Breaugh & Colihan (1994) scale for the same construct. This iteration included three additional items designed to measure goal ambiguity. The new scale performed very well. The alpha was acceptable (αt= .89). There was only one problematic item on the scale. Item 5, ("I know the best approach to getting my work done."), written by Breaugh & Colihan, was the only item that produced a very low squared multiple correlation (r = .19). This became obvious after only a few surveys were entered. The item did grow stronger as the number of surveys increased. Because the item was demonstrated to be useful in the Breaugh & Colihan study, and because the alpha improved only slightly by dropping it, (αt= .90), a decision was made to keep it in the study. In future administrations of the scale the item may be modified slightly. It is speculative, but this researcher has concerns about the word "approach" that is included in the item. Ironically, there is ambiguity in a scale designed to measure ambiguity. Breaugh & Colihan (1994) did not report any problems with item 5 in their administration of the scale.

When the new scale was separated into factors (three with Breaugh & Colihan, and four with the new version), the subscales still performed well with one exception. The first factor, method ambiguity, has historically produced alphas in the high .80s (Breaugh & Colihan, 1994). In this administration the alpha for method ambiguity (αt= .622) was not acceptable when measured by itself. The reliability score is a function of sample size, average correlation, and the number of items. As the population grew larger,

the alpha improved incrementally. This is to be expected. Even though this administration of the subscale was disappointing, method ambiguity has proved to be a reliable measure in other studies. The second factor, schedule ambiguity, produced acceptable reliability scores in earlier studies, and continued to do so with this population. Schedule ambiguity scores were very good in this administration (α= .79). The third factor, performance criteria ambiguity, also performed well. In this study the internal consistency was very good (α = .88). The reliability score for the new subscale, goal ambiguity, was acceptable, but barely so (α= .71).

The Underlying Structure of the Perception Scale

A principal component analysis (PCA) was conducted to explore the underlying structure of the scale. PCA was conducted instead of factor analysis in this case because factor analysis assumes that covariation is due to one or more latent variables (Hatcher & Stepanski, 1994). In this scale, there is no assumption of latent variables, so PCA was used to evaluate the underlying structure. It is important to know if there are really four components being measured. PCA is a useful exploratory tool that can determine the dimensionality of the data (Johnson, 1998). Table 4 on the next page reports the results of the analysis.

The PCA indicated that there are clearly three uncorrelated components with eigenvalues greater than one. There is a fourth component with an eigenvalue very near one (eigenvalue = .72).

Table 4: Principal Component Analysis of the Perceived Ambiguity at Work Scale

Component	Eigenvalue	% of Variance	Cumulative %
First	5.61	46.79%	46.79%
Second	1.07	8.93%	55.73%
Third	1.03	8.62%	64.34%
Fourth	.72	6.06%	70.40%

Note. A scree plot test demonstrated that there are three or four viable components. The decision to use the fourth was based upon the scree plot test and the eigenvalue that is near one.

Four underlying principal components explain 70.4% of the variance in the scale. As is usually the case with PCA, there were several other possible components, but none of these added significantly to the explained variance. It is safe to say there are probably four principal components. The scree plot test confirmed that there are clearly three and probably a fourth orthogonal component being measured in this scale (Johnson, 1998). This result confirms the a priori assumptions of the study.

Content Validity of the Perception Scale

The scripted interviews preceding the surveys were designed to test the content validity of the scale and subscales with subject matter experts. Six individuals who have extensive professional or research experience with voluntary organizations were interviewed. All six were given the TORAQ-1 items, and a summary of the subscales. They rated the validity of the four subscales on a one to five (low to high) scale. (See Appendix E). All six agreed that executives frequently experienced the types of ambiguity mentioned. All six rated the seriousness of each type of ambiguity on a one to five rating scale. The six subject matter experts rated all four subscales from three to five. Interestingly, all six of them rated performance criteria ambiguity as the most serious form of ambiguity. All six of the experts gave it the highest rating of five.

All six of the subject matter experts said that the items as presented in this dissertation accurately measured the constructs. All six said that the items had good face validity.

When discussing other possible forms of ambiguity (criterion deficiency), they suggested that ambiguity of personal relationships was also a problem. This part of the construct would prove very difficult to measure because it is probably dyadic in nature.

This study did not include relational ambiguity to the scale. This will become a topic for future clarification and study.

Summary of the Perceived Role Ambiguity at Work Scale

When taken as a whole, (all 12 items), the scale appears very robust. It will require some modification and confirmation in future studies, especially with item 5. The Cronbach's Alpha (α = .89) for a new scale is very encouraging. With appropriate modification of wording, the scale should consistently produce acceptable scores across several types of organizations.

Internal Consistency of the Tolerance for Role Ambiguity at Work Scale

This dissertation is the first test of the tolerance for role ambiguity scale. The scale included 20 items in the original form. Table 3 has already reported the results for the reliability analysis. Using Cronbach's Alpha method, the scale produced acceptable reliability scores (α = .83). None of the 20 items appeared to be problematic. The omission of any one of the 20 would not change the alpha significantly. Removing the reversed version of item 27 would have raised the alpha from αt= .833 to α = .838. Subscales were not measured because there is no clear a priori assumption of underlying components as there was with perception of ambiguity.

The Validation Interviews

The same subject matter experts who were consulted for the first new scale evaluated the second scale. They read the full version of the TORAQ-1 and a summary sheet describing the items and the subscales. The subject matter experts (SMEs) were asked if they had observed personal differences between executive leaders on the ability to tolerate ambiguity at work. Without exception, the SMEs said they believed this to be

an individual difference. One SME said that the executive leaders who cannot tolerate role ambiguity "do not last long." He indicated that the ability to tolerate role ambiguity "shows up very early in the career" of executive leaders.

Without exception, they all said that emotional resilience, the ability to frame undefined social interactions in positive ways, self-efficacy, and risk tolerance were factors in the ability to tolerate ambiguity.

The SMEs also identified underlying factors or omitted dimensions (criterion deficiency) of the survey. Two of the six mentioned higher-order need strength as a possible contributor to the ability to tolerate role ambiguity at work. Higher-order need strength was not measured in the population for the study specifically because the answers would fall within a narrow range of scores. One could expect that all executive leaders of voluntary organizations are high in higher-order need strength. The answers they would provide would have very little predictive power because they all collect on the high end of the scale. One of the theology professors suggested that some measure of spirituality or faith should be included in the survey. Another suggested that the ability to change might also be a personality variable that underlies the tolerance for role ambiguity. These suggestions will be considered in future studies, especially when the scale is given in specific work contexts. The spirituality scale would probably be a good addition if the population were primarily taken from religious organizations. For this study, the scale was not modified to include the suggested items.

The Factor Structure of the Tolerance Scale

The 20-item scale was tested with factor analysis rather than PCA because it probably contains latent variables. There were several possible underlying factors drawn from Judge, et al. (1999), from Maslach (1993) and from other sources. Factor analysis should identify the number and relative contribution of underlying factors.

The dimensionality of the 20 items was analyzed first using exploratory factor analysis. An unrotated initial solution was calculated. The number of factors was left undetermined by specifying factors with eigenvalues over one. Six factors with eigenvalues higher than one were produced. As usual, additional trivial factors (single item factors) appeared in the analysis. The six factors accounted for 57% of the variance. However, the Chi-square Goodness-of-fit test indicated that the model was not significant ($X^2(85) = 101.85$, $p = .10$).

A second factor analysis procedure was conducted. This time, the number of factors was set to three, as indicated by the scree plot test. With the maximum likelihood method and varimax rotation the analysis produced three acceptable factors with eigenvalues over one. Table 5 reports the results of the factor analysis. The three factors explained 40% of the variance. The Chi-square test was significant ($X^2(133) = .209.75$, $p < .000$). The three factors generally matched the subscales proposed initially. The three factors were labeled (1) self-efficacy, (2) emotional resilience, and (3) risk tolerance. Some items failed to load on any factor (items 6, 14, and 19 and R27). No items cross - loaded. The resulting scale had 14 items and explained 47.76% of the variance. Table 5 summarizes the results.

Table 5: Results of the Factor Analysis of the Tolerance for Role Ambiguity at Work Scale

Item	Factor Loadings		
	Self-Efficacy	Emotional Resilience	Risk Tolerance
1. TORAQ-1 #23	.553		
2. TORAQ-1 #12	.535		
3. TORAQ-1 #17	.522		
4. TORAQ-1 #32R	.518		
5. TORAQ-1 #8	.510		
6. TORAQ-1 #1	.496		
7. TORAQ-1 #15	.478		
8. TORAQ-1 #29	.434		
9. TORAQ-1 #2	.414		
10. TORAQ-1 #26R		.560	
11. TORAQ-1 #3 R		.539	
12. TORAQ-1 #21R		.524	
13. TORAQ-1 #30			.970
14. TORAQ-1 #9			.485

Note. Maximum likelihood method with varimax rotation converged in six iterations. By convention, only items with factor loadings > .40 were retained. We replaced missing values with the mean. The Chi-square test was significant (X^2 (133) = 209.75, p < .000).

