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Beliefs about the appropriate degree of directiveness in the management relationship, as related to demographic characteristics, educational background, and organizational position

Janet L. Pershing

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Beliefs about the Appropriate Degree of Directiveness in the Management Relationship,
as Related to Demographic Characteristics, Educational Background,
and Organizational Position

by

Janet L. Pershing

M.A., Humphrey Institute of Public Affairs, University of Minnesota, 1988
B.A., Carleton College, 1983

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Applied Management and Decision Sciences

Walden University
May 2003

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OF

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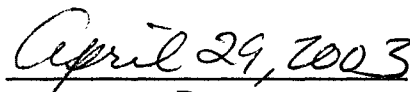
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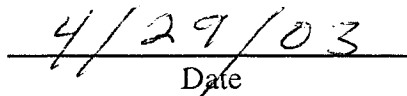
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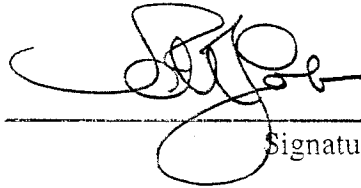
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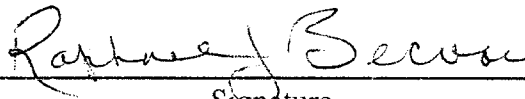
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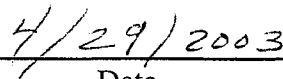
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ABSTRACT

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ABSTRACT

Correlations between beliefs about management and age, gender, nationality, level of education, education field, functional area, and hierarchical level were examined. Analyses were conducted at the ecological level and focused on beliefs regarding appropriate degree of directiveness in the managerial relationship. Two thousand staff members of an international intergovernmental organization received an electronically distributed written survey. Factor analysis was used to develop summated rating scales for each independent variables. Differences between subgroup means were then examined using ANOVA or *t* tests. The strength of the association between the independent variables and a common scale was assessed using eta squared. Directiveness was found to relate positively to age, and negatively to education level and hierarchical level. More directive, on average, than members of other groups were males, those educated in academic disciplines classified by Biglan as involving single thought paradigms or focusing on nonlife systems (e.g., physical sciences and economics), those in professional functional areas, and those from Japanese, Latin, and Nordic nationality groups. For all independent variables, differences reached high levels of significance ($p < .001$). Hypotheses regarding the relative strength of association between independent variables and the common scale were not supported. The results suggest that information about subgroup membership can help managers better meet the needs of a diverse staff. The concept of directiveness proved highly effective in predicting outcomes but requires refinement. Further investigation into those independent variables that have not previously been widely investigated and replication of the study in other venues are recommended.

DEDICATION

This volume is dedicated, with love and gratitude, to Jonathan...
for helping me grow in the ways I have chosen.

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Without the cooperation of the international intergovernmental organization XYZ, this study would not have been possible. Many thanks are due to the intercultural team that was involved in the survey's development and administration, and particular to my key contacts. I hope that the information XYZ obtained from this study will make a real difference to its quality of management in the coming years.

Special thanks are also due to the many scholars and practitioners who contributed to this effort either by responding to questions individually, or by generously sharing their wisdom through Internet listservs. In addition, I would like to give thanks to several individuals who have contributed their time and expertise to this effort: to Dr. Irving Buchen, for his guidance throughout the beginning stages of this project; to Dr. Iris Yob and Dr. Gary Gemmill, for their insights and encouragement; to Amy Jones for her real-world perspective; and especially to Dr. Ruth Maurer, my faculty advisor and committee chair, who always encouraged me to keep asking questions.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

It is time for Marie to do a performance review for George, and she is baffled. Some staff rave that George is the best manager they have ever had the pleasure to work for. Others complain bitterly that George is the worst manager they have ever encountered. How, she asks herself, can one manager engender such different responses in his staff? Talking to two members of George's staff provides her with a clear answer.

For Rebecca, an American professional of 38, George is the ideal manager. She has a doctorate in sociology, is outgoing, and loves challenge in her work. Once George has described a problem that needs to be addressed, she takes great pleasure in analyzing the options, selecting an approach, and seeing the project through. She loves the fact that George trusts her to set her own schedule, and she takes full advantage of his technical expertise by consulting him about her progress regularly.

Jean-Luc hates working for George. He is a 53-year-old college-educated Frenchman who has worked in the organization's statistics division for the past 30 years. He is very methodical, and knows the organization's bureaucracy inside and out. He has had excellent managers in the past who have provided him with concrete information: what is needed, in what format, by when. With that information, Jean-Luc knows he can provide top-quality results. But with George, all he gets are vague ramblings about organizational vision and the client's needs, and no information about what actually needs to be produced. Moreover, Jean-Luc has gone for weeks on end without ever being asked to sit down and discuss the project with George again.

For Marie, the answer is clear: George is not paying attention to differences among his staff. George is an avid supporter of staff empowerment. His approach to management is to show staff what needs to be accomplished, then to let them figure out for themselves what needs to be done and how best to do it. His door is always open, and he is ready to go all out to help any of his staff who come to him with a problem. Some staff, like Rebecca, thrive in this kind of environment. For them, George is the ideal manager – there to provide support, and then to get out of the way and let staff do what they are best at. Other staff, like Jean-Luc, expect a manager to provide specific direction and to initiate contacts with staff. They flounder in the kind of environment George provides.

In the foregoing scenario, George needs help. He has a vision of a best way to manage, and for some staff, his approach works wonders. But for others who come to the workplace with different beliefs about what constitutes good management, his management style is completely ineffective. Marie could simply instruct George to pay more attention to how various staff members respond to his management style. But a more helpful approach would be to provide some guidance to help him understand the kinds of differences he should be looking for.

Jean-Luc and Rebecca are extremely different in their life histories: different nationalities, different generations, different genders, different academic fields, different levels of education, different functional areas, and different hierarchical positions. Marie understands that life history does not dictate beliefs about management. Still, she suspects that understanding the differences that tend to exist among these groups could provide George with some clues about the kinds of things that might be going right in his managerial relationship with Rebecca, and wrong in his relationship with Jean-Luc. Yet it is not clear what kind of advice Marie can give George. Her experience with differences across nationalities, academic field, and so forth fit what she sees in Rebecca's and Jean-Luc's reactions to George's management style. Paying attention to stereotypes about differences across groups might help George understand what is going wrong in his relationship with Jean-Luc. But Marie is reluctant to advise George to act based on stereotypes and intuitions alone.

Statement of the Problem

The general problem that underlay this research was to determine whether knowledge of the differences present in the life histories of an organization's staff can enhance efforts to introduce effective management improvement efforts. If life histories were to correlate with beliefs about management, knowledge of such differences would permit managers to target their efforts with those differences in mind. Moreover, information about the magnitude of such correlations would give the manager information about which aspects of life history to consider most carefully.

Purpose of the Study

The purpose of this study was to investigate empirically whether particular aspects of life history tend to correlate with beliefs about what constitutes good management. If some aspects of life history were found to correlate with beliefs about management, then the relative strength of those correlations could be assessed.

The study investigated these issues by looking at the extent to which such correlations were present among the staff of an international intergovernmental organization with approximately 2,000 staff members, referred to here as "XYZ." The aspects of life history investigated included age, gender, nationality, level of education, education field, functional area, and level in the hierarchy. The specific aspect of good management considered was the appropriate degree of directiveness in the management relationship.

Theoretical Basis of the Study

The Utility of Seeking Management Improvements

Scholars concerned with international management issues have hotly debated whether people from diverse backgrounds can be expected to share ideas about what constitutes good management (Adler, 1997; Gibson & Marcoulides, 1995; Sivesind, 1995). Some have argued that good management is good management, regardless of cultural context. Others have claimed that good management must be judged from a culturally relativistic point of view. Still others have suggested that the answer lies between these extremes, postulating universal agreement about fundamental management tasks, but culturally contingent beliefs about the best approach to implementation (Adler, 1997; Bennett, 1977; Tayeb, 1995).

For managers in organizations where staff come to the workplace with widely varying life experiences (heterogeneous organizations), this is a particularly important debate. If there were an objective truth about the “best” way to manage, a responsible manager’s job would be to take that approach. If, on the other hand, the “best” way to manage were culturally relative, it would be inappropriate for a manager to insist on a particular approach. A model that blends these two points of view suggests on the one hand that managers can be justified in proposing to achieve better management, since the fundamental aspects of good management are universal. On the other hand, it suggests that cultural differences can have a significant effect on people’s beliefs about the appropriate ways to go about it. Understanding these cultural differences would be of particular importance to managers in heterogeneous organizations.

Subgroup Membership and Management Beliefs

Much work has been done looking at management issues from a macro perspective, focusing on issues such as organizational learning, organizational structure, and organizational culture (see, for example, Argyris, 1993; Howard & Associates, 1994; Kanter, 1983; Werr, 1995). Although those who take such a macro perspective would acknowledge that subgroups are often present in organizations, their analytic efforts have tended to treat organizations as monolithic wholes. Managers focusing their efforts at such a macro level would not generally take into account the kinds of differences that can arise from differing backgrounds.

Schein (1992) pointed out the importance of understanding culture at a more micro level.

As change agents, we gain a much better perspective if we realize that most organizational change usually involves some changes in culture, often at the subcultural level. If we can better understand what is involved for members of a subculture when they have to change some of their basic assumptions, values, and behaviors, we become much more sympathetic to their resistance and much more realistic about how to manage change. (p. xiv)

Despite Schein's exhortation to pay attention to subcultures, however, "there remains a dearth of research which focuses upon deeper stratas of shared culture" in the workplace (Silvester, Anderson, & Patterson, 1999, p. 2).

Social learning theory provides one theoretical justification for expecting subgroup membership to affect people's belief systems [JP6](Gormly, 1997; Shockley-Zalabak & Morley, 1994). Social learning theorists suggest that people look to their peers for guidance about appropriate behaviors. They tend to assimilate the norms of

those around them in order to fit in and get along successfully. People come to social systems with their own personalities, their own idiosyncratic personal histories, and various combinations of subgroup memberships that can influence their beliefs.

Nonetheless, social learning theory suggests that the beliefs common to many members of a particular subgroup can exert a strong influence on other members of that subgroup.

A useful place to begin understanding the implications of the effect of subgroup membership on people's views of appropriate management behavior is the work of Geert Hofstede (1980a, 1997). His studies of nationality-based differences in workplace values provided strong evidence that national cultural background can have a substantial effect on perceptions of appropriate behavior in the workplace. He identified four dimensions of differences in workplace values that distinguish members of different national cultures¹.

The concept of *power distance* (PD) involves the extent to which people with low levels of power within a society accept the power differential as normal. The *uncertainty avoidance* (UA) dimension involves the extent to which someone prefers structured or unstructured situations. Those who dislike uncertainty tend to prefer clear rules to govern their actions. The *masculinity* (MA) dimension was constructed in contrast to an opposing feminine pole, with masculine cultures valuing characteristics such as assertiveness, competition, and success over more "feminine" characteristics such as harmony, solidarity, and service to others. Finally, *individualism* (IDV), which

¹ A fifth dimension, long-term orientation, was later identified through work in the Far East (Hofstede, 1997). It is not included in this discussion because Asians made up only a small proportion of XYZ's staff.

has been contrasted with collectivism, focuses on the extent to which group members think of themselves as individuals and focus on their individual interests, as opposed to thinking of themselves as members of a group, and focusing on the interests of the group. Hofstede argued that national differences that affect workplace values are conveyed to children at very early ages, are ingrained deeply, and are extremely resistant to change later in life (Hofstede, 1980a; 1997).

If nationality can have such a profound effect on children's value formation, it seems conceivable that other elements of life history might have similarly important effects. Gender is widely recognized as a factor that both causes biological differences, and engenders different social responses (Gilligan, 1993; Gormly, 1997; Rojahn & Willemsen, 1994). Age also has an impact on the way one views the world. One's point in the life cycle has been shown to affect workplace values (Levinson, Darrow, Klein, Levinson, & McKee, 1978; Sheehy, 1995). Moreover, people's workplace values can be influenced by the historical era in which the individual is raised. Those who experienced childhood in the era of World War II, for example, have been characterized as having radically different worldviews and work values than later cohorts whose childhood years spanned the 1960s or the 1980s (Kupperschmidt, 2000; Sheehy, 1995; Smola & Sutton, 2002; Weston, 2001).

Although childhood experiences are known to have strong and enduring effects on people's belief systems, later experiences can have significant effects as well. Those who obtain only a high school education tend to think differently than those who obtain advanced degrees (Brenner, 1988; Pitts, 1981). Similarly, those who focus on different

academic fields tend to have different ways of viewing the world² (Biglan, 1973). Exposure to different amounts of education in different fields, then, would have the potential to result in different beliefs about management. Although amount and type of education can influence the individual's beliefs (Ashforth & Mael, 1989; Biglan, 1973; Van Maanen & Barley, 1984), it is also possible for values and beliefs to influence an individual's choice of educational path (Hill, 1974; McManus, Lefford, Furnham, Shahidi, & Pincus, 1996). Regardless of the direction of influence, however, knowledge of a tendency for education to correlate with certain beliefs about management could help a manager think strategically about the beliefs likely to be held by staff with different educational backgrounds.

Workplace experiences can also have an effect on people's beliefs about management. We have seen that people can learn and internalize the values of their parents and neighbors as children, and the values of their mentors and peers in a school environment. As adults they can learn and internalize the values that dominate in their functional area or hierarchical level (Ashforth & Mael, 1989; Feij, Whitely, Peiro, & Taris, 1995; Melone, 1994; Shockley-Zalabak & Morley, 1994).

To summarize, membership in a wide variety of subgroups has the potential to affect beliefs about management. From the earliest days, factors such as gender,

² Educational field will be examined using a three-way matrix of academic and vocational task areas that consists of hard and soft fields, pure and applied disciplines, and life and nonlife systems. As Biglan (1973) defined them, those in hard fields generally share a single thought paradigm, while those in soft fields operate using many different paradigms. Similarly, those in pure disciplines operate on a theoretical level, while those in applied fields are concerned with practical applications. Concern with life systems has to do with the subject matter studied – either life or nonlife systems.

generation, and nationality color an infant's experiences of the world. As children and youths, school experiences, such as level of education and educational field, provide additional influences. Finally, as adults workplace experiences, including association with particular functional areas or hierarchical levels, can affect one's beliefs.

The Directiveness Continuum

As the opening pages of this chapter pointed out, there is no consensus about what constitutes good management. Moreover, *management* is a broad term that can include a range of activities that involve obtaining and making use of physical, financial, and human resources (Fayol, 1996; Mintzberg, 1989). This study was limited to only the people-management aspects of management; more specifically, it considered only beliefs about the appropriate degree of directiveness in the management relationship.

The selection of directiveness as the focus of this study began with the insights and intuitions of practitioners within one organization. Those observers noted that people from different backgrounds seemed to disagree passionately – and consistently – about what constitutes “good management.” They frequently found themselves observing that a certain policy would work well for one group, but that it would never be accepted by those in another group. Or, they would observe to themselves that it was no surprise that a certain individual dealt with a situation in a particular way, given the mix of background characteristics involved.

These real-world observations triggered a search for answers. First, it was important to determine whether there actually were consistent differences across groups, or whether the observers' stereotypes were coloring their perceptions. If the differences

were real and consistent, then those who were trying to improve management within the organization could use information about such differences to tailor their management improvement efforts to better meet the needs of those diverse groups. Second, from a theoretical point of view, there arose the question of where consistent differences such as those observed within the organization might originate.

Upon reflection, it seemed that the differences that had been observed were rooted in a single aspect of the management relationship: the extent to which the manager's role should be a directive or a nondirective one. A review of the academic literature dealing with differences in workplace values and management styles led to research in a range of disparate fields. Existing academic work, though it used different ways of expressing the concepts under investigation, seemed consistent with the notion of directiveness that had been identified within the organization. Directiveness was therefore selected as the focus of the study, and was developed as a concept based on the disparate aspects of the literature that seemed relevant to the situation at the organization.

Figure 1 presents a graphic illustration of the continuum of beliefs, ranging from highly directive to highly nondirective, that ultimately served as the dependent variable for this study. It includes indications of some of the characteristics that correspond with each end of the continuum. The differences between directive and nondirective beliefs are described briefly below in general terms. The development of the directiveness continuum is explored in detail in chapter 2.

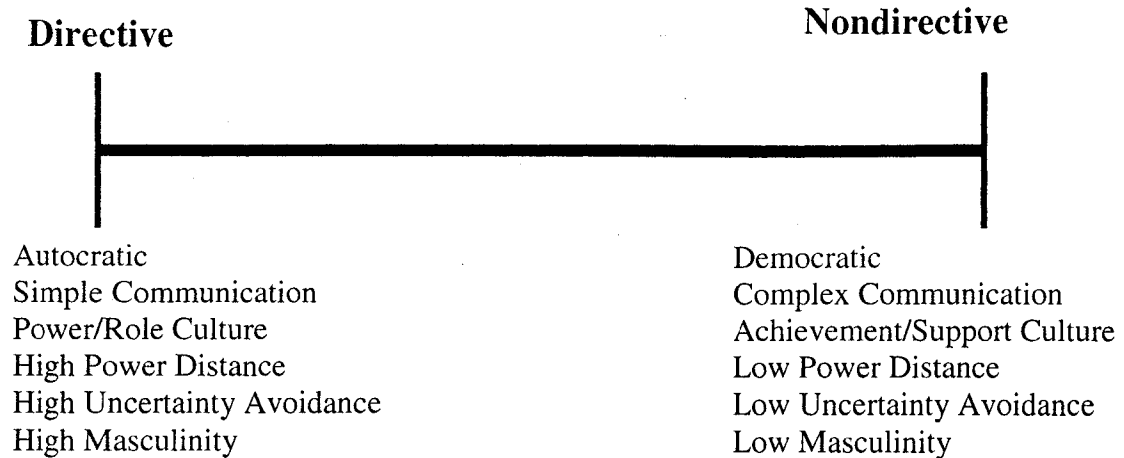


Figure 1. Characteristics associated with directive and nondirective beliefs about management.

Directiveness

Those who hold directive beliefs tend to be autocratic (Flamholtz , 1986). From this point of view, managers, by virtue of their role in the organizational hierarchy, are vested with the power and the responsibility to make decisions. The process of managing staff work involves providing direction about what needs to be accomplished and how, and ensuring that staff carry out such directives correctly and in a timely manner.

Directiveness is associated with high power distance, uncertainty avoidance, and masculinity, all of which legitimize the manager's authoritative role (Hofstede, 1980a).

The communication skills required for this approach to management are relatively straightforward, primarily requiring the manager to give instructions and receive reports (Armstrong & Baron, 1998; Bacal, 1999).

Nondirectiveness

Those who hold nondirective beliefs, in contrast, tend to be more democratic (Flamholtz, 1986). From this point of view, the role of the manager is one of supporting staff to help them achieve organizational goals. The process of managing work involves helping staff decide on the best way to accomplish the task, helping them discover for themselves more effective ways to do their work, and motivating them to contribute their best efforts. Nondirectiveness is associated with low power distance, low uncertainty avoidance, and femininity, calling for the manager to take a relatively egalitarian and collaborative role (Hofstede, 1980a). The communication skills required for this approach to management are relatively complex, requiring managers to facilitate discussions with their subordinates (Armstrong & Baron, 1998; Bacal, 1999).

A Continuum

Directive and nondirective points of view represent extremes on a continuum. Most people's beliefs fall somewhere between these extremes, supporting some elements of both approaches. The issue under investigation here was whether people with similar life histories tended to cluster at particular points on this directiveness continuum, or whether the distribution of beliefs was unconnected with an individual's life history.

A Conceptual Model

The conceptual model that formed the basis for the present research is illustrated in Figure 2. It was founded largely on the work of two research teams that addressed elements of the problem considered in this project (House et al., 1999; Lachman, Nedd,

& Hinings, 1994). The model outlined here represents a synthesis and logical extension of key ideas presented by these authors. The model is developed more fully in the section of chapter 2 titled “Models Linking Values and Beliefs with Workplace Behavior,” but its essential elements are presented here.

Figure 2 illustrates the connection between life history, values and beliefs, and workplace behaviors – connections proposed in somewhat different forms by House et al. (1999) and Lachman et al. (1994). The four boxes arrayed across the top of the figure represent aspects of life history that can affect one’s values and beliefs. They represent the effects of the socialization pressures that people experience both in and out of the workplace, as well as the effects of personality and individual life experiences on the development of the individual’s values and beliefs. Those values and beliefs, in turn, affect the kinds of behaviors the individual exhibits in the workplace. This study focused on the role that organizational socialization (relationships in the workplace) and preorganizational socialization (membership in various demographic groups and educational experiences) play in determining the values and beliefs that staff bring to the workplace. These key elements of Figure 2 are outlined in bold to emphasize their centrality for this study.

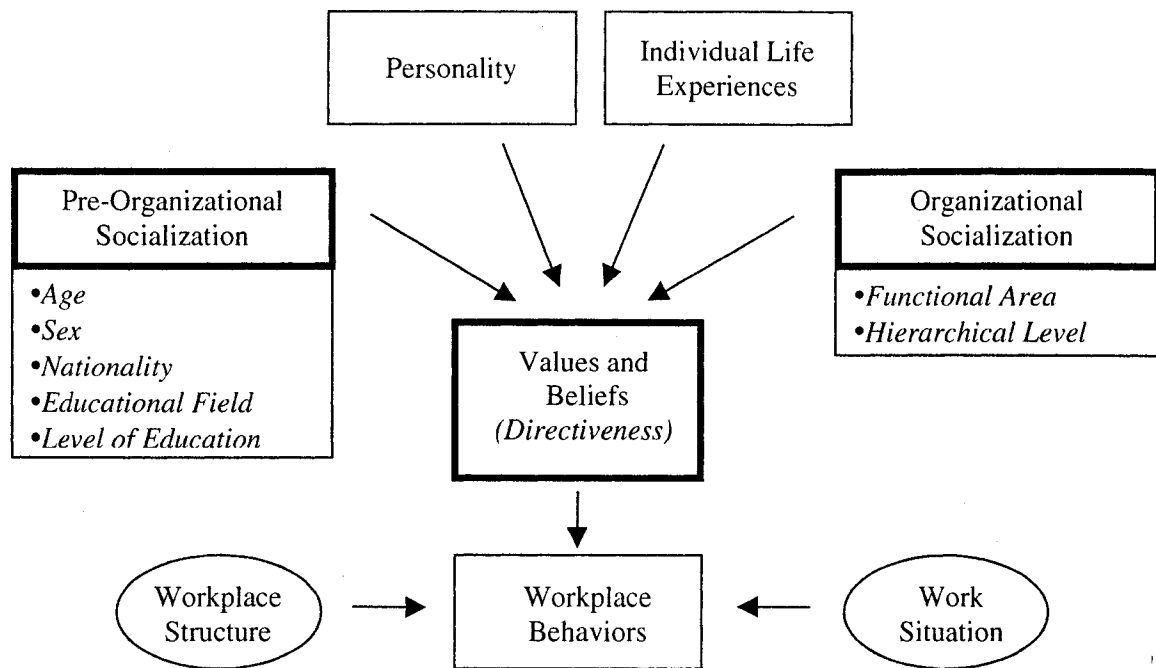


Figure 2. Illustration of the connection between life history, values and beliefs, and workplace behaviors.

Independent Variables

The organizational socialization and preorganizational socialization boxes in Figure 2 show how the aspects of life history that constituted the independent variables in this study fit into this model. Highly individual factors such as childhood family dynamics or personality type may well have a significant impact on any individual's management beliefs. Indeed, it is possible that these factors have stronger effects than the elements of personal history to be examined here. Such highly individual factors do not, however, offer fruitful ground for managers, since this information is not generally known. A manager could conduct a personality type assessment or launch a survey to

find out more about staff backgrounds. But often this is not feasible. The cost and time involved in such efforts can be prohibitive. Moreover, it is not evident that people would willingly provide details about their personal lives in a workplace setting, and privacy considerations suggest that it would be inappropriate for organizations to request such data. Given these constraints, the independent variables in this study included only aspects of life history about which a manager is likely to have information: age, sex, nationality, academic field, functional area, level of education, and hierarchical level.

Dependent Variables

The study's dependent variables concerned perceptions of the appropriate degree of directiveness in the managerial relationship. For each independent variable, a directiveness scale was developed at the ecological (group) level. The hypothesis pertaining to each independent variable was then tested according to the relevant scale. A subscale containing only those elements common to the scales developed for each of the independent variables was also developed.

The Theory in Brief

The essence of the theory that has been developed here can be summarized as follows. People's values and beliefs are formed, in part, through socialization processes. Socialization takes place in a variety of contexts, in which one's views are affected by the particular subgroups to which one belongs. Nationality is the best known of these, but other research suggests that subgroup membership related to demographic

characteristics, educational background, and organizational position should all be associated, at the ecological level, with values and beliefs. More specifically, there is reason to expect that sex, age, nationality, level of education, educational field, functional area, and hierarchical level will be systematically associated, at the ecological level, with beliefs about the appropriate degree of directiveness in the management relationship.

Research Questions

In order to investigate the soundness of this theory, this study investigated two specific research questions:

1. Do beliefs about the appropriate degree of directiveness in the managerial relationship differ systematically according to demographic characteristics, education, and organizational position?
2. What is the relative strength of the relationship between demographic characteristics, education, and organizational position, and beliefs about the appropriate degree of directiveness in the managerial relationship ?

Research Hypotheses

Eight research hypotheses associated with these research questions were investigated. These hypotheses, which are discussed more fully in chapter 2, are listed in Table 1.

Table 1
List of Research Hypotheses

Hypothesis 1:	Age is positively related to support for a directive management style.
Hypothesis 2:	Males are more supportive of a directive management style than females.
Hypothesis 3:	Those from nationality groups with high combined PD, UA, and MA scores are more supportive of a directive management style than those from nationality groups with low combined scores.
Hypothesis 4:	Those educated in nonlife systems and in hard, life systems are more supportive of a directive management style than those educated in soft, life systems.
Hypothesis 5:	Education level is negatively related to support for a directive management style.
Hypothesis 6:	Those in nonprofessional functional areas are more supportive of a directive management style than those in professional functional areas.
Hypothesis 7:	Hierarchical level is negatively related to support for a directive management style.
Hypothesis 8:	Fixed sources of influence (age, gender, nationality) have the strongest effects on the individual's position on the directiveness continuum; self-selected sources of influence (education field and level of education) have midrange effects; and organizational sources of influence (hierarchy and functional area) have the weakest effects.

Research Design

All XYZ staff were asked to complete a survey designed to ascertain where their beliefs about management fell on the directiveness continuum. The instrument also requested information about respondents' demographic characteristics, education, and organizational position in order to allow investigation according to each of the seven

independent variables. The survey instrument was made available in both French and English, the organization's two official working languages.

The analyses sought to relate demographic characteristics, education, and organizational position to respondents' beliefs about management. Beliefs about management were measured through the use of summated rating scales designed to capture differences in respondents' views about the appropriate degree of directiveness in the managerial relationship.

Factor analysis and reliability analysis were used to develop a directiveness scale for each independent variable at the ecological (group) level. The question of whether different subgroups hold different views about the appropriate degree of directiveness in the management relationship was investigated for each of the seven independent variables by assessing whether the mean score for any of the subgroups differed significantly from the others. Where differences existed, further analyses were conducted to determine whether the differences were in the direction predicted by the study's hypotheses, and which subgroups' means differed significantly.

A final piece of analytic work involved developing a short scale of items common to the directiveness scales developed for each independent variable. The relative strength of the association between individual scores on this combined directiveness scale and the independent variables as measured by eta squared was then assessed.

XYZ was an appropriate venue for conducting the research for a number of reasons. First, XYZ's diverse staff provided the range of respondent backgrounds needed

to assess each of the independent variables. Second, with a staff of approximately 2,000, the organization was considered large enough to provide the volume of responses needed to conduct analyses on multiple subgroups. Third, working in a single organization eliminated the possibility of confounding effects stemming from organizations with different organizational cultures. Finally, the staff of XYZ were located in the same city, reducing the potential for confounding effects based on the presence of internationally dispersed work groups.

Significance and Social Impact of the Study

This study provides information that contributes to an understanding of whether and how knowledge of staff members' life histories can help managers supervise staff members from diverse backgrounds more effectively. Although it is known that people differ in their beliefs about the best way to manage, the literature review conducted for this study unearthed little work examining whether people's beliefs about management differ systematically according to their demographic characteristics, educational background, and organizational position. Previous work examining nationality differences in workplace values is closely related to such differences. This study built on that work in two ways. First, it examined the relationship between nationality and a particular aspect of management, namely directiveness. Second, it extended this work to examine the possible connection between beliefs about directiveness and the other aspects of life history that can be known to a manager.

An advance in a theoretical understanding of how background correlates with beliefs about management has clear practical applications. A manager who understands such differences and their implications will be in a better position to select management strategies suited to the beliefs and needs of the diverse individuals on the staff. Specifically, by understanding more about staff members' likely beliefs about management, managers can tailor their management strategies to address the concerns that tend to be held by different groups within the organization.

Some managers may already tailor their management efforts, whether consciously or unconsciously, based on their stereotypes about different groups. This study offers empirical evidence that can be used to refine those stereotypes, and to help focus on those aspects of difference that directly affect managerial relationships. Knowing one's audience cannot solve all of the problems related to improving management in an organization. It does, however, offer one important tool for managers to use in their attempts to elicit the best from their staff members.

Definition of Terms

Beliefs about Management

A key concept in this study is the notion of one's beliefs about management. A number of other possible terms were considered: philosophy, preferences, and values are three examples. The term *philosophy* was rejected because it may imply that one has consciously worked out an analytical system of understanding, while the management beliefs discussed here can be unconscious and unanalyzed. *Preferences* has an element

of what one does and does not like; the aim here was to capture people's ideas about the right thing to do, not necessarily the style they find most pleasant or enjoyable. Finally, values form a subset of the broader concept of beliefs – they “represent core beliefs about what should be done, and are related to a broad network of more specific beliefs, perceptions, and attitudes” (Adkins, Ravlin, & Meglino, 1996, p. 441). Thus, while a value is broadly applicable to a variety of situations, a belief may be case-specific. It is difficult to draw a precise line between beliefs that are general enough to be classified as values, and those that are not. For the purposes of this study, however, such a fine distinction was not required. The discussion revolves around beliefs about management, including both specific and narrow notions of the appropriateness of various possible managerial behaviors in a given set of circumstances. But such specific beliefs are founded on values – deep, underlying, core beliefs.

Culture

In a classic anthropological definition, Kluckhohn (quoted in Hofstede, 1980a) argued that “culture consists in patterned ways of thinking, feeling and reacting... the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values” (p. 25). Hofstede defined culture more colloquially as “the collective programming of the mind which distinguishes the members of one human group from another” (p. 25). Hofstede himself noted that this is not a complete definition, but held that it encompasses the aspects of culture that are relevant to work on cultural differences in workplace values. Since the present research is focused on detecting differences in collective programming of the mind, as described

by Hofstede, his definition of culture was used here. However, his discussions focused specifically on the issue of national culture. While this is by far the most common use of the term, the Hofstede definition is broad enough to accommodate the notion that a human group distinguished by some characteristic other than nationality may also share a common culture.

Directiveness/Nondirectiveness

For the purposes of this study, the terms *directiveness* and *nondirectiveness* are used to describe the nature of one aspect of the staff/manager relationship. In a highly directive relationship, the manager takes an authoritative role in providing direction about what needs to be accomplished and how, and ensuring that staff carry out such directives correctly and in a timely manner. In a highly nondirective relationship, the manager takes a supportive role, guiding staff through the process of achieving organizational goals by helping them decide on the best way to accomplish the task, helping staff discover for themselves more effective ways to do their work, and motivating them to contribute their best efforts.

In this study, the dependent variable is the individual's position on the directiveness continuum. Highly directive and highly nondirective points of view represent extremes on that continuum. Most people's beliefs fall somewhere between these extremes, supporting some elements of both approaches. The directiveness continuum is described in detail in chapter 2.