The purified version of the scale was rechecked and found to be adequate (αt= .78). Items 4 and 24 cross-loaded and were dropped from the analysis. The purified version of the scale was used in the remainder of the analyses. The new scale produced three clear factors that correspond with those that were proposed. No items cross-loaded and no items failed to load.

Summary of the Two Core Variables

For the remainder of this study ***perceived role ambiguity at work*** was tested with the 12-item scale that was reliable (α = .89), and was content-validated by subject matter experts. It was built upon earlier work that was also well-validated (Breaugh & Colihan, 1994). The measure was scaled so that high scores indicated higher levels of perceived ambiguity at work.

Table 6 on the next page reports scale average, standard deviation, and standard error of the mean for each item in the perception of role ambiguity scale.

The four subscales were highly correlated. This was expected. Table 7 on the second following page reports the Pierson product-moment correlations of the subscales.

The second core variable, ***tolerance for role ambiguity at work*** was measured with a 14 item scale that produced acceptable reliability scores (α = .78), and that contained three latent factors that have been examined by several streams of previous research (Maslach & Leiter, 1993, Judge, et al, 1999). The scale was constructed so that high scores indicated high levels of tolerance for ambiguity at work. Table 8 on the third following page summarized the means, standard deviation and standard error of the mean for each item. The final scale is included as Appendix C.

Table 6: Scale Means, Standard Deviations, and Standard Error for the Perceived Role Ambiguity at Work Scale

Item	M	SD	SE Mean
1. TORAQ-1 #1	1.66	.60	.04
2. TORAQ-1 #3	1.83	.74	.05
3. TORAQ-1 #5	2.02	.79	.05
4. TORAQ-1 #7	1.72	.77	.05
5. TORAQ-1 #10	2.04	.83	.06
6. TORAQ-1 #13	1.93	.77	.05
7. TORAQ-1 #16	1.86	.89	.06
8. TORAQ-1 #18	1.95	.79	.05
9. TORAQ-1 #20	2.12	.92	.06
10. TORAQ-1 #22	1.87	.67	.04
11. TORAQ-1 #25	2.29	.88	.06
12. TORAQ-1 #28	1.92	.74	.05

Note. All scales are 5-point Likert scales. Higher scores indicate increased perception of role ambiguity

Table 7: Correlation Matrix for the Perceived Role Ambiguity Subscales

Subscale	*1*	*2*	*3*	*4*
1. Method Ambiguity	--	.60**	.57**	.49**
2. Schedule Ambiguity		--	.69**	.57**
3. Performance Criteria Ambiguity			--	.52**
4. Goal Ambiguity				--

Note. The correlations marked ** indicate significance levels of $p < .000$.

Table 8: Scale Means, Standard Deviations, and Standard Error for the Tolerance for Role Ambiguity at Work Scale

Item	M	SD	SE Mean
1. TORAQ-1 #23	3.66	.86	.06
2. TORAQ-1 #12	3.98	.74	.05
3. TORAQ-1 #17	3.78	.79	.05
4. TORAQ-1 #32R	3.75	.89	.06
5. TORAQ-1 #8	3.69	.82	.05
6. TORAQ-1 #11	3.91	.65	.04
7. TORAQ-1 #15	3.87	.74	.05
8. TORAQ-1 #29	4.05	.64	.04
9. TORAQ-1 #2	4.27	.58	.04
10. TORAQ-1 #26R	3.68	.94	.06
11. TORAQ-1 #31R	3.93	.88	.06
12. TORAQ-1 #21R	3.83	.88	.06
13. TORAQ-1 #30	4.06	.67	.05
14. TORAQ-1 #9	4.17	.74	.05

Note. All scales are 5-point Likert scales. Items marked with an R indicate reverse scoring.

Relationships with Categorical Variables in the Study

Having established the two core variables of the study, the next step was to examine relationships between these two variables and other important variables. A correlation matrix was produced to identify significant relationships. Table 9 on the following page summarizes the results.

As expected, the two core variables were negatively related (r = -.409). The nature of this relationship merits some discussion. It was expected that executive team members who are highly aware of role ambiguity are therefore more intolerant of it. Workers who have successfully resolved the ambiguity are probably more tolerant of ambiguity. They are able to adapt to the conditions and are more likely to report higher tolerance scores and lower perception scores. The negative correlation (r = -.409) indicates that this is the case. There were no significant or meaningful relationship between the core measures and the age and organizational variables.

Differences between Groups

Because the study included several demographic and organizational variables, it was possible to investigate differences between identified groups. Analysis of variance and independent sample t-tests were conducted to determine if significant differences were produced for organizational type, organizational size, demographic, or job type measures. The analysis produced no differences for organizational type or size. The age, tenure, and gender variables did not produce significant differences on the dependent measures.

Table 9: Correlation Matrix for the Core Variables, Age-Related Variables, and Contextual Variables

Measure	1	2	3	4	5	6	7
1. Tolerance for ambiguity	--	-.41**	-.01	-.07	-.10	.18	-.05
2. Perceived ambiguity		--	-.07	.04	.00	-.10	.04
3. Age			--	.45**	.30**	-.05	.10
4. Length of participation				--	.39**	.03	-.08
5. Job tenure					--	.04	.09
6. Board size						--	.18*
7. Staff size							--

Note. Correlations markede* are significant at $p < .05$. Correlations markede** are significant at $p < .000$.

There were two observed differences between job type categories. Independent sample t-tests were conducted using perceived ambiguity and then tolerance for ambiguity as the dependent measures. Independent sample t-tests were chosen over analysis of variance because there were too few people in some of the possible categories. Job type was analyzed with "religious leader" as the first group and "paid executive" as the second group. The results showed that religious leaders scored higher ($M = 2.00$, $SD = .55$), than paid executives ($M = 1.78$, $SD = .51$) on perceived role ambiguity. The difference was significant ($t(126) = -2.23$, $p = .02$). The religious leaders also scored lower on tolerance for role ambiguity ($M = 3.84$, $SD = .42$) than paid executives ($M = 4.02$, $SD = .45$). The difference was significant ($t(126) = 2.31$, $p = .02$). This will be discussed in the next chapter.

Analysis of variance was conducted to determine if there were differences between other identified groups. Several possible grouping variables were considered, including the job description factor (yes/no), the professional standards factor (yes/no), the annual performance review factor (yes/no), and the level of education factor (1-9). There was only one factor that produced a significant difference. On the job description factor, executive team members who had a written job description reported less perceived ambiguity at work ($M = 1.87$, $SD = .51$) than those who did not have a written job description ($M = 2.09$, $SD = .58$). The difference was significant ($F(1, 181) = 6.35$, $p < .000$). Table 10 summarizes the results.

The Core of the Nomological Network

With the two core variables checked for reliability, validity, and significant relationships, the central elements of the model are demonstrated in Figure 2.

Table 10: Differences in Perception of Role Ambiguity between Executives with and without a Written Job Description: One Factor Analysis of Variance

	Condition	
	Written Job Description n = 127	No Written Job Description n = 58
Mean	1.87	2.09
SD	.51	.58

Note. $F(1, 183) = 6.35, p < .000, \eta^2 = .03.$

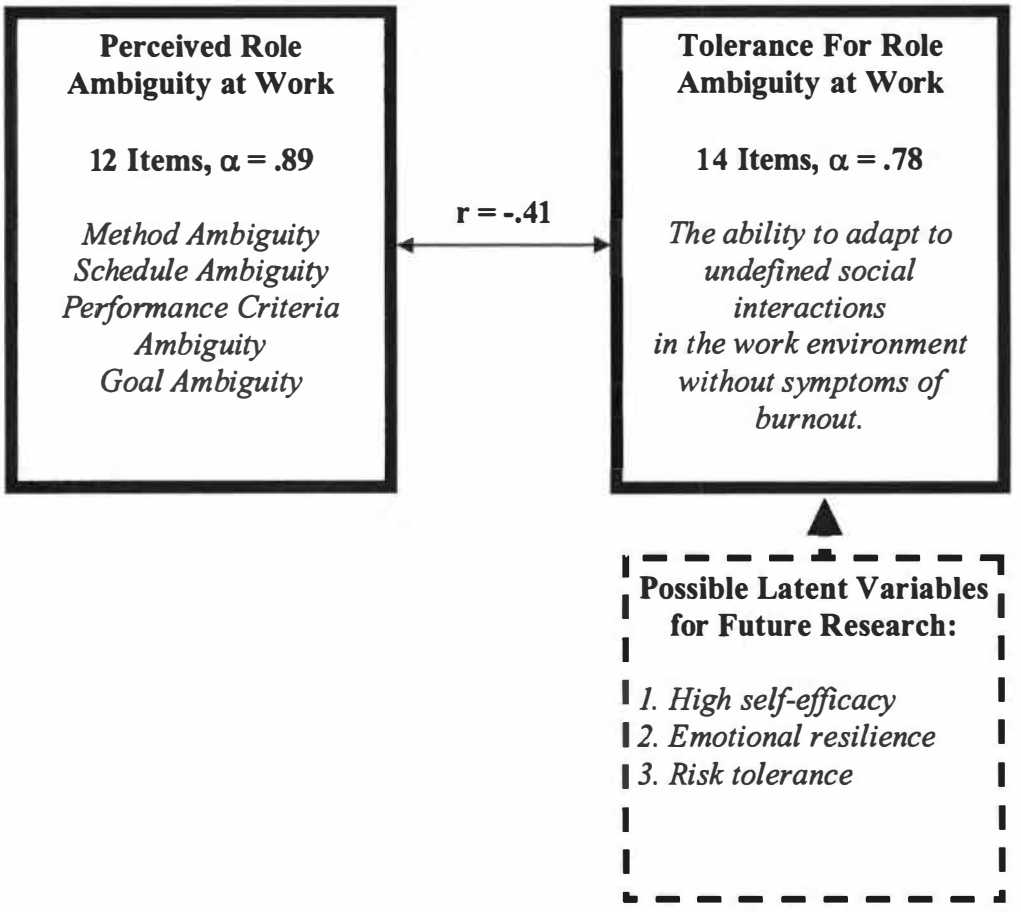

Figure 2. The Core of the Nomological Network

Reliability and Validity of the Predictor Variables

The Five-Factor Measures of Personality

The five-factor personality variables have been so well established that it is unnecessary to validate them again in this study. However, the scale used to measure them was used here for the first time and it should be examined. The five-factor model of personality was measured with 30 items. Each of the subscales began with six items. The internal consistency of each factor was evaluated with Cronbach's Alpha method. Table 11 reports the results on the following page.

Reliability of the Factors

The openness factor performed well. The scale score was acceptable (α= .74). The conscientiousness factor was reliable (α = .72). The extraversion/introversion scale, which was scaled to indicate extraversion, produced an acceptable reliability score (α= .71) with four items. Item 27 and 47 were not sufficiently correlated and were dropped from the extraversion subscale. The agreeableness factor did not prove reliable, and it was dropped from the analyses. Alpha coefficients were in the low .60s. Curiously, only item 41 from the agreeableness factor correlated highly with any other measures. The neuroticism scales indicated emotional stability or low neuroticism. The reliability of the scale was acceptable in this administration (α = .72) with item 34 dropped from the analysis. To summarize, all factors were usable except the agreeableness factor. Accordingly, agreeableness was dropped from further analysis.

Table 11: Reliability Analysis of the Five-Factor Personality Subscales

Subscale	Cronbach's Alpha
1. Openness to experience	.74
2. Emotional stability/low neuroticism	.72
3. Extraversion/introversion	.71
4. Conscientiousness	.72
5. Agreeableness	.65

Note. By convention, only scales with alpha > .70 were included in subsequent analysis.

Other Predictor Variables

A job formalization variable was created by summing three scores for items measuring written job description, professional standards of licensure, and an annual performance evaluation. Since this variable is not measuring a single construct, it is not necessary to evaluate it for reliability. Persons who reported having all three of these job formalization components received a "3" and those who had none of them received a "0."

Social support was measured with three items (items 2, 20 reversed, and 37). These three were averaged to form a social support variable. The alpha coefficient for the measure was acceptable ($\alpha = .78$). Appendix H includes the items.

Rational-Analytic thinking style was measured with eight items. The measure was not reliable. Alpha coefficients were very low ($\alpha = .50$), and it was dropped from the analyses.

Locus of control was originally measured with eight items. After a reliability analysis, the scale was dropped from the analysis. The scale produced reliability coefficients that were unacceptable ($\alpha = .65$). An interesting result emerged from the analysis of this construct. Two of the eight items measured perceived influence on the organization. The two items produced a very high alpha coefficient ($\alpha = .84$) when examined by themselves. However, the two items covary and they were not used. Although the results for this variable were disappointing, the two items were interesting enough to be mentioned for future research. Perceived organizational influence did seem to correlate with tolerance for ambiguity. This variable should be included in future studies with a more reliable scale. It will be included in the model as a measure for future

research. A table of the correlation matrix for all core and predictor variables is on the following page as Table 12.

Regression Analyses

Both of the core variables were regressed on several iterations of the independent variables. This procedure identifies meaningful predictors or inverse predictors (Cohen, Cohen, West, & Aiken, 2003). Multiple regression provides a linear association between a dependent variable and multiple independent variables. The method "partials" or unconfounds the influence of each predictor from the effects of the others (Netter, Kutner, Nachtsheim & Wasserman, 1996).

The inclusion of variables in the analysis was determined by a thematic analysis of the interviews of the subject matter experts, and by examining a correlation matrix listing all the variables of the study. Several versions of the model were attempted. Simultaneous regression analysis produced a list of significant predictors. After several iterations, two personality predictors and two situational predictors produced significant and meaningful results. Table 13 on the second following page summarizes the results of the simultaneous regression with the four meaningful predictors. There were no problems with multicollinearity.

The two personality predictors (actually inverse predictors) were extraversion ($\beta = -.11$, $t = -2.08$, $p = .038$) and conscientiousness ($\beta = -.26$, $t = -3.83$, $p < .000$). This result was unexpected. There was no proposed relationship between personality variables and perceived ambiguity at work. The next chapter includes a discussion of this result.

Table 12: Correlation Matrix for the Core Variables and Predictor Variables

Measure	1	2	3	4	5	6	7	8
1. Tolerance for ambiguity	--	-.41**	.28**	.63**	.26**	.45**	.32**	.17*
2. Perceived ambiguity		--	-.35**	-.32**	-.19*	-.01	-.40**	-.18*
3. Conscientiousness			--	.30**	.01	.19**	.24**	.05
4. Emotional Stability				--	.23**	.23**	.30**	.20**
5. Extraversion					--	.19**	.11	.11
6. Openness						--	.05	.02
7. Social Support							--	.06
8. Written Job Description								--

Note. Correlations markede* are significant at $p < .05$. Correlations markede** are significant at $p < .01$.

Table 13: Simultaneous Regression Analysis: Perceived Role Ambiguity Regressed on Four Predictor Variables

	Parameter Estimates		Model Estimates	
Sequential Models	B	SE	R^2	ΔR^2
Model 1[a]				
Intercept	3.20	.28	.17	--
Social Support	-.39	.06		
Model 2[b]			.21	.04*
Intercept	3.35	.22		
Social Support	-.32	.05		
Written Job Description	-.23	.08		
Model 3[c]			.27	.06*
Intercept	4.18	.31		
Social Support	-.27	.05		
Written Job Description	-.22	.08		
Conscientiousness	-.26	.07		
Model 4[d]			.29	.02*
Intercept	4.52	.37		
Social Support	-.26	.05		
Written Job Description	-.20	.08		
Conscientiousness	-.27	.07		
Extraversion	-.11	.05		

Note. [a]df = 1, 169, p < .000. [b]df = 1. 168, p = .005. [c]df = 1, 167, p < .000. [d]df = 1, 166, p = .038. The asteriskt* indicates a significant ΔR^2.

Two situational variables inversely correlated with perceived ambiguity. The job formalization variable when analyzed as an aggregate surprisingly did not predict perceived ambiguity. However, the simultaneous regression showed that item 58 (Do you have a written job description?) was significant when analyzed by itself ($\beta = -.17$, $t = -2.54$, $p = .012$). The variable was scored so that persons who have a written job description scored 1. Persons who did not scored zero. The other two elements of job formalization (professional standards/licensure, and an annual performance review) did not predict. Social support also produced significant results. The next chapter includes a discussion of these results.

The researcher conducted a hierarchical regression to verify the results of the simultaneous regression. A second reason for the hierarchical regression was to test if perception of role ambiguity is a situational or personality variable. The two situational variables were entered as a set, followed by the two personality variables as a second set. Table 14 on the next page summarized the results of the hierarchical regression.