Heterogeneous Organization

Some organizations have a high degree of staff diversity, with staff backgrounds varying widely with regard to characteristics such as age, gender, race, nationality, ethnicity, religion, education level, and so forth. Others have little diversity, with staff members from relatively homogeneous backgrounds. Examples of relatively homogeneous organizations might include a dot.com organization that is heavily dominated by highly educated, middle-class, young staff, or a unionized factory that is heavily dominated by older men of a particular race. Even in relatively homogeneous organizations, of course, there is some diversity. Staff always bring distinctive personalities and beliefs to the workplace. For the purposes of this study, the term *heterogeneous* refers to diversity stemming from staff background with regard to the seven independent variables under investigation.

International Intergovernmental Organization

An international intergovernmental organization is defined here as an international organization sponsored by two or more governments. Hofstede (1980a) defined international organizations as “organizations without a home national culture, in which the key decision makers may come from any member country. Examples are the United Nations with its subsidiaries like UNESCO or UNIDO, the European Common Market, the International Labour Office, or the World Council of Churches” (p. 391). International organizations differ from multinational organizations, defined by Hofstede as those organizations “active in several countries but in which there is one dominant ‘home’ national culture to which most key decision makers of the organization belong.

Examples are multinational business corporations like IBM (American), Volvo (Swedish), or Mitsubishi (Japanese)” (p. 391).

Leadership

Leadership has been called “one of the most observed and least understood phenomena on earth” (Burns, 1978, p. 2). According to Burns, leadership

is exercised when persons with certain motives and purposes mobilize, in competition or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers. ... in order to realize goals mutually held by both leaders and followers [italics removed]. (p. 18)

This definition has been echoed by other leadership researchers (e.g., Bennis & Nanus, 1997; Peters & Waterman, 1982) and was also used here.

Although they are distinct concepts, leadership and management are closely related. Leadership can be viewed as one important element of management (Mintzberg, 1989). Moreover, managing people effectively involves some tasks, such as communicating a vision, that are typically considered elements of leadership. This study is concerned with management behaviors specifically, rather than the broader concept of leadership. Because management and leadership are so closely tied, literature regarding leadership has provided useful insights for this study. This document uses the terms *leadership* and *management* interchangeably, as appropriate to the source document being considered.

Management

Construed broadly, management typically deals with a wide variety of activities required to obtain and make use of physical, financial, and human resources (Fayol, 1996; Mintzberg, 1989). This study, however, was limited to an examination of the aspects of management involving human resources, and more specifically, ways to elicit better performance from staff. In order to simplify the language used throughout the document, the term management was used in a narrow sense, referring only to people-management, rather than to the various other functions that managers may be responsible for.

Subgroups

For the purposes of this study, the term *subgroup* was used to refer to individuals who share the particular demographic, educational, and occupational characteristics being investigated as independent variables. Sometimes members of these subgroups consciously identify with each other, as may be the case when individuals work in a single functional area within an organization. In other circumstances, the individual may not identify consciously with other members of the subgroup. Someone who is 37 years old, for example, may not consider herself a member of a subgroup of individuals ranging in age from 36 to 40. Nonetheless, she would share certain elements of her life history with others in this age range, and thus would be – consciously or not – a member of the subgroup. The term *subculture* is often used in literature about national culture, as well as in discussions of organizational culture. The term subculture was used interchangeably with the term subgroup.

Values

The term *values* has been defined in many ways. Kluckhohn (as cited in Hofstede, 1980a) defined a value as “a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means and ends of actions” (p. 19). In other well-known research on values, Rokeach (as cited in Hofstede, 1980a) suggested that “to say that a person ‘has a value’ is to say that he has an enduring belief that a specific mode of conduct or end-state of existence is personally and socially preferable to alternative modes of conduct or end-states of existence” (p. 19). These definitions share two key components: ideas about appropriate *outcomes*, or states of affairs, and ideas about appropriate *behaviors*, or means of getting to those end points.

Values are widely accepted as a fundamental set of beliefs that cannot be observed directly, but that provide the basis for people’s choices about their behaviors (Adkins et al., 1996; Fernandez, Carlson, Stepina, & Nicholson, 1997; Hofstede, 1980a; Jehn, Chadwick, & Thatcher, 1997; Pitts, 1981). A number of these definitions leave aside the Kluckhohn and Rokeach concern with outcomes, focusing only on behaviors. This simplified approach was sufficient here, since the focus of this study was on beliefs about appropriate approaches to managing people – a question of behaviors, rather than of outcomes. This study adopted the Adkins, Ravlin, and Meglino (1996) definition of values: “beliefs about the way an individual ought to behave” (p. 441).

Assumptions and Limitations

Assumptions

The survey methodology used here was founded on the assumption that people's answers to abstract questions can reflect their beliefs about management, and that their reports are indicative of their beliefs systems. While it is possible that respondents could have lied or misrepresented their views about management, there is no reason to expect that they would have had any motivation to do so.

This study investigated the management beliefs of employees in a single organization. While the results of such case study research cannot be generalized, this work is based on the assumption that an investigation of the beliefs held by XYZ staff can help shed light on likely sources of variation in beliefs about management in other organizations, and can serve as a springboard for further research in this area.

Limitations

This study had a number of limitations. First, it involved a single organization. This implies that caution will be required when attempting to generalize the results of this study to other settings.

Second, the most common venue for studies of cultural differences in the workplace has been the for-profit multinational corporation (e.g., Adsit, Crom, Jones, & London, 1994; Hofstede, 1980a; Offermann & Hellmann, 1997). Less frequently, research on cultural differences has taken place in nonprofit, nongovernmental organizations (NGOs) (e.g., DiBella, 1996). Because XYZ is an international,

intergovernmental organization, caution must be used in attempting to apply the results of this study in multinational or NGO settings.

Third, the analyses can show correlations, but not causality. Despite the fact that at least some of the independent variables preceded the acquisition of beliefs about management, it was not possible to draw conclusions about a causal relationship.

Fourth, the data were self-reported. While there is no reason to expect people to be dishonest in their answers, people's reports about their beliefs may be less accurate than observations of actual behavior might be.

Fifth, this work did not investigate the effects of personality or unique life experiences. These factors may have a significant effect on management beliefs, but because they cannot be known by a typical manager, they were not considered here.

Sixth, the study considered only a single aspect of management – the appropriate degree of directiveness in the management relationship. While this is an important and relevant aspect, it is certainly not the only one worthy of investigation.

Finally, the researcher must, of necessity, bring a particular combination of beliefs about management and life history to this project. Every effort was made to ensure that data were collected and analyzed objectively. For example, a multinational team was involved in the development of the constructs to be tested and the details of the survey instrument to be used, in order to help minimize biases brought to the study by the author. In addition, an awareness of the author's personal biases was kept in mind as data were interpreted. Nonetheless, the possibility of this type of bias cannot be dismissed. Appendix A contains a brief discussion of the author's background, which

readers may wish to keep in mind as they weigh the approaches taken and conclusions drawn from this study.

Summary

This chapter began with a hypothetical scenario involving the need for a manager to work more effectively with staff from diverse backgrounds. This scenario was used to illustrate the potential value of understanding whether particular aspects of life history tend to correlate with beliefs about what constitutes good management. This was followed by a more formal description of the problem to be addressed and a statement of the purpose of the study. The theoretical basis of the study was then presented in several parts. First, the concept of subgroup membership was introduced, and the potential relationship between subgroup membership and values and beliefs was discussed. Next, the directiveness continuum, which served as the dependent variable in the study, and the independent variables were introduced. A graphic representation of the model was also provided, illustrating the relationship between the independent and dependent variables, and several other factors not under investigation in this study. The research questions and hypotheses were presented, and the significance of the study and its relevance to practitioners were described. The chapter concluded with definitions of key terms, and a description of some of the study's limitations.

Organization of the Paper

Chapter 1 provided an overview of the issues addressed in this study. Chapter 2 provides a detailed review of the literature that supports the theoretical framework used here. Chapter 3 outlines the methodology that was used. Chapter 4 presents the results of the analyses, and indicates the extent to which the hypotheses were or were not supported. Chapter 5 begins with a summary of the study's results. It then returns to Marie and George, and uses their situation to illustrate the study's implications for practitioners.

CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

Chapter 2 lays out work from a number of disparate fields that served as the grounding for this project. It begins with a discussion of the debate over the convergence or nonconvergence of management in different cultures. This section is included in order to establish the extent to which it is reasonable for a manager to attempt any kind of management improvement program in a heterogeneous organization. The second section presents the concept of directiveness that was used as the dependent variable in this study, and the theoretical justification for focusing on this aspect of management. The third section draws on social learning theory to argue the theoretical defensibility of the notion that subgroup membership may play an important role in forming people's beliefs about management. It presents the justification for studying subgroup membership in the context of management improvement. The fourth section reviews key literature dealing with each of the subgroups that served as independent variables for the study. It provides a description of the theoretical relevance of each variable and indicates how subgroup membership is expected to correlate with beliefs about management. The fifth section discusses a taxonomy of subgroups which, it was hoped, could help managers apply their understanding of differences between subgroups more effectively. The final section presents a discussion of some of the ethical implications inherent in the research.

Convergence Versus Nonconvergence

Management theorists have hotly debated whether there is one best way to manage, regardless of cultural context (convergence) or whether management must be treated as culturally relative (nonconvergence) (Adler, 1997; Dorfman et al., 1997; Earley & Stubblebine, 1989; Gibson & Marcoulides, 1995; Johnson & Olson, 1996; Sivesind, 1995; Tayeb, 1994). In the face of empirical evidence demonstrating profound differences in the value systems of various nationality groups (Adler, 1997; Amado, Faucheux, & Laurent, 1991; Baldacchino, 1997; Haire, Gheselli, & Porter, 1966; Hofstede, 1980a; Milliman et al., 1998; Tainio & Santalainen, 1984), the convergence perspective has been largely discredited. Although it has been asserted that “managers cannot uniformly apply the same ... practices in every country” (Milliman et al., 1998, p. 158), some have argued that a mixed model is more sensible than a model of pure nonconvergence. According to the mixed model, it is reasonable to expect to see some convergence in beliefs about the fundamental tasks that must be performed by the manager, but nonconvergence in beliefs about the particular ways in which those tasks should be carried out (Adler, 1997; Dorfman et al., 1997; Gibson & Marcoulides, 1995; Gibson, Ouchi, & Sung, 1987; Milliman et al., 1998; Tayeb, 1994).

The convergence/nonconvergence debate has addressed the issue of management for organizations operating in different national cultures. A parallel question emerges, when considering how to manage staff from different national backgrounds within a single organization. The parallel is less evident, but perhaps equally important, when

examining the effect that cultural differences unrelated to nationality may have. As Hofstede (1980b) noted, one needs to ask the following:

To what extent do the familiar theories apply when the organization employs people for whom the theories were not, in the first instance, conceived – such as members of minority groups with a different educational level, or belonging to a different generation? (p. 62)

If divergence supporters are correct, staff from differing backgrounds are likely to hold varied beliefs about what constitutes good management. This presents a managerial challenge for any manager but particularly for those within heterogeneous organizations. In this context, research that provides insights into the kinds of differences present among those with different backgrounds has the potential to help managers tailor their management approaches more effectively.

Development of the Directiveness Continuum

The mixed model of convergence and nonconvergence suggests that even within a single organization, people from different cultural backgrounds are likely to diverge in at least some aspects of their beliefs about what constitutes appropriate management. One area in which people's understandings of appropriate management relationships may differ is the nature of the relationship that managers should have with the staff they supervise. This section explores different theoretical perspectives that contributed to development of the directiveness continuum, which captures one aspect of the management relationship, and serves as the dependent variable for this study. These perspectives include (a) autocratic and democratic approaches to management; (b) complexity of communication; (c) organizational culture, with a distinction between

power/role cultures and achievement/support cultures; and (d) national differences in cultural values, including power distance, uncertainty avoidance, and masculinity.

Autocratic and Democratic Approaches to Management

For many management theorists, the manager's role has been viewed as a directive one. Weber (1947) provided the logic of a top-down bureaucratic approach to management. Taylor (1911) promoted the merits of scientific management, which asked managers to specify how work should be carried out, and to ensure that staff followed these instructions exactly. Fayol (1996) developed a list of management tasks that involved directing the organization's work through the steps that have been widely summarized as planning, organizing, commanding, coordinating, and controlling (Kennedy, 1991; Mintzberg, 1989). Gulick (1996) developed a list of managerial tasks that differed slightly from Fayol's, but that retained the fundamental presumption that managers must carefully direct the activities of their subordinates. All of these thinkers assumed that the manager was the key figure in the work process, determining who should do what, when, and how, and monitoring progress to ensure that all would go as planned. The manager was viewed as responsible for directing the work of subordinates, and for ensuring that the work met the organization's standards.

Other theorists, particularly those who contributed to the human relations school of thought, focused on eliciting better performance from staff members by paying attention to individual needs. This focus can be found in a wide variety of works such as Mayo's discovery of the motivating effects of attention (Hersey, Blanchard, & Johnson,

1996); Maslow's (1987) and Herzberg's (1987) work on motivation; and Drucker's (1954) work on letting staff know what they are expected to achieve through management by objectives. But although these approaches to management focused on the human element, they retained an emphasis on the manager's directive role. Staff were considered, but they remained objects to be manipulated by the manager in the quest for more effective organizational outcomes.

Other theorists within the human relations school, however, did move away from such highly directive approaches to management. McGregor (1960), with his Theories X and Y, was one of the first theorists to argue that trusting and involving workers was essential for enhancing organizational effectiveness. Likert's (1967) approach, too, emphasized the importance of trusting staff and encouraging their active participation in decision-making processes. Lewin also focused on participative management (for a discussion, see Weisbord, 1987), as did Trist (1981) in his work on sociotechnical systems and the importance of worker involvement. None of these thinkers intended to imply that the manager role was unimportant. It was the manager who held Theory X or Y beliefs, trusted or mistrusted staff, took or did not take the initiative to involve workers. But by acknowledging the possibility for active worker participation and involvement, these thinkers encouraged a shift in focus from a highly directive to a more participative manager-subordinate relationship. Under these theories, managers were no longer necessarily the center of the process, determining how best to manipulate staff performance. Instead, the new managerial task became one of finding ways to ensure staff involvement, and to support them in their work.

A less directive view of management has also been represented in recent work on the concept of coaching (e.g., Armstrong & Baron, 1998; Bacal, 1998; 1999; Cook, 1999). Authors who advocate coaching view the manager as a supporter, with the responsibility to help release each staff member's potential, and to help remove impediments to high performance. From this perspective, the manager is taken out of the spotlight, and the focus is moved to the staff member.

Communication

An important consequence of a shift to greater staff involvement and less manager directiveness is the need for different kinds of communication. A highly directive approach to management calls for a fairly narrow set of communication skills. The manager must clearly articulate what needs to be accomplished, and must ensure that the employee has fully understood those requirements. While this can be done either well or poorly, the communication skills required are relatively straightforward.

In contrast, nondirective communication cannot be a one-way process, with the manager articulating needs and staff members confirming their understandings. Instead, it requires much more complex communication skills³. The nondirective manager "empowers staff to work and make decisions on their own" (Bacal, 1999, p. 71). To do this, Bacal argued, the manager must take a consultative position in management discussions, allowing the employee to do most of the talking and to develop most of the

³ One exception to this generalization is the highly nondirective laissez-faire approach identified by Flamholtz (1986), which requires very little communication.

solutions. The communication skills required for this kind of management relationship seem to be quite similar to those required for any helping relationship that requires communication: attending, listening, empathy, and probing (Egan, 1985). Thus, nondirectiveness requires ongoing dialogue and complex communication skills (Armstrong & Baron, 1998; Bacal, 1999) that are not essential to a directive management relationship.

Organizational Cultures

A number of approaches to classifying organizational cultures were examined for this study, since organizational culture can have a strong impact on the kind of management relationship that develops between staff and managers. Although each study used its own nomenclature, the underlying concepts were remarkably similar. Moreover, those underlying concepts corresponded neatly with distinction drawn here between directive and nondirective approaches to management. Table 2 lays out the culture types proposed by five studies examined here, and indicates which types correspond with directive and which with nondirective approaches to management⁴.

Power is the first important theme in the organizational culture literature that provides a deeper understanding of the directive and nondirective approaches to management (Flamholtz, 1986; Harrison & Stokes, 1992; Human Synergistics/Center for Applied Research, n.d.). A directive approach to management requires the manager to be

⁴ The terminology directiveness/nondirectiveness was drawn from Flamholtz's (1986) continuum of leadership styles. However, his continuum focused on decision-making processes, while the directiveness continuum used in this study encompasses additional elements of the management relationship.

Table 2
Organizational Culture Types

<i>Authors</i>	<i>Directive approach</i>	<i>Nondirective approach</i>
Flamholtz (1986)	Directive <ul style="list-style-type: none"> • Autocratic • Benevolent autocratic • Consultative 	Nondirective <ul style="list-style-type: none"> • Participative • Consensus • Laissez-faire
Cooke & Lafferty (Human Synergistics/Center for Applied Research, n.d.)	Defensive <ul style="list-style-type: none"> • approval • conventionality • dependence • avoidance • oppositional • power • competitive • perfectionism 	Constructive <ul style="list-style-type: none"> • humanistic/helpful • affiliation • achievement • self-actualization
Denison & Mishra (1995)	Consistency	Involvement Adaptability Mission
Harrison & Stokes (1993; 1992)	Power-oriented culture Role-oriented culture	Achievement-oriented culture Support-oriented culture
VanMuijen (1994)	Rules	Goal Innovation Support

at the center of the work process. The manager is then in a position to control the flow of information and to dictate how work should proceed. This central position provides the manager with a significant amount of power. A nondirective approach, in contrast, requires that staff be provided with both the knowledge required to make good decisions, and the authority to carry out those decisions. Relinquishing knowledge and decision-making authority to staff must entail a reduction in the power held by the manager. Thus, those who prefer a managerial relationship based on a large power differential are likely to be less comfortable with a nondirective approach to management.

A second aspect of organizational culture that can lend insight into directive and nondirective management styles is the idea of roles and rules (Denison & Mishra, 1995; Harrison & Stokes, 1992; Human Synergistics/Center for Applied Research, n.d.; van Muijen & Koopman, 1994). When an organization's culture revolves around roles and rules, formal structures and procedures become the basis for many managerial decisions. The formal structures can reinforce the manager's power by making it clear which decisions reside in his or her turf. At the same time, reliance on formal procedures and rules can serve as a protection for the manager. Rather than having to take the risks associated with decision-making in an uncertain environment, managers in an organization whose culture relies on rules are protected and safe, as long as they follow the rules. In a nondirective approach to management, on the other hand, managers are deprived of the position power guaranteed by formal structures and reliance on roles, and are forced to take the risks involved in allowing staff to make decisions for which the manager will ultimately be held responsible.

A third area, closely related to the second, involves the notions of innovation and adaptability (Denison & Mishra, 1995; Harrison & Stokes, 1992; Human Synergistics/Center for Applied Research, n.d.; van Muijen & Koopman, 1994). In a heavily role- and rule-oriented organizational culture, it is difficult to imagine managing in a way that promotes innovation and adaptation. Innovation and adaptation seem, by their very natures, to involve change. Roles and rules, on the other hand, are designed to provide stability. Thus, in a highly directive organization, commitment to innovation and adaptation is likely to be minimal. In contrast, in a nondirective situation, the manager

would be continually seeking ways to help staff do their jobs better. This process would lend itself readily to innovation and adaptation.

A fourth area of organizational culture that provides a useful perspective on directive and nondirective management styles is the notion of supporting staff and enhancing achievement (Denison & Mishra, 1995; Harrison & Stokes, 1992; Human Synergistics/Center for Applied Research, n.d.; van Muijen & Koopman, 1994). In organizational cultures where power is valued and roles and rules dominate, there may be little attention to the particular needs of individual staff members. In contrast, some organizational cultures place a high premium on supporting individual staff members and helping them develop and use their full capacities. For those who follow a highly directive management style, there is little focus on supporting individual staff members or on their needs for growth and fulfillment. In contrast, with a nondirective approach to management, support for individual staff members is a core value. Nondirective managers consider it part of the job to help staff grow and learn, to make their jobs more fulfilling, and to help them achieve outstanding results. Thus, the achievement and support cultures embody key elements of the nondirective approach to management.

National Value Differences

Over the past 2 decades, Geert Hofstede and his colleagues (Harzing & Hofstede, 1996; Hofstede, 1980a, 1996, 1997, 1998a, 1998b, 1984) produced a significant body of work documenting and analyzing cultural differences in national values. Hofstede analyzed the responses of about 117,000 employees of IBM, an American-owned

multinational company, to a survey of work-related attitudes and values. His statistical manipulations of the data rendered four work-related dimensions of national culture – power distance, individualism, masculinity, and uncertainty avoidance⁵.

These four dimensions were described briefly in chapter 1. Recall that the concept of *power distance* involves the extent to which people with low levels of power within a society accept the power differential as normal. The *uncertainty avoidance* dimension involves the extent to which someone prefers structured or unstructured situations. Those who dislike uncertainty tend to prefer clear rules to govern their actions. The *masculinity* dimension was constructed in contrast to an opposing feminine pole, with masculine cultures valuing characteristics such as assertiveness, competition, and success over more “feminine” characteristics such as harmony, solidarity, and service to others. Finally, *individualism*, which has been contrasted with collectivism, focuses on the extent to which group members think of themselves as individuals and focus on their individual interests, as opposed to thinking of themselves as members of a group, and focusing on the interests of the group (Harzing & Hofstede, 1996; Hofstede, 1980a, 1997).

The concept of power distance is related to the organizational culture concept of power in that both focus on the appropriate uses of power and power relationships within organizations. It also connects directly to the directiveness/nondirectiveness distinction,

⁵ A fifth dimension, long-term orientation, was later identified through work in the Far East (Hofstede, 1997). It is not included in this discussion because Asians made up only a small proportion of XYZ staff.

in that those who value high power distance will accept the idea that the manager is – and should be – the central focus of a work group’s processes. The notion of nondirectiveness would run quite counter to this value by diminishing the manager’s power in the supervisory relationship. In contrast, those who prefer low power distances are likely to be more comfortable with a nondirective approach to management, since the focus on the staff member’s role will tend to equalize power in the relationship.

The role aspects of organizational culture are closely related to uncertainty avoidance, since adhering to established roles can significantly reduce uncertainty. Staff who strongly avoid uncertainty are likely to be uncomfortable with a nondirective approach, which requires staff to take responsibility for their own actions. By the same token, managers who dislike uncertainty are likely to be uncomfortable with nondirective approaches, since the process of supporting and involving workers by its nature takes a degree of control out of the manager’s hands. Nondirective managers must relinquish some control, and must face the uncertainty of trusting staff, while retaining ultimate responsibility for the uncertain outcomes.

The nondirective approach casts the manager in the role of involving staff and helping them succeed. This has an element of Hofstede’s (1980a) feminine dimension, as managers provide support and nurture staff. Under the directive approach, in contrast, assertiveness is a prerequisite. It requires the manager to tell staff what to do, and to hold staff accountable for accomplishing assigned tasks. This approach, then, taps more masculine values. The connection to a support culture is clear here, since support is the

main tool available to nondirective managers who wish to help staff improve performance.

Hofstede's (1980a) individualism and collectivism dimension seems to be largely independent of directive and nondirective approaches to management, and distinct from the organizational culture dimensions identified here. This lack of connection may be due, at least in part, to the Western origins of the theorists discussed here. Collectivism is most strongly present in Asian cultures, and Asian authors are not well represented in the ranks of thinkers who have contributed to the literature reviewed here.

The Directiveness Continuum

Theories of structural approaches to management, human relations, organizational culture, and national values, then, all contributed to the concept of directiveness used in this study. To summarize, those who hold directive beliefs tend to be autocratic. From this point of view, managers, by virtue of their role in the organizational hierarchy, are vested with the power and the responsibility to make decisions. The process of managing staff work involves providing direction about what needs to be accomplished and how, and ensuring that staff carry out such directives correctly and in a timely manner. Directiveness is associated with high power distance, uncertainty avoidance, and masculinity, all of which legitimize the manager's authoritative role. The communication skills required for this approach to management are relatively simple.

Those who hold nondirective beliefs, in contrast, tend to be more democratic. From this point of view, the role of the manager is one of supporting staff to help them achieve organizational goals. The process of managing work involves helping staff decide on the best way to accomplish the task, helping them discover for themselves more effective ways to do their work, and motivating them to contribute their best efforts. Nondirectiveness is associated with low power distance, low uncertainty avoidance, and femininity, calling for the manager to take a relatively egalitarian and collaborative role. The communication skills required for this approach to management are relatively complex, requiring managers to facilitate discussions with their subordinates.

Although the foregoing discussion has put the positions in relatively black-and-white terms, the reality is that people vary widely in the degree to which they emphasize either directiveness or nondirectiveness, and few believe in either completely directive or completely nondirective management. Instead, people hold beliefs that fall along a continuum ranging from highly directive to highly nondirective.

Figure 3 reproduces the illustration of the directiveness continuum presented in chapter 1. Salient features of the beliefs that would tend to be held by managers at either end of the continuum are also listed.

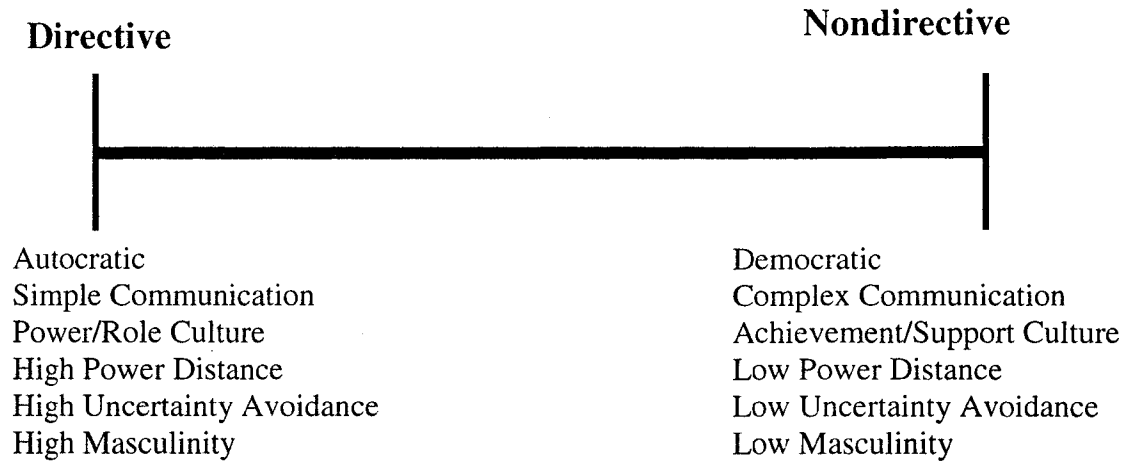


Figure 3. Directiveness continuum.

The use of a single continuum here is not intended to imply that management is itself unidimensional. In several of the culture theories examined here, for example, dimensions involving internal/external focus, and flexibility/control, have figured prominently (e.g., Denison & Mishra, 1995; van Muijen & Koopman, 1994). These dimensions are distinct from the notion of directiveness. Directive and nondirective managers alike must deal with the internal and external dimensions of an organization's culture, as well as the flexibility and control dimensions.

Similarly, the Ohio State and Michigan studies, the Leadership Grid, and Fiedler's contingency theory, among others, are all grounded in the idea that it is important to balance people- and task-related factors – among other things (Hersey et al., 1996; Katz & Kahn, 1978). It is important to note here that directive and nondirective

management styles *do not* correspond with these task-oriented and people-oriented distinctions. It would be easy to assume that nondirective management is synonymous with concern for people. In fact, however, the approaches generally associated with the people-oriented dimensions, or consideration, need not be part of nondirective management, and can play an important role in a directive approach to management.

To see why, it is useful to begin with a summary of the kinds of activities generally associated with consideration, or with a concern for people. Katz and Kahn (1978) described it generally as “socio-emotional support” (p. 560). Others have touched on the notions of being sensitive to subordinates’ feelings, respecting their ideas, being friendly and warm, developing trust, remaining approachable, developing personal relationships, and taking an interest in individual staff members (Hersey et al., 1996; Katz & Kahn, 1978; Perrow, 1987). The fact that one prefers a directive style does not preclude any of these activities. The most directive managers can care deeply about their staff members and exude warmth and friendliness, while at the same time, the supervisory relationship can remain one of unequals, with the manager telling the subordinate what to do and how to do it. At the other end of the spectrum, a nondirective manager can be cold and distant, with little sensitivity for staff members’ feelings or personal lives, yet still work in nondirective ways that focus on giving staff discretion and supporting them in their efforts. It would, perhaps, not be surprising to find that those with nondirective belief systems tend to score strongly on various consideration and people-oriented scales. Despite the intuitive attractiveness of this connection,

however, there seems to be no theoretical reason to believe that the two must, necessarily, be associated.

In sum, the directiveness continuum is intended to capture a single underlying dimension that contributes to any individual's beliefs about what constitutes good management. It is not meant to suggest that other dimensions are any less relevant.

This study does not advocate the superiority of any particular position on the directiveness continuum. Clearly, theorists with different philosophical positions might argue that either directive or nondirective management is superior (compare, for example, the varying degrees of directiveness advocated in the approaches of Likert, 1967; Taylor, 1911; Trist, 1981; Walton, 1986). From a contingency perspective, various theorists might argue that given certain *conditions*, one or the other end of the directiveness continuum might be superior (see for example, Hersey et al., 1996; and Fiedler, as discussed in Katz & Kahn, 1978). In contrast, the goal here is to understand whether there are systematic differences in the kinds of people whose belief systems lean to one end of the continuum or the other, not to judge the appropriateness of those beliefs. As the discussion of convergence and nonconvergence has shown, it might well be inappropriate to render such a judgment in a multicultural setting (see, for example, Dorfman et al., 1997; Gibson & Marcoulides, 1995; Sivesind, 1995). Instead, the directiveness continuum provides one lens through which one can view some of the underlying differences in how people perceive the management role. An understanding of those underlying differences, in turn, has the potential to help managers make better

choices as they plan and implement efforts to improve management in heterogeneous organizations.

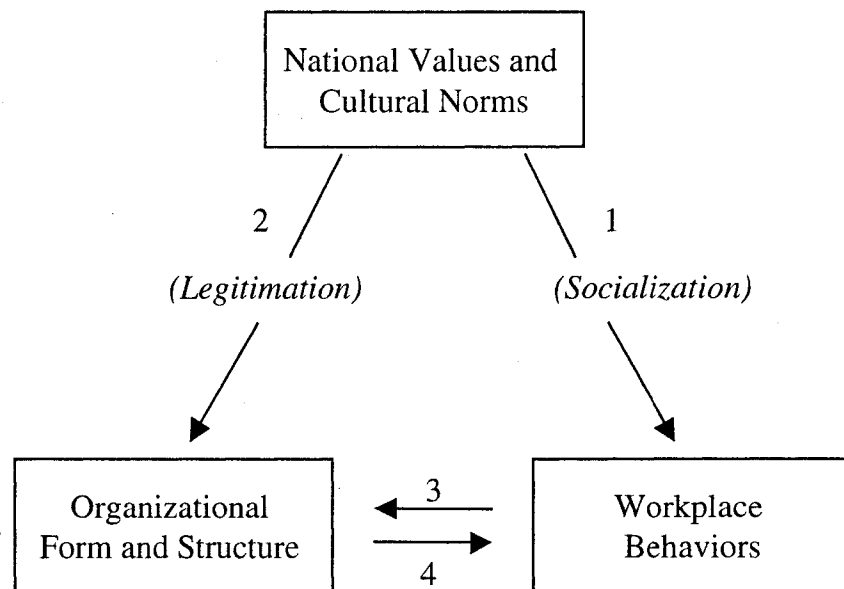
How Subgroup Membership Affects Beliefs about Management

To understand how subgroup membership affects beliefs about management, it is instructive to consider the issue from two perspectives – a theoretical one and an empirical one. On the theoretical side, it is important to understand the mechanisms through which subgroup membership can affect people's beliefs. On the empirical side, there remains the question of what effects subgroup membership actually has. This section considers the theoretical rationale for suggesting that subgroup membership can influence beliefs about management. The section titled Subgroup Characteristics investigates the empirical evidence regarding the kinds of influence subgroup membership actually appears to have on people's values and beliefs.