The analysis demonstrated that perception of role ambiguity is probably a situational variable. Situational measures account for 20% of the variance. Personality variables add approximately 8% to the explained variance. We checked the model for interaction of the two sets, and no significant interactions were found. However, conscientiousness does predict more variance than any other variable when using unstandardized beta coefficients. When using standardized beta coefficients the conscientiousness and social support variables switch rankings. This result is unexpected and it does not fit the original hypotheses for the study. The next chapter will discuss this further.

Table 14: Hierarchical Regression Analysis: Perceived Role Ambiguity Regressed on Situational and Personality Variables

	Parameter Estimates		Model Estimates	
Sequential Models	B	SE	R2	ΔR^2
Model 1 (Situational Variables)			.21*	--
Intercept	3.35	.22		
Social Support	-.32	.05		
Written Job Description	-.23	.08		
Model 2 (Situation plus Personality)			.29	.08*
Intercept	4.52	.37		
Social Support	-.26	.05		
Written Job Description	-.20	.08		
Conscientiousness	-.27	.07		
Extraversion	-.11	.05		

Note. Model 1 df = 1, 168, $p < .000$. Model 2 df = 1, 166, $p < .000$. ΔR^2 is significant at $p < .05$. *All F-statistics and t-statistics are significant at $p < .05$.

Proposed Nomological Model

Figure 3 on the next page is a model of perceived role ambiguity at work. The model expresses the inverse predictor variables using standardized beta coefficients. All betas are significant at $p < .000$. The model shows that social support, conscientiousness, having a written job description, and extraversion all inversely predict perceived ambiguity at work.

Simultaneous Regression: Tolerance for Role Ambiguity at Work

Tolerance for role ambiguity at work was regressed on the five-factor personality variables and two contextual variables. A simultaneous regression identified interesting relationships. After several iterations, we identified three meaningful and significant predictors. Table 15 summarizes the results on the second following page. The simultaneous regression identified two personality variables, emotional stability and openness as significant predictors of tolerance for role ambiguity. Social support also predicted tolerance. No other variables significantly predicted tolerance for role ambiguity. However, one interesting variable could not be used because of poor reliability. Two items from agreeableness measured the straightforwardness dimension of agreeableness. These two items may be predictors. A decision was made not to use this measure in the analysis because of concerns for its reliability. It is interesting enough to include in future studies. The measure may actually be evaluating task orientation, but there was no way to establish this with the scale. This must be resolved in future studies with a reliable scale.

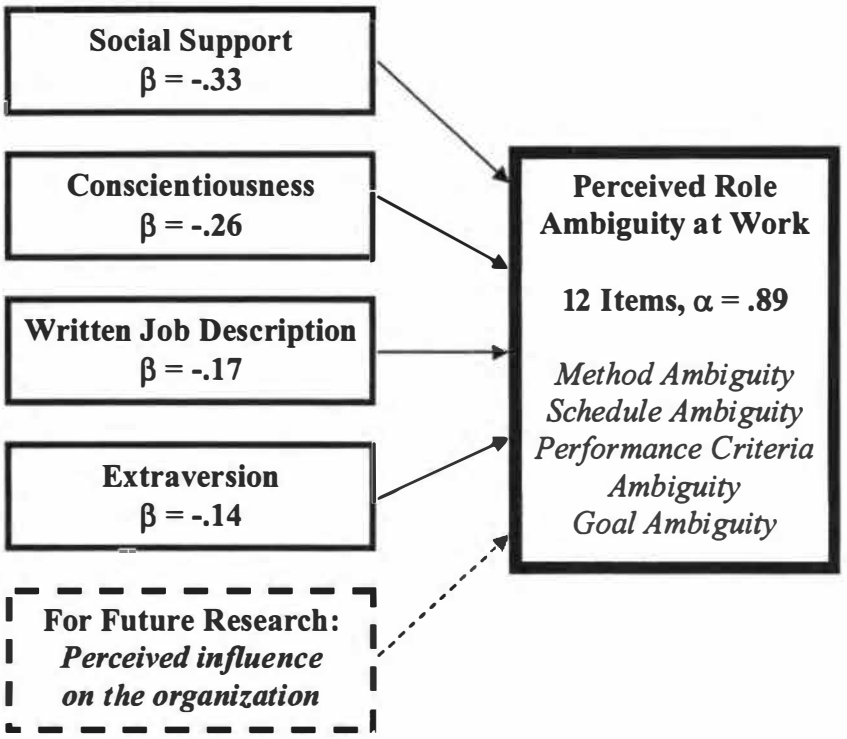

Figure 3. Perceived Role Ambiguity at Work

Table 15: Simultaneous Regression Analysis: Tolerance for Role Ambiguity Regressed on Three Predictor Variables

	Parameter Estimates		Model Estimates	
Sequential Models	B	SE	R^2	ΔR^2
Model 1[a]			.10	--
Intercept	3.19	.16		
Social Support	.19	.04		
Model 2[b]			.30	.20*
Intercept	2.49	.20		
Social Support	.17	.04		
Openness	-.30	.04		
Model 3[c]			.52	.22*
Intercept	1.26	.20		
Social Support	-.07	.03		
Openness	-.22	.08		
Low neuroticism	-.42	.04		

Note. [a]df = 1, 173, p < .000. [b]df = 1. 172, p < .000. [c]df = 1, 171, p < .000. All F-statistics and t-statistics are significant at p < .00.

Hierarchical Regression

We conducted a hierarchical regression using the two personality variables as the first set and the social support variable as the second. This regression was conducted to confirm that the proposed model actually predicted significant variance. The regression also clarified if tolerance for role ambiguity is situational or personal. Table 16 on the following page summarizes the results.

The model with only the first set was significantly better than the null model with all values set at zero ($F(2, 172) = 87.80$, $p < .000$, $R^2 = 50$). The second model with personality and situational variables added significantly to the explained variance ($F(1, 171) = 4.80$, $p = .03$, $R^2 = .52$). There were no significant interactions. The complete model with three predictors explained 52% of the variance in tolerance for role ambiguity. This result exceeded expectations. It appears that low neuroticism is the major predictor of the ability to adapt to undefined social interactions at work. It also appears that social support predicts on both sides of the model. This result will be discussed in the next chapter. Figure 4 on the second following page expresses the results as a diagram using standardized beta coefficients.

Regression Equations

The diagrams report standardized beta coefficients. When expressed as regression equations using unstandardized beta coefficients, the regression equations express the relative contribution of each predictor variable. The equations are reported in Figure 5 on the third following page.

Table 16: Hierarchical Regression Analysis: Tolerance for Role Ambiguity Regressed on Situational and Personality Variables

	Parameter Estimates		Model Estimates	
Sequential Models	B	SE	R2	ΔR^2
Model 1 (Personality Variables)			.50*	--
Intercept	1.41	.19		
Low neuroticism	.45	.04		
Openness	.21	.04		
Model 2 (Situation plus Personality)			.52	.02*
Intercept	1.26	.20		
Low neuroticism	.42	.05		
Openness	-.21	.04		
Social Support	-.07	.04		

Note. Model 1 df = 1, 172, $p < .000$. Model 2 df = 1, 171, $p < .000$. ΔR^2 is significant at $p < .05$. All F-statistics and t-statistics are significant at $p < .000$.

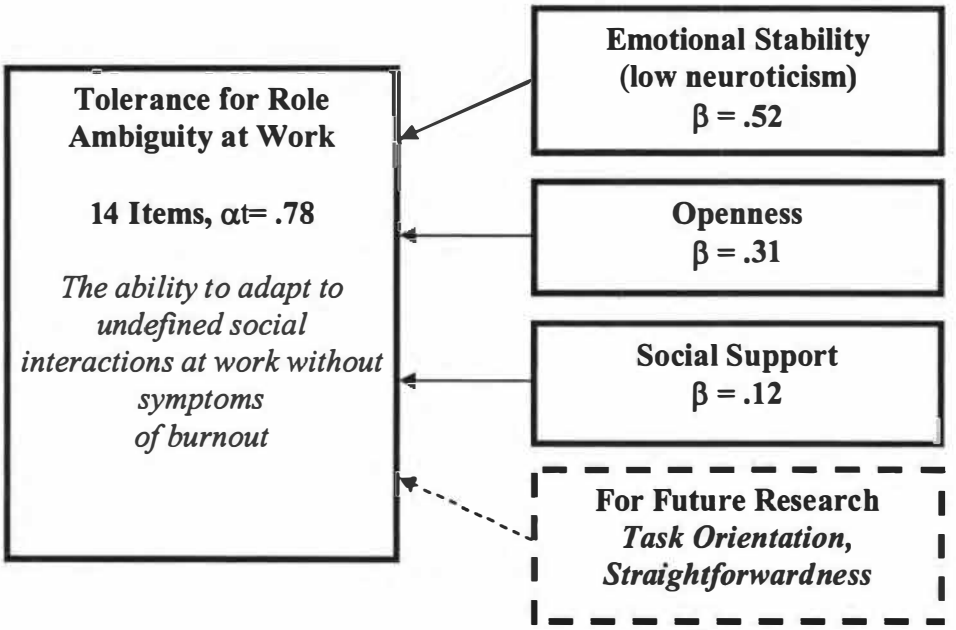

Figure 4. Tolerance for Role Ambiguity at Work

Perceived Role Ambiguity at Work = 4.52 - .27(Conscientiousness) - .26(Social support) - .19(Written job description) - .11(Extraversion).

Tolerance for Role Ambiguity at Work = 1.27 + .42(Emotional stability/low neuroticism) + .21(Openness) + .07(Social Support).

Note. The equations report unstandardized beta coefficients.

Figure 5. Regression Equations

The Proposed Nomological Network of Tolerance for Role Ambiguity

The complete model with both core variables and all significant predictor variables is presented here as Figure 6 on the following page. Figure 7 on the second following page summarizes the hypotheses. The model explains the relationships between perceived ambiguity and tolerance for ambiguity. Perceived ambiguity and tolerance for ambiguity are negatively related. This means that a person scoring low in perceived ambiguity is either not experiencing ambiguity or they have taken steps to reduce it. Persons who score high in perceived ambiguity are probably not adapting such that the ambiguity is being resolved.

The hierarchical regression suggests that perceived ambiguity is as much situational as personal. The regression also shows that tolerance for role ambiguity is personal rather than situational. The explained variance of the tolerance scores is almost entirely due to the influence of low neuroticism scores. About half of the variance is explained by two measures (emotional stability/low neuroticism and openness to experience).

The model also includes some items for future research. Some of the variables in this study did not significantly predict on either side of the model, but they are close enough to merit future analysis. In particular, item 41 predicted by itself. It is a measure from the agreeableness subscale. It was omitted from the final model because it is difficult to assess exactly what one item measures. Future studies must address this issue.

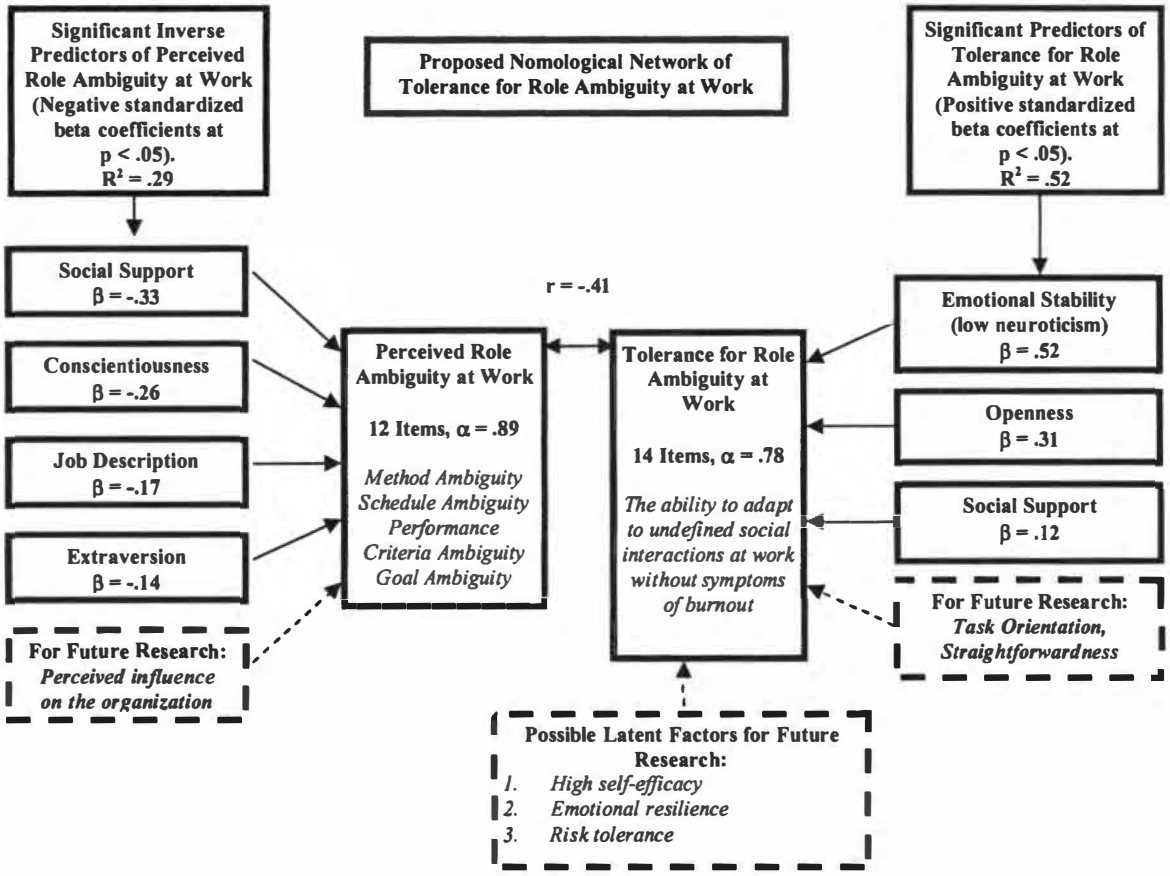

Figure 6. The Nomological Network of Tolerance for Role Ambiguity at Work

Hypotheses for Contextual Variables

H_{1A}: Job formalization will predict tolerance for role ambiguity. *Result: Job formalization failed to predict tolerance for ambiguity.*

H_{1B}: Social support will predict tolerance for role ambiguity. *Result: Social Support did predict tolerance for role ambiguity.*

H_{1C}: Job formalization will inversely predict perceived role ambiguity at work. *Result: Job formalization failed to predict tolerance for ambiguity, but one having a written job description did inversely predict perceived ambiguity.*

H_{1D}: Social support will inversely predict perceived role ambiguity at work. *Result: Social support did inversely predict perceived role ambiguity.*

Hypotheses for Five-Factor Personality Variables

H_{2A}: Openness to experience will predict tolerance for role ambiguity. *Result: Openness did predict tolerance for role ambiguity.*

H_{2B}: Low neuroticism (emotional stability) will predict tolerance for role ambiguity. *Result: Low neuroticism/emotional stability was the strongest predictor of tolerance for role ambiguity.*

H_{2C}: Demographic variables (age, gender, education level, and tenure) will not significantly predict perception of role ambiguity. *Result: Demographic variables generally did not predict perception of role ambiguity, but job type did produce significant differences in perception scores for ministers and paid executives.*

Figure 7. Summary of the Hypotheses

Other Personality Hypotheses

H_{3A}: Locus of control scores that indicate internal locus will predict tolerance for role ambiguity. *Result: Locus of control was not analyzed due to poor reliability.*

H_{3B}: Rational-analytic thinking style scores will predict tolerance for role ambiguity. *Result: Rational-analytic thinking style was not analyzed due to poor reliability.*

Hypotheses for Demographic Variables

H_4: Demographic variables (age, gender, education level, and tenure) will not predict tolerance for role ambiguity. *Result: Demographic variables generally did not predict tolerance for role ambiguity, but job type did produce significant differences in tolerance scores for ministers and paid executives.*

Figure 7 Continued.

CHAPTER 4

Discussion

The Hypotheses and Implications

Is Tolerance for Role Ambiguity Personal or Situational?

Before any data was collected, the first hypothesis of this study was that tolerance for role ambiguity at work is as much a situational variable as a personality variable. The prediction was that work formalization and social support would predict the ability to tolerate undefined social roles at work. This prediction was only partially correct. Work formalization did not predict tolerance at all, at least in the population chosen for the study. Social support did predict, but it was the weakest of the three predictors. This surprising result forced a re-examination of the relationships between measures. The situational variables were re-examined in relationship to the other core variable, the perception of role ambiguity at work. When the perception of role ambiguity was regressed on a series of predictor variables, it became clear that the situational variables inversely predicted perception of role ambiguity, but they do not predict tolerance for role ambiguity. There were no significant interactions.

Social support predicted on both sides of the model. The perception of social support is negatively correlated with the perception of role ambiguity, and it predicts the tolerance for role ambiguity. The implications of this result will be expanded in the section to follow.

The relationship of the two core variables is also interesting. The model as presented shows them to be negatively correlated ($r = -.41$), with each of the core variables uniquely producing its own set of predictors. This means that persons who are

high in perceived ambiguity are low in the tolerance for ambiguity. This result means that some executive team members experience more ambiguity and are less tolerant of it. These executives are probably more subject to adverse consequences. They can be expected to have higher absenteeism, lower job satisfaction, and more likelihood of turnover. This is a sobering reality for the organizations and the individuals. The organizations should make appropriate interventions on behalf of their executive leaders. These interventions will be described later.