Models Linking Values and Beliefs With Workplace Behavior

Two research teams (House et al., 1999; Lachman et al., 1994) proposed theoretical frameworks that jointly serve as the basis for conceptualizing the connections between subgroup membership and management beliefs. The teams addressed rather different problems. Lachman et al. investigated the question of core and peripheral values, while House et al. were concerned with the question of leadership effectiveness. Moreover, the full models presented by the two teams each included a number of factors that will not be discussed here. Nonetheless, the segments of the two models that are

relevant to this investigation have striking similarities. Figure 4 provides a synthesis of



the components of their models that have particular relevance for this discussion.

Figure 4. Synthesized Lachman/House model linking values and beliefs with workplace behaviors.

Both Lachman et al. (1994) and House et al. (1999) began with the notion that people adopt many of the norms and values that they take with them to the workplace from their national cultures. Link 1 in Figure 4 indicates that those national values and cultural norms influence the behaviors that each individual exhibits in the workplace. Link 2 represents the effects that the values and norms of the national culture can have on an organization's structure – a process Lachman et al. referred to as legitimation. These effects can be observed with regard to “factors such as differentiation and

integration, degree of specialization, the form of hierarchies, the use of rules and procedures, and the locus of decision-making in organizations” (Lachman et al., 1994, p. 44). In a multicultural organization, this element of the model is complex, since there is no single national culture having an effect. Still, the combined effects of key decision makers’ national cultures and the cultural milieu in which the organization operates will affect the organization’s structure. Links 3 and 4 indicate the reciprocal effects that the behaviors of individuals within an organization – particularly organizational leaders – can have on its structure, and the effects that the structure can have on the behaviors of individual employees. While recognizing the importance of links 2, 3 and 4, this study focused only on Link 1, looking in greater detail at the socialization processes that affect the values and norms that ultimately influence workplace behaviors.

House et al. (1999) proposed that “the attributes and entities that distinguish a given culture from other cultures are predictive of the... behaviors that are most frequently enacted, acceptable, and effective in that culture” (p. 187). They focused relatively narrowly on the socialization processes taking place *within* the organization, proposing that norms deemed appropriate by the national culture come to be reflected in staff behaviors through selective hiring, role modeling and socialization processes. Lachman et al. (1994) echoed the House et al. discussion of organizational socialization processes, focusing on the ability of such processes to “effectively override the influence of members’ previously internalized values, and change them to conform to those required by the organization” (p. 44). However, Lachman et al. took a broader view, considering not only internal organizational socialization processes, but also *external*

processes – “the values, orientations, attitudes and beliefs individuals bring with them to their jobs” (p. 44) as part of Link 1.

For the purposes of this study, it is helpful to distinguish clearly between these different sources of socializing influences – preorganizational socialization, which takes place prior to joining the organization, and organizational socialization, which takes place within the organizational context. Figure 5 presents an expanded view of the factors involved in Link 1 of the synthesized Lachman/House model presented in Figure 4. It retains the idea that individuals come to an organization already socialized with particular sets of values and beliefs common to the subgroups that have affected them (Link 1). However, it also recognizes some of the factors that are peculiar to each individual such as personality characteristics (Link 2), and the individual life experiences each individual encounters (Link 3), and that can influence value formation prior to joining an organization. Finally, it gives explicit recognition to the organizational socialization factors that can affect workplace behaviors (Link 4). All four of these factors, then, influence one’s values and beliefs, and it is those values and beliefs that are ultimately manifested in the form of workplace behaviors (Link 5). Ovals have been added at the bottom of the figure indicating the additional effects that can be exerted on an individual’s behaviors by factors such as workplace structure and work situation (Links 6 and 7).

This study did not investigate the impacts of personality or individual life experiences (Links 2 and 3) because information about these factors is not readily accessible to the manager. Nor did it consider the effect of beliefs on actual workplace

behaviors, or other factors that influence those behaviors. Thus, only Links 1 and 4, the effects of preorganizational and organizational socialization, were investigated. These key elements of Figure 5 are outlined in bold to emphasize their centrality for this study. The elements of life history listed as bullet points under preorganizational and organizational socialization illustrate how the study's independent variables fit into the model.

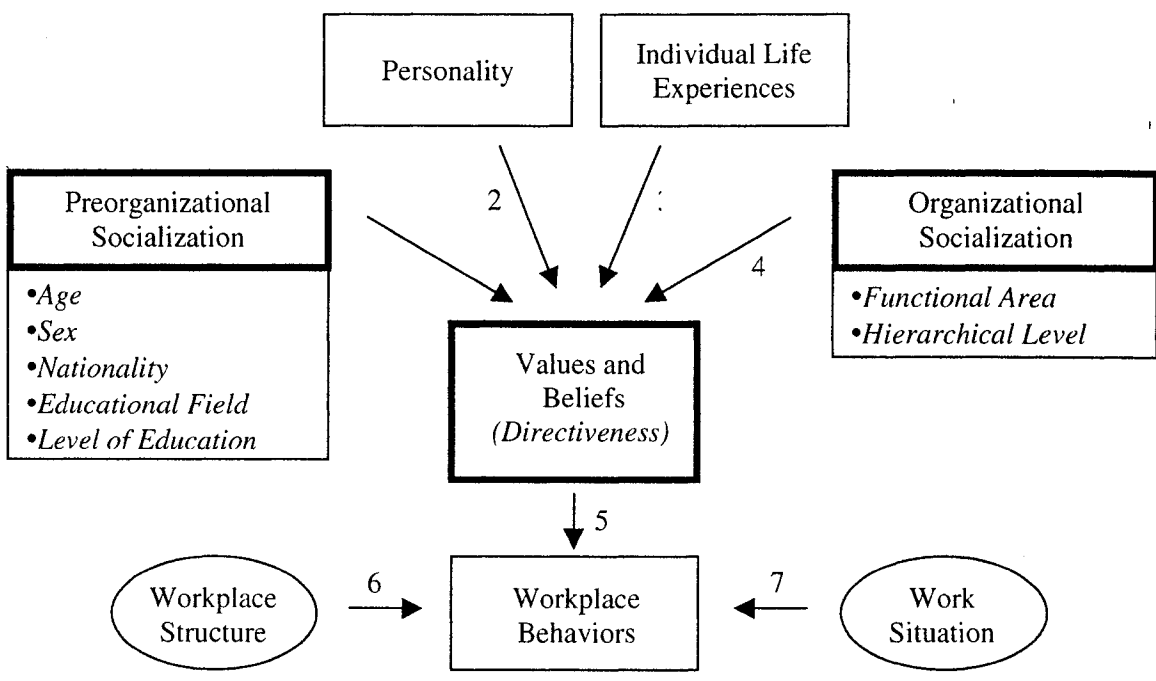


Figure 5. Expanded model of links between life history and workplace behavior.

Socialization Processes

The expanded model presented in Figure 5 relies in Links 1 and 4 on the notion of socialization. Social learning theory served as the foundation for understanding this

concept. Social learning theorists posit that “people learn by observing and imitating others” (Gormly, 1997, p. 21). Small children imitate the behavior of parents and other caregivers, and gradually internalize the values that underlie those behaviors. Later in life friends, teachers, coworkers, and other significant contacts come to serve as behavioral models. In essence, social learning theory posits that values and behaviors are influenced by the various social situations that individuals find themselves in throughout their lives.

During early childhood children internalize vast amounts of information from their families, immediate neighbors, and, somewhat later, in schools and religious institutions. Hofstede et al. (1990) argued that “by the time a child is ten, most of his or her basic values are probably programmed into his or her mind” (p. 312). These values, they suggested, are both fundamental to one’s ways of viewing the world, and extremely difficult to alter.

Despite the strength of these early socializing influences, people’s values and beliefs do continue to evolve as they move from childhood into adolescence and early adulthood. During this middle stage of value development, educational systems play a significant role. Ashforth and Mael (1989) argued that students’ views of themselves change during their education. They observed that “frequent interaction and social comparison with fellow students, observation of professors, and tutelage and reinforcement by professors slowly shaped students’ interests, skills, self-conceptions, and their understanding of the paradigms, values, norms, and occupational choices in the field” (p. 27). Others found that those who experience different types of education are

trained to think differently, and ultimately choose different approaches to work based on those experiences (Biglan, 1973; Lee, 1998; Shaw, 1990).

Moreover, after reaching adulthood, socialization has been found to continue to affect people's values and behaviors in the workplace. Van Maanen and Barley (1984) noted that rigorous socialization processes occur in many occupations, exerting pressure to adopt values and behaviors similar to those held by others who are already in the occupation. For Schein (1992), socialization processes in organizations result in a shared set of common assumptions. Indeed, "managers and researchers have increasingly recognized the importance of organization culture as a socializing influence and climate creator" (Adler, 1997, p. 61).

Upon entering new situations, people look to their peers for guidance. They assimilate the norms of those around them in order to fit in and get along successfully (Feij et al., 1995; Shockley-Zalabak & Morley, 1994). As Shockley-Zalabak and Morley put it, "cultural messages 'teach' organizational members about what they should expect from others and what is likely to be expected from them" (pp. 336-337). Based on such messages, people alter their expectations of what constitutes appropriate behavior in any given setting. This does not imply that deeply held values learned in childhood can easily be set aside. It does, however, suggest that socialization processes that occur later in life can have a significant impact on people's understanding of appropriate behaviors in particular organizational contexts. A number of authors have argued that changes in attitudes can be affected by socialization (see for example, Armenakis, Harris, & Mossholder, 1993; Jensen, White, & Singh, 1990; Lee, 1998). Thus, while many

fundamental values are thought to be instilled at an early age, it is also clear that people can adapt their values and behaviors throughout their educational and working lives.

This process of adaptation, or acculturation, can be seen particularly clearly when people go to work in new cultural contexts. The international management literature contains numerous examples of successful acculturation, in which managers have come to understand key values and beliefs held by those they supervise, and have adapted their management approaches accordingly (Armenakis et al., 1993; Feij et al., 1995; Hofstede, 1997; Jensen et al., 1990; Shockley-Zalabak & Morley, 1994).

However, the international management literature also contains numerous examples of situations in which individuals have clung to their traditional values and behaviors in new cultural settings. Adler (1997), for example, drew on work by Hofstede and by Laurent to challenge the idea that acculturation that runs counter to national values occurs in organizational contexts. Adler pointed out that in Hofstede's IBM study, respondents of different nationalities were found to hold different workplace values (as described in chapter 1) despite a shared membership in a single, strong organizational culture. More strikingly, Adler presented the findings of Laurent's work, in which he "found cultural differences more pronounced among employees from around the world working within the same multinational company than among employees working for organizations in their native lands" (p. 61) with regard to subjects such as the manager's responsibility to provide answers, organizational conflict, managers' motivations, and understanding of organizational structure. Given the counterintuitive nature of these findings, Laurent replicated the study, and again found that managers in

multicultural settings seem to react by “maintaining and even strengthening their cultural differences” (p. 61). According to Adler, “the unambiguous conclusion remains that employees maintain or enhance their culturally specific ways of working when placed within a multinational or global organization” (p. 63).

Core and Periphery Values – Resolving the Conflicts

Values learned in childhood are thought to be deeply ingrained and highly inflexible. Yet social learning theory suggests that learning goes on throughout the lifespan, and numerous researchers have documented instances of acculturation as part of the work experience. Sometimes managers adapt their behaviors, and other times they cling to their traditional ways. The reason for these conflicting observations is not immediately obvious.

Hofstede (1997, 1999) addressed this seeming contradiction by pointing out the distinction between values, and behaviors or practices. He suggested that while people can adapt specific behaviors with relative ease, the underlying values remain unchanged. Deshpande and Viswesvaran (1992) and Triandis (1995) also supported this view. They noted that people can learn through cross-cultural training and exposure to other cultures, and can acquire new culture-based skills, but that learning about other cultures and adapting behaviors for effectiveness does not necessarily imply making changes in the individual’s value structure.

Another possible way to reconcile these seemingly conflicting perspectives is suggested by the idea that some values are more deeply ingrained and central than

others. In an effort to clarify the areas in which one might expect to see acculturation in a cross-cultural setting, Casimir and Keats (1996) distinguished between external issues, such as behavior and dress, which can be adopted readily through a process of acculturation, and internal issues, such as values, which are resistant to acculturation. Lachman, Nedd, and Hinings (1994) took a similar approach, making a distinction between periphery and core values, and suggesting that periphery values are amenable to change while core values are not.

Lachman et al. (1994) drew a clear connection between this notion of periphery and core values and the process of organizational socialization. For changes that touch only on periphery values, they argued that culturally incongruent changes may be possible. In contrast, for areas that involve core values, change will be difficult unless it avoids touching on the individual's values (is culture-free) or moves in directions that are consistent with the individual's values (is culture-congruent). They suggested that it will always be extremely difficult to effectuate changes that run counter to an individual's core values.

It seems possible that those studies that have found acculturation taking place may be studying behaviors that are grounded in relatively peripheral values, while those that have found resistance may be focused on behaviors that are based on core values. This suggests that managers may be well served to understand whether particular beliefs about management touch on core or periphery values, and to adapt their management styles accordingly.

The Value of Studying Subgroups

This general information about the origin of values and behaviors does not make clear, however, which values and behaviors will be amenable to change, and which will not. Nor does it make clear how this may differ for various subgroups. Like Hofstede (1980a), Lachman et al.(1994) and House et al. (1999) wrote from a national culture point of view, and argued that nationality-based subgroups share some core values. This suggests that managers could benefit from considering the differences in values held by various nationality groups when selecting an approach to management.

Other elements of individuals' life histories can have similar effects, however. Social learning theory suggests that it is reasonable to expect those who have experienced similar socialization processes to share some sets of values and beliefs (Armenakis et al., 1993; Ashforth & Mael, 1989; Gormly, 1997; Schein, 1992; Shockley-Zalabak & Morley, 1994; Van Maanen & Barley, 1984). Common educational backgrounds, similar occupational socialization, or shared experiences due to age or gender might also result in shared values and behaviors. While it is evident that these elements of shared history might cause people to share common values and behaviors, it is not clear which do, indeed, have an effect, nor how substantial the effect might be. To answer these questions, one must turn to the literature that has focused on social learning within the various subgroups that a manager might be expected to find in a heterogeneous workplace.

Subgroup Characteristics

Management-related research nearly always controls for some elements of subjects' life histories, based on the assumption that members of various subgroups may differ from each other in systematic ways. There is no "standard" list of characteristics examined by management researchers, however; the factors taken into consideration vary from study to study. Each background characteristic included as a variable of interest or as a control variable in the studies examined for this review was considered for inclusion in this study. They were assessed according to two criteria. First, only variables with theoretical relevance to the issues under investigation were included. Second, since the goal of this study was to provide information to guide managers in their efforts to improve management in their organizations, only information that is typically available from an organization's personnel records was deemed to be of practical relevance.

Table 3 provides a list of the variables that were considered. Those variables with both theoretical and practical relevance are listed in the top section, while those failing to meet one or both of the screening criteria are listed in the lower section. For each of the seven variables that were judged to have both practical and theoretical significance for this study, the following sections explain (a) the reasons for classifying the characteristics as having theoretical relevance, and (b) the correlations expected between the variable and the subgroup's tendency to lean toward either a directive or a nondirective style of management. Discussion of these seven variables is followed by a

Table 3
Theoretical and Practical Relevance of Variables Used in Other Studies

With theoretical and practical relevance

Age
Gender
Nationality
Education field
Level of education
Functional area
Hierarchical level

Without theoretical and practical relevance

Marital status
Household size
Children
Childhood socioeconomic status
Urban/rural
Income
Job
Tenure in job
Race/Ethnicity
Industry/Sector
Tenure with the organization
Division

brief explanation of the reasons for classifying the remaining variables as lacking theoretical or practical relevance.

The amount of relevant research available with regard to each characteristic varies widely. Thousands of studies have considered the relationship between nationality and workplace values (Harzing & Hofstede, 1996), while research regarding the relationship between workplace values and other characteristics, such as years of formal education, have received far less attention (Brenner, 1988). Even for those characteristics that have received relatively sparse attention, however, the research that does exist provides sufficient information to develop at least tentative hypotheses about likely correlations.

Age

Theoretical Relevance

Age-related differences can stem from three different types of experiences – age-normative, history-normative, and nonnormative (Gormly, 1997). Age-normative influences relate to chronological age – the point reached in each individual’s own lifespan. Historical-normative factors involve the experiences shared by those who live through particular historical events at a particular point in their lives. Nonnormative influences are the life events that differ for each individual. Significant nonnormative events often include traumatic events such as divorce, serious illness, or a death in the family, but they also include more mundane factors such as every-day family dynamics. Nonnormative events are, by definition, peculiar to each individual. For this reason, they

are not useful in a discussion of subgroup commonalities. Both age-normative and historical-normative factors do offer potentially fruitful areas for consideration, however.

Historical-normative factors suggest that “employees from different generations have different value systems and... react and respond differently to common life events” (Kupperschmidt, 2000, p. 65). Although terminology for the various generations differs, today’s workforce is typically divided into three cohorts: Silents (or Traditionals or Matures), Baby Boomers, and Generation Xers (Adams, 2000; Fay, 1993; Kupperschmidt, 2000; O’Bannon, 2001; Smola & Sutton, 2002; Weston, 2001). There is no agreement about exactly what ages fall into which cohorts. Generally, those over 55 are considered Silents, those 40-55 Boomers, and those under 40 GenXers. A new generation in their early 20s called the Millennials is now beginning to enter the workforce (Smola & Sutton, 2002), but are too new to the workforce to have received much attention in the literature.

One factor influencing differences in various age cohorts’ values has been parental and societal expectations. Sheehy (1995) noted that earlier generations were raised to respect authority and, as a group, showed very low rates of “almost every social pathology of youth: crime, suicide, illegitimate births, and teen unemployment” (p. 30). She contrasted this with later generations, in which parents believed in “sparing the rod” (p. 34) and ended up raising a generation of children “believing they could do just about anything” (p. 34), seeking instant gratification, and showing marked resistance to rules of any kind.

This view has been seconded by other authors. Weston (2001) and Kupperschmidt (2000), for example, cited the authoritative parents of the Silent generation, who expected obedience and proper behavior from their children. Boomers, in contrast, came of age at a time when current events dampened their enthusiasm for organizational loyalty and respect for authority, but when a parental focus on self-esteem and broader political movements instilled a sense of idealism and focus on personal growth and fulfillment (Kupperschmidt, 2000; Smola & Sutton, 2002; Weston, 2001). Generation X is often described as taking its character from its high incidence of latch-key kids. Forced from an early age to fend for themselves, this generation tends to be independent and resourceful. It is also a generation comfortable with technology and accustomed to rapid feedback (Kupperschmidt, 2000; Smola & Sutton, 2002; Weston, 2001).

The expectations of the workplaces they entered as young adults have also affected different age cohorts' value systems. Silents entered authoritative, hierarchical, bureaucratic firms with rigid chains of command, a focus on loyalty, an expectation that employees would do as instructed without question, and an emphasis on conformity (Sheehy, 1995; Weston, 2001). With the advent of more participatory management styles, workplace expectations have changed (Barker, 1992; Bennis & Nanus, 1997). Those from more recent generations have more often entered organizations that rely less on formality, de-emphasize the chain of command, seek innovation and information exchange, and reward creative thinking (Helgesen, 1995; Sheehy, 1995).

Age-normative factors also suggest the likelihood that workers of different ages tend to have different values. Levinson et al. (1978) analyzed male development, and provided convincing discussions of the ways in which people's values and behaviors change as they age. In particular, they noted that the elements of work that are considered to be most important shift with age, with the focus moving more to intrinsic satisfaction, and away from some of the external trappings of success. Brenner (1988) also suggested that workplace values shift with age. In his summary of the results of a number of studies investigating age differences in values, Brenner noted that younger workers tend to have higher expectations for job challenge; prefer to have opportunities for independent action; and expect to be rewarded for good performance. Older workers, in contrast, were found to have relatively higher levels of job satisfaction and to place importance on meaningful work and other intrinsic rewards. Other researchers, too, have found that values shift as individuals age (Galland & Lemel, 1995; Lee, 1998). Although the specific results of the various studies are not entirely consistent with each other (Brenner, 1988), the preponderance of the work reviewed here suggests that people's values do tend to shift as they age.

Expected Correlations

Age-normative and historical-normative factors argue for different possible age-related beliefs about manager directiveness. Studies of age-normative factors have indicated that older workers place less value on power and prestige, and more on intrinsic satisfaction with the work. This might suggest a shift away from the directive

end of the continuum. On the other hand, historical-normative factors imply that older staff tend to have been raised in historic eras when respect for hierarchy, rigorous discipline, and obedience to authority were the norm, while younger workers tend to have been exposed to more settings where subordinates have been encouraged to challenge their superiors and to think independently. These factors suggest that older workers tend to gravitate toward the directive, and younger workers toward the nondirective end of the continuum.

The tendency for values to shift away from power and prestige and toward intrinsic rewards as individuals age may be valuable information for the manager to consider when determining how best to influence the views of older staff. However, on the whole it seems that, due to the effects of a lifetime of adherence to rigorous discipline and hierarchical organizations, older workers will tend more than younger workers to lean toward the directive end of the continuum.

Hypothesis #1: Age is positively related to support for a directive management style.

Gender

Theoretical Relevance

Gender was included as a variable in most of the studies reviewed here, and with good reason. As Chetwynd and Hartnett (quoted in Hofstede, 1980a) put it, “the sex-role system is at the core of our cultural norms” (p. 262). There are, of course, biological differences between males and females. Most gender-role differences, however, appear

to result primarily from the process of socialization. Children learn about the gender roles considered acceptable in their societies by the time they are 2 or 3 years old, and such gender-role training has a profound effect on their self-concepts and cognitive development. Concepts of gender roles continue to develop throughout the lifespan, but remain strongly influenced by cultural norms (Gormly, 1997).

Hofstede (1980a) noted that in the vast majority of societies, the typical gender-role pattern is one of “male assertiveness and female nurturance” (p. 263). Rokeach (reported in Jensen et al., 1990) found that men and women differed on half of the values included in his classic study of value differences. Several of these value differences are of particular relevance with regard to assertiveness and nurturance, which correspond with directiveness and nondirectiveness, respectively. Specifically, Rokeach found that men tended to value ambition and recognition – a power focus – while women tended to value peace and harmony – a relationship focus. Drummond, McIntire, and Skaggs (1978) reported similar gender-based differences, with women scoring higher on relationship-focused factors such as supervisory relationships, and men scoring higher on power-related values such as prestige. Hofstede summed up the essence of gender-related differences with regard to workplace values as follows: “A review of survey data on the importance of work goals shows near consistency on men scoring advancement and earning as more important, women interpersonal aspects, rendering service, and the physical environment as more important” (p. 261).

Other studies have focused specifically on gender differences in management and leadership styles. In their review of studies related to gender, Vroom and Jago (1995)

noted that women tend to be more participative and democratic, while men tend to be more directive and autocratic. In another study, Helgesen (1995) intensively studied a small group of female leaders, and compared their approaches to management with those of the male managers studied by Mintzberg (1989). She found that the women were likely to spend a significant amount of time and energy building relationships, reducing the importance of status and hierarchy, sharing information, and reducing competitiveness. She contrasted these activities with the approach taken by Mintzberg's males⁶ who judged themselves successful if "they held power, controlled information, made decisions, represented their companies, allocated resources, [and] had authority and status" (p. 29) – all criteria connected with power and assertiveness.

Gilligan (1993), too, pointed out significant differences in the ways that women and men approach relationships, including relationships in the workplace. At the root of these differences, she suggested, is the fact that females tend to seek attachment, while males tend to seek separation. She wrote that girls, even in childhood play, tend to show sensitivity and care for others' feelings, take turns, avoid win-lose style play, and subordinate the game to the relationship. Boys, in contrast, tend to play competitive games, and to enjoy debates about the rules. These childhood differences eventually result in different perceptions of the appropriate way to function in the workplace (Gilligan, 1993; Helgesen, 1995).

⁶ Helgesen acknowledged that the men and women in these two studies were raised in different historical-normative eras, and that some of the male/female contrasts she observed could have been influenced by these generational differences. She argued, however, that the differences are deeper, and fundamentally gender-related.

A few studies have suggested that gender-related differences may not have a significant effect on people's understanding of the workplace in all situations, or may be dwarfed by other factors. Gerstner and Day (1994), for example, found no significant differences in men's and women's leader prototypes. Smith, Dugan, and Trompenars (1996) found no gender differences in the cultural dimensions they identified in their study. Jensen et al. (1990) reviewed several studies in which men and women were found to have similar work values once factors such as hierarchical level, occupation, and tenure had been controlled for. Their own study, however, found that values did vary based on gender.

Expected Correlations

Despite the presence of a few studies reporting no gender-related differences, the bulk of the research reviewed here suggests that gender is likely to correlate with one's position on the directiveness continuum. Hofstede's (1980a) characterization of typical "male assertiveness and female nurturance" (p. 263) gender-role patterns makes clear the likely direction of the correlation. Given their more authoritarian-, power-, and prestige-oriented approaches, men will tend to gravitate toward a directive style. The more cooperative, supportive, and democratic elements that characterize typically female approaches to relationships will tend to place women at the nondirective end of the continuum.

Hypothesis #2: Males are more supportive of a directive management style than females.

Nationality

Theoretical Relevance

The effects of nationality on workplace values have been evaluated extensively. Early work suggested that nationality and managerial attitudes were related (Haire et al., 1966). But it was Hofstede's (1980a) work that served as the foundation for most recent explorations of the connection between nationality and workplace values. Hofstede's original four dimensions of workplace values – power distance, uncertainty avoidance, masculinity, and individualism – have been widely accepted and used⁷.

Hofstede (1980a, 1997) argued that differences in workplace values have their origins in national culture. A combination of influences from the family, the neighborhood, and the school, influence the child's views of how the world works, or ought to work. Moreover, because these nationality-based values are programmed into the individual's mind at such an early age, they are extremely difficult to change (Hofstede, 1980b).

Numerous researchers have replicated Hofstede's work in subsets of the countries for which he collected data, with different groups of individuals, and sometimes using different culture assessment instruments. Much of this work has shown, if not identical constructs and national groupings, results that support Hofstede's general findings (e.g., Bochner & Hesketh, 1994; Offermann & Hellmann, 1997; Sivesind, 1995; Smith et al., 1996).

⁷ The dimensions were described in the earlier section titled The Directiveness Continuum.

A number of authors have offered critiques of Hofstede's methodology⁸ (see, for example, Fernandez et al., 1997; Harzing & Hofstede, 1996; Smith et al., 1996; 2002; Spector, Cooper, & Sparks, 2001). Despite such criticisms, however, the dominant sentiment in the literature reviewed here was supportive of the notion that cultural differences in national values do exist and are significant. While it is possible that the exact configuration of the values Hofstede identified ought to be further refined, or that values in some countries may have shifted over time with major changes in their social structures and economies, the fundamental concept of national value differences is well established.

Expected Correlations

The correlation between national background and views about directiveness in the managerial relationship was expected to be strong. Power distance and uncertainty avoidance were expected to have the strongest connection. As the discussion of the directiveness continuum has shown, a directive perspective is, by definition, associated with a preference for high power distance and high uncertainty avoidance, while a nondirective perspective is associated with low power distance and a high tolerance for uncertainty. The directive end of the continuum is also associated with high masculinity, in terms of valuing assertiveness, independence, and individual decision making, while the nondirective end is associated with the more feminine values of support, nurturance,

⁸ For responses to the principal criticisms that have been raised, see Harzing and Hofstede (1996), pp. 307-309, and Hofstede (2002).

and group decision making. There is no theoretical reason to expect individualism and collectivism to be associated with one's position on the directiveness continuum.

Table 4 presents the culture clusters identified through Hofstede's (1980a) classification system and reports the scores that each of these groups received on the three dimensions with theoretical relevance to the directiveness continuum – power distance (PD), uncertainty avoidance (UA), and masculinity (MA).

In order to predict the effect that these combinations of values are likely to have on beliefs about directiveness, points were assigned to each culture cluster based on their scores on these three dimensions (L=1; M=2; H=3). Figure 6 presents these scores visually, and indicates the relative position on the directiveness continuum that is predicted for each nationality group, based on these scores.

Hypothesis #3: Those from nationality groups with high combined PD, UA, and MA scores are more supportive of a directive management style than those from nationality groups with low combined scores.

Table 4
Value Scores for Hofstede's Eight Culture Clusters

Culture Area		PD	UA	MA
Nordic		L	L-M	L
Denmark	Norway			
Finland	Sweden			
Netherlands				
Anglo		L-M	L-M	H
Australia	New Zealand			
Canada	United States			
Great Britain	South Africa			
Ireland				
Germanic		L	M-H	M-H
Austria	Switzerland			
Israel	Germany			
Less Developed Asian (LDA)		H	L-M	M
Pakistan	India			
Taiwan	Philippines			
Thailand	Singapore			
Hong Kong				
Japan		M	H	H
Less Developed Latin (LDL)		H	H	L-H
Columbia	Chile			
Mexico	Peru			
Venezuela	Portugal			
Near Eastern (NE)		H	H	M
Greece	Turkey			
Iran	Yugoslavia			
More Developed Latin (MDL)		H	H	M
Belgium	Brazil			
France	Spain			
Argentina	Italy			

Note. Scores are reported as (H)igh, (M)edium, and (L)ow.

Source: Adapted from Hofstede (1980a, p. 336)

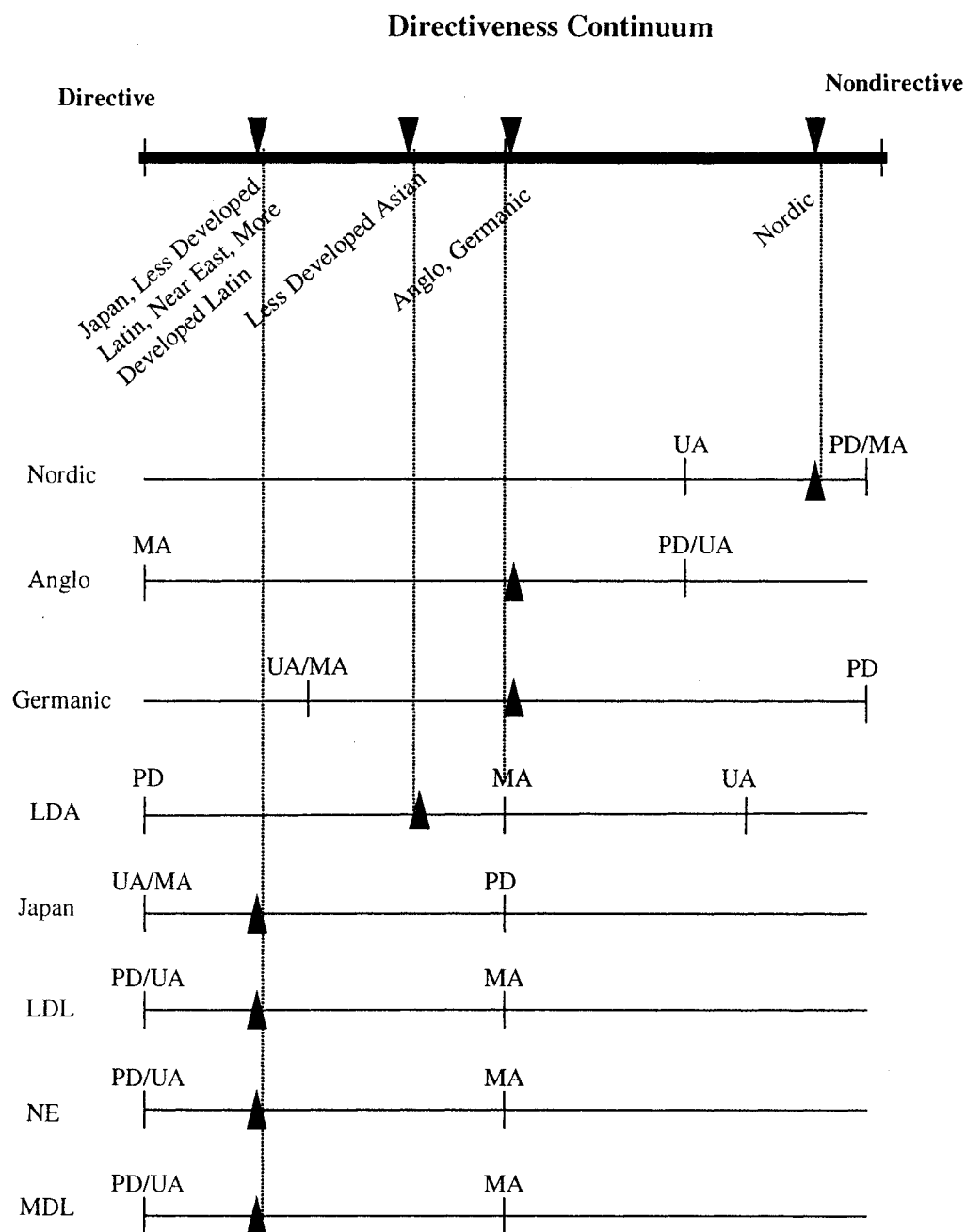


Figure 6. Predictions of position on the directiveness continuum by national culture areas.

Education Field

Theoretical Relevance

The foregoing discussion of nationality touched on the importance of schools in the value formation process, in the context of the ways in which children's primary schools convey national values. It did not deal with the specific field of study an individual chooses to pursue in later years. There is reason to think, however, that educational field may be correlated with values. Shaw (1990) proposed that "similarity of education serve[s] to lessen cognitive differences" (p. 642). Lee (1998), too, argued that education is connected with people's ways of thinking, and noted that "a huge gulf was encountered between the ways of thinking typical of the human and physical sciences respectively" (p. 235). The work reviewed here did not directly consider how educational field affects workplace values. It did, however, provide sufficient information to support tentative predictions about the likely connection between educational field and beliefs about directiveness in the managerial relationship.

The literature dealing with differences associated with educational field suggests that at least three mechanisms may contribute to systematic differences between individuals with different educational backgrounds: self-selection, socialization, and the paradigms of thought that predominate in any given discipline (Ashforth & Mael, 1989; Biglan, 1973; McManus et al., 1996; Van Maanen & Barley, 1984).

Self-selection clearly plays a role in how one becomes involved in a particular educational field. People do not end up in different disciplines purely by chance – they

make conscious choices about what field to pursue. Numerous factors may affect individuals' decisions, including what they enjoy, what they are good at, what they believe is important, and what they believe is appropriate and possible for them to do (Mazen, 1989; Nordvik, 1991). The fact remains, however, that self-selection plays an important role in determining what field an individual studies. Of the factors that may be relevant to an individual's choice of field, the issue of personality type is one that has received considerable attention in the literature. Various typologies have been suggested in an effort to capture the elements of personality that affect educational and career-related choices. Holland and Holland (1977), for example, proposed that people can be classified according to six occupational personality types, which correlate strongly with one's choice of field. Roe (in Hill, 1974) also focused on personality, but proposed a typology that deals with the amount of interpersonal contact a person prefers. Others have found different personality characteristics among those in different academic specialties, but have not gone on to form generalized typologies (Hill, 1974; McManus et al., 1996). Although there is no consensus about what aspects of personality cause people to make what kinds of choices about educational field, the research findings reviewed here suggest that there do tend to be associations between choice of educational field and personality.

Socialization is another key element that can affect those engaged in different fields. Ashforth and Mael (1989) noted the importance of socialization effects stemming from relationships with fellow students and professors. Van Maanen and Barley (1984), too, focused heavily on the socialization influences that take place among those who

share similar training. They noted that fields differ in the strength of the socialization processes that take place, but that those with the strongest social pressures tend to result in group members with the most similar values.

The reigning paradigms in various disciplines also seem to be associated with the ways in which people think. Biglan (1973) suggested that at least part of the difference in the thought processes of those in different fields can be accounted for by characteristics of the fields themselves, not merely socialization processes. His typology for classifying academic fields revolves around three criteria: single or multiple thought paradigms in the discipline (hard versus soft); pure versus applied; and life versus nonlife systems. His work focused narrowly on how these differences relate to approaches to research and teaching in an academic setting. Nonetheless, this three-dimensional approach provides a useful way to think about how those involved in various disciplines may tend to cluster together.

Differences between people from various educational backgrounds could easily stem from a combination of all three sources – self-selection, socialization, and the nature of the field. For the purposes of the present research, however, the source of the difference is not of particular relevance. If people who have received different training differ systematically in their ideas about what constitutes good management, that information can be useful to the manager, regardless of the origins of the difference.

Expected Correlations

None of the articles reviewed for this study provided a clear indication of precisely how educational field is likely to affect one's position on the directiveness continuum. However, by combining insights from Roe's (in Hill, 1974) and Biglan's (1973) typologies, as well as Hill's (1974) observations about preferences for interpersonal contact, it is possible to make some tentative predictions. Roe's typology focused on the idea that those with different personality types prefer different degrees of interpersonal interaction. On the directiveness continuum, those who are nondirective will generally be required to communicate more frequently, more intensively, and in more complex ways than those with a directive approach⁹. This suggests that those who are more comfortable with a high degree of interpersonal interaction will tend to be more supportive of a nondirective approach to management than those who are less comfortable with such interactions. While this is a useful starting point, Roe's work does not allow classification of the various educational fields represented at XYZ according to degree of preference for interpersonal interaction.

Other researchers, however, have provided evidence about field-related differences in preferences for interpersonal interactions. Hill (1974) found significant differences in the amount of interpersonal activity preferred by MBA students interested in different fields. Those interested in accounting and systems analysis preferred the lowest levels of interpersonal activity; those interested in finance, small business

⁹ Again, note that the Flamholtz (1986) laissez-faire approach to management would not require this type of intensive communication style.

management and engineering came next; and those interested in marketing, manufacturing management, and personnel management preferred the highest levels of interpersonal contact. Holland and Holland (1977) also observed correlations between preferences for social contact and field. The percentage of those scoring high on their “social” variable was much higher for those involved in fields with intensive involvement with other people, such as nursing, and much lower for those selecting fields such as math.

In an attempt to distinguish between values held by those with different educational backgrounds, this study will rely on Biglan’s (1973) division between life and nonlife systems, and hard and soft disciplines. Table 5 indicates which fields are classified as life and nonlife systems, respectively, according to Biglan’s scheme. It also includes several additional fields present in significant numbers at XYZ that were not included in the original classification scheme. Based on the combined ideas of the theorists considered here, it appears that those involved in nonlife systems, and in hard life systems, tend to prefer more directive approaches to management, while those involved in soft life systems tend to be more nondirective. The shaded area in Table 5 indicates the fields predicted to be associated with support for a nondirective approach to management.

Hypothesis #4: Those educated in nonlife systems and in hard, life systems are more supportive of a directive management style than those educated in soft, life systems.

Table 5
Clustering of Academic and Vocational Task Areas in Three Dimensions

	Nonlife Systems		Life Systems	
	Hard	Soft	Hard	Soft
Pure	Physical Science <ul style="list-style-type: none"> • Chemistry • Geology • Math • Physics 	Humanities <ul style="list-style-type: none"> • Languages • History • Philosophy • <i>Literature</i> 	Biology	Social Science <ul style="list-style-type: none"> • Political Science • <i>Public Policy</i> • Psychology • Sociology
Applied	Information Technology ^a Engineering <i>Trades</i> <i>Science and Technology</i> <i>Statistics</i>	Accounting Finance Economics <i>Communications^b</i> <i>Law</i> <i>Administrative/ Clerical</i> <i>Translation</i> <i>Interpretation</i>	Agriculture <i>Environment</i> <i>Medicine</i>	Education <i>Management</i> <i>Welcome and Security</i>

Note. Shading indicates fields expected to be associated with a nondirective approach to management. Adapted from Biglan (1973) p. 207 (*Some of Biglan's fields have been removed or collapsed, while those in italics have been added, to reflect key educational fields represented at XYZ and not present in Biglan's original framework.*)

^a "Computer Science" has been changed to "Information technology"

^b "Communications" has been reclassified from pure to applied.

Level of Education

Theoretical Relevance

Jehn, Chadwick, and Thatcher (1997) stated that factors such as "education level... often dictate how one thinks about and undertakes tasks" (p. 290). But although studies of management-related attitudes and values often cite level of education as a control variable, explicit analysis of this characteristic rarely made its way into the published literature reviewed here. Fortunately, the few studies reviewed here that did

investigate the effects of education level provide some relevant information. The first study with specific findings provided confirmation that managers may need to tailor their approaches differently for staff with different education levels. Turner (1999), in her detailed case-study analysis of a planned change effort in a Japanese factory, noted that it was particularly difficult to generate interest among “engineers and other college-educated workers... [which] led to the creation of a companion campaign... geared specifically to the design and engineering sections” (p. 217). In this case, an approach that worked fairly well for the educated laborers was not effective for those with higher levels of education.

Other studies have documented the kinds of value differences that can be found among workers with different levels of education. Pitts (1981) set out to examine whether groups with similar sets of values would share common backgrounds. He found that education level was one of only three characteristics correlated with distinctive sets of values. Brenner (1988) found that highly educated workers value independence, and intrinsic job characteristics such as challenging and fulfilling work to a greater extent than less-educated workers. Johnson and Elder (2002) found that those with higher levels of education were more likely to desire challenge and authority, and to value extrinsic, altruistic and social rewards, while those with a high school education were more likely to value security.

Expected Correlations

Although research concerning education level and workplace values is relatively scant, those studies reviewed here that have addressed the issue explicitly have detected a relationship. Since those with higher levels of education tend to prefer more independence and challenge, they are likely to lean toward the nondirective end of the continuum.

Hypothesis #5 Education level is negatively related to support for a directive management style.

Functional Area

Theoretical Relevance

The type of work someone is involved in has been described using terms such as function, functional area, or functional specialty (Adsit, London, Crom, & Jones, 1997; Baker, Mohamed, & Boyle, 1994; Hill, 1974; Melone, 1994; Paolillo, 1987; Pavett & Lau, 1983; Waller, Huber, & Glick, 1995), occupation (Hofstede, 1980a; Mazen, 1989; Van Maanen & Barley, 1984), type of work (Lee, 1998), job classification (Pitts, 1981), and position (Jensen et al., 1990). Despite the many phrases used, however, these expressions all refer to the general content of someone's work – for example, finance, accounting, sales, research and development, or production¹⁰. Following the language

¹⁰ Van Maanen and Barley (1984) provided a relatively narrow definition of their term *occupational community*. Although they would argue that not all functional areas qualify as occupational communities, they would agree that members of occupational communities are involved in particular functional areas.

used in the largest proportion of the studies reviewed here, the term *functional area* was used to refer broadly to the type of work someone does.

Lawrence and Lorsch (cited in Pavett & Lau, 1983) indicated that there are “cognitive differences between managers in different” functional areas (p. 176). Moreover, functional area has “been suggested as being causal or at least to be closely interrelated with value formation” (Pitts, 1981, p. 122). A number of other researchers also found that people from similar functional areas tend to share similar ways of thinking. Melone (1994), for example, compared thought processes used by chief financial officers and vice presidents of corporate development. While both groups tended to follow similar lines of reasoning, the importance ascribed to the various factors considered in the analysis depended on the functional area in which the individual had the most experience. Those with finance backgrounds tended to weight financial issues more heavily, while development vice presidents tended to weight all factors equally. In a similar study, Waller, Huber and Glick (1995) found that chief executive officers perceived more changes in their organizations’ effectiveness in the functional areas with which they had more experience.

Cognitive differences between those in different functional areas do not affect all aspects of an individual’s thinking or behavior. Although Melone’s (1994) study revealed differences in how those with different functional backgrounds weighted various factors as part of an overall evaluation task, those differences were not evident in the groups’ analyses of firms’ financial conditions. Similarly, although Waller et al. (1995) found that CEO perceptions of organizational effectiveness differed depending

on functional background, their perceptions did not differ with regard to changes in the broader environment. Thus, although there are some cognitive differences between those with various functional backgrounds, the effects do not extend to all aspects of thought and behavior.

Functional area has also been associated with perceptions of the importance of various management roles. Mintzberg (1989) observed that managers in different functional areas put different amounts of emphasis on various management roles – although all roles remained relevant for all managers, regardless of functional area. Other researchers obtained similar results (e.g., Paolillo, 1987; Pavett & Lau, 1983).

There are a number of reasons that those in similar functional areas tend to share similar workplace values. One is the process of self-selection. As described in the section on educational field, those with different personality traits are likely to enter different fields. The same line of argument suggests that those who enter particular functional areas tend to be similar to each other in some fundamental ways. Hill's (1974) research, based on Roe's framework of orientation to or away from people, found clear differences in preferences for degree of interpersonal activity along functional area lines, with, for example, accountants preferring less interpersonal activity than those responsible for personnel issues. Holland and Holland (1977) approached functional area differences from a different perspective by creating a typology of six vocational personality types. They found that people with a variety of personality types might enter any given functional area, but that for each functional area, one to three personality types seemed to dominate, while two to four types were hardly represented at all. Andrews

(1975) obtained “significant positive results... to support Holland’s premise that people search out environments and, hence, vocations that are compatible with their personalities” (p. 101).

Some researchers who have attempted to make use of Roe’s orientation to or away from people and Holland’s vocational typology have not obtained supporting results (Hill, 1974; Mazen, 1989). Mazen offered one possible explanation, pointing out that the type of career one prefers is not always the type of career one chooses. This can occur for a number of reasons, particularly social indoctrination, through which people are conditioned to believe that only certain types of careers are appropriate or available to them, and through stereotyping by employers that may make it difficult for people to find employment in their preferred fields. Thus, various factors aside from personality characteristics can play into the occupation selection process. Nonetheless, the career choices that people make do seem to correlate, at least to some extent, with their individual characteristics (Andrews, 1975; Hill, 1974; Holland & Holland, 1977).

Another reason that functional groups tend to share similar values relates to the education required to enter any particular functional area. Again, as the section on educational field has argued, the educational process – interactions with peers, guidance from teachers and mentors, the process of learning to think in a particular paradigm – affects the ways in which one views the world (Ashforth & Mael, 1989; Biglan, 1973; Van Maanen & Barley, 1984). Although some functional areas permit the entrance of individuals with diverse educational backgrounds, many functional areas require specific kinds of training. Groups of lawyers, accountants, or doctors, for example, tend to

receive similar types of academic training, just as groups of carpenters, plumbers, and electricians tend to receive similar types of vocational training. While each individual is exposed to a unique combination of educational influences, those trained for different functional specialties tend to acquire distinct ways of viewing the world (Biglan, 1973; Jehn et al., 1997).

In addition to the effects of self-selection and formal education, however, come the effects of working in the same field. Van Maanen and Barley (1984) noted that “becoming a member of an occupation always entails learning a set of codes that can be used to construct meaningful interpretations of persons, events, and objects commonly encountered in the occupational world” (p. 300). Certainly, some of this learning can take place in the educational setting. But people also come to share interpretations through experiences shared on the job. As Jehn et al. (1997) put it, “Work experience [can] often dictate how one thinks about and undertakes tasks” (p. 290).

Finally, the effects of socialization can have a profound effect. Numerous authors have discussed the importance of socialization among members of functional-area based subgroups (e.g., Ashforth & Mael, 1989; Van Maanen & Barley, 1984). Ashforth and Mael discussed the importance of interpersonal proximity and task interdependencies, noting that those who work together closely will tend to compare their beliefs with those in similar positions, and that this will tend to create similar values among subgroups of workers. Gibson, Ouchi, and Sung (1987), following a similar line of reasoning, discussed the importance of organizational propinquity, and the effects on value formation of close or frequent contact between those who share similar functions. Van

Maanen and Barley provided an in-depth examination of this effect among certain occupations, noting that shared values are transmitted from one generation of workers to the next. They explained that “at a deeper, interpretive level, these surface manifestations of culture reflect integrative themes or ordering assumptions held by the membership which provide for some commonality and connection across specific domains of thought and action” (p. 308).

Several differences related to functional area seem potentially related to the directiveness continuum. One useful set of distinctions is between those in professional and nonprofessional functional areas¹¹. In comparison with nonprofessionals, professionals have been found to place greater value on work that is intrinsically satisfying (Howell & Dorfman, 1986), independent (Drummond et al., 1978), and intellectually stimulating (Drummond et al., 1978). Nonprofessionals, in contrast, have been shown to value more structure and guidance. They prefer managers to offer clear procedural guidelines (Howell & Dorfman, 1986) and are less concerned about intellectual stimulation and independence than are professionals (Drummond et al., 1978).

Other studies have contrasted particular functional areas, rather than the more general professional and nonprofessional groupings. For example, in a health care setting, administrators have been found to want considerably more participation in decision-making than nurses, dietary staff, and maintenance staff (Jensen et al., 1990). In

another study, managers in sales and marketing and in finance and accounting tended to be more autocratic while personnel managers tended to be more participative (Vroom & Jago, 1995). In yet another study, those at the headquarters of an international development organization in functional areas such as accounting, finance, and marketing were found to value discipline and control, while the field staff in the same organization were found to value independence, and delegation of decision-making processes to those “on the ground” (DiBella, 1996).

Expected Correlations

These findings did not lend themselves to a clear prediction about the extent to which those in any given functional area at XYZ are likely to lean to the directive or nondirective end of the continuum. The literature reviewed here suggests that professionals tend to lean toward the nondirective end of the continuum and nonprofessionals toward the directive end because of differences in the extent to which they appreciate independence and intellectual stimulation.

Hypothesis #6: Those in nonprofessional functional areas are more supportive of a directive management style than those in professional functional areas.

¹¹ The professional/nonprofessional distinction has some parallels with the hierarchy distinction. They are not, however, identical concepts. While professionals are often located higher in the hierarchy, this is not always the case.

Hierarchy

Theoretical Relevance

Virtually all organizations have some form of hierarchy (Hofstede, 1980a). Despite a recognition among management theorists that more innovative companies tend to have flatter hierarchies (Kanter, 1983) and significant efforts in the United States and elsewhere to develop flatter organizations (Barker, 1992; Bennis & Nanus, 1997), substantial hierarchical structures remain an integral part of most organizations. In some countries, such as France, hierarchy remains almost “a sacred principle” (Saleemohamed, 1996, p. 189). Given the strong presence of the phenomenon of hierarchy in most organizations, it seems important to ask whether those at different points in the hierarchy might differ systematically in their beliefs about management.

Many authors have provided evidence suggesting that there are good reasons to anticipate differences between people at different levels in the hierarchy with regard to issues such as skills, values, and ways of thinking about the workplace (Adsit et al., 1994; Burke, 1997; Drummond et al., 1978; Howell & Dorfman, 1986; Kuchinke, 1999; Pavett & Lau, 1983; Turner, 1999; Vroom & Jago, 1995). Of the significant differences found between those at the high and low ends of the hierarchy, two are of particular interest for the purposes of this study. First, the kinds of behaviors that people engage in tend to differ by hierarchical level. Vroom and Jago (1995) argued that the kinds of situations faced by those at the higher end of the hierarchy tend to involve unstructured situations in which the decision maker has insufficient information. This type of

situation, they suggested, forces higher-level managers to be relatively participative and collaborative in their decision-making processes, in contrast to those in lower-level positions. In a similar observation, Adsit et al. (1994) noted that at higher organizational levels, where work functions and expectations are less standardized, interpersonal relationships are particularly important.

Second, the kinds of values that people at different hierarchical levels bring to the workplace often differ. Howell and Dorfman (1986) found that those at higher levels tend to value satisfying work tasks and organizational rewards, while those at lower levels tended to focus on the importance of clear procedural guidelines, leaders' guidance, and feedback. Other characteristics have also been found to distinguish higher- and lower-level staff. Those at higher levels tend to be more individualistic (Kuchinke, 1999), more long-term oriented (Kuchinke, 1999; Turner, 1999), more independent (Drummond et al., 1978; Sivesind, 1995), and more desirous of intellectual stimulation (Drummond et al., 1978).

Researchers studying differences between various levels of management found differences in ratings of the importance of various managerial roles, but no differences in terms of the actual skills required (Pavett & Lau, 1983) or the amount of flexibility needed (Hill, 1973). In both of these cases, however, the studies focused on differences between high- and low-level managers. It may be that as managers, the subjects were all relatively high in the organizational hierarchy, and thus not differentiated enough for differences to emerge clearly.

Expected Correlations

Taken together, the preferences of those at higher hierarchical levels for factors such as independence, intellectual stimulation, individualism, and participation all mesh with a fairly nondirective approach to management. In contrast, the preferences of those at lower hierarchical levels for more direction and leader guidance suggest that a directive approach is likely to be more appealing.

Hypothesis #7: Hierarchical level is negatively related to support for a directive management style.

Subgroups Lacking Theoretical or Practical Relevance

As Table 3 indicated, a number of the variables considered for inclusion in this study were judged to lack theoretical and/or practical relevance to the question of where organization members are likely to fall on the directiveness continuum. A number of characteristics dealing with the structure of the individual's personal life – marital status, household size, childhood socioeconomic status, presence of children, and urban/rural environment – were classified as irrelevant on both practical and theoretical grounds. On the practical side, personnel records do not typically allow ready access to this type of information. Moreover, there is no theoretical reason to expect values associated with these types of life-style choices to correlate with one's position on the directiveness continuum, although they might well be associated with other types of values.

Income is a characteristic that has been shown to correlate with values (Galland & Lemel, 1995; Pitts, 1981). However, it has little practical relevance since personnel

records, while they can provide information about salaries paid by the organization, cannot provide information about household income. Households may have wealth and other sources of income not reflected in the organization's payroll data. In particular, working spouses can contribute to the family's income, and personnel records will contain no systematic information on this phenomenon. In addition, the individual's position in the organizational hierarchy is likely to be quite closely correlated with the compensation provided by the organization; thus, inclusion of the hierarchy variable is likely to capture most of the information that might have been available from considering income.

The concept of job appeared in various studies in several different forms, including job type (e.g., professional, clerical or blue collar in Pitts, 1981), job level, (e.g., skilled, semiskilled, or unskilled in Drummond et al., 1978), and job category (e.g., administrative, professional or technical in Howell & Dorfman, 1981; managers, engineers, or production workers in Kuchinke, 1999; and managers, engineering or technical support in Lee, 1998). The notions of general type of work (Lee, 1998) supervisory/nonsupervisory work (Jenkins, 1994), and professional/nonprofessional work (Howell & Dorfman, 1986) were also used. These terms all deal generally with the nature of the work done by the employee. They can be understood as referring to one of the other variables included in this study: either functional area or hierarchical level. Thus, a "job" variable was not included, although the studies using these terms were considered in the sections dealing with functional area or hierarchical level.

Tenure in the job was included in only one of the studies reviewed here (Paolillo, 1987). The argument that an individual's views are likely to be influenced by the amount of time spent associating with the current peer group seems a sound one, however, and thus would argue for including the variable in this study for theoretical reasons. Nonetheless, tenure in the job was excluded from this study on practical grounds. At XYZ, personnel records reflected an individual's total tenure, rather than tenure in a particular position. In addition, because XYZ offered limited opportunities for promotion or transfer to different positions, tenure with the organization was generally quite closely correlated with tenure in the job. For studies of other organizations, however, tenure in the job could prove a useful variable to consider.

Race and ethnicity were also excluded from this study on both theoretical and practical grounds. There are, of course racial and ethnic subgroups within many nations (e.g., Black and Hispanic populations in the United States, and linguistically and culturally diverse groups in nations such as Switzerland and Belgium) (Hofstede, 1980a). At the same time, some cultural groups spread across national borders (Harzing & Hofstede, 1996; House et al., 1999). The strength of national culture seems to override those subgroup differences, however. Hofstede (1980a) noted, for example, that despite their varied racial and ethnic backgrounds, Americans show "a collective mental programming which is striking to the non-American" (p. 16). Moreover, his data showed that groups can be distinguished based on nationality, despite the presence of distinctive subcultures within those nations (Harzing & Hofstede, 1996; Hofstede, 1980a). Thus, from a theoretical perspective, it appears to be possible to study national variations

without considering the effects of racial and ethnic subcultures. In addition, from a practical perspective, inclusion of race and ethnicity in this study would not have been useful. The organization's staff were primarily Caucasian, and what racial differences existed would have been strongly correlated with national origin. Thus, while race and ethnicity could be of considerable theoretical and practical relevance in other settings, they were not included in this study.

Industry, or sector, was included as a control variable in a number of studies (Bennett, 1977; House et al., 1999; van Muijen & Koopman, 1994; Vroom & Jago, 1995). Such a variable was unnecessary for this study, since it took place within a single international organization. However, some of the factors that are peculiar to particular industries or sectors, such as the kind of work or the environmental conditions associated with the field may have been captured in part by the functional area variable.

Tenure with the organization and division were both considered seriously for inclusion in the study. Information about these characteristics would be available to a manager. Both characteristics have the potential to have significant effects on organizational members' beliefs (Adkins et al., 1996; Burke, 1997; Gibson et al., 1987; Katz & Kahn, 1978; Lee, 1998; O'Reilly, Chatman, & Caldwell, 1991; Schein, 1992; Tsui, Egan, & O'Reilly, 1992). Previous research in these areas would have allowed the development of hypotheses regarding the extent to which group members would be expected to share similar perspectives on the appropriate degree of directiveness in the management relationship; however, it would not have permitted a prediction of the

direction of those beliefs. For this reason, these two variables were excluded from the study.

Strength of Subgroup Influences

A Taxonomy of Subgroup Influences

Social learning theory indicates that people absorb cultural values and beliefs about appropriate behaviors through a wide variety of associations with various groups and individuals. This implies that understanding something about those associations could provide information about the kinds of cultural values and beliefs that any particular individual is likely to hold. With such a wide variety of associations in any individual's history, however, it is not evident how a manager can make constructive use of the concept of subgroup associations.

A taxonomy to permit conceptual grouping of the theoretically and practically relevant variables may prove helpful in this regard. Several relational demographers (Jehn et al., 1997; Tsui et al., 1992) have presented helpful ways to group a number of the independent variables included here. Their taxonomies each classify the variables into two groups – one dealing with *visible* characteristics, the other dealing with *informational* (Jehn et al., 1997), or *job-related* (Tsui et al., 1992), characteristics. Visible characteristics include those features that can be readily observed by others, such as sex, race, and age. Informational, or job-related, characteristics include features that cannot be readily observed, but which nonetheless “dictate how one thinks about and undertakes tasks” (Jehn et al., 1997, p. 290), such as education or tenure with the

organization. Unfortunately, the focus of the relational demography studies reviewed here has been on the way individuals with particular characteristics are *perceived by others*, while this study is concerned with the way that such characteristics have shaped the *individual's own beliefs*.

Gibson et al. (1987) offered a different type of classification scheme. They proposed that the factors that affect people's beliefs systems be classified into two types. Type 1 factors are those that involve organizational propinquity, and the effects of regular interactions with others as a result of regular workplace activities. Type 2 factors are those that people bring with them to the workplace, such as gender, political beliefs, or religious affiliations. Gibson et al. also proposed that many factors, such as function, rank, and tenure, are a mixture of types 1 and 2. Function, for example is in part a consequence of organizational assignment of a person into engineering or marketing. But it is also a consequence of previous education, and of socialization processes imposed by the external society.

The work of these authors served as models in developing a taxonomy appropriate to the particular variables considered relevant for this study. Table 6 presents such a taxonomy, which includes three classifications: fixed sources of influence, self-selected sources of influence, and organizational sources of influence.

Table 6
Taxonomy of Sources of Subgroup Influence

Fixed Sources of Influence

- Age
- Gender
- Nationality

Self-Selected Sources of Influence

- Education Field
- Level of Education

Organizational Sources of Influence

- Functional Area
 - Hierarchy
-

Elements of the Taxonomy

Fixed variables concern sources of influence that arise through the environment, based on factors that individuals have no power to influence during the formative years of childhood. A person's gender, historical-normative experiences, and nationality are examples of such fixed sources of influence. Children observe and are treated according to gender roles that prevail within their societies. Their dates of birth dictate the historical events through which they will live. Their nationalities ensure exposure to certain sets of values. Since the effects of social learning at an early age are strong, unconscious for the most part, and very hard to alter (Hofstede, 1980a, 1997), these fixed factors are likely to have strong and enduring impacts on each individual. Of course, experiences do vary to some extent. Children are sometimes raised in foreign cultures, or in homes where gender role stereotypes are avoided. Nonetheless,

membership in particular nationality, gender, and historical-normative subgroups is generally fixed. Thus, fixed variables are likely to be connected with deeply ingrained and difficult to change core values.

A second general source of subgroup influence involves *self-selected* aspects of the social environment. As children grow into adolescents and young adults, they are in a position to make choices about some of the subgroups they associate with. They choose their friends and hobbies, select their academic and vocational disciplines, and determine how long to stay in school. Many of these choices result in subgroup memberships that the manager will have no knowledge of. Educational field and level of education, however, are areas that may be known. While conditions beyond the individual's control – family history, financial means, intellectual talent, national economic conditions, and so forth – can influence the choices one makes, in an important sense, people do ultimately choose their field of study and their level of education. Thus, these self-selected sources of influence are different in their nature than the fixed variables over which the individual has no control. But while self-selected subgroup membership also leads to beliefs that are acquired relatively early, the educational field and length of education variables have to do with an intellectual approach to viewing the world – a thought process or paradigm imposed by the academic or vocational discipline followed. While it can be difficult to shift this kind of thinking, it is expected to be less core than the fundamental values learned from the fixed groups encountered in childhood.

Finally, *organizational factors* can have an effect once people are established in a work environment, and socialization processes begin to take effect. Factors related to organizational propinquity (Gibson et al., 1987) will help determine the particular subgroup influences the individual is exposed to, such as associations with others in the same functional area and level of hierarchy. Thus, within the organizational setting, several different subgroups may be in a position to affect the individual's values and behaviors. Organizational factors were expected to correlate with beliefs that are acquired late in life, and in a particular organizational context (recall the Workplace Structure and Work Situation elements of Figure 4, the Synthesized Lachman/House model presented earlier in this chapter). As Hofstede (1997) argued, "Collective practices... depend on organizational characteristics like structures and systems, and can be influenced in more or less predictable ways by changing these" (p. 199). Thus, it was expected that the beliefs that depend on these variables would be relatively peripheral and pliable, given a change in the organizational context.

Implications of the Taxonomy

Combined with the notion of core and peripheral values, this typology can provide clues about ways to improve management practices. Specifically, this taxonomy identifies which subgroup memberships are expected to be associated with beliefs that are relatively peripheral, and which with beliefs that are likely to be intractable because of their origins in variables that tap people's core values. The hypothesized relationship

between the strength of a variable's effects on an individual's beliefs and its classification according to this taxonomy can be summarized as follows.

Hypothesis #8: Fixed sources of influence (age, gender, nationality) will have the strongest effects on the individual's position on the directiveness continuum; self-selected sources of influence (education field and level of education) will have midrange effects; and organizational sources of influence (hierarchical level, functional area) will have the weakest effects.