What this means is that the situational variables were over-estimated in the original hypotheses. The data showed that tolerance for role ambiguity at work is more a personality variable than a situational one, at least among this population. This interpretation is strengthened by the very high coefficients for emotional stability and openness as predictors of tolerance for role ambiguity. These two variables explain 50% of the variance by themselves. The situational variable adds less than 2%. Executive team members tolerate ambiguous work situations because of stable personality traits, and not because of contextual variables. While situational variables affect their perception of ambiguity, they have less to do with their ability to tolerate it. This is a very surprising result to this researcher.

The demographic variables predicted nothing, confirming the hypotheses. In a larger sample with more power, there might be some differences between men and women. The results produced here were not significant but they were interesting. Men and women did report slight differences, but the effect was too small to be significant with this sample. This must be addressed in a future study.

Another unexpected result of this study is that extraversion and conscientiousness are negatively correlated with perceived ambiguity. There was no proposed hypothesis concerning this relationship. The relationship is very interesting and merits more study. Perhaps conscientious people work harder to resolve ambiguous social interactions at work. Perhaps extraverted people spend more time on relationships and therefore experience less ambiguity. This relationship must also be studied in a future project.

The study proposed that openness and emotional stability/low neuroticism would predict tolerance for role ambiguity. The relationship was confirmed, and was even stronger than expected. The relationship is so strong that it causes one to ask if the neuroticism factor of the Big Five overlaps the construct of tolerance for role ambiguity at work. Only one predictor accounts for about 50% of the variance in tolerance. As measured in this study, however, tolerance does include at least one situational variable (social support) and there may be others not yet examined. It is too early to say that low neuroticism explains all of the ability to adapt in healthy ways. The openness factor was also a very strong predictor, so perhaps some combination of openness and low neuroticism are a specialized factor in tolerance for role ambiguity.

Job formalization failed to predict tolerance for role ambiguity. Job formalization also did not significantly correlate with perception of ambiguity. Only the written job description item negatively correlated with perceived ambiguity. It appears that professional standards and an annual performance review contribute little to the healthy resolution of role ambiguity in this population. It was not the purpose of this study to evaluate the effectiveness of performance reviews, but it is obvious that they did not produce meaningful improvements with the population of executives.

The Value of the Proposed Nomological Network

The network of ideas proposed here should contribute a skeletal framework for new discussions and studies on this important phenomenon. This is especially so because the earlier studies have struggled with the problems of construct deficiency and construct contamination. This model also makes a significant contribution to construct clarity by separating perceived role ambiguity and tolerance for role ambiguity. The model allows the purely dyadic and personal correlates to be studied separately. This model will allow industrial psychologists to expand and clarify the network of related ideas, and to search for moderator variables. The model will also allow clinicians and counselors to apply some of their tools and instruments to work situations with more certainly and specificity.

Comparing Ministers and Other Executives

One unexpected result of this study was that religious leaders reported higher scores on perceived role ambiguity and lower scores on tolerance for role ambiguity. From this study, it appears that priests, ministers, and rabbis experienced more ambiguity and have more difficulty tolerating it. They are having more difficulty with this problem than their managerial colleagues. This study did not investigate why this is the case. Perhaps the nature of the organizations is naturally more ambiguous. It would be interesting to plan a future study to determine if this is true in a much larger population and to determine the causes of it.

Some Prescriptive Interventions

One of the purposes of this study is to provide nonprofit organizations with research-based suggestions for improving working conditions for their executives. The executive teams are valuable leaders who are difficult to find, expensive to train, and

difficult to replace. When these executive leaders experience burnout, the whole organization suffers. It is to the advantage of both employee and organization to have the following correctives in mind when thinking about employee health and retention, and organizational effectiveness.

Written Job Descriptions

This study suggested that executive leaders who have a written job description experienced significantly less perceived ambiguity than those who did not ($F(1, 181) = 6.35$, $p < .000$). This is evidence enough to suggest that all nonprofit organizations should provide a carefully crafted written job description to their executive teams. It may be surprising to some that such a high number of these employee/leaders ($n = 61$, or 30%) did not have a written job description. The lack of a description did not seem to be related to organizational size. One might expect that smaller organizations would be less likely than large organizations to have written job descriptions, but this was not the case. The organizations without written job descriptions were scattered throughout the range of organizational sizes reported in the surveys.

The process of creating a written job description begins with a careful job analysis, and the job analysis alone may reduce the ambiguity in these organizations. Many of them have long-forgotten job descriptions that badly need updating. It would be to the advantage of all such organizations to clearly specify what they expect their leaders to do, when to do it, and how evaluation will take place. The result of this process would be beneficial to the organizations and the individuals who work for them.

Employee Selection

The second prescriptive intervention suggested by this study is that nonprofit and voluntary organizations should expend more effort in careful selection of their own leaders. If the ability to positively adapt to ambiguity is a personality variable, as suggested by this study, then the organizations need to take steps to select individuals who have this trait. No one seriously believes that all job ambiguity will be removed from the leadership of these groups. No matter how many prescriptive steps are taken, the complexity of the organization will create new ambiguity. This being the case, executive leaders must be people who can adapt in healthy ways to the vexing roles that will be sent in their direction. People who are intolerant, or who cannot adapt in healthy ways to the unavoidable ambiguity of the position, should reconsider their vocational choices. The reduction of personal stress would be worth the cost of finding new work, both for the person and the organization. Burnout benefits no one. Good person-to-position fit can reduce a long list of negative consequences in work life. This becomes especially meaningful when considering low neuroticism/emotional stability.

Organizational Training

A third prescriptive intervention suggested by this study is that all members of the organization need to be trained to understand the roles in their group. Lack of clarity in work roles can be reduced by education. Job analyses and job descriptions can be published in organizational web sites, newsletters, membership packets, and a large number of other organizational communication tools. Orientation sessions are often held for new members. A part of these orientations could be dedicated to identifying responsibilities and authority, work schedules, and outlining the evaluation processes for

each position. Having these communication devices in place will not completely remove ambiguity, but it would at least reduce it by showing leaders and members where they can look for information about clarity of roles. One executive leader who participated in the scripted interviews for this study said, "No one was quite sure what this job is about. I had to create my own job description as I worked." This particular executive was very successful and remained in the position for 30 years, but the process is not always happy. Many executive positions are marked by unnecessary and frequent turnover. If the organizations took the time to educate their own people, they may be able to keep valuable employees longer. If organizations do not select carefully or serendipitously for the correct traits, they will almost certainly be forced to deal with high turnover.

Performance Evaluations

This study suggested that performance evaluations did not work for this population. Executive team members who had a performance review demonstrated no significant differences from executives who did not have such a performance review on either of the two core variables. Perhaps this means that organizations who conduct performance evaluations for their employees are doing them poorly. The performance reviews, at least among these organizations, did not reduce perceived role ambiguity nor did they increase the tolerance of it. This study made no effort to distinguish types of performance evaluations. Perhaps evaluations done for the purpose of development would produce different results than evaluations done for the purpose of administrative decisions where politics are a factor. It is also known that some organizations and some supervisors over-estimate their ability to evaluate and/or to communicate the results of the evaluation. This situation could be improved by having a job analysis, identifying

very specific performance criteria, and by training evaluators thoroughly. It is disappointing to think that the stress and bother of an annual evaluation produced no significant improvement for the executives. Human resources and management personnel should investigate training programs in evaluation. They should also clearly identify the expected outcomes for the work of their executive teams. This situation can be improved with good training of interviewers. Organizations should also use multiple raters and multiple methods of evaluation. Some research indicates that 360^0 feedback and other such methods produce better results (Lepsinger & Lucia, 1997).

Social Support

The social support variable predicted on both sides of the model. Social support predicted tolerance for ambiguity ($\beta = .12$) and inversely predicted perception of ambiguity ($\beta = -.36$). It was the strongest predictor for perception of role ambiguity. This means that voluntary organizations should pay attention the the human side of work. Those executives who have some sense of connectedness with their peers appear to be better able to deal with undefined social interactions. This result is intuitively appealing, but it is difficult to plan a formal system to encourage healthy social relationships. Organizational members need to focus attention on the fact that their executive teams need healthy and satisfying relationships as much as they need salary and benefits. Everyone who has worked in an environment where infighting is common knows that turnover is high and job satisfaction is low. Paid executives may need personal friendships more because of the naturally ambiguous job they hold.