Ethical Issues

The arguments presented in this chapter were based on the idea that subgroups of people tend to share experiences that affect their beliefs about management, and that understanding those differences can be useful to the manager. However, a caveat is in order. Although one can fruitfully study differences among groups of people, it is important never to jump to the conclusion that those findings hold for any individual. The fact that one group as a whole tends to score differently than another group as a whole reveals nothing about any particular individual (Hofstede, 1980a), nor about correlations at the individual level (Robinson, 1950).

Unfortunately, the process of stereotyping can cause people to ascribe characteristics to individuals based on subgroup membership (Gormly, 1997; Zimbardo, 1992). Such unwarranted assumptions about people can be damaging to both the person and the organization. Perhaps the most well-known example of this in the United States has been the negative stereotypes ascribed to Blacks, and the associated problem of

discrimination based on race (Gormly, 1997). Positive stereotypes can also be damaging to both the individual and the organization. This could occur, for example, if an individual is assumed to have skills associated with a certain subgroup, and is therefore asked to perform work for which he or she is unqualified.

The distinction between stereotyping and sociotyping can help clarify the valid uses of research concentrating on differences between subgroups. As Triandis (1995) put it: “While stereotypes are generally invalid, there are some elements of the stereotypes that are valid, in the sense that they agree with the relevant social science research findings. Valid stereotypes are called *sociotypes*” (p. 25). Assuming that stereotypes apply to any particular individual is inappropriate. On the other hand, awareness of true cultural differences can allow managers to develop more culturally sensitive interventions, as long as the limitations of the use of stereotypes is clearly recognized (Adler, 1997; Osland & Bird, 2000).

Researchers who produce work that runs the risk of being misused are often strong in their caveats, warnings, and exhortations to readers noting that the data must not be taken to apply to the individual (for a particularly cogent argument on this topic, see Hofstede, 1980a). This work is no exception. Differences between subgroups that are identified here can be used as guideposts only – as tools to help the manager think more effectively about what strategies might be appropriate for the range of individuals employed in the organization. No inference can be drawn about the specific perspectives or needs of any particular individual. Readers are urged to use the study’s findings to implement management strategies that are more inclusive, more broad reaching in their

grounding, but never to make the error of assuming that stereotypes necessarily apply to any individual.

Summary

This chapter has reviewed the theoretical work that served as the foundation for this project. It began with a description of the debate between convergence and nonconvergence in a management context. A mixed model suggests that there are at least some aspects of management that are universally considered important and, at least for these management functions, it is reasonable to consider implementing a management improvement program. The chapter then turned to a presentation of the concept of directiveness, and development of the directiveness continuum that served as the dependent variable in this study.

The third section examined literature dealing with the concept of subgroups, and established the theoretical justification for examining subgroup membership as the basis of this study. It began by presenting a model illustrating how values and beliefs can affect workplace behavior. It went on to discuss work that suggests how socialization processes can affect those beliefs, and how membership in various subgroups can contribute to the ways in which individuals are socialized.

The fourth section reviewed the literature supporting the selection of each of the seven independent variables. For each independent variable, this section argued for the theoretical relevance of the characteristic. It also outlined how the existing literature has been used to establish the hypotheses to be investigated in the study, and the specific

correlations that are expected. Finally, it described the subgroups that were discovered as part of the literature search, but not included as independent variables for this study, and explains the logic behind those choices.

The fifth section presented a taxonomy founded on the sources of influence associated with the seven independent variables, and intended to allow a prediction of the likely strengths of their effects. The final section of the chapter addressed an ethical issue connected with this type of research, namely the problem of attributing characteristics that tend to be true of a group to any individual.

This study builds on the literature described in this chapter in several ways. First, it attempts to bring together several diverse aspects of management under the rubric of directiveness – a concept that matches the concerns of many staff at XYZ, and that offers a potentially useful way of characterizing a key element of the managerial relationship. Second, it documents the extent to which ecological-level differences predicted based on existing theory can be confirmed through empirical evidence. Finally, it contributes to our understanding of the strength of the correlation between beliefs about directiveness and various aspects of life history. Taken together, these contributions have the potential to help practitioners better understand the effects of diversity with regard to managerial relationships, and therefore, to be able to work more effectively with heterogeneous staff.

CHAPTER 3: RESEARCH METHODS

The theory presented in chapter 1 and developed more thoroughly in chapter 2 suggests that people's values and beliefs are formed, in part, through socialization processes, and therefore, that demographic characteristics, educational background, and organizational position should all be associated, at the ecological level, with values and beliefs. More specifically, there is reason to expect that sex, age, nationality, level of education, educational field, functional area, and hierarchical level will be systematically associated, at the ecological level, with beliefs about the appropriate degree of directiveness in the management relationship.

This chapter specifies the approach that was used to investigate the connection between these seven aspects of life history and beliefs about the appropriate degree of directiveness in the management relationship. It begins with a discussion of the approach to data collection, including a description of the process used to develop and validate the survey instrument. The next section describes how the dependent and independent variables were operationalized. The final section outlines the approach to data analysis.

Approach to Data Collection

This section addresses key design issues relevant to survey research and describes the approach that was followed for this study. It begins with a discussion of the data collection method that was selected, and the reasons for that choice. This is followed by a description of the way the instrument was developed and pretested, and the approaches that were used to assess the instrument's reliability and validity. Issues

concerning the population and sample selection are then discussed. The section concludes with a description of the study's data collection procedures.

Selection of Data Collection Method

A written survey was used to collect the information needed to address the research questions posed here. A number of factors argued for this choice – some theoretical, others practical. A qualitative methodology, such as in-depth interviews or intensive observation of actual behaviors, might have been ideal for obtaining a deep understanding of any individual's views about management (Creswell, 1994, 1998; Maxwell, 1996). However, the purpose of this study was to understand systematic differences in beliefs about management held by groups of people who share particular background characteristics. This suggests the utility of a quantitative approach, to allow a statistical comparison of differences at the group level (Creswell, 1994; Fowler, 1993). The kinds of data required for such statistical procedures suggested the appropriateness of a survey methodology.

The type of survey methodology used – written, telephone, or in-person – has little impact on a survey's results (Fowler, 1993). Thus, the choice of method must be based on other criteria. For this study, a written survey was selected over a telephone or in-person interviewer-administered survey for several reasons. First, the response scales were well-suited to a written format: virtually all of the responses were closed-ended; the substantive questions involved a battery of questions with uniform response scales; the life history data required relatively complex response categories. Second, respondents

were not expected to have thought explicitly about their beliefs about management prior to receiving the survey. Selecting a self-administered survey format allowed respondents time to consider their responses, in contrast to an interviewer-administered survey, which would have tended to elicit less reflective responses. Third, using a written survey format eliminated the potential problem of interviewer-induced errors. Finally, when a population to be surveyed is highly literate and familiar with written surveys, as this one was, a written approach is considered appropriate because it is easy and familiar for respondents (Fowler, 1993).

Two practical reasons also argued for a written format. First and foremost, in order to perform the intended subgroup analyses, a large number of responses were needed. This would have made the time required to administer in-person or telephone interviews prohibitive. Second, because written surveys can be distributed and collected electronically, a written format was attractive with regard to cost and reduction of data entry errors.

The Survey Instrument

Drawing on Existing Instruments

Other researchers have developed survey instruments designed to get at issues that are closely related to some of the questions posed here (e.g., Flamholtz, 1986; Harrison & Stokes, 1992; Hofstede, 1980a). Unfortunately, the literature review did not identify any existing instruments that specifically addressed the questions at issue and that were available for public use. Thus, a new instrument was developed for this effort.,

drawing on ideas gleaned from other surveys with regard to possible question content and possible response formats.

Question and Response Design

Protocols for good survey design, question development, and response category development outlined by Fowler (1993, 1995), Spector (1992), and Peterson (2000), were followed throughout the creation of the draft survey instrument. Key was to ensure that questions and responses (a) were clear and unambiguous, (b) were written at appropriate reading and comprehension levels, (c) avoided jargon and idiom, (d) tapped single ideas, and (e) were as concrete as possible. In addition, the structure of the questions was varied to help counteract bias that can stem from response set and the inclination to provide socially desirable responses.

The survey asked three types of questions. One set of questions focused on information about life history, and required categorical responses. Another set of questions, which was not analyzed for this study, dealt with respondent satisfaction with their management situation. The remaining questions focused on respondents' beliefs about the appropriate degree of directiveness in the management relationship. They asked about the degree to which the respondent agreed or disagreed with a series of statements dealing with various management tasks. This type of construction was selected in order to allow development of a summated Likert-type scale (McIver & Carmines, 1981) for use in testing the study's hypotheses about group-level differences.

Summated Likert-type scales are commonly used to measure variation between respondents' opinions, beliefs, or attitudes (DeVellis, 1991; McIver & Carmines, 1981). They are created by presenting a series of declarative statements and asking respondents to indicate the extent to which they agree or disagree with each statement (DeVellis, 1991; Spector, 1992). The declarative statements must be strongly worded to elicit a range of reactions (DeVellis, 1991; Spector, 1992).

Summated Likert-type scales are based on the assumption that each individual question is subject to substantial error (McIver & Carmines, 1981; Spector, 1992). When scores on items that tap a single underlying dimension are combined, however, the random error is expected to even out, providing a more accurate measure of the shared underlying concept. While random response error on individual questions remains, variation in the combined scores is assumed to be attributable to actual differences in respondent beliefs. This evening-out process depends on ensuring that each response item measures a single concept, and that the responses for all questions used to develop a summated scale are correlated (McIver & Carmines, 1981; Spector, 1992).

Responses to questions intended to form a summated Likert-type scale should run along a continuum from strong agreement to strong disagreement. While the response formats used for Likert-type scales are technically ordinal, they are assumed to provide quasi-interval data, in order to allow parametric statistical tests (DeVellis, 1991). Because the nature of the response continuum items can affect the quasi-interval nature of the data, research into the effectiveness of various response alternative wordings

(Fowler, 1995; Spector, 1992) was considered when developing the survey instrument's response scales.

From four to nine possible response choices are generally offered when developing summated Likert-type response scales (DeVellis, 1991; Spector, 1992). In an effort to distinguish as finely as possible between people's beliefs without going beyond respondents' ability to discriminate between the choices, a 7-point response scale was selected for this study. Inclusion of a neutral position is suggested by some authors and discouraged by others (DeVellis, 1991; Spector, 1992). Since attitudes are typically bipolar, with positive, negative, and neutral values possible (Fowler, 1995; Spector, 1992) a neutral position was offered.

Fowler (1995) noted that the survey designer must consider what will occur if the respondent does not know enough about the topic to answer the question. Options include using a screening process; offering a "don't know" or "no opinion" option; or forcing the respondent to make a choice between choosing an option or omitting the response entirely. Since this survey tapped questions of personal preferences about situations commonly encountered by all respondents, it was expected that after considering a question, the respondent should be able to make a choice. Thus, "don't know" and "no opinion" options were not included.

Translation

The survey was administered in XYZ's two working languages: French and English. The first draft of the questionnaire was developed in English, but both the

concepts to be measured and the specific questions to be included were reviewed and modified by a multicultural and multilingual team. The bilingual staff who regularly translate XYZ's documents provided an initial translation of the survey instrument. That translation was reviewed by the author, in an effort to ensure that key terms were used consistently throughout the document, and to identify areas where intended nuances may have been missed. A bilingual member of the multicultural team then reviewed the document, recommended ways to address the author's concerns, and noted additional areas where a change in the translation might better capture the intended ideas.

Following Fowler (1993, 1995), cognitive interviews were then conducted with a small selection of English and French speakers. The purpose of these interviews was to better understand how native speakers not involved in the survey development process interpreted the instructions, questions, and response scales. In cases where interview subjects found any of these areas ambiguous or unclear the questionnaire was re-worked. In all cases, consideration was given to whether the English version, the French version, or both versions of the questionnaire need to be revised. Once appropriate changes were made a back-translation procedure was used to help identify any areas where differences in the two language versions remained, and final changes to the questionnaires were made to reconcile the remaining differences (Behling & Law, 2000; Brislin, 1986).

Pretesting

The survey instrument was pretested using a group of approximately 60 XYZ staff, all located within the division of the organization sponsoring the survey. Follow-up

efforts were made in an effort to ensure that at least 30 useable surveys were returned (Fowler, 1995). An important goal of the pretest was to ensure that the electronic survey form functioned properly, and that the data could be properly received and exported for analysis.

The pretest results were assessed to determine (a) whether the responses were well distributed across the response scales presented, (b) whether respondents failed to respond to particular questions, and (c) whether crosstabulations and correlations of the data indicated either redundancy or inconsistency in the data (Fowler, 1995). In addition, initial efforts to assess the internal consistency and convergent validity of the instrument were undertaken (DeVellis, 1991; McIver & Carmines, 1981; Spector, 1992).

Selection of a random sample of staff for the pretest would have been a preferable approach. Unfortunately, XYZ's internal policies precluded this option. The sample was, however, reasonably representative of the organization in terms of characteristics such as age, sex, nationality, and hierarchical level, and therefore provided an adequate basis for assessing whether respondents failed to respond to particular questions, for identifying redundancy or inconsistency in the data, and for assessing the internal consistency of the instrument. The fact that this division had a particular interest in the survey's topic meant that the characteristics of this group needed to be taken into consideration when assessing whether the responses were well distributed, since responses were expected to be skewed toward the nondirective end of the continuum

Table 7 summarizes the approaches that were used to establish the reliability and validity of the survey instrument at the pretest stage, and after administration of the full survey. The results of the analyses conducted to assess reliability and validity, which provide evidence of reasonable reliability and validity, are presented at the end of chapter 4.

Reliability

The problem of reliability involves the extent to which a measurement is susceptible to random error (Cooper & Schindler, 1998; DeVellis, 1991). A consistent data collection protocol contributes to reliable measurement (Fowler, 1993). In addition, statistical methods can be used to assess the scales' internal consistency, and the instrument's test-retest reliability.

Instrument Development and Administration. The way the researcher collects data for a study can have a significant effect on the study's reliability (Fowler, 1993). A number of steps were taken in this study to enhance reliability throughout the survey development process. These included efforts to develop questions that would be interpreted consistently by respondents; use of response scales rather than open-ended questions to facilitate consistent responses; and the use of summated scales, rather than individual questions, to measure the dependent variable.

Use of a written data collection instrument ensured consistent presentation of the questions by eliminating the possibility of interviewer variations. On the other hand, two different versions of the survey were used – English and French. Providing the survey in

Table 7
Tests of Reliability and Validity

Pretest Stage	
Distribution across response scales	Determined the range of responses for each item.
Nonresponses	Determined the level of nonresponse for each item.
Construct validity	Determined whether factor analysis revealed hypothesized constructs (convergent validity).
Relationships between questions	Determined whether crosstabulations and correlations of the data indicated either redundancy or inconsistency in the data.
Internal consistency reliability	Calculated the correlation coefficient for the directiveness scale using Cronbach's alpha.
Full Survey	
Reliability	
Instrument development and administration	Took recommended steps to enhance reliability
Internal consistency reliability	Calculated a correlation coefficient for each scale using Cronbach's alpha
Test-retest reliability	Compared pretest results with full survey results from the same unit.
Validity	
Construct validity (convergent)	Determined whether hypotheses were supported, indicating convergent validity .
Content validity	Grounded instrument in theory. Used expert reviewers.
Criterion-related validity	Determined whether hypotheses were supported.

the working language with which the respondent was most comfortable was judged to be of more importance than absolute consistency in stimulus presentation. Although careful procedures were followed to reduce response variation attributable to language (see the section titled "Translation") a multilingual survey remains susceptible to this type of error.

Each item in a written survey must be constructed carefully to ensure that all respondents are answering the question in the same way. Techniques for enhancing consistent comprehension of the questions include wording items clearly, simply, and unambiguously; eliminating jargon and idioms; and avoiding the use of terms that may have multiple meanings, or defining such terms clearly in order to ensure that respondents understand them consistently (Fowler, 1993). In addition, the response choices available to the respondents must be clearly and consistently understood. The cognitive interview process described above was an important tool for helping ensure that all aspects of the survey instrument were clear, unambiguous, and consistently understood (Fowler, 1993).

The use of a summated scale, rather than relying on responses individual questions, is another technique used to help increase the reliability of the instrument (Spector, 1992). Single opinion-related questions can be subject to a significant amount of error. One way to minimize that problem is by asking multiple questions, and combining them in a summated scale. This technique ensures that no single item takes on too much importance, and provides a process in which random error will tend to average out (McIver & Carmines, 1981).

Internal consistency reliability. DeVellis (1991) stated that “a scale is internally consistent to the extent that its items are highly intercorrelated” (p. 25). Several measures of internal consistency are available, such as the Spearman-Brown prophecy formula (the split-halves method) (McIver & Carmines, 1981); the Kuder-Richardson formula 20 (or KR-20) (DeVellis, 1991); and Cronbach’s coefficient alpha (DeVellis, 1991; McIver & Carmines, 1981). KR-20 could not be applied in this case because it requires dichotomous variables (DeVellis, 1991). Spearman-Brown could have been selected; however, it has the disadvantage of giving different results depending on how the data set is split (McIver & Carmines, 1981). Thus Cronbach’s alpha, which is widely cited as the preferred statistic for measuring internal consistency (see for example DeVellis, 1991; McIver & Carmines, 1981; Spector, 1992) was used to assess the internal-consistency reliability of the scales. An alpha of .70 or more was considered an acceptable indicator that the scale was internally consistent (Spector, 1992).

Test-retest reliability. A test-retest analysis can provide information about how well a scale correlates with itself when administered at different times (Spector, 1992). Although test-retest responses from individual respondents should be compared, XYZ would not permit individual comparisons for this study. Therefore, test-retest reliability was assessed by comparing responses from subjects who completed the pretest with responses from those subjects in that same division who completed the full survey. Two items were excluded from the analysis because they were altered between the two administrations of the survey. Because data for individual questions were not normally distributed, the nonparametric Mann-Whitney U test was used to assess whether there

were significant differences between the pretest and the full survey results (Aczel, 1999; Kanji, 1993).

The pretest subjects were not selected randomly, but there is no reason to believe that this would have affected the results of the test-retest analysis. Pretest respondents were aware that they would be asked to complete the full survey, which could have affected the extent to which they remembered their answers. However, 6 weeks elapsed between the end of the pretest and the distribution of the full survey, which should have been sufficient time for respondent memories of their responses to fade substantially.

Validity

Assessing validity for this type of study is notoriously difficult. As Fowler (1993) put it:

When people are asked about subjective states, feelings, attitudes, and opinions, there is no objective way of validating the answers. Only the person has access to his or her feelings and opinions. Thus the “validity” of reports of subjective states can be assessed only by their correlations with other answers that a person gives or with other facts about the person’s life that one thinks should be related to what is being measured. For such measures, there is no truly independent direct measure possible; the meaning of answers must be inferred from patterns of association. (p. 80)

Despite the difficulty of obtaining a definitive assessment of the instrument’s validity, it is possible to assess the extent to which a survey instrument measures what it is intended to measure. Following a common classification of approaches to assessing validity, this study considered construct, content, and criterion-related validity (Cooper & Schindler, 1998; DeVellis, 1991).

Construct validity. While abstract characteristics such as beliefs cannot be definitively measured, it is possible to infer the existence of a construct by considering how it relates to other constructs (Babbie, 1998; DeVellis, 1991; Fowler, 1995). Establishing construct validity “is based on the logical relationships among variables” (Babbie, 1998, p. 134). It “is directly concerned with the theoretical relationship of a variable... to other variables... [and] the extent to which a measure ‘behaves’ the way that the construct it purports to measure should behave” (DeVellis, 1991, p. 46). This implies that the process of establishing construct validity must begin with a firm grounding in theory (Cooper & Schindler, 1998) since the presence or absence of logical relationships and behaviors can only be judged in relation to such a theory.

The factor analyses conducted for this study were expected to reveal factors that would be readily interpretable with regard to the directiveness continuum. However, while factors identified through exploratory analysis can be real and substantial, it is also possible to discover patterns based on the idiosyncrasies of a particular data set. In such a situation, the patterns would not hold in other settings. Thus, it was essential to consider carefully the strength of the theoretical support for the factors that emerged (Kim & Mueller, 1978a; Spector, 1992).

Convergent validity is a form of construct validity that can be established by showing evidence of similarities between different measures of a theoretical construct (Cooper & Schindler, 1998; DeVellis, 1991; Spector, 1992). Spector argued that it is impossible to assess the convergent validity of a scale without alternative measures with which the scale can be compared. DeVellis, however, presented a looser definition of

convergent validity, indicating that convergent validity relies on “evidence of similarity between measures of theoretically related constructs” (p. 50). This implies that the survey instrument’s convergent validity could, at least in a weak sense, be evaluated by considering the extent to which the study’s hypotheses were supported, as long as the hypotheses were based on measures of related constructs already investigated by other researchers. Support for such hypotheses would, by definition, provide evidence of similarity with these related theoretical findings.

Given Spector’s (1992) rigorous conception of what constitutes appropriate assessment of convergent validity, no such test was possible for the study. Data were simply not available to allow completion of an analysis comparing the construct under investigation and “an alternative measure of the same construct” (Spector, 1992, p. 50). This study did, however, offer the opportunity to see how different groups would be expected to behave based on the theory developed in chapter 2, and to determine whether those expectations were fulfilled when those groups were measured according to this instrument. Thus, support for the theory-based hypotheses proposed here would provide some evidence of convergent validity.

Content validity. “A scale has content validity when its items are a randomly chosen subset of the universe of appropriate items” (DeVellis, 1991, pp. 43-44). In the case of a scale attempting to measure beliefs, it is not possible to obtain a list of the universe of appropriate items; nonetheless, it is possible to take steps to enhance content validity. The way in which the scale is constructed is one important factor to assess when considering the content validity of a survey instrument designed to measure

respondents' beliefs (Cooper & Schindler, 1998; DeVellis, 1991). It is essential that the survey questions tap the constructs to be measured thoroughly and appropriately (Cooper & Schindler, 1998). The survey development process, however, "is often intuitive and unique to each research designer" (Cooper & Schindler, 1998, p. 168). To help ensure that the instrument development process is done well, it is often advised to have a review panel consider the goals of the survey instrument, and review the questions to determine whether they appear likely to get at the desired constructs (Cooper & Schindler, 1998; DeVellis, 1991).

In this study, the directiveness continuum served as the foundation for the researcher's efforts to develop the opinion questions to be included in the survey. Concrete situations in which XYZ staff might be expected to exhibit a variety of managerial behaviors, ranging from highly directive to highly nondirective, were used as the basis for developing each question. Each question's wording was then tailored to evoke the widest possible range of responses. Thus, conscious efforts were made to ensure content validity from the very earliest stages of development. Despite such efforts, however, the researcher's intuitions still played an important role in the development of the survey instrument.

In an effort to reduce biases that may have been introduced by the researcher and to further enhance content validity, the researcher initially developed many more items than could be included in the survey. A multicultural panel of individuals familiar with both the organization and the constructs to be measured first reviewed this array of items to be considered for inclusion in the survey instrument. Panel members were asked to

judge (a) whether each question would be clear and unambiguous, regardless of the respondent's position in the organization; (b) whether responses to the question would reflect true underlying differences in the individuals' beliefs about what constitutes good management; and (c) whether the question was phrased in a way that would provoke a range of responses, from extreme agreement to extreme disagreement. The panel discussion served as the basis for item selection and revision. The researcher's dissertation committee members, who were more detached from the organization itself and more focused on the constructs to be measured, also reviewed the survey. Content validity cannot be proven but only "inferred from the manner in which a scale was constructed" (DeVellis, 1991, p. 43). In this case, the researcher's efforts to ground the survey instrument in relevant theory, the use of a multicultural review panel, and an objective review by the researcher's dissertation committee provides substantial support for the survey instrument's content validity.

Criterion-related validity. Another way to assess the validity of a scale is to consider how it relates to other variables with which it is expected, for theoretical reasons, to be related (Cooper & Schindler, 1998; Spector, 1992). Such estimates of validity can, in principle, be made either with regard to the scale's predictive value, or with regard to the extent to which it correlates with data collected concurrently. In either case, the basis of the assessment of criterion-related validity must be "hypotheses about relations between the construct of interest and other constructs" (Spector, 1992, p. 47). Since all data for this study were collected simultaneously, from a single survey instrument, the researcher considered the scales' concurrent validity.

Spector (1992) stated that “to conduct a concurrent-validation study, it is common to embed the scale of interest in a questionnaire that contains measures of several variables” (p. 48). The researcher can then test hypotheses about how those other variables relate to the scale of interest. If they relate in ways predicted based on well-grounded theory, it adds to the weight of evidence arguing for the criterion-related validity of the scale. For this study, data about seven background characteristics were collected concurrently with the data to be used in assessing directiveness. Given Spector’s hypothesis-based view of concurrent validation, support for the hypotheses presented in chapter 2 was expected to add evidence of the survey instrument’s concurrent validity.

DeVellis (1991), however, argued that to show criterion-related validity, it is only necessary to show “an empirical association with some criterion... whether or not the theoretical basis for that association is understood is irrelevant for criterion-related validity” (p. 44). Taking this perspective, an analysis of concurrent validity would be based on an examination of correlation coefficients, which DeVellis called “the traditional index of criterion-related validity” (p.45).

For this study, the differences between Spector’s (1992) and DeVellis’s (1991) points of view did not present a problem. The hypotheses regarding the seven independent variables all involved an examination of the extent to which particular background characteristics correlated with respondents’ scores on the directiveness scale. An examination of the extent to which these hypotheses were supported, therefore,

showed the empirical association sought by DeVellis (1991), but took the additional step required by Spector (1992) – linking that association to theory.

Spector (1992) also discussed the problem of what a failure to support one or more hypotheses might indicate about the concurrent validity of a scale. He noted that “with several hypotheses it is likely that one or more will *not* be supported” (p. 48), and that it is common for researchers to “claim validity if at least some hypotheses have support, particularly those that may be crucial” (p. 48). He cautioned that assessment of concurrent validity in such cases requires “a judgment call” (p. 48). The researcher must consider carefully whether a finding that some hypotheses are unsupported suggest that the scale may be flawed, or whether such results indicate that these hypotheses may have been faulty. As chapter 2 indicated, the hypotheses regarding the seven independent variables were developed with widely varying degrees of underlying theory to support them. Therefore, the concurrent validity of the directiveness scale for each variable was assessed with the strength of the underlying theory in mind.

Population and Sample Selection

Many studies of management involve either self-reports by managers about their preferred or actual management styles, or reports by subordinates about the styles used by their managers (e.g., Flamholtz, 1986; Glaser, Zamanou, & Hacker, 1987; Offermann & Hellmann, 1997). In these studies of “how management is” in the organization, the sample often involves only managers, or else managers linked to those who report to them. Other studies, however, have considered “how management should be” (e.g.,

Dorfman et al., 1997; Harrison & Stokes, 1992; House et al., 1999). In these studies, any member of the organization is in a position to offer an opinion, since management style affects every employee. This study followed in the tradition of examining how respondents believe management should be, and therefore sought input from staff at all levels of the organization. Gathering responses from a large number of respondents provide more power for the statistical tests, particularly with regard to subgroups that were not heavily represented in the organization. In order to maximize the number of respondents, surveys were distributed to all of XYZ's approximately 2,000 employees, and no sampling plan was required.

Although the survey was distributed to all employees, data collected from those who participated in the pretest was excluded from the analysis. Their responses to the full survey were used only to assess the survey instrument's test-retest reliability.

Data Collection Procedures

The survey instrument and cover letter were developed by the researcher in collaboration with XYZ staff responsible for coordinating the survey. XYZ staff took responsibility for the actual administration of the survey. The questionnaire was sent to all staff of the organization through an e-mail message containing the survey document as an attachment. The message requesting participation in the study came from a senior official of XYZ. It pointed out the reasons to participate in the study, emphasized the confidential nature of the responses, and provided instructions for completing and returning the survey. Confidentiality of responses submitted electronically was protected

through a computer program that stripped identifying information from the survey responses as they were received, and forwarded only the anonymous data for analysis.

Rigorous follow-up procedures can help minimize problems with nonresponse, though there is no agreed-upon ideal approach to follow up (Creswell, 1994; Fowler, 1993). For this study, follow-up included (a) a reminder e-mail 8 days after the initial mailing, with an expanded discussion of the measures being taken to ensure respondent privacy; and (b) a second reminder 6 days later. XYZ elected not to send a third reminder.

Approach to Operationalization of the Variables

Chapter 2 introduced the dependent and independent variables used in this study, and presented the theoretical justification for the inclusion of each. These variables are summarized in Table 8. This section describes the way in which each variable was operationalized. The seven independent variables involved relatively straightforward information about life history. The minor issues that were expected to arise with regard to these variables are discussed first. A discussion of the more complex issues involved in operationalization of the dependent variable follows.

Table 8
Independent and Dependent Variables

Independent Variables	Dependent Variable
Age	Score on the relevant directiveness scale
Gender	
Nationality	
Educational field	
Level of education	
Functional area	
Hierarchical position	

Independent Variables

Age and gender were not expected to pose particular operationalization problems. Respondents indicated their age on the day they completed the survey by selecting an age range. Relatively narrow categories were presented, and ranges were combined during data analysis. Respondents indicated gender by indicating the appropriate category.

Most respondents were expected to find it straightforward to designate their nationality. However, a relatively high percentage of XYZ staff came from multinational backgrounds. Because of the possibility that significant international experience could affect an individual's value formation, respondents were asked to indicate whether they believed that any other national culture may have had significant effects on them as children (e.g., being raised in a different country than their country of origin, or having a

parent of a different nationality). Those who indicated multiple-influences were excluded from the nationality analysis.

Because of the staff's varied backgrounds and the multiple systems in which they were educated, operationalizing the educational field and level of education variables was particularly challenging. For educational field, a relatively detailed list of possible choices was offered, based on an XYZ database with information about actual staff backgrounds. Respondents were asked to indicate a primary field of study, but were also given the option of indicating additional fields in which they had pursued significant formal education. Because differences were hypothesized to emerge at a fairly general level (life and nonlife systems, hard and soft fields), this amount of detail was not necessary for the purposes of analysis, but was expected to make it easier for respondents to complete the survey instrument. Because of national differences in educational systems, a variety of degree options were be listed on the survey, and then combined at the analysis stage.

XYZ has a formal system of job families that are used for setting performance goals and evaluating progress (e.g., statisticians, language specialists). These job families provide a comprehensive listing of the functional areas represented in the organization. Moreover, staff were familiar with these categories, and how their own positions fit into the job family system. Thus, these classifications were used as the basis for assessing functional area. Hierarchy, too, had formal organizational designations that made reporting relatively straightforward.

Dependent Variable

The dependent variable for this study was the respondent's score on the directiveness scale, the development of which is described below, in the section entitled Scale Development. The survey questions were designed to elicit information about the respondent's views about the ideal degree of directiveness in the management relationship. Pretesting revealed that it can be difficult for respondents to keep in mind the difference between what *is* and what *ought to be*. Several steps were taken to help ensure that when answering questions related to the dependent variable, respondents focused clearly on their ideal, not on the reality of their current workplace. First, the introduction to the survey indicated that information about both actual and ideal management was to be requested in the survey. Second, for each management topic, questions were included asking about both ideal and actual management. Juxtaposing these questions was expected to help respondents focus on what is, and on what ought to be, in the appropriate sections. Finally, reminders to respondents about the need to focus either on the actual or the ideal management situation were included in instruction sections throughout the instrument.

Another issue that was expected to make it difficult to respond to questions about the ideal way to manage is the notion that the appropriate response may be context-sensitive. As contingency theories suggest (Hersey et al., 1996; Katz & Kahn, 1978), the appropriate approach to management may differ depending on the specific circumstances involved. The presence of different staff members, with different levels of expertise, performing different tasks, for managers with different skill sets, might well

imply the need for different levels of directiveness. In order to give respondents a more explicit context in which to determine their level of agreement with the statements provided, the survey instrument specified that they should answer with regard to the specific type of work situation they find themselves in *most commonly*.

Although the purpose of the survey questions to be used in developing the dependent variable was to get at respondents' notions about what constitutes good management, the questions did not all take the form "A good manager should...." Instead, respondents were asked to agree or disagree with a variety of kinds of statements. It was expected that if the respondent agreed with the statement, he or she would also agree that a good manager would actively promote that outcome. For example, a statement such as "I have less respect for managers who ask their staff members for advice before making decisions" implies that a good manager will avoid asking staff for advice, although it makes no explicit statement about what good managers do.

The full text of the English survey is included in Appendix B.

Approach to Data Analysis

This section describes the approach used to analyze the data. It begins with a short discussion of the problem of the appropriate level of analysis. It then gives a brief overview of the planned data analysis steps in order to provide an overall framework within which to understand the specific analyses proposed. Next, the preliminary steps required to prepare the data and assess the potential impact of nonresponse bias are considered. A description of the scale development process follows. The section

concludes with a description of the approaches that were used to actually test the hypotheses.

Level of Analysis and the Ecological Fallacy

Before discussing the particular analyses that were undertaken, it is important to consider the problem of the appropriate level of analysis. The level of analysis problem can arise because, while the data in this study were collected at the individual level, much of the analysis concerns the question of differences that emerge at the group level. The analyses conducted for this study were based on summated Likert-type scales indicating respondents' beliefs about the appropriate degree of directiveness in the management relationship, the development of which is described below. Contrary to what intuition might suggest, however, it is not possible to simply apply summated scales developed at the individual level to the group level. As Hofstede (1980a) put it: "eco-logic differs from individual logic" (p. 31). Hofstede also pointed out that a scale developed to discriminate based on one characteristic cannot necessarily be used to discriminate based on other characteristics. Thus, it was important to ensure that items were analyzed and scales developed separately for each independent variable assessed.

The problem of looking for correlations in the data at the group, or ecological level, and applying those scales to the individual has been referred to as the ecological fallacy. The reverse ecological fallacy, or using individual-level correlations for analyses to be conducted at the group level, can also occur. For extensive discussions of the level of analysis problem and the ecological fallacy, see especially Hofstede (1980a, 1997).

Many others have contributed to this discussion as well (see, for example, Bochner & Hesketh, 1994; Dorfman & Howell, 1988; Leung & Bond, 1989; Nasif, Al-Daeaj, & Ebrahimi, 1991; Punnett, 1991). Since both individual and group level analyses were conducted here, selecting the appropriate level of analysis was an issue throughout the study.

Overview of the Approach to the Analysis

A variety of analyses were required in order to address the hypotheses developed in chapter 2. Table 9 summarizes the types of analyses that were conducted, indicates whether they were undertaken at the individual or ecological levels, and indicates which hypotheses were tested using each technique. All analyses were conducted using SPSS for Windows, version 11.0.3.

Preliminary Steps

Data Preparation

Survey responses were received in an electronic format, and reviewed to ensure that they were ready for use in the analysis. Following Hofstede (1980a), cases for which more than 5% of the responses were missing were removed from the analysis, as were responses from the division that participated in the pretest. Summary statistics were reviewed to help identify any possible problems with the data. The summary statistics were also used to gather information about the characteristics of the data – information that was required for selecting the most appropriate statistical tests at later points in the

Table 9
Data Analyses

	Individual Level	Ecological Level
Preliminary steps		
Data preparation	X	
Nonresponse bias	X	
Participation rate	X	
Scale Development		
Initial scale development (exploratory factor analysis)	X	X
Scale refinement (item/remainder analysis and coefficient alpha)	X	X
Aggregating subscales (regression analysis)	X	
Analysis of Variance		
H1: Age		X
H2: Gender		X
H3: Nationality		X
H4: Education Field		X
H5: Level of Education		X
H6: Functional Area		X
H7: Hierarchical level		X
H8: Determine strength of effects (eta squared)	X	

analysis. Once initial data screening was completed, items were reverse scored, as appropriate.

Participation Rate

The rate of participation in the survey was assessed in two ways – first according to the percentage of staff who returned a survey instrument, and second according to the percentage of staff who returned a usable survey instrument. There is no generally-agreed-upon standard for a minimum required participation rate (Fowler, 1993), and

information about participation rates cannot indicate what effect nonresponse is likely to have on the data. This information can, however, provide some understanding of how representative the data are likely to be.

Nonresponse Bias

The underlying concern with regard to participation rate is that the individuals who respond to the survey may differ systematically from those who do not. Two approaches were used for considering the extent to which respondents and nonrespondents appeared to differ.

First, XYZ had data about the demographic and organizational characteristics of its staff. This information was compared with demographic information about survey respondents in order to determine whether there were significant differences. Because the characteristics to be evaluated involved categorical data, a nonparametric test suitable for comparing the survey data with the known characteristics of the population was required. Therefore, a chi-square test for goodness of fit test was used to compare actual respondent characteristics with the overall demographic makeup of the organization (Aczel, 1999, p. 707).

Second, individuals who respond quickly to surveys sometimes differ from those who respond after follow-up steps have been taken, with later respondents tending to resemble nonrespondents (Fowler, 1993). For this reason, comparing those who respond early with those who respond late can provide an indication of the kinds of bias that may be present in the nonrespondent group. To allow this type of comparison, survey return

dates were tracked. The nonparametric chi-square test for equality of proportions was used to compare the responses of early and late responders (Aczel, 1999).

Scale Development

The next phase of the analysis involved the development of the directiveness scales to be used in testing the study's hypotheses. McIver and Carmines (1981) stated that "whenever possible social scientists should employ multiple-item measures of theoretical concepts" (p. 16). One important reason for this is that multiple-item scales tend to be more reliable than single item measures, which are more susceptible to random error (McIver & Carmines, 1981; Spector, 1992). Another is that it can be difficult to find a single item to adequately measure the nuances involved in complex concepts (McIver & Carmines, 1981; Spector, 1992). Moreover, the use of scales can allow large amounts of data to be reduced to a manageable number of variable (Kim & Mueller, 1978b). For all of these reasons, a summated rating scale development process was followed for this project.

The survey items were designed to capture the concept of the appropriate degree of directiveness in the management relationship, with the expectation of aggregating the data into summated scales. Because directiveness is a relatively complex theoretical concept, however, it appeared possible that subscales would be present in the data. As Spector (1992) put it, "Many constructs... are quite broad and may contain multiple aspects or dimensions... To adequately express their attitudes and opinions, people may

need multiple dimensions, reflected in multiple subscales” (p. 39). Thus, it was also important to look for subscales.

The following discussion of scale development consists of five parts. It begins with a discussion of correlations between items at the individual level. Next, it discusses the use of exploratory factor analysis for initial identification of possible subscales. The third section discusses the use of reliability analysis to assess the subscale’s overall strength. The fourth section discusses the issue of aggregating subscales. It describes how regression analysis was used to determine whether aggregation of some or all of the subscales was appropriate. The final section discusses the need to repeat these steps to look for differences in the appropriate scale or subscales at the ecological level, for each of the independent variables.

Inter-Item Correlations

Spector, Cooper, and Sparks (2001) criticized Hofstede’s work on the basis that there are problems with the internal consistency of his survey instrument – specifically, that they found negative correlations at the individual level. They contended that “if items fail to consistently relate to one another, the constructs underlying them are suspect” (p. 271). Hofstede (2002) responded that for ecological-level analyses, individual-level correlations are irrelevant, a contention disputed by Spector and Cooper (2002). This argument about the importance of individual-level internal consistency has not been resolved; however, it does not seem that the concerns about the importance of

internal consistency at the individual level raised by Spector and his colleagues should be dismissed lightly.

In order to take the more conservative approach, and address the concerns raised by Spector and his colleagues (Spector & Cooper, 2002; Spector et al., 2001), the analysis was begun with a correlation analysis at the individual level. Because the data at the level of the individual question were not normally distributed, the nonparametric Spearman's rho was used as the measure of correlation. Although many items correlated significantly and positively, as anticipated, some significant negative correlations were identified. These items were deleted one at a time, beginning with the items with the largest number of significant negative correlations, until no significant negative correlations remained.

Initial Scale Identification

Factor analysis can be an effective technique for identifying subscales in a data set (DeVellis, 1991; McIver & Carmines, 1981; Spector, 1992). Because no strong theoretical basis was available for predicting likely subscales in the data collected for this study, a confirmatory factor analysis, which requires "testing of a hypothesized structure" (Spector, 1992, p. 53) could not be used here. Instead, exploratory factor analysis was applied, "a good technique for studying the dimensionality of a scale" (Spector, 1992, p. 54).

Exploratory factor analysis was conducted following the guidance offered by several authors who outlined appropriate procedures for exploratory factor analysis

generally (Johnson, 1998; 1978a; Kim & Mueller, 1978b) and for the purpose of scale development in particular (DeVellis, 1991; Spector, 1992). Several different factor analytic models are available, but there is no consensus as to whether one is superior to the others (Johnson, 1998). Spector (1992) pointed out that “because the goal of [exploratory factor analysis] is ... usually to explore the dimensionality of the scale itself, principal components would seem a reasonable factor analytic model to use, although other models are also available” (p. 54). Given that the principal components approach is a commonly accepted factor analytic method (Johnson, 1998) and that it is considered especially appropriate for this type of analysis, it was used for this study.

Once the number of factors was determined, the factor solution was subjected to orthogonal rotation in order to obtain unique factors (Johnson, 1998; Spector, 1992). Loadings on secondary factors were examined to determine whether an oblique rotation might be more appropriate. Finally, the factors that emerged were examined to determine whether they could be readily interpreted from a theoretical point of view (Spector, 1992).

Factor analysis typically involves a large number of cases compared with the number of variables being analyzed. Hofstede, Neuijen, Ohayv, and Sanders (1990) noted, however, that

this constraint does not apply to factor analyses of ecological data, in which each case is based on the mean of a large number of individual scores; such means are extremely stable. The stability of the factor structure for ecological matrices does not depend on the number of aggregate cases but on the number of independent individuals who contributed to each case. (p. 299)

Moreover, the goal of this study was not to develop and analyze clear factor structures. Rather, factor analysis was used as a tool to identify groups of items that formed reliable scales. As later reliability analyses demonstrated, factor analyses, even on a small number of subgroups, did, indeed, identify strong scales. Hofstede (1980a) also found that standardizing the variables affected his results. For this study, standardization of the variables did not affect the results, and only factor analyses with unstandardized results are reported.

Scale Refinement

Once the best possible factor solution was obtained, a reliability analysis was conducted (McIver & Carmines, 1981; Spector, 1992) and coefficient alpha was examined (Spector, 1992). Each factor was examined to determine whether elimination of one or more items could substantially strengthen its internal consistency. Items deleted in order to strengthen the factors were examined to determine whether underlying theoretical similarities could be identified that might affect interpretation of the factors (McIver & Carmines, 1981).

Aggregating Subscales

The scale identification and refinement processes described above indicated whether multiple subscales were present. They did not, however, indicate whether the direction of a respondent's beliefs tended to be consistent across subscales. It was expected that if the direction was consistent, then it might have been appropriate to create a single summated scale, despite the presence of subscales. If the direction tended

to differ, however, aggregating the data would have been inappropriate (McIver & Carmines, 1981). Multiple linear regression analysis was conducted (Achen, 1982; Aczel, 1999; Schroeder, Sjoquist, & Stephan, 1986) to determine whether individuals' scores on one subscale were positively related to their scores on the other scales. The regression equation to be tested was specified as follows:

$$Y = \beta_0 + \beta_1 F_1 + \beta_2 F_2 + \beta_3 F_3 + \dots + \beta_k F_k + \epsilon$$

where Y is a function of factors 1 through k , and error.

The analysis began with the question of whether there was a linear relationship between an individual's score on the strongest factor scale and any of the other subscales. The null and alternative hypotheses took the following form:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \dots = \beta_k = 0$$

$$H_1: \text{Not all } \beta_i \text{ (} i = 1, \dots, k \text{) are zero}$$

An F test of the analysis of variance was used to evaluate the multiple regression model, and to answer the question of whether the null hypothesis could be rejected (Aczel, 1999). The adjusted multiple coefficient of determination (corrected R^2) was also examined (Aczel, 1999). If the null hypothesis could not be rejected based on the F test or the corrected R^2 statistic, no linear relationship could be shown, and no aggregation should take place. If, on the other hand, the null hypothesis could be rejected – that is, if there was evidence of a linear relationship between the subscale under investigation and at least one of the other subscales, further testing would be required to determine what the relationship was (Aczel, 1999). A stepwise regression analysis was to be used for this purpose (Aczel, 1999; Schroeder et al., 1986). If the analysis showed that two or

more subscales were closely related, it was expected to indicate that a single aggregate score could be computed for those scales.

Ecological Level Scaling

Scale development for this project was complicated by the fact that different scales can emerge when data are analyzed from the perspective of various independent variables. As the discussion about level of analysis and the ecological fallacy indicated, it is inappropriate to generalize the existence of scales from the individual to the group level, as well as from one group to another group (Hofstede, 1980a). While the analysis of the study's hypotheses was expected to be simplified if a single scale could be used for analysis of all of the independent variables, it was possible that no single scale would hold across all of the groups.

To address this concern, the scale development and refinement process described above was repeated for each independent variable, using group means, rather than individual scores, as the inputs for the analysis, following Hofstede (1980a). For most of his analyses, Hofstede relied on factor analysis. He argued that even a small number of groups can be factor analyzed effectively with regard to the structure of the data – although he cautioned against making claims about “the amount of variance ‘explained’ by each factor” (Hofstede, 1980a, p. 252).

When faced with the problem of an analysis of differences between only two groups, Hofstede took another approach. When dealing with gender, where a factor analysis of two means – the mean for men and the mean for women – would not provide

useful results, his approach was to determine whether men and women's mean scores differed significantly with regard to individual items included in scales developed using other independent variables (Hofstede, 1980a).

For this study, it was anticipated that the same approach would be followed. However, the scale items identified for each of the independent variables with three or more groups were examined to determine whether individual items differed significantly across groups. Although the scales differed significantly, individual items did not. Thus, using the significance of differences at the level of the individual question as a selection criteria for the remaining three independent variables did not seem to make theoretical sense. Moreover, the strongest scales identified for the four independent variables with three or more subgroups were not consistent. Therefore, it was difficult to determine which variables should be retained for the sex, educational field, and functional area variables if Hofstede's (1980a) approach were to be followed.

Instead, all 23 items were subjected to a reliability analysis, as suggested by McIver and Carmines (1981) according to each of the three remaining independent variables. Despite his lack of concern about negative correlations at the individual level, Hofstede (1980a) indicated that at the ecological level, items with different signs should not generally be combined. Thus, those items with negative item-to-total correlations were deleted and new reliability analyses were conducted. While it would have been possible to improve alpha incrementally by eliminating additional items in each scale, the alphas obtained were quite strong, and there was no theoretical reason for

eliminating additional items. Thus, the scales selected for these independent variables included all of those items that had positive inter-item correlations.

Analysis of the Independent Variables

Hypotheses 1 through 7 dealt with age, gender, nationality, education field, education level, functional area, and hierarchical level, respectively. Each involved the question of whether members of various subgroups differed systematically with regard to their beliefs about the appropriate degree of directiveness in the management relationship.

For each hypothesis, a four-part analysis was conducted.

1. Determine whether the scale's distribution met the assumptions required for the use of parametric statistical tests.
2. Compare subgroup scores to determine whether the means followed the predicted order.
3. Assess the significance of differences between the subgroup means.
4. Conduct post hoc tests to determine which means differed significantly from each other when comparing more than two subgroups.

Assess Scale Distributions

It was hoped that analysis of variance (ANOVA) could be used to test Hypotheses 1 through 7, since this is an appropriate approach to use for assessing the relationship between categorical and metric variables (Iversen & Norpoth, 1987). While responses gathered on Likert-type scales technically provide ordinal data, there is ample

precedent for treating it as quasi-interval data for this type of analysis. As DeVillis (1991) put it, “Although, strictly speaking, items using Likert... response formats may be ordinal, a wealth of accumulated experience supports applying interval-based analytic methods to the scales they yield” (p. 112). This school of thought was followed here, and the data were assumed to provide quasi-interval data that can legitimately be used for these types of tests.

Because it was not known in advance whether the characteristics of the data were suitable for parametric testing, the first step in examining each hypothesis was to determine whether the underlying data met the assumptions required for ANOVA. ANOVA requires the assumptions that (a) the populations are normally distributed with respect to the variable of interest, and (b) the populations have equal variances (Aczel, 1999). ANOVA is quite robust with respect to these assumptions (Aczel, 1999; Mendenhall & Sincich, 1992; Sheskin, 2000). For this reason, several statistical tests were combined with visual inspection of the data to determine whether the distributions were approximately normal, and whether the variances were of approximately equal size.

The Kolmogorov-Smirnov test for goodness of fit was used to compare the observed distributions with a normal distribution (Kanji, 1993). The null and alternative hypotheses tested for each scale were as follows.

H_0 : The sample came from a normally-distributed population.

H_1 : The sample did not come from a normally-distributed population.

With a large sample size, however, the null hypothesis is frequently rejected when the underlying data are, in fact, sufficiently close to normally distributed to justify use of parametric tests such as ANOVA (Sheskin, 2000). Therefore, skewness and kurtosis were also examined, since when both figures are between one and negative one the underlying data can be assumed to have a distribution that is approximately normal (Brightman, 1999). Finally, histograms and box-and-whisker plots were examined visually to determine whether the distributions appeared to be approximately normal.

Variance was assessed using Levine's test for equality of variances. The null and alternative hypotheses were as follows.

H_0 : The variances of the two samples are equal.

H_1 : The variances of the two samples are not equal.

In addition to the above assumptions regarding the population, ANOVA requires normally distributed residuals (Iversen & Norpoth, 1987). However, as for general assumptions of normality, ANOVA can be considered a robust test unless the residuals differ substantially from a normal distribution. Thus, the final test for the appropriateness of ANOVA was to repeat for the residuals the steps followed for examining normality for the data set as a whole: conducting the Kolmogorov-Smirnov test; examining skewness and kurtosis to determine whether the scores lay between one and negative one; and visual examination of the distribution of the residuals.

Compare Subgroup Scores

For each hypothesis, the means for the relevant subgroups were compared in order to determine whether their means were distributed in the predicted order. To the extent that the group means differed in the hypothesized direction, it would lend support to the hypothesis. Where they differed in the opposite direction, it would suggest the possible need to reject the hypothesis.

Assess the Significance of Observed Differences

For each hypothesis, it was then necessary to determine whether any of the group means differed significantly from each other. Because virtually all of the data did prove to be normally distributed, have equal variances, and have normally distributed residuals, parametric testing was used to compare the sample means (Aczel, 1999; Kanji, 1993). Additional nonparametric testing was conducted to verify the results obtained for the one independent variable with different variances.

Comparing two subgroups. Three of the independent variables – sex, educational field, and level of education – were divided into only two subgroups. For these variables, a one-tailed independent samples *t* test was used to compare the sample means (Aczel, 1999; Kanji, 1993). The null and alternative hypotheses tested for these three independent variables were:

$$H_0: \mu_1 \geq \mu_2$$

$$H_1: \mu_1 < \mu_2$$

When a nonparametric alternative to the independent samples t test was required, the Mann-Whitney U test, was used (Aczel, 1999; Kanji, 1993).

Comparing three or more subgroups. Four of the independent variables were divided into three or more subgroups – age, nationality, level of education, and hierarchical level. For these variables, ANOVA was used to compare the sample means (Aczel, 1999; Kanji, 1993). For each analysis, the null and alternative hypotheses took the following form:

$$H_0: \mu_1 = \mu_2 = \mu_3 = \dots = \mu_r$$

$$H_1: \text{Not all } \mu_i \text{ (} i = 1, \dots, r \text{) are equal}$$

Conduct Post Hoc Tests

For hypotheses dealing with differences between two means, the results of the t test provided all of the information needed to determine whether the hypothesis could be supported. However, for hypotheses involving three or more subgroups, further analysis was required. For age, nationality, level of education, and hierarchical level, the final step in the analysis was to conduct post hoc tests to determine which pairs of group means differed significantly from each other.

The study proved to have an unbalanced design for some of the independent variables. Indeed, sample sizes varied by as much as a factor of 10 in some cases. While an unbalanced design reduces the power of ANOVA, it does not affect the accuracy of the results. A more important consideration is the selection of an appropriate post hoc test, which should not be based on homogeneous subsets in situations with unequal

sample sizes. Thus, post hoc tests such as Tukey-HSD, Bonferroni, Sidak, and Scheffé provide acceptable results, even with dramatic differences in sample sizes. The Bonferroni and Scheffé post hoc tests are frequently selected for further analysis after ANOVA in situations where sample sizes are unequal (Aczel, 1999).

When multiple comparisons are conducted as part of a post hoc test, the risk of type I errors increases. Procedures such as Bonferroni adjustments address this problem by setting the risk of type I errors for a whole family of comparisons at a particular level (usually 0.05). Such procedures have been criticized, because they increase the risk of type II errors and are less powerful than other available choices (Bland & Altman, 1995; Holland & Copenhaver, 1988; Perneger, 1998; Seaman, Levin, & Serlin, 1991). For this study, however, priority was given to avoiding type I errors. Results of the Bonferroni tests were selected for reporting here because its results are considered highly conservative (Bland & Altman, 1995; Holland & Copenhaver, 1988; Perneger, 1998; Seaman et al., 1991).

Analysis of the Relative Strength of Subgroup Membership Effects

Identifying whether various subgroups differed significantly in their beliefs about management was the first research question posed here, and was addressed by the foregoing analyses. The second research question dealt with understanding the relative strength of the effects of membership in various subgroups. Since the interaction effects of membership in multiple subgroups only takes place at the individual level, this

analysis could not be conducted at the ecological level. The specific hypothesis to be examined was as follows:

Hypothesis 8: Fixed sources of influence (age, gender, nationality) will have the strongest effects on the individual's position on the directiveness continuum; self-selected sources of influence (education field and level of education) will have midrange effects; and organizational sources of influence (hierarchy and functional area) will have the weakest effects.

Development of a Common Scale

In order to test Hypothesis 8, which dealt with the relative strength of the effects associated with different independent variables, it was necessary to construct a scale of items common to all of the independent variables under investigation. This was accomplished by first determining which items were common to the strongest scales associated with each independent variable, and which independent variables, if any, did not appear to share factors common to the others. Alpha was calculated to determine whether those common items did, indeed form a reliable scale for those independent variables that shared common items.

Selection of an Appropriate Test

While multiple regression analysis might seem to be a reasonable approach to testing Hypothesis 8, all of the independent variables were categorical. Thus, a different approach was required in order to test the relationship between these nominal variables and the quasi-interval data available from the common scale. Eta squared is one

appropriate measure for examining the relationship between nominal and interval data (SPSS, 2001). Eta squared is a measure of association that provides an estimate of how much of the observed variance in the dependent variable is associated with the independent variable (Sheskin, 2000; SPSS, 2001). Thus, by comparing the relative magnitude of eta squared for each of the independent variables, it was possible to determine the relative strength of the association between each independent variable and the common scale.

Eta squared requires the same assumptions about the underlying data as ANOVA. Therefore, the tests described above for assessing the data's distribution and variance were also conducted for the common scale used with the eta squared analysis.

Summary

An electronic survey administered to all staff of XYZ provided the data for this study. The survey collected information about beliefs about the appropriate degree of directiveness in the managerial relationship, as well as information about respondent background with regard to each of the independent variables. Because the data were collected in a multilingual and multicultural organization, much attention was given to the survey design and translation process. Precautions taken included using a multicultural team to develop the concepts to be tested and the specific items to be included on the questionnaire; translation/back-translation of the survey instructions and items; and cognitive interviews with respondents in both French and English.

Data analysis began with an examination of the summary statistics related to each survey question, reverse scoring of data, and examination of participation rates and nonresponse bias. Next, a summated rating scale was developed for each independent variable. This process began with exploratory factor analysis at the level of individual responses, and the factors were further examined through the use of item-remainder analysis and calculation of coefficient alpha. Once developed, the factors were examined to determine whether aggregation of the factors into a single summated scale was appropriate. This process was repeated at the ecological level for independent variables with three or more subgroups. For independent variables with only two subgroups, items that received negative scores on an item-remainder analysis for all 23 items were deleted to form a scale.

Once the scales were selected, analyses were conducted to determine whether parametric testing could be used. Group means were then tested to determine whether differences existed at the ecological level, and if so, if they were significant and in the predicted direction. Finally, a common scale was developed and an eta squared analysis conducted in order to assess the relative magnitude of the association between the common scale and each of the independent variables.

CHAPTER 4: RESULTS

As described in chapter 3, this study was designed to investigate whether sex, age, nationality, level of education, educational field, functional area, and hierarchical level are systematically associated, at the ecological level, with beliefs about the appropriate degree of directiveness in the management relationship. This chapter presents the results of the analyses conducted for this investigation. It begins with a description of the preliminary analyses. This includes a discussion of the pretest, a summary of the steps taken to prepare the data for analysis, and an analysis of the response rate and the response biases that were likely to be present in the data. The next section looks at the data at the individual level. It describes the process of deleting items that had negative correlations at the individual level, in order to ensure internal consistency. It also presents the results of the factor analysis conducted at the individual level.

The bulk of the chapter is dedicated to the ecological level analyses that test the first seven hypotheses. This section begins by presenting the results of the scale development process for each independent variable, which included factor analysis and reliability analysis. Next, it investigates the properties of the scales to assess the appropriateness of parametric testing. Then, it turns to the actual tests of Hypotheses 1 through 7, which involved a comparison of the subgroup means to determine whether they were ordered as predicted by the hypothesis; ANOVA or *t* tests to determine whether significant differences between the means existed; and when necessary, post hoc tests to determine which means differed significantly. Hypothesis 8 was then tested.

This required development of a common scale and use of the eta squared statistic as a measure of the degree of association between each independent variable and the common scale. The chapter concludes by considering the robustness of the data, and discussing reliability and validity.

Preliminary Steps

Pretest

Six weeks prior to the administration of the survey, a pretest was conducted within the unit of XYZ responsible for the survey. The pretest was intended to allow the survey development team to evaluate several aspects of the survey including whether the electronic survey form functioned properly, whether any of the questions were problematic, and whether preliminary analyses of reliability and validity suggested that the instrument was ready for use. This section provides a brief summary of the results of the pretest. A full description is provided in Appendix C.

From the respondents' perspective, the electronic survey form functioned extremely well. The only visible problem was that two questions were coded with the wrong response scale. This problem was adjusted prior to the full survey. The transmission of data from XYZ to the analyst generally went smoothly, but a few technical problems were identified. First, data from several questions were initially omitted. Second, information about the date the responses were received was not transmitted correctly. Both of these errors were easily corrected for the full survey.

Analysis of the responses showed that overall, the questions functioned as anticipated. The range of responses, the distribution of the responses, and the number of nonresponses on substantive questions were all within the ranges established prior to the pretest as being acceptable. The questions regarding demographic data elicited more nonresponses that the team had hoped for. The decision was made to continue to request the information, but to emphasize confidentiality more strongly in the survey instructions and the cover letter. Finally, crosstabulations and correlational analyses were conducted to determine whether the data contained redundancies or inconsistencies. Two questions generated unexpected correlations. After careful review, the team identified possible issues with question wording that could have contributed to the unexpected results. These two questions were revised prior to administration of the full survey.

Reliability was addressed in part through the survey design process. In addition, a factor analysis and reliability analyses were conducted. The sample was too small to conduct these analyses at the ecological level; however, at the individual level the data yielded factors that were reasonably strong and readily interpretable. In an effort to assess validity, nonparametric testing was conducted to determine whether the data yielded the predicted results. While the small sample size and the need to conduct the analyses at the individual level limited the usefulness of the tests, the results indicated that 80% of the results were in the predicted direction. This provided some evidence of the instrument's validity.

Respondent comments raised a final set of issues to be addressed. These comments dealt with issues such as the number of points on the response scales, the visual presentation of the response choices, the lack of open-ended response options, the wording of the midpoint of the scales, and the length of the survey. In most cases, the survey development team decided that the suggestions made by the respondents were either matters of personal taste (e.g., should the choices be ordered from best to worst or from worst to best) or did not fit the needs of the survey (e.g., more open-ended questions would not have been well-suited to answering the research questions posed). One suggestion that the team did agree with was the need to alter the wording choice for the midpoint of the French scale, and the change was made for the full survey.

Data Preparation

Six weeks after the pretest, the revised survey was sent electronically to all XYZ staff. Data were collected over a 3-week period. Once the data were received, several steps were required to prepare them for use in the planned analyses. First, some cases were deleted because of missing data, or because the data could have been contaminated by the respondents' participation in the pretest. Second, the data were provided as text, which required translation into numeric form. Reverse-scoring was also done at this point. Finally, an examination of the data's characteristics was conducted in preparation for deciding on appropriate statistical tests.

Elimination of Records

Survey responses were collected electronically, which avoided the problem of researcher-induced data entry errors. Nonetheless, some data cleaning was required. Although the electronic data form asked respondents to press radio buttons, which automatically entered their responses, it did not block respondents from typing in other answers. Therefore, it was necessary to search the data set to detect any data that did not match the predetermined response categories. Once identified, one of two actions was taken depending on the nature of the data. In some cases the intended response was clear, and the respondent had simply added some explanatory remarks. In these situations, the explanatory remark was removed and the response retained. In cases where the respondent's intent was unclear, the response was coded as a nonresponse.

Once the data were purged of nonconforming responses, a search was conducted to identify the number of nonresponses for each record. Those records for which more than 5% of the substantive responses were missing were excluded from the analysis. Nonresponses regarding demographic information were not considered in this process. Instead, records were excluded from subsequent analyses when the relevant demographic information was missing, but included when the relevant information was provided. A total of 34 records were deleted through this process.

A pretest of the survey instrument had been conducted in one division of the organization. The organization's privacy policies precluded using a one-to-one matching strategy to allow identification of those staff who completed both a pretest and a final survey. In order to ensure that the final data would not be contaminated by the pretest,

all 24 responses received from the division in which the pretest was conducted were deleted from the data set.

Data Conversion

The survey responses were provided electronically, but in a text format. That is, the strongest possible agreement with an item was not coded as “7” on a 7-point scale. Instead, the original data base contained either the text “Strongly Agree” or the text “Tout à fait d’accord” depending on the language the respondent selected. Thus, before beginning any statistical analyses, it was necessary to convert all of the text responses to numeric ones.

Demographic data were also provided in text form and required conversion into numeric form. In addition, demographic data were collected at a detailed level. This was done partly in order to simplify the response process for respondents. For example, it was easier for a respondent to indicate “economics” as a field of study than to determine that they should select “soft, applied, nonlife system.”

Thus, the first step with regard to demographic data was to recode it from text to numeric format, and in some cases, to classify responses according to hypothesized groupings. A theoretical understanding of the hypothesized differences between the groups was then used as a guide for reducing the data into a manageable number of categories. However, frequency data were also considered in this process. In particular, in accordance with XYZ’s requirements, data were grouped to ensure a minimum of 8 respondents per data cell, in order to ensure that respondent privacy would not be compromised. In addition, an effort was made to equalize group sizes when doing so

made sense from a theoretical perspective. This was not always possible, however, and some subgroups differed substantially in size. This resulted in a highly unbalanced design for some, but not all, analyses.

Finally, to help avoid problems with response set, some of the survey items were stated in directive and some in nondirective ways. For example, strong agreement with a statement such as “I am most productive in situations where a clear hierarchical structure is strictly followed” would correspond with a preference for autocratic, power/role cultures with high power distance – a directive approach to management. Complete agreement with a statement such as “I need to be in a cooperative workplace atmosphere in order to do my best work,” in contrast, would correspond with a preference for democratic, achievement/support cultures with low power distance – a nondirective approach. During the data formatting process, items were reverse-scored as necessary to ensure that the direction of the responses would be consistent. That is, strong agreement with directive statements was consistently scored as 1, while strong agreement with nondirective statements was scored as 7. Thus, throughout the analyses that follow, higher mean scores correspond with less directive beliefs about management, while lower scores correspond with more directive beliefs.