Suggestions for Future Research

The first and most obvious need for further research on the proposed model is that the study must be conducted in another population. If the relationships between variables of this study hold true in other populations, then organizations of several types can reduce the perceived ambiguity among their executive teams. This would lead to improved working conditions, reduced turnover, and reduced healthcare costs. If the results are consistent across several types of workers in many types of organizations, then this model could be considered robust and useful for administrative decisions. Most organizational members intuitively realize that role ambiguity is at least frustrating if not damaging. If they were to have a valid and reliable tool and conceptual framework to measure perceived ambiguity, they could make appropriate administrative adjustments for their employee/leaders. This is predicated on the robustness of the model. We must know if these results are a unique characteristic of voluntary organizations or if they are general characteristics seen in all types of organizations. The only way to know this is more research in other populations.

The next implication for future research is that the predictive ability of the model must be validated. This is predicated upon the consistency (external reliability?) of the model across groups. If the model works, industrial psychologist should identify valid measures of job performance among executive leaders and other types of workers in specific work domains. These valid measures of job performance could then be correlated with the scales demonstrated in this study. For example, validation studies could determine how high tolerance for role ambiguity is correlated with meaningful and valid measures of job performance. The instrument could then be modified for use as an

employee selection tool. Since personality measures are generally consistent across the age span, organizations could select only those individuals who are temperamentally suited for the positions being considered. It is in the best interest of the organization and the individual that "person-to-position fit" be good. Individuals who are highly perceptive of role ambiguity or who are highly intolerant of ambiguity could be counseled to seek other positions.

The third line of future research should include a fuller examination of the five-factor model of personality and its relationship to tolerance for role ambiguity. This dissertation used an abbreviated form (30 items) for the sake of time and expense. The NEO-PI in the most current and complete form should be tested with the tolerance for role ambiguity measure developed for this dissertation. There may be several interesting relationships emerging from the longer form of the five-factor inventory. In particular, the straightforwardness component of the agreeableness factor was only briefly treated in this study. There were intriguing implications and significant relationships, but the straightforwardness measure included only one item in this study. It is interesting that one item (#41) produced a significant beta coefficient when included in a regression model for tolerance for role ambiguity. This relationship was not strong enough for inclusion in the proposed model, but it certainly raised some issues for further research. Exactly what is it measuring and how does this predict tolerance for role ambiguity? The only way to discover this is to do the study again with the full NEO-PI and the tolerance for role ambiguity scale developed here.

The proposed nomological network should also be tested using structural equation modeling to identify paths, relationships, and hidden variables. The population for this

study could be included in a larger study with other populations so that path analysis and latent variables could be examined with AMOS or LISREL. The model almost begs for such a study, but the population should first be made larger and more inclusive. Structural equation modeling should explain even more than a regression analysis once the population is made sufficiently large and diverse.

Limitations

The first limitation of this study is that the chosen population is so specific that it is dangerous to generalize beyond it. This is not a serious limitation because the study was designed to contextualize role ambiguity among voluntary organizations. While it is tempting to speculate that executive teams in for-profit organizations would respond in a similar manner as these nonprofit leaders, one must recognize that the fundamental differences between for-profit and nonprofit organizations are so great that the temptation to generalize must be resisted. In order to test the proposed relationships of variables among other types of executive teams, the study must be conducted again in those other types of organizations. It is entirely possible that what has been demonstrated here could not be replicated. There may be characteristics of this population that are unique among managers and leaders. It is easy to see that any study done among members of voluntary organizations has an extreme version of "volunteer bias." All members of voluntary and nonprofit organizations are likely to be socially involved, perhaps extraverted, perhaps more socially skilled than members of the general population. To compound this, the survey was done among the leaders of the volunteers. Therefore, it is possible that this study has volunteer bias squared or even cubed.

One anecdotal proof of this is that the population has a very high level of education as compared to the general public. The typical member of this group has taken graduate work. The number of doctorates in this group is many times the national average. The number of religious leaders is also much higher than could ever be expected in a more general population. It would be fascinating to repeat the study in an industrial or retail population to see if the results are consistent with those presented here. Until that is completed, no attempt should be made to generalize beyond these executive leaders of voluntary organizations.

The second possible limitation of this study involves range restriction of scores due to the population. Once again, this is not a problem for the study as long as one considers that this is a contextualized study. It provides an accurate description of the population of interest. The members of the population for this study are very similar in age, tenure, personality, job type, and many other important variables. Their responses tend to cluster toward the high end on most of the variables, reducing the variance significantly and reducing the predictive power for correlational analysis. Range restriction is not a problem for this study as long as one understands that the narrow band of scores on the measures is an accurate representation of this population. It was never the intention of this researcher to generalize beyond the executive teams anyway. If the study were conducted in a much broader population some of the variables that did not predict or correlate here, might become predictors or correlates. For example, in an earlier study among non-profit leaders, organizational commitment scores were so high (as one should expect in voluntary groups) that they had no predictive ability at all. This

would certainly not be the case if the public were surveyed for organizational commitment and some other outcome variable (Pierce, 2003).

The third possible limitation of this study is that there may be a number of other variables that significantly predict perception or tolerance of role ambiguity. The R^2 for this study was quite good, ($R^2 = .52$ for tolerance for role ambiguity), but this means that 48% of the variance is unexplained. It is very possible that a variable not listed in this study would predict better than those that were included. The method of resolving this question is to do a similar study with other relevant variables suggested by the study itself. Some of the factors from the "Big Five" did not predict at all. Agreeableness failed to predict anything with statistical significance. However, single items from those constellations did have mild predictive power, sometimes significantly so. This means that there are probably latent variables lurking within the Big Five that explain the ability to adapt to role ambiguity.

There may also be other variables quite unrelated to the five-factor model that would explain a large increment of the unexplained variance. For example, the variables of task orientation and/or relationship orientation were not measured in this study. Higher-order need strength may also be an unexamined contributor to the 48% of the unexplained variance. Negative affectivity could possibly correlate or predict on one side or the other of this model. This can only be resolved by more study on this topic.

Conclusion

As was demonstrated in the introduction to this dissertation, one of the most serious problems in the study of role ambiguity is the lack of construct clarity. The discussions of role ambiguity have acknowledged that construct contamination and

construct deficiency are serious. The same could be said of the tolerance for role ambiguity. Evidence of confusion is abundant, and is best illustrated by the fact that researchers alternate between "tolerance" and "intolerance" sometimes in the work of the same researcher. Ironically, the sheer number of studies is also an indication of the lack of agreement about the phenomena. There are a large number of definitions, correlates, moderators, predictors, and factors included in the existing research and even in this dissertation. The studies have not converged at a common point. This study attempted to reframe the discussion so that the constructs can be examined in a context that allows scholars to have a network of related ideas. The study should be considered as the first of several that tests the proposed network of ideas around tolerance for role ambiguity. If the model proves to be robust, additional studies can add to the clarity of the constructs. The model will also allow researchers the opportunity to search for moderators, predictors, and the unexplained variance.

This study should also contribute a framework for understanding the role pressures of executive teams in non-profit organizations. The work they do is too important to ignore. It is unfortunate that they have received so little attention from the research community. Hopefully, this dissertation will spur more research that benefits the organizations that contribute so positively to the quality of life of millions of Americans. May their tribe increase.

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Appendices

Appendix A

Perception of Role Ambiguity at Work Scale

(Method Ambiguity)
1. I am certain how to go about getting my job done.
2. I know the best approach to getting my work accomplished.
3. I know what procedures to use to get my work done.

(Schedule Ambiguity)
1. I know when I should be doing a particular aspect of my job.
2. I am certain about the sequencing of my work activities.
3. My job is such that I know when I should be doing a given work activity.

(Performance Criteria Ambiguity)
1. I know what satisfactory work performance is for my position.
2. It is clear to me what acceptable work performance is in my job.
3. I know what level of performance is expected of me in this organization.

(Goal Ambiguity)
1. I know what the real objectives are for this organization.
2. It is clear to me what we should accomplish as an organization.
3. I am certain that I am working toward the correct goals.

Appendix B

Tolerance for Role Ambiguity at Work Scale
(Original Version, 20 Items)

(Emotional Resilience)
1. When someone makes a demand of me in this organization, I react in a problem-solving manner rather than by complaining.
2. When things go wrong I always keep working until the situation is improved.
3. (Reversed). When people expect me to do something difficult or new in this organization I feel so stressed that I want to leave.
4. I can recover quickly if something distresses me when I am doing my work.
5. I can usually maintain my enthusiasm for the job even if things are not perfect.

(Positive framing of undefined events)
1. Environmental turbulence sometimes presents an opportunity to make positive changes in our organization.
2. A little surprise at work is a good thing now and then.
3. (Reversed) We should do everything in our power to eliminate unexpected demands on the people in my position.
4. I can almost always figure out a good solution even if I have never faced a similar situation before.
5. (Reversed) I get very uncomfortable when our regular procedures and rules do not cover a situation.