Data Characteristics

An examination of the responses received for each question indicated that, with only a few exceptions, the data did not follow normal distributions. Some were skewed to the right, some to the left, some almost flat, and some bimodal. In contrast, an examination of summated data for all 23 questions did reveal a distribution that appeared

on visual inspection to be close to normal. This analysis suggested that nonparametric tests would be required when comparing data across individual questions, but that parametric tests might be appropriate when examining aggregated data. Thus, after aggregated scales were developed later in the study, they were assessed for normalcy before determining whether parametric or nonparametric tests would be most appropriate.

Participation

Response Rate

The average completion time for the pretest instrument was about 15 minutes. This was considered long by the organization's standards. In addition, it was clear from the survey development process that many members of the organization were cynical about whether such a survey would result in any real improvements in management. For these reasons, a relatively low response rate was anticipated.

The survey was sent to 2,275 staff members and generated 838 responses, a response rate of 37%. After eliminating the 34 records missing 5% or more of their substantive responses, and the 24 records from the pretest unit, a total of 780 responses were retained in the final data set. This resulted in a useable response rate of 34%.

Wave Analysis

To help encourage participation, several reminder notices were sent, including one that emphasized the security measures that had been put in place to ensure respondent privacy. Some 75% of the useable responses ultimately submitted were

received after the initial request for participation in the survey. Another 18% were submitted after the first reminder notice, and the remaining 7% after the final reminder.

Survey return dates were attached to each electronic response submitted. This information was used to assess whether there was evidence of significant differences in the responses provided by early and late responders. A chi-square test for equality of proportions was used to determine whether responses received in the first wave differed significantly from responses received in later waves. In order to ensure a minimum count of 5 respondents per cell, the seven response categories were combined into three response groups: agree, neutral, and disagree. In addition, data from wave 2 and wave 3 were combined, and compared collectively with the data from wave 1. Even after collapsing the data to this point, three of the questions still had one cell each with an expected count less than 5. However, Green (2000) stated that “the test should yield relatively accurate results if the expected frequencies are greater than or equal to 5 for 80% or more of the categories” (p. 337). For each of the three items in question, 83% of the categories had expected frequencies of 5 or more, and so were within an acceptable range.

The null and alternative hypotheses were as follows.

H_0 : The proportions are the same for both waves.

H_1 : The proportions are not the same for both waves.

There was evidence to reject the null hypothesis for three of the 30 questions. In each case, wave 1 was less directive than waves 2 and 3. In testing 30 items, however, the null hypothesis is likely to be rejected in two cases purely by chance. Thus, rejection

of the null hypothesis for three items provides only weak support for the idea that early responders differed significantly from late responders. Moreover, a comparison of raw mean scores for each question revealed that early responders had less directive scores on 18 items (60%), while late responders had less directive scores on 12 items (40%). Taken together, these data provide little evidence to suggest that there were substantial differences in the beliefs held by early and late responders.

Respondent Characteristics

This study did not use a sampling approach to data collection; the survey was sent to the entire population of the organization. Moreover, the study's goal was not to draw conclusions about the full population of the organization based on information provided by the sample. Instead, those staff who responded to the survey offered a convenience sample on which to base comparisons of people with a variety of different demographic characteristics. For these reasons, it was not essential for the purposes of this study that the respondent group be representative of the population. Nonetheless, differences in the extent to which members of different demographic groups chose to respond to the survey may be of interest.

Information was available about the organization's full population for four of the demographic characteristics investigated in this study: age, sex, nationality, and hierarchical level. Since these population proportions were known, a chi-square goodness of fit test was used to compare actual respondent characteristics with the overall demographic makeup of the organization. The hypotheses tested were as follows.

H_0 : The sample proportions match the population proportions.

H_1 : The sample proportions do not match the population proportions.

As summarized in Table 10, the null hypothesis could be rejected for three of the four demographic characteristics examined. Sex was the only characteristic for which there was no evidence to suggest that the sample proportion differed significantly from the population proportion. An examination of the expected and actual distributions for the other characteristics provided more information about which groups were under- and

Table 10
Comparison of Population and Sample Demographic Characteristics

Demographic Characteristic	Significance Level	Under- and Overrepresentation
Age	.000***	Older groups under-represented
Sex	.402	No evidence of unequal representation
Nationality	.002**	Latins under-represented; Anglos over-represented
Grade	.000***	Those at highest and lowest levels under-represented

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

overrepresented. In general, underrepresented groups were those hypothesized to hold more directive beliefs. This fits well with the theory proposed here, since those who are most directive are least likely to see themselves as an active participant in the management process, and thus least likely to see value in providing input through this type of survey. Those at higher hierarchical levels, however, were hypothesized to be at the less directive end of the continuum and were also underrepresented. The fact that the organization's senior staff are typically overextended to a greater degree than staff lower

in the hierarchy offers a possible alternative explanation for their lower participation rate.

Individual Level Analysis

Question by Question Correlations

In order to address the concerns raised by Spector and his colleagues (Spector & Cooper, 2002; Spector et al., 2001) regarding individual-level internal consistency (see chapter 3), an analysis was conducted to determine whether any pairs of questions had significantly negative correlations at the individual level. The data were first examined to determine whether they met the requirements for parametric testing. Because the data at the level of the individual question were not normally distributed, the nonparametric Spearman's rho was used as the measure of correlation. Although many items correlated significantly and positively, as anticipated, some significant negative correlations were identified. Items were deleted one at a time, beginning with the items with the largest number of significant negative correlations. This process was continued until only two pairs of significant negative correlations remained. In each of these two cases, the item with the greatest number of significant positive correlations with the remaining variables was retained.

Seven items were deleted from the item pool in this manner. Table 11 lists the questions that were deleted, and discusses possible problems with the questions that may have caused the negative correlations to occur. For several of the questions, the problems were clear. For others, the possible explanation is less convincing. Regardless of the

Table 11
Questions Deleted from the Analysis and Identification of Possible Problems

Question	Problem Identified
My performance objectives should be set by my manager, who knows what my contribution has to be for the team to achieve its objectives.	Ultimate goal-setting by the manager – which at XYZ is the formal process – does not preclude a participative goal development process.
Once my manager has explained the task clearly, I generally prefer to do my work without any coaching.	If coaching with respect to a particular task was viewed as “remedial help,” a negative response to this question might have seemed to imply that the individual was not capable of performing the task.
The decisive criterion when assigning a task should be: “who can do the work most effectively?” A manager cannot allow him or herself to attach too much importance to the personal preferences of members of the team.	Responding negatively to this question may have been perceived as selfish – asking for one’s preferences to be considered over the good of the group – thus inhibiting negative responses.
My manager needs to find ways to help me get excited about my work if I am to perform my best.	Respondents may have found the word “excited” inappropriate in a work setting.
I like to work in a competitive environment.	Competition is not necessarily inconsistent with a nondirective management style.
Once a performance problem has been identified and the manager has given clear guidance about what needs to be changed, it is up to the staff member to determine how to make the needed improvements.	The caveats contained in the question may have made it too complex for easy interpretation.
I feel uncomfortable if I must establish my performance objectives on my own.	The question pertains to the respondent’s feelings, not the manager’s behavior.

origin of the problem, however, these seven items were dropped from all further analyses in order to reduce the risk of internal consistency problems at the individual level.

Factor Analysis

The primary goal of this study was to examine data at the ecological level, in order to assess group-level characteristics. Nonetheless, it was important to understand what was happening at the individual level, and to determine whether those results differed from the ecological results.

An exploratory factor analysis was conducted at the individual level, using the 23 items with no significant negative correlations at the individual level. The principal components method of extraction was used, and an orthogonal (Varimax) rotation was applied. As Table 12 illustrates, eight factors were extracted. To enhance readability, only factor loadings of .30 or greater have been reported. Few items loaded on more than one factor to any appreciable extent, thus an oblique rotation was not conducted. Alphas for the factors are reported in the last line of the table. They were unacceptably low, ranging from a high of .60 to a low of .19. This result was not unexpected. Hofstede (1980a) found that survey items associated with each other at the ecological level were not necessarily associated at the individual level. Since this study was designed to assess group-level differences, it was not surprising that differences were not evident at the individual level.

Table 12
Individual Level Factor Analysis

	Factors							
	1: Distance	2: Coaching	3: Technical Expertise	4: Decision Making	5: Personal Growth	6: Manager Responsibility	7: Interpersonal Relationships	8: Rules
Hierarchy	.73							
Know clients	.64							
Social distance	.61							
Group process	.43						.37	
Improvement feedback		.61						
Motivation		.59						
Progress discussions		.57						
Know objectives		.50						-.35
Positive feedback		.48				.30		
People vs. technical skills			.82					
Technical skills			.77					
Flexibility				.68				
Discuss disagreements				.55				
Staff input: management				.53		.43		
Staff input: general	.33			.50				
Challenges					.66			
Skill development					.58			
Tailored communication					.51		.31	
Manager responsible					.32	.68		
Coach all work						.60		
Cooperation							.71	
People skills			.39				.45	
Rules are flexible								.80
α	.51	.52	.60	.39	.39	.24	.19	-

Despite weak alphas, the factors were generally quite readily interpretable, each addressing a different aspect of the managerial relationship. Interpretations of the seven factors comprised of more than one item were as follows.

- Factor 1 involved issues of *distance*. Social distance and hierarchy deal explicitly with power distance. The extent to which staff know their clients and are involved in group decision-making processes also affects the distance between manager and staff.
- Factor 2 addressed the *coaching* relationship and ways managers can help staff improve their performance.
- Factor 3 addressed the importance of the managers' *technical expertise*.
- Factor 4 addressed the extent to which staff should be consulted and included in *decision-making* processes.
- Factor 5 addressed a focus on staff members' needs. Two items dealt with *personal growth*; the third dealt with an expectation that the manager will adapt to the staff member's communication needs.
- Factor 6 concerned the *manager's responsibility* to ensure high-quality performance.
- Factor 7 focused on *interpersonal relationships* – cooperation in particular, and people skills in general.

Aggregation of Subscales

In planning the analysis, it appeared possible that responses for one or more factors might be correlated. If responses on two or more factors were generally in the same direction, it was thought that it might be appropriate to combine elements of two or more factors to create a single scale. The regression equation used to test this idea was specified as:

$$Y = \beta_0 + \beta_1F_1 + \beta_2F_2 + \beta_3F_3 + \beta_4F_4 + \beta_5F_5 + \beta_6F_6 + \beta_7F_7 + \epsilon$$

where Y is a function of factors 1 through 7, and error. The null and alternative hypotheses were:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0$$

$$H_1: \text{Not all } \beta_i \text{ (i = 1 through 7) are zero}$$

An F test indicated that the null hypothesis could be rejected ($p < .001$). However, the adjusted multiple coefficient of determination (corrected R^2) was only .05. A Pearson correlation analysis yielded similar results. As shown in Table 13, the seven factors generally correlated with each other at significant levels, but with low correlation coefficients. Taken together, these two analyses indicated that there was not sufficient evidence to justify combining any of the factors into a single scale.

Table 13
Pearson Correlation Analysis Between Individual-Level Factors

	Factor						
	1: Distance	2: Coaching	3: Technical Expertise	4: Decision Making	5: Personal Growth	6: Manager's Responsibility	7: Interpersonal Relationships
Factor 1							
<i>r</i>	1						
<i>p</i>	.						
Factor 2							
<i>r</i>	.20	1					
<i>p</i>	.000***	.					
Factor 3							
<i>r</i>	.14	.17	1				
<i>p</i>	.000***	.000***	.				
Factor 4							
<i>r</i>	.17	.17	.06	1			
<i>p</i>	.000***	.000***	.101	.			
Factor 5							
<i>r</i>	.15	.24	.11	.19	1		
<i>p</i>	.000***	.000***	.003**	.000***	.		
Factor 6							
<i>r</i>	.07	.19	.06	.12	.09	1	
<i>p</i>	.046*	.000***	.084	.001**	.011*	.	
Factor 7							
<i>r</i>	.09	.23	.17	.15	.15	.08	1
<i>p</i>	.011*	.000***	.000***	.000***	.000***	.029	.

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Ecological Level Analysis

In order to conduct the ecological level analyses, mean scores for each item were developed for each subgroup within each independent variable. These mean scores served as the basis of all ecological level analyses.

Scale Development

Independent Variables With Three or More Subgroups

The 23 items retained after deleting items with negative correlations at the individual level were subject to exploratory factor analyses for the four independent variables with three or more subgroups: age, nationality, level of education, and hierarchical level. Initially, orthogonal rotation was used, as it was at the individual level, in an effort to develop independent factors. However, each of the independent variables revealed multiple items with significant loadings on more than one factor. Moreover, since the items were developed with a single directiveness continuum in mind, it was theoretically probable that items in various factors could be correlated with each other. For these reasons oblique (Oblimin) rotation was used for all ecological level factor analyses.

The following sections describe the scale development process for the age, level of education, hierarchical level, and nationality variables, respectively. Each section begins with a presentation of the results of the factor analysis. In all four analyses, a portion of the items loaded negatively on their factors. In each case, removing items with negative signs strengthened the scale's alpha. In cases where two or more items that

loaded on a single factor received negative scores, the factor was split into positive and negative subfactors, and a coefficient alpha was calculated for each. These positive and negative items have been presented separately in the tables that follow to show how the items grouped according to sign, and to present the sign-specific alphas. In cases where only a single item had a reversed sign, it has been presented in the table for the reader's information, but has not been included in the alpha calculation. Items excluded from the alpha calculation are presented in italic type. To enhance readability, factor loadings of less than .30 have not been reported. The last line in each table provides the alpha scores obtained for each factor.

Each section goes on to discuss possible interpretations of the factors, and to report which factor was selected for further analysis. It was possible to interpret most of the factors. However, the intentional relatedness of the original items meant that the interpretations were often not tidy ones when considered together. For example, people skills loaded on a "coaching" factor for three of the independent variables that were factor-analyzed. For the fourth, people skills loaded on a factor that focused on the importance of people and technical skills. It did not fit less well in one factor than another, but it was not consistently associated with a single underlying interpretation across all variables. The fact that items grouped differently when analyzed according to various characteristics was not problematic for this study, since its goal was to identify differences between subgroups, rather than to identify items that clustered together consistently. Nonetheless, it is important to acknowledge that the items did not group

together consistently for all characteristics when drawing conclusions about the results of the research.

The factor analyses presented here have been used only to extract the strongest scales for use in testing the study's hypotheses and to ensure that the factors that emerged made theoretical sense. More detailed analyses of the factor structures that emerged for each subgroup would have the potential to enrich our understanding of the ways in which particular independent variables are associated with various aspects of our beliefs about management. Such analyses were, however, beyond the scope of this study.

Hypothesis 1: Age. Two factors emerged from the factor analysis according to age groups. Table 14 presents the information from the pattern matrix, adjusted to group the 13 positive items and the four negative items from Factor 1 in separate columns.

- The positive items in Factor 1(+) focused on various aspects of supportive *coaching*. They primarily addressed personal development and performance improvement. Several items also touched on the aspects of coaching that dealt with active staff *involvement*: knowing organizational objectives, reduction of social distance, staff flexibility to break rules, and consulting staff on management issues. Alpha for this scale reached .97.

Table 14
Pattern Matrix for Age

Item	Factor		
	1(+): Coaching and involvement	1(-): Independence	2: Decision-making processes
Challenges	1.00		
Progress discussions	1.00		
Positive feedback	1.00		
Improvement feedback	1.00		
Coach all work	1.00		
Know objectives	1.00		
Social distance	1.00		
Rules are flexible	1.00		
Manager responsible	.97		
Staff input: general	.92		.33
Skill development	.92		-.47
Motivation	.91		.36
People skills	.89		.40
Cooperation		-1.00	
Know clients		-.95	
Technical skills		-.91	.49
Hierarchy		-.87	-.45
Staff input: management			1.00
Tailored communication			1.00
Group process			1.00
Flexibility			.98
People vs. technical skills	.35		.91
<i>Discuss disagreements</i>		-.65	-.72
α	.97	.86	.89

Note. Italic type indicates items excluded from alpha calculations. To enhance readability, factor loadings of less than .30 are not reported.

- The negative items in Factor 1(-) generally touched on the issue of *independence*. Those who scored negatively on these items did not seek cooperation, did not want to be constrained by the client's demands, did not look to the manager to provide technical guidance, and did not want to be bound by hierarchical limitations. Alpha for this scale was .86.
- Factor 2 centered on items involving *decision-making* processes, including flexibility to make decisions about their own work, consultation about managerial decisions and to contributions to group decision-making. Communicating effectively and having strong people skills could also be viewed as elements related to effective decision-making processes. Alpha for this scale was .89.

Factor 1(+), Coaching and involvement, was the strongest of the three age scales examined, and the items in Factor 1(+) were used to construct the age scale to test Hypothesis 1.

Hypothesis 3: Nationality. Four factors emerged from the factor analysis according to nationality. Factors 1 and 3 each contained two negative items, which were separated into their own subfactors. Table 15 presents the adjusted information from the pattern matrix.

- Factor 1(+) contained several of the supportive *coaching*-related items found in the age scale, including consulting with staff, skill development, motivation, and positive feedback. In addition, it included discussing disagreements and flexibility for staff in determining how to go about their work. It had an alpha of .95.

Table 15
Pattern Matrix for Nationality

Item	Factor					
	1(+): Coaching	1(-): Not Interpretable	2: Communication	3(+): Collaboration	3(-): Power Distance	4: Active Participation
Staff input: general	1.00					
Skill development	.97					
Flexibility	.97					
Discuss disagreements	.96					
Motivation	.88					
Positive feedback	.78		.42			.34
People skills	.67		.53			.36
Rules are flexible		-.90			-.36	
Improvement feedback		-.63		.62		.46
Technical skills			.99			
Challenges			.95		-.32	
Manager responsible			.94	.30		-.31
Tailored communication		-.39	.94			
People vs. technical skills	.34		.87	.35		
Progress discussions		-.46	.76			.38
Know clients			.67		-.65	
Cooperation				.98		
Coach all work			.32	.93		
Staff input: management				.93		
Social distance	.41				-.89	
Hierarchy			.58		-.66	
Know objectives						1.00
Group process						.95
α	.95	.32	.94	.90	.76	.75

Note: Italic type indicates items excluded from alpha calculations. To enhance readability, factor loadings of less than .30 are not reported.

- Factor 1(-) contained only two items, which were *not readily interpretable* as a scale. The alpha was also quite low, at .32.
- Factor 2 contained primarily items concerned with *communication* – items regarding the importance of people skills, progress discussions, knowing clients, and adapting communication styles. It also contained several other items that were not readily interpretable as part of the same scale – providing challenges, and manager responsibility for staff performance. Its alpha was high, at .94.
- Factor 3(+) contained three items relating to cooperation, coaching, and consulting staff. All of these items dealt with the notion of *collaboration*. Alpha for this factor was .90.
- Factor 3(-) addressed the issue of *power distance*, incorporating both the social distance and hierarchy questions. Alpha for this factor was .76.
- Factor 4 concerned staff interest in *active participation*, including group process, and understanding organizational objectives. Alpha for this factor was .75.

Factor 1(+), coaching, had the strongest alpha, at .95, and its items were used to construct the nationality scale to test Hypothesis 3.

Hypothesis 5: Level of Education. Three factors emerged from the factor analysis according to level of education. Table 16 presents the information from the pattern matrix.

Table 16
Pattern Matrix for Level of Education

Item	Factor		
	1: Coaching and Involvement	2: Working Together	3: People and Technical Skills
Improvement feedback	1.02		
Know objectives	1.01		
Rules are flexible	1.00		
Motivation	.96		
Social distance	.95		.57
Staff input: general	.90		
Know clients	.88		
Skill development	.84	.57	
Positive feedback	.81	-.38	
Challenges	.80	-.42	
Tailored communication	.80		-.42
Hierarchy	.73	-.48	
Flexibility		1.04	.32
Cooperation		.95	
Manager responsible		.94	
Discuss disagreements		.85	
Staff input: management	-.42	.82	
Progress discussions		.81	
Coach all work		.76	-.48
<i>Group process</i>	.57	-.61	
People skills			-1.02
People vs. technical skills		.48	-.75
Technical skills		.59	-.65
α	.953	.948	.756

Note: Italic type indicates items excluded from alpha calculations. To enhance readability, factor loadings of less than .30 are not reported.

- Factor 1 included many of the same supportive *coaching* items found in the factors selected for age and nationality – giving feedback, tailoring communication, motivating staff, and enhancing personal development. It also included the same additional items that dealt with staff *involvement* as were identified for age: knowing organizational objectives, social distance, consulting staff on management decisions, and flexibility regarding rules. In contrast, it did not include some of the people-oriented, interaction items that contributed to this factor in the age analysis (progress discussions, coaching, people skills, manager responsibility for performance). Alpha for this scale was .953.
- Factor 2 dealt with various aspects of *working together*, ranging from issues of cooperation and flexibility, to consultations and progress discussions. Alpha for this factor was .948.
- Factor 3 involved items that concerned the relative importance of *people* and *technical skills*. Alpha for this factor was .756.

Factor 1, coaching and involvement, had the strongest alpha, at .953, and its items were used to construct the level of education scale to test Hypothesis 5.

Hypothesis 7: Hierarchical Level. Three factors emerged from the factor analysis according to hierarchical level. Factor 2 included five positive and five negative items, and so were split into subfactors. Table 17 presents the adjusted information from the pattern matrix.

Table 17
Pattern Matrix for Hierarchical Level

Item	Factor			
	1: Coaching & Communication	2(+): Support flexible staff	2(-): Active Involvement	3: Staff input: management
People vs. technical skills	1.00			
Technical skills	.99			
Motivation	.97			
Improvement feedback	.96			
Cooperation	.95		.33	
People skills	.93		.41	
Discuss disagreements	.92			.46
Social distance	.89		-.39	
Staff input: general	.89			-.40
Positive feedback	.88		-.43	
Tailored communication	.72		-.61	
Progress discussions	.66		-.48	.64
Coach all work		.99		
Skill development	.60	.84		
Manager responsible	.31	.76		.56
Flexibility	.71	.75		
Rules are flexible	.63	.71		-.40
Group process			-1.00	
Know objectives			-.97	
Hierarchy	.46		-.77	-.31
Know clients	.50		-.74	
Challenges	.57		-.68	-.32
Staff input: management				.98
α	.96	.91	.94	-

Note: Italic type indicates items excluded from alpha calculations. To enhance readability, factor loadings of less than .30 are not reported.

- Factor 1 included many of the same supportive *coaching* items found in the other scales, such as giving feedback, and motivating staff, as well as including staff by reducing social distance and consulting staff about decisions. For hierarchical level, however, this factor also included several items that dealt with issues of effective *communication* (value progress discussions, discuss disagreements, cooperate) and people skills. Alpha for this scale was .96.
- Factor 2(+) involved *supporting staff*, while giving them the *flexibility* to do their work. Three of the items dealt with the manager's role in helping staff perform well. The other two with giving those staff the flexibility – deciding how to perform tasks, and treating rules as flexible. The alpha for this scale was high, at .91.
- Factor 2(-) revolved around the extent to which staff prefer *active involvement* in decision-making processes. It included elements such as participation in group processes, understanding organizational objectives and clients, and avoiding hierarchical processes, items that loaded on Factor 1 for age and level of education. The final item, challenge, did not seem to relate directly to the other items, except in that active involvement may enhance the staff member's sense of personal challenge. Alpha for this scale was .94.
- Factor 3 contained just one item dealing with staff input into management decisions.

Factor 1, coaching and communicating, had the strongest alpha, at .96 and its items were used to construct the level of education scale to test Hypothesis 7.

Summary of Factors

As noted at the beginning of this section, items were not distributed consistently across factors for all of the independent variables. Nonetheless, the general sense of the underlying strongest factors was, in all four cases, one of supportive coaching. These items generally pertained to items such as motivating staff, giving feedback, helping staff develop, and supporting staff in their performance improvement efforts. It was not necessary for testing Hypotheses 1 through 7 that the strongest scales should focus on similar underlying factors. However, while the overlap of items was not perfect, the sense of the strongest factors was in fact similar for all four independent variables.

Independent Variables with Two Subgroups

Factor analysis can only be used in the scale development process when three or more subgroups are being compared. Three of the independent variables in this study – sex, educational field, and job type – had only two subgroups. In order to develop a scale for testing the hypotheses associated with these independent variables, a reliability analysis was used. All items that yielded a negative corrected item-total correlation were removed for each variable, and the remaining variables were used to form a scale.

Hypothesis 2: Sex

A reliability analysis with the original 23 items yielded an alpha of .91, but with 5 negative corrected item-total correlations. After removal of these five items, alpha stood at .98. The items retained and deleted are listed in Table 18. This 18-item scale was used to test Hypothesis 2.

Hypothesis 4: Education Field

A reliability analysis with the original 23 items yielded an alpha of .96, but with four negative corrected item-total correlations. After removal of these four items, alpha stood at .97. The items retained and deleted are listed in Table 19. This 19-item scale was used to test Hypothesis 4.

Hypothesis 6: Functional Area

A reliability analysis with the original 23 items yielded an alpha of .58, but with 10 negative corrected item-total correlations. After removal of these 10 items, alpha stood at .95. The items retained and deleted are listed in Table 20. This 13-item scale was used to test Hypothesis 6.

Table 18
Items Retained and Deleted for Sex

Items Retained
Cooperation
Motivation
Hierarchy
Social distance
Discuss disagreements
Skill development
Staff input: management
Rules are flexible
Group process
Flexibility
Coach all work
Improvement feedback
Manager responsible
Know objectives
Progress discussions
Technical skills
People skills
People vs. technical skills
$\alpha = .98$
Items Deleted
Tailored communication
Challenges
Staff input: general
Positive feedback
Know clients

Table 19
Items Retained and Deleted for Education Field

Items Retained
Cooperation
Motivation
Hierarchy
Social distance
Skill development
Challenges
Staff input: general
Rules are flexible
Group process
Flexibility
Coach all work
Positive feedback
Improvement feedback
Manager responsible
Know objectives
Progress discussions
Know clients
People skills
People vs. technical skills
$\alpha = .97$
Items Deleted
Tailored communication
Discuss disagreements
Staff input: management
Technical skills

Table 20
Items Retained and Deleted for Functional Area

Items Retained
Motivation
Tailored communication
Hierarchy
Social distance
Challenges
Staff input: general
Rules are flexible
Group process
Positive feedback
Improvement feedback
Know objectives
Know clients
Technical skills
$\alpha = .95$
Items Deleted
Cooperation
Discuss disagreements
Skill development
Staff input: management
Flexibility
Coach all work
Manager responsible
Progress discussions
People skills
People vs. technical skills

Strength of Scales

The foregoing sections have described the development of the strongest scale for each independent variable. In each case, a scale with a highly satisfactory Cronbach's alpha was identified. Table 21 summarizes the alpha scores for these strongest scales, all of which were .95 or higher.

Table 21
Summary of Strength of Scales

Independent Variable	α
Age	.97
Sex	.98
Nationality	.95
Education Field	.97
Functional Area	.95
Level of Education	.95
Hierarchical Level	.96

Testing Assumptions for Parametric Testing

Once the scales for testing each hypothesis had been selected, they were examined to determine whether parametric procedures could be used to test the hypotheses, or whether nonparametric alternatives would be needed. The key assumptions for use of ANOVA are an approximately normal distribution and equal variances. In addition, residuals should have a normal distribution.

Normality of Distribution

Normality was assessed through formal hypothesis testing, examination of skewness and kurtosis, and visual inspection of the data. The null and alternative hypotheses tested with the Kolmogorov-Smirnov statistic for each scale were as follows.

H_0 : The sample came from a normally-distributed population.

H_1 : The sample did not come from a normally-distributed population.

Skewness and kurtosis were examined to determine whether the scores fell between one and negative one. Table 22 presents the results of the Kolmogorov-Smirnov test of normality, and the measures of skewness and kurtosis.

Table 22
Summary of Normality Test Results

Scale	Kolmogorov-Smirnov Test		Skewness	Kurtosis
	<i>D</i>	<i>p</i>		
Age	.03	.033*	-.06	-.12
Sex	.05	.000***	-.10	-.21
Nationality	.07	.000***	-.44	.22
Education Field	.05	.001**	-.16	-.09
Level of Education	.06	.000***	-.38	.12
Functional Area	.06	.000***	-.27	-.01
Hierarchical Level	.07	.000***	-.34	.00

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The Kolmogorov-Smirnov statistic indicated that the null hypothesis should be rejected: there was evidence that the data were not normally distributed. However,

ANOVA is quite robust with regard to this assumption as long as the sample size is large, as it was in this case. As Table 22 indicates, the skewness and kurtosis measures were well within the range of one to negative one. Moreover, visual inspection of the histograms and box-and-whisker plots showed relatively normal distributions. For these reasons, the data were judged to adequately meet the requirement of an approximately normal distribution of the data. As a precaution, nonparametric testing was also carried out to determine whether the results were sensitive to the assumption of normality. Those tests, the results of which are not reported here, yielded essentially identical results to the parametric tests that are discussed below, with only two minor differences. First, nonparametric testing suggested that the difference between Latins and Anglos may be stronger than parametric testing indicated. Second, differences between hierarchical levels, while significant with both forms of testing, reached higher levels of significance with parametric than with nonparametric testing.

Equality of Variances

Variance was assessed using Levene's test for homogeneity of variance. The null and alternative hypotheses tested were as follows.

H₀: The variances of the two samples are equal.

H₁: The variances of the two samples are not equal.

As Table 23 indicates, for six of the seven independent variables there was insufficient evidence to indicate that the variances differed. Sex was the only independent variable for which the Levene test provided evidence that the null hypothesis could be rejected ($p = 0.041$).

Table 23
Summary of Variance Statistics

Scale	Levene Test for Equality of Variances	
	<i>F</i>	<i>p</i>
Age	1.57	.210
Sex	4.17	.041*
Nationality	1.17	.323
Field	.52	.469
Level of Education	1.36	.254
Functional Area	2.01	.157
Hierarchical Level	1.62	.185

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Selection of Test

Because of the significant difference in variance between men and women according to the Levene test, there is some doubt about the appropriateness of the use of parametric testing. However, for all other subgroups, and for both the normality and the variance assumptions, the data appeared to be appropriate for the more powerful parametric tests. For this reason, parametric tests were used to evaluate Hypotheses 1 through 7. Because of the possibility that the variances were not equal for sex, nonparametric testing was also conducted for sex; it, yielded similar results.

Distribution of Residuals

In addition to a normal distribution of data and equal variances, ANOVA also requires a normal distribution of residuals. Therefore, follow-up testing was required to ensure that this assumption was met. Table 24 presents the results of the Kolmogorov-Smirnov analysis, and skewness and kurtosis figures obtained in an analysis of the residuals for each of the hypotheses tested. Although the Kolmogorov-Smirnov test reached significance for all but one of the independent variables, skewness and kurtosis were well within acceptable ranges, and visual inspection of the histograms and box-and-whisker plots provided no indication that the distributions deviated significantly from normal. Therefore, the residuals were judged to approximate a normal distribution, and to justify the use of ANOVA.

Tests of Hypotheses 1 Through 7

The following sections discuss the tests conducted for Hypothesis 1 through 7. Each section considers whether the means were ordered as predicted by the hypothesis, assesses the significance of any differences, and presents the results of the Bonferroni post hoc tests. In all cases, lower scores correspond with more directive, and higher scores with less directive beliefs about management.

For each analysis with only two groups to be compared, the null and alternative hypotheses were:

$$H_0: \mu_1 \geq \mu_2$$

$$H_1: \mu_1 < \mu_2$$

Table 24
Summary of Residual Normality Statistics

Scale	Kolmogorov-Smirnov Test		Skewness	Kurtosis
	<i>D</i>	<i>p</i>		
Age	.03	.200 [†]	-.03	-.11
Sex	.04	.015*	-.04	-.29
Nationality	.08	.000***	-.52	.54
Field	.04	.015*	-.14	.00
Level of Education	.04	.005**	-.29	.00
Functional Area	.04	.006**	-.24	-.04
Hierarchical Level	.06	.000***	-.28	-.16

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. [†] This is a lower bound of the true significance.

For each analysis with three or more groups to be compared, the null and alternative hypotheses took the following form:

$$H_0: \mu_1 = \mu_2 = \mu_3 = \dots = \mu_r$$

$$H_1: \text{Not all } \mu_i \text{ (} i = 1, \dots, r \text{) are equal}$$

Test of Hypothesis 1: Age

Hypothesis 1 stated that “Age is positively related to support for a directive management style.” As shown in Table 25, ANOVA indicated that there was sufficient evidence to reject the null hypothesis that the means for the various subgroups came from the same population. Moreover, the relative magnitudes of the mean scores were consistent with the hypothesis, as shown in Table 26. All post hoc tests indicated that

GenX differed significantly from the older two cohorts, while Boomers and Silents did not differ significantly from each other. Hypothesis 1 was partially supported.

Table 25
Analysis of Variance for Age

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Between groups	8.81	2	4.41	12.40	.000***
Within groups	256.09	721	.36		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 26
Means and Bonferroni Post Hoc Test Results for Age

Subgroup	<i>M</i>	<i>n</i>	<i>p</i>		
			GenX	Boomers	Silents
GenX	5.15	389			
Boomers	4.94	271	.000***		
Silents	4.87	64	.002**	1.000	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The age cohorts were selected based on previous research. However, the Silents subgroup was substantially smaller than the other two, as shown in Table 26, resulting in an unbalanced design that could have reduced the power of the test. Because data were available in 5-year increments, additional analyses were conducted to determine whether using a more balanced design would affect the results. Two alternative groupings were considered: three and four groups of approximately equal size. In each case, the means

were ordered as predicted in Hypothesis 1, but the differences between the older age cohorts still did not reach significant levels.

Test of Hypothesis 2: Sex

Hypothesis 2 stated that “Males are more supportive of a directive management style than females.” As shown in Table 27, a one-tailed *t* test indicated that the null hypothesis should be rejected: there is evidence to suggest that the samples did not come from populations with the same means. Moreover, as Table 28 illustrates, the mean for women was higher than the mean for men, as predicted in Hypothesis 2.

Table 27
One-Tailed *t* Test Results for Sex

<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	Std. Error Difference
6.25	749	.000***	.23	.04

Note. **p* < .05. ***p* < .01. ****p* < .001.

Table 28
Means for Sex

Sex	<i>M</i>	<i>n</i>
Women	5.14	402
Men	4.91	349

Because it appeared possible from the assumption-testing process described above that the variances for men and women might be unequal, it was possible that ANOVA would give faulty results. However, nonparametric testing of Hypothesis 2

using the Mann-Whitney U test yielded the same results: women were significantly less directive than men ($p < 0.001$). Hypothesis 2 was supported.

Test of Hypothesis 3: Nationality

Hypothesis 3 indicated that “Those from nationality groups with high combined PD, UA, and MA scores are more supportive of a directive management style than those from nationality groups with low combined scores.” As shown in Table 29, ANOVA indicated that there was sufficient evidence to reject the null hypothesis that the means for the various subgroups came from the same population.

Table 29
Analysis of Variance for Nationality

Source	SS	df	MS	F-ratio	p
Between groups	12.24	4	3.06	8.28	.000***
Within groups	214.23	580	.37		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The means for four of the five nationality groups were ordered as predicted, as shown in Table 30. However, the mean for Nordics was substantially lower than predicted. Indeed, it was hypothesized that Nordics would be the least directive group, and they scored instead near the directive end, with a mean equal to that of Latins.

Table 30
Means and Bonferroni Post Hoc Test Results for Nationality

Subgroup	<i>M</i>	<i>n</i>	<i>p</i>				
			Nordic	Anglo	Germanic	Latin	Japan
Nordic	5.69	37					
Anglo	5.82	253	1.000				
Germanic	5.71	31	1.000	1.000			
Latin	5.69	240	1.000	.181	1.000		
Japan	5.10	24	.002**	.000***	.002**	.000**	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

A post hoc Bonferroni test indicated that Japanese respondents differed significantly from the other four subgroups, but none of the other groups differed substantially from each other. Because of the highly unbalanced sample sizes, consideration was given to whether significant differences could be detected when only those subgroups with similar sizes were compared. Therefore, a one-tailed *t* test was conducted to compare only Anglos and Latins, and another ANOVA was conducted to compare only Nordics, Germanics, and Japanese. Outcomes were unchanged for the small groups; the Japanese remained significantly different from the others, but Nordics and Germanics showed no significant differences. The comparison between Anglos and Latins only, however, did reveal a significant difference between the two large groups, as shown in Table 31.

Table 31
One-Tailed *t* Test Results for Anglos and Latins

<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	Std. Error Difference
2.32	491	.010*	.13	.06

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

In an effort to understand why the Nordic mean did not fit with the predictions suggested by Hypothesis 3, an examination of the underlying demographic characteristics for Nordic respondents was undertaken. It revealed that Nordics differed markedly from the distribution of the sample as a whole, as illustrated in Table 32. Specifically, Nordics were more often older males educated in nonlife or hard life fields. All three of these demographic characteristics were predicted to correlate with more directive beliefs about management. On the other hand, they were more often well-educated professionals, and these characteristics were predicted to correlate with less directive beliefs about management. Thus, the underlying data provide no answers about why Nordic scores did not behave as predicted.

To summarize, with the exception of Nordics, the order of the means conformed to the predictions made in Hypothesis 3; however, the means differed significantly for only one subgroup – the Japanese. In further testing, Anglos and Latins were also found to differ significantly, and in the expected direction, but only when compared separately from the smaller nationality groups. Hypothesis 3 was partially supported.

Table 32
Comparison of Nordic and Overall Demographic Characteristics

	Nordic %	Overall %
Silents	17	9
Male	70	46
Hard Life	81	73
Professional	76	50
Master's or Doctorate	73	50
Professional Staff	82	42

Test of Hypothesis 4: Educational Field

Hypothesis 4 stated that "Those educated in nonlife systems and in hard, life systems are more supportive of a directive management style than those educated in soft, life systems." As shown in Table 33, a *t* test indicated that the null hypothesis should be rejected: there is evidence to suggest that the samples do not come from populations with the same means. Moreover, as shown in Table 34, the mean for soft life systems was higher than the mean for nonlife systems and in hard, life systems, as predicted in Hypothesis 4. Hypothesis 4 was supported.

Table 33
One-Tailed *t* Test Results for Educational Field

<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean Difference</i>	<i>Std. Error Difference</i>
4.01	675	.000***	.19	.05

Note. **p* < .05. ***p* < .01. ****p* < .001.

Table 34
Means for Educational Field

Sex	<i>M</i>	<i>n</i>
Soft Life	5.31	185
Nonlife/Hard Life	5.12	492

Test of Hypothesis 5: Education Level

Hypothesis 5 stated that “Education level is negatively related to support for a directive management style.” As shown in Table 35, ANOVA indicated that there was sufficient evidence to reject the null hypothesis that the means for the various subgroups came from the same population. The relative magnitudes of the mean scores were consistent with the hypothesis, as shown in Table 36.

Table 36 also presents the results of a post hoc Bonferroni test, which indicated that those with a high school education differed significantly from the other three subgroups. While the direction of the scores for the remaining groups was consistent with the hypothesis, the differences were not significant. Hypothesis 5 was partially supported.

Table 35
Analysis of Variance for Level of Education

Source	SS	df	MS	F-ratio	p
Between	26.87	3	8.96	23.46	.000***
Within Groups	288.22	755	.38		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 36
Means and Bonferroni Post Hoc Test Results for Level of Education

Subgroup	M	n	p			
			Doctorate	Master's	College	High School
Doctorate	5.37	111				
Master's	5.33	285	1.000			
College	5.24	287	.383	.485		
High School	4.70	76	.000***	.000***	.000***	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Test of Hypothesis 6: Functional Area

Hypothesis 6 stated that “Those in nonprofessional functional areas are more supportive of a directive management style than those in professional functional areas.” As shown in Table 37, a *t* test indicated that the null hypothesis should be rejected: there was evidence to suggest that the samples did not come from populations with the same means. Moreover, as shown in Table 38, the mean for professionals was higher than the mean for nonprofessionals as predicted in Hypothesis 6. Hypothesis 6 was supported.

Table 37
One-Tailed *t* Test Results for Functional Area

<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	Std. Error Difference
5.57	747	.000***	.25	.04

Note. **p* < .05. ***p* < .01. ****p* < .001.

Table 38
Means for Functional Area

Sex	<i>M</i>	<i>n</i>
Professional	5.15	388
Nonprofessional	4.90	361

Test of Hypothesis 7: Hierarchical Level

Hypothesis 7 stated that “Hierarchical level is positively related to support for a directive management style.” As shown in Table 39, ANOVA indicated that there was sufficient evidence to reject the null hypothesis that the means for the various subgroups came from the same population. A post hoc Bonferroni test indicated that service staff differed significantly from the other three subgroups. While the direction of the scores for the remaining groups was consistent with the hypothesis, the differences were not significant, as shown in Table 40. For this hypothesis, nonparametric testing confirmed the conclusion drawn from parametric testing: the null hypothesis should be rejected. However, the *p* value using nonparametric testing was lower (*p* = .017). Hypothesis 7 was partially supported.

Table 39
Analysis of Variance for Hierarchical Level

Source	SS	df	MS	F-ratio	p
Between	6.19	3	2.06	5.27	.001**
Within Groups	272.01	695	.39		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 40
Means and Bonferroni Post Hoc Test Results for Hierarchical Level

Subgroup	M	n	p			
			Senior Managers	Professional Staff	Support Staff	Service Staff
Senior Managers	5.42	48				
Professional Staff	5.35	308	1.000			
Support Staff	5.31	327	1.000	1.000		
Service Staff	4.74	16	.001**	.001**	.002**	

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Test of Hypothesis 8

The final hypothesis in this study dealt with the relative strength of the relationship between various independent variables and one's beliefs about directiveness. Specifically, Hypothesis 8 stated that

Fixed sources of influence (age, gender, nationality) have the strongest effects on the individual's position on the directiveness continuum; self-selected sources of influence (education field and level of education) have midrange effects; and organizational sources of influence (hierarchy and functional area) have the weakest effects.

This hypothesis could only be tested if it was possible to extract a single scale that was appropriate for use on all, or a portion, of the independent variables.

Extracting a Common Scale

In order to identify a common scale, the items included in the strongest scale for each independent variable were compared. As noted in the discussion of the factor analyses, most items did not load consistently on the same factor across independent variables. In fact, only one item was common to all seven scales. An additional four items were common to six of the seven independent variables. By removing sex from the analysis, it was possible to obtain a three-item scale common to all of the remaining independent variables. The three items were: motivating staff, consulting with staff, and providing positive feedback. All of these items dealt in some way with the tone of the relationship – a collaborative, engaged relationship for those at the nondirective end of the continuum; an independent, removed relationship for those at the directive end of the continuum.

Table 41 indicates which items were included in the strongest scale for each independent variable, identifies in italics the three items contained in all six selected scales, and presents the alpha obtained for the three-item scale for each independent variable.

Table 41
Items Present in Variable-Specific Scales and Alphas for Common Scale

Item	Age	Nationality	Field of Education	Level of Education	Job Type	Hierarchical Level	Sex
<i>Motivation</i>	X	X	X	X	X	X	X
<i>Consult staff: general</i>	X	X	X	X	X	X	
<i>Positive feedback</i>	X	X	X	X	X	X	
α for common scale	.81	.90	.93	.86	.84	.85	-4.03
Social distance	X		X	X	X	X	X
Improvement feedback	X		X	X	X	X	X
Skill development	X	X	X	X			X
Break rules	X		X	X	X		X
Know objectives	X		X	X	X		X
People skills	X	X	X			X	X
Challenges	X		X	X	X		
Hierarchy			X	X	X		X
Progress discussions	X		X			X	X
Tailored communication				X	X	X	
Know clients			X	X	X		
Cooperation			X			X	X
Discuss disagreements		X				X	X
Group process			X		X		X
Flexibility		X	X				X
Coach all work	X		X				X
Manager responsible	X		X				X
Technical skills					X	X	X
People vs. technical			X			X	X
Consult staff: management							X
Competition							
Excite me							
Consider preferences							
Manager support							
Prefer coaching							
Set objectives: should							
Set objectives: comfortable							

Significance of the Relationships

The relationships between the common scale and the independent variables were then assessed. First, the subgroup means were examined. Most were found to be in accordance with the predictions of the relevant hypotheses, as shown in Table 42. Exceptions were found in two areas, and those mean scores are italicized in the table. First, Nordics scored lower than predicted by Hypothesis 4, but all other nationality means followed the prediction – a result identical to that found for the nationality scale itself. In addition, the means for master’s and college-level educations were opposite the order predicted by Hypothesis 5. This difference did not appear in the education level scale. However, these two groups did not differ significantly from each other in the full scale, and in the common scale, both remained higher than the high school group, which did differ significantly from the other groups.

Analysis of variance or *t* tests were conducted, depending on the number of subgroups, in order to determine whether the differences in means were significant. Table 43 and Table 44 present the results of those analyses. They indicate that significant differences were observed for the common scale for five of the six independent variables expected to differ. Differences for age were in the predicted direction, but were not significant. Because the elements of the common scale did not form a coherent scale according to sex, a test of the common scale according to sex was not expected to show significant differences. This lack of significance was confirmed by a *t* test, as reported in Table 44.

Table 42
Means For Common Scale

Subgroup	<i>M</i>	<i>n</i>
Age		
GenX	5.43	392
Boomers	5.43	279
Silents	5.29	65
Sex		
Female	5.36	418
Male	5.30	353
Nationality		
<i>Nordic</i>	5.29	37
Anglo	5.48	253
Germanic	5.44	31
Latin	5.34	24
Japan	5.29	240
Education Field		
Soft Life	5.61	188
Hard Life	5.26	507
Functional Area		
Professional	5.45	397
Nonprofessional	5.22	367
Education Level		
Doctorate	5.50	113
<i>Master's</i>	5.38	289
<i>College</i>	5.40	290
High School	4.76	78
Hierarchical Level		
Managers	5.56	51
Professional Staff	5.42	311
Support Staff	5.22	328
Service Staff	4.58	16

Note. Means reported in italics are not ordered as predicted.

Table 43
Analysis of Variance for Common Scale

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Age					
Between groups	5.10	2	2.55	2.64	.072
Within groups	707.85	733	.97		
Nationality					
Between groups	14.18	4	3.55	3.97	.003**
Within groups	518.25	580	.89		
Education Level					
Between groups	30.54	3	10.18	10.86	.000***
Within groups	717.83	766	.94		
Hierarchical Level					
Between groups	18.24	3	6.08	6.24	.000***
Within groups	684.07	702	.97		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 44
One-Tailed *t* Test Results for Common Scale

	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	Std. Error Difference
Sex	.90	769	.184	.06	.07
Education Field	4.11	693	.000***	.34	.08
Functional Area	3.21	762	.001**	.23	.07

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Post hoc tests rendered results similar to those obtained with the variable-specific scales. However, there were two areas in which subgroups differed significantly from each other using a variable-specific scale, but did not differ significantly according to the common scale. Specifically, among nationality groups, only Anglos and Japanese differed significantly; and for the hierarchical level variable, support and service staff did not differ significantly.

Strength of the Relationships

Eta squared was used to assess the strength of the relationship between the common scale and each independent variable. The first two columns of Table 45 show the results of that analysis, with the independent variables listed in order of the strength of eta squared. As expected, sex, for which the alpha was unacceptably low, showed virtually no association with the common scale. Age, for which there were no significant differences found in the ANOVA, also showed an extremely small association. Associations for the remaining variables were small, but present, ranging from .013 to .041.

The third column of Table 45 shows the predicted strength of the variable's relationship to the common scale according to Hypothesis 8. The actual order of the eta squared statistics bears no relationship to the relationships predicted. There is no support for Hypothesis 8.

Table 45
Results of Eta Squared Analysis for Common Scale and Variable-Specific Scales, and Comparison with Hypothesis 8

Independent Variable	η^2 (common scale)	Predicted Strength	η^2 (variable-specific)
Level of Education	.041	Moderate	.085
Nationality	.027	Strong	.054
Hierarchical Level	.026	Weak	.022
Educational Field	.024	Moderate	.023
Functional Area	.013	Weak	.040
Age	.007	Strong	.033
Sex	.001	Strong	.050

The amount of variation in the scales explained by the independent variables is quite small. Less than 5% of the variation is explained by any independent variable. As a point of comparison, however, it is instructive to note that even in Hofstede's seminal work on nationality differences,

of the total variance in the answers of the 3220 respondents in the variance analyses, only 4.2% is accounted for by their belonging to one of the 10 nationalities in the sample. This, however, is 16 times as much as could be expected on the basis of pure chance. (Hofstede, 1980a, p. 71)

That is, although the absolute amount of difference explained by Hofstede's independent variable was small, it related to a real difference between groups of people with different characteristics. In this study, several of the independent variables investigated appear to explain similar amounts of variation. Level of education explained 4.1% of the variance observed, essentially the same amount of variance that was accounted for in Hofstede's

work. Moreover, within this study, level of education explained half again as much variance as nationality, and hierarchical level and educational field explained about the same amount as nationality.

On the other hand, the relative strength of the eta squared statistics reported above may be in part an artifact of the scale creation process. As the scale development process for Hypotheses 1 through 7 illustrated, different questions factored together for different subgroups. A look at eta squared for each individual scale paints a somewhat different picture than examination of the common scale. The fourth column of Table 45 shows the eta squared for the strongest scale developed for each independent variable. These eta squared statistics are higher than those for the common scale, reaching as high as 8.5%. Moreover, while eta squared for level of education and nationality remain at the top of the list, some of the independent variables that had extremely weak eta squared statistics in the common scale showed much more robust eta squared figures when looking at the individual strongest scales. This suggests that the common scale derived here is not completely satisfactory, since it significantly weakens the explanatory power of the scales for the individual variables.

Robustness of Analyses

The characteristics of the data available for this study limited to some degree the types of analyses that could be conducted. Although the sample size was reasonably large ($N=780$), the highly unbalanced design meant that some subgroups were quite small. For the foregoing analyses, small sample sizes should not have affected accuracy.

They may have reduced the power of the statistical tests performed, however. In addition, the small sample sizes presented another obstacle. Hofstede (1980a) pointed out the importance of considering possible differences in underlying factor structures while looking at several independent variables simultaneously. With his data set of over 10,000 respondents, he was able to look separately at national differences for men and women, for example. For this study, small sample sizes among some subgroups made it impossible to conduct such multilayer analyses. This section investigates the probable effects of this limitation, and the likely robustness of the foregoing analyses.

Controlling for Other Variables

While data limitations did not permit the factor analyses to be done controlling for other independent variables, analyses of variance that controlled for one independent variable at a time were conducted and analyzed. In cases where n was less than 8 for a particular subgroup, the results were not assessed. The results of the analyses are summarized in Table 46. Key findings included the following.

1. Differences according to sex and level of education were unaffected by other independent variables.
2. Significance of differences according to age was unaffected by other independent variables. However, Boomers and Silents, which did not differ significantly, alternated places in the mean order depending on the subgroup under examination.
3. Differences according to hierarchical level could not be analyzed due to the small size of the subgroup for which differences were significant.

Table 46
Results of Controlling for Other Independent Variables

Independent Variable	Results of Controlling for Remaining 6 Variables
Age	Means for Boomers and Silents did not differ significantly in the full analysis, but were in the predicted order. They were reversed from the predicted order after controlling for some subgroups: Boomers scored lower than Silents among men, professionals (71% male); and professional staff. Significance remained unchanged.
Sex	Identical results to uncontrolled analyses for all subgroups except when controlling for age. Silent women scored lower than Silent men, though the difference did not reach significance.
Nationality	Differences disappeared when controlling for other variables. Significant differences remained for men, and at the master's level of education. The reason may be that significance in the original analysis stemmed from differences with Japanese ($n=24$); dividing into subgroups may have cut analytical power too much for differences to appear. However, the differences are significant only for men in a Latin/Anglo comparison as well.
Educational Field	Significance disappeared for many groups. Differences remained among GenX, women, college graduates, and support staff.
Functional Area	Significance disappeared for many groups. Differences remained among Latins and nonlife/hard life subgroups.
Level of Education	Identical results to uncontrolled analyses remained for all subgroups except among Anglos. Here, the means were not as predicted.
Hierarchical Level	Controlling was not possible. The significant differences showed among service staff, and the group size was too small to divide among other subgroups.

4. Many significant differences disappeared after dividing by subgroup for nationality, educational field, and functional area.

These findings imply that the results of the forgoing analyses are fairly robust for sex, level of education, and age. Additional investigations with larger samples would be necessary to determine whether the findings for nationality, educational field, and functional area hold when the subgroups are subdivided further.

Effects of Item Selection

For the reasons described above, no attempt was made to control for multiple independent variables when developing the strongest scales for each independent variable. An investigation was conducted, however, to determine what the likely effects of uncontrolled item selection for those scales might have been. Specifically, reliability analyses were conducted, alphas calculated, means examined, and eta squared calculated based on the 23 items that were used in the scale development process. That is, all items were included in this analysis, without limiting items based on a factor analysis.

The results of the 23-item analysis and the results of the individual analyses are compared in Table 47. For most of the independent variables, the 23-item scale results were significant, with high alphas, and means ordered as predicted. Functional area had an unacceptably low alpha with the 23-item scale, although the means were ordered as predicted. Age did not reach significance with the 23-item scale, but again, the means were ordered as predicted. Finally, those with doctorates scored slightly lower than predicted for the level of education variable. However, the differences between those

Table 47
Comparison of Individual Scale and 23-Item Scale Results

Variable	Individual Scale Analyses			23-Item Scale Analyses		
	<i>p</i>	α	Prediction	<i>p</i>	α	Prediction
Age	.000***	.97	As predicted	.124	.72	As predicted
Sex	.000***	.98	As predicted	.000***	.91	As predicted
Nationality	.000***	.95	Nordics low	.000***	1.00	Nordics low
Education Field	.000***	.97	As predicted	.001**	.96	As predicted
Functional area	.000***	.95	As predicted	.050	.58	As predicted
Level of Education	.000***	.95	As predicted	.000***	.87	Doctorates low
Hierarchical Level	.001**	.96	As predicted	.008**	.94	As predicted

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

with doctorates and those with master's degrees were nonsignificant. The significant differences between those with high school educations and those with higher levels of education found in the common-scale analysis were also found in the 23-item analysis.

The comparison presented in Table 47 demonstrates that the specific items selected through the factor analyses were not critical to the outcome of the overall analysis. The differences between the subgroups were sufficiently robust that they appeared regardless of the approach to scale development.

Reliability and Validity

The survey was developed specifically for this effort. It was pretested within XYZ, but was not previously used or validated in any other setting. Thus, it is important to consider its reliability and validity. The procedural precautions that were taken to help ensure content validity (item development and selection, review processes) were described in detail in chapter 3. This section presents the results of those aspects of reliability and validity that could not be evaluated before obtaining the survey results, including internal consistency reliability, test-retest reliability, construct (convergent) validity, and criterion-related validity.

Internal Consistency Reliability

Throughout the foregoing analyses, Cronbach's alpha has been presented as a measure of the internal consistency reliability of the scales derived from both individual and ecological level factor analyses. Internal consistency reliability at the individual level was unacceptably low, ranging from a low of .19 to a high of only .60 for the subscales identified in the individual level factor analysis. These low internal consistency reliabilities at the individual level were not surprising, however. This study was designed to examine beliefs about management at the ecological level. Other studies have shown that survey items can have a low internal consistency reliability at the individual level, and a high level at the ecological level (Hofstede, 1980a; 2002).

At the ecological level, internal consistency reliability, as measured by Cronbach's alpha, was quite high. Alphas for all of the scales selected for further analysis for each independent variable were well above the generally-accepted .70 level

(1992). Table 48 summarizes the alphas obtained for the seven scales selected for further analysis.

Table 48
Internal Consistency Reliability for Variable-Specific Scales

Independent Variable	α for Selected Scale
Age	.97
Sex	.98
Nationality	.95
Educational Field	.97
Functional Area	.95
Level of Education	.95
Hierarchical Level	.96

Internal consistency reliability levels for the common scale were somewhat lower, but still well above the .7 level. Table 49 shows the alphas for each of the six independent variables to which the common scale applied. Taken together, the alphas presented in Table 48 and Table 49 suggest a very high level of internal consistency reliability.

Table 49
Internal Consistency Reliability for Common Scale

Independent Variable	α for Selected Scale
Age	.81
Nationality	.90
Educational Field	.93
Functional Area	.84
Level of Education	.86
Hierarchical Level	.85

Test-Retest Reliability

Responses from staff who completed the pretest were compared with those staff from the same division who completed the full survey. The number of respondents was relatively small – 34 respondents for the pretest, and 24 for the full survey. Because the data were not normally distributed, a Mann-Whitney U test was used to compare pretest and full survey results for each of the items that remained unchanged between the pretest and the full survey. In each case the null and alternative hypotheses were:

H_0 : The samples came from populations with the same mean.

H_1 : The samples did not come from populations with the same mean.

The null hypothesis could not be rejected for any of the items examined: there was no evidence to suggest that the pretest and the full survey means differed. The fact that comparisons could not be made at the individual level, and that the sample sizes

were relatively small suggest that while there is some support for the test-retest reliability of the instrument, these results should be interpreted with caution.

Convergent Validity

Chapter 3 argued that a survey instrument's convergent validity can, in a weak sense, be evaluated by considering the extent to which the study's hypotheses are supported, as long as the hypotheses are based on measures of related constructs already investigated by other researchers. This study's hypotheses were all derived based on the work of other researchers, as demonstrated in chapter 2. Thus, support for the study's hypotheses would lend support to the survey instrument's convergent validity.

As discussed above, Hypotheses 1 through 7 were all at least partially supported. Moreover, although many of the mean differences did not reach significance, only the score of Nordics in the nationality investigation deviated from the hypothesized direction of the outcomes. This level of agreement lends strong support to the survey instrument's construct validity.

Criterion-Related Validity

In this study, all data were collected concurrently, making concurrent validity the criterion-related measure of validity that could be examined. Depending on one's interpretation, support for hypotheses based in well-grounded theory can provide the basis for an assessment of strong concurrent validity, or stronger statistical measures may be required. Both an empirical association and a link to theory have been presented here. Partial support for all seven hypotheses, and near-perfect fit between the direction

of the means for all seven scales with the predicted order lends substantial support to the instrument's criterion-related validity.

Spector (1992) cautioned about ignoring unsupported hypotheses. In this study, the means for 21 of 22 subgroups examined were ordered as predicted. However, many of the predicted differences did not reach significance. Thus, some of the hypotheses were not fully supported. The strong consistency of means in the predicted direction, suggests that the survey instrument has some criterion-related validity. The lack of consistent levels of significant differences, however, suggests a need to interpret the results with caution. Although Hypothesis 8 was not supported, this did not reflect on the reliability or validity of the survey. Instead, it implies that the theoretical argument developed in chapter 2, suggesting that the origins of one's beliefs will be associated with the strength of those beliefs, was incorrect.

Summary

This chapter provided the results of the analyses undertaken in this study. It began with a discussion of the preliminary steps taken, including data preparation, and an assessment of response rates and possible nonresponse biases. Next, it investigated the survey data at the individual level. While these data were not required for the purposes of testing the hypotheses proposed here, it was considered useful to understand how the data behaved at the individual level before moving to the ecological level.

The next section of the chapter went on to conduct the ecological-level analyses necessary to address Hypotheses 1 through 7. The first step was to conduct a factor

analysis and reliability analyses for each independent variable, in order to develop the strongest possible scales. The characteristics of these scales were investigated, and a determination made that the assumptions required for use of parametric testing were met in virtually all cases. The means of each subgroup were compared in order to determine whether they conformed with the predictions made by the hypotheses. The means were ordered as predicted for all but one of the 22 subgroups investigated. ANOVA and *t* tests were conducted to determine whether the differences in the means were significant, and in all cases, they were found to be significant at the .001 level. Finally, post hoc tests were conducted to determine what differences reached significant levels. Many of the subgroups did not differ significantly from each other, although at least one subgroup did differ significantly for each independent variable.

Hypothesis 8 required extraction of a common scale, and an assessment of the strength of the relationships between the independent variables and the common scale using eta squared as the method of comparison. Hypothesis 8 was not supported.

Table 50 summarizes the results of the eight hypothesis tests conducted.

Table 50
Results of Tests for Hypotheses 1 Through 8

Hypothesis	Predicted Direction of Means	Significant Differences	Supported?
1. Age	Fully accurate.	Only GenX differed significantly from other groups.	Partially
2. Sex	Fully accurate.	Significant.	Fully
3. Nationality	Accurate except for Nordics.	Only Japanese differed significantly from other groups. Anglos and Latins differed significantly when compared separately.	Partially
4. Academic Field	Fully accurate.	Significant.	Fully
5. Educational Level	Fully accurate.	Only High School differed significantly from other groups.	Partially
6. Functional Area	Fully accurate.	Significant.	Fully
7. Hierarchical Level	Fully accurate.	Only service staff differed significantly from other groups.	Partially
8. Relative strength of independent variables			No

CHAPTER 5: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

Chapter 1 began by asking how Marie could most effectively help George manage his diverse staff more effectively. Marie concluded that cultural differences might be playing a significant role in the dynamics of George's relationships with his staff, and that helping him understand cultural differences might help him improve those relationships. Yet she was uncomfortable with the notion of discussing differences based on her intuitions and stereotypes about group-level differences. Marie is not alone in finding that intuitions about group characteristics can lend insight to management relationships, nor in recognizing that there are risks inherent in basing decisions on such stereotypes.

Adler (1997) argued that stereotypes can be extremely useful tools because they can allow "people to understand and act appropriately in new situations" (p. 75). At the same time, discussions about the usefulness of stereotypes are often accompanied by caveats about their limitations. Osland and Bird (2000) indicated that while stereotyping can be useful, it cannot capture the underlying complexities of cultures and individuals. Triandis (1995) noted that while there can be underlying elements of truth, or sociotypes, embedded in a stereotype, stereotypes are often inaccurate. As Adler put it, "Stereotypes, like other forms of categories, can be helpful or harmful depending on how we use them" (p. 75).

Adler (1997, pp. 75-76) discussed several factors that allow stereotypes to be helpful, rather than harmful. She argued that useful stereotypes must be consciously held, descriptive, and accurate, and that they must serve as a first best guess about a group, to be modified based on information about the particular individual, and on experience with the group in question. Her analysis of the reasons we fail to use stereotyping effectively provides a basis for understanding how the results of this study can help Marie and George, and others like them, manage better in a diverse organization.

If stereotyping is so useful as an initial guide to reality, why do people malign it? ...The answer is that we have failed to accept stereotyping as a natural process and have consequently failed to learn to use it to our advantage. For years we have viewed stereotyping as a form of primitive thinking, as an unnecessary simplification of reality. We have also viewed stereotyping as unethical: stereotypes can be inappropriate judgments of individuals based on inaccurate descriptions of groups. It is true that labeling people from a certain ethnic group as “bad” is not ethical, but grouping individuals into categories is neither good nor bad – it simply reduces a complex reality to manageable dimensions... some people stereotype effectively and others do not. Stereotypes become counterproductive when we place people in the wrong group, when we incorrectly describe group norms, when we inappropriately evaluate the group or category, when we confuse the stereotype with the description of a particular individual, and when we fail to modify the stereotype based on our actual observations and experience. (pp. 77-78)

Adler presented a vision