(Self-efficacy in situations requiring adaptation)
1. When dramatic changes happen in this organization, I feel I handle them with ease.
2. I can cope with the unexpected better than most.
3. (Reversed) I am really unsure of myself when I am required to meet unexpected demands from others in this organization.
4. (Reversed) I do not feel like I should be the leader when our organization needs to do things we have never done before.
5. When people in this organization make demands on me it is an opportunity to demonstrate my abilities.

(Risk tolerance)
1. (Reversed) I tend to avoid situations where my actions may potentially harm the organization.
2. I don't mind taking a chance now and then if the potential benefits are great enough.
3. (Reversed) I need to know every possible outcome about a new program before I will agree to try it.
4. I think it is a good thing to take risks now and then.
5. I am not overly afraid of making a mistake in my job.

Appendix C

Tolerance for Role Ambiguity at Work Scale
(Final Version, 14 Items)

(Self-efficacy)
2. When someone makes a demand of me in this organization, I react in a problem-solving manner rather than by complaining.
8. When dramatic changes happen in this organization, I feel I handle them with ease.
11. I can almost always figure out a good solution to a problem even if I have never faced a similar situation before.
12. When people in this organization make demands on me, it is an opportunity to demonstrate my abilities.
17. I can cope with the unexpected better than most.
32R. I am really unsure of myself when I am required to meet unexpected demands from others in this organization.

(Emotional resilience)
23. I can recover quickly if something distresses me when I am doing my work.
26. Unexpected events always cause too much stress in this job, and we should try to prevent them from happening.
29. When things go wrong I always keep working until the situation is improved.
31R. When things get difficult I get so stressed that I want to leave.

(Risk tolerance)
9. I don't mind taking a chance now and then if the potential benefits are great enough.
15. I do not mind facing unexpected situations at work even if I cannot predict all the outcomes in advance.
21R. I need to know every possible outcome about a new program before I will agree to try it.
30. I think it is a good thing to take risks now and then.

Appendix D

Five-Factor Measures of Personality

(Extraversiont– positive measures)
1. I am generally very energetic and active.
2. When I am in a group I tend to be talkative and assertive.
3. I think people consider me to be enthusiastic and spirited.

(Extraversion – negative measures)
1. I prefer to let others to most of the talking in social situations.
2. I don't spend a lot of time seeking attention from others.
3. I generally prefer a quiet evening at home to a party.

(Agreeableness – positive measures)
1. When dealing with others I tend to be trusting.
2. I tend to cooperate with others in almost all situations.
3. Being pleasant and forgiving is really important to me.

(Agreeableness – negative measures)
1. Often I am very critical of people who have behaved poorly.
2. I don't mind telling others that they are wrong.
3. Sometimes you have to hurt others feelings to get things done.

(Conscientiousness – positive measures)
1. I tend to be very precise in all the work that I do.
2. I stay at a task until it is finished, no matter how long it takes.
3. I feel that people can always rely on me to do my job well.

(Conscientiousness – negative measures)
1. I am often careless about my work.
2. I tend to put things off until they have to be done.
3. I sometimes forget important projects.

(Emotional stability – positive measures)
1. I am a very stable person.
2. It really takes a lot to get me to lose my composure.
3. Generally speaking, I am very self-assured and steady.

(Emotional stabilityt– negative measures)
1. I tend to be tense much of the time.
2. I react emotionally to many social interactions.
3. I often blame myself when things go wrong.

(Openness – positive measures)

1. I have a wide variety of interests in life.
2. I consider myself to be objective and knowledgeable.
3. Generally speaking, I am very inventive and clever.

(Openness – negative measures)

1. I find it better to stick to a few things that I can do well.
2. I don't like to waste time dreaming about the future when there is so much to do in the present.
3. Simple things are always better than complicated things.

Appendix E

Semi-Structured Content Validation Interview
TORAQ-1

1. Do you agree that the four areas of ambiguity are present in the work of leaders?
Yes_____ No_____

2. How serious is each one of the following on a scale of 1 to 5 with 1 being "not serious" and five being "very serious"?
Method ambiguity

Schedule ambiguity

Performance criteria ambiguity

Goal ambiguity

3. Do you think the items listed can accurately measure the constructs? Yes or No.

Method ambiguity

Schedule ambiguity

Performance Criteria ambiguity

Goal ambiguity

4. What other forms of ambiguity would you suggest for inclusion in the study?

5. Do you agree that some people are more tolerant of ambiguity than others in your profession? Do people differ on tolerance for role ambiguity?

Yes_____ No_____
6. Do you agree that the four proposed measures are important in describing a person's ability to tolerate ambiguity? Rate them "yes or no" and assign a number from 1 to 5 with 1 being low.
Emotional Resilience
Cognitive framing
Self-Efficacy
Risk Tolerance

7. What other measures would you suggest for inclusion in the study?

Appendix F

Other Personality Variables

(These items produced poor reliability scores. They are not included in the analyses.)

Items Measuring Cognitive Rigidity

1. I don't change my mind easily.
2. I often change my mind. (Reversed)
3. My views are very consistent over time.

Items Measuring Routine Seeking

1. I'll take a routine day over a day full of surprises any time.
2. I like to do the same old things rather than try new and different ones.
3. I like to experience novelty and change in my daily routine. (Reversed)

Items Measuring Locus of Control

(Internal locus of control)

1. My job is what I make of it.
2. Most people are capable of doing this job well if they make the effort.
3. Success is usually the reward for hard work.
4. I have a lot of influence on the outcomes for this organization.

(External locus of control)

1. Success is usually a matter of who you know more than what you know.
2. People have to be really lucky to be successful.
3. The powerful groups of this organization really control what we can do.
4. I have very little influence on the outcomes for this organization.

Items Measuring Thinking Style (Epstein, Pacini, Denes-Raj & Heier, 1996) (This item was not used in the analysis.)

(Rational-Analytic Thinking Style)

1. I prefer complex problems to simple ones.
2. I like to understand how things work.
3. Solving a difficult problem brings me a lot of personal satisfaction.
4. If I had to choose between working in an art gallery or a science lab, I would choose the science lab.

(Intuitive-Experiential Thinking Style)

1. When it comes to trusting people, I can usually rely on my "gut feelings."
2. I usually feel when a person is right or wrong even if I can't explain how I know.
3. I try to avoid situations that require deep analysis of a problem.
4. I prefer the arts more than the sciences.

Appendix G

Social Support Scale

Items Measuring Social Support

1. I have a lot of personal friends in this organization.
2. I know we can count on each other when things are difficult.
3. The personal relationships I have made in this organization are very satisfying to me.
4. (Reversed). I often feel alone and isolated in this organization.

Appendix H

Demographic and Situational Variables

Item 56
Which of the following best describes the organization in which you serve as a leader? Community service_____, political_____, recreational_____, religious_____, other_____.

Item 57
Which of the following best describes your position in the organization? Unpaid board member_____, paid board member_____, unpaid executive_____, paid executive_____, religious leader_____, other_____.

Item 58
Do you have a written job description? Yes/no

Item 59
Do you have established professional standards or licensure for your position? (Example: medical license, CPA, ordination, state review, etc). Yes/no.

Item 60
Do you have a regularly scheduled performance evaluation from an individual or group within the organization? Yes/no.

Item 61
What is your age?

Item 62
How long have you been a participant in the organization you are now serving?

Item 63
How long have you held the position or job you now hold?

Item 64
What is your gender?

Item 65
Approximately how many board members serve in the organization?

Item 66
Approximately how many staff members serve in the organization?

Item 67
What is the highest level of education you have completed?

Vita

Mark Fletcher Pierce was born in Elizabethton, TN on July 20, 1951. He lived with his family in Carter County, TN where he attended the Elizabethton City Schools. He graduated from Elizabethton High School in 1969. He attended Atlanta Christian College in East Point, GA, receiving the Bachelor of Arts degree in religious studies in 1973. He then attended the Emmanuel School of Religion in Johnson City, TN from 1973 until 1978 where he received the Master of Divinity degree with a concentration in ministry. Mark was ordained as a minister in the Christian Churches/Churches of Christ in 1973. He earned the M.A. in experimental psychology from UTK in 2003.

Mark has been married to Cathy Spainhour Pierce since August 18, 1973. They have two grown sons, Scott Christian Pierce and Benjamin Curtis Pierce. Mark ministered to the Salem Church of Christ in Salem, VA, the Forest Avenue Christian Church, and the Woodlawn Christian Church of Knoxville, TN. He is currently the Director of Institutional Effectiveness at Johnson Bible College. He is an avid hiker and gardener, and a "Bob Villa wannabe." He has served on several boards of directors for charitable and religious organizations.

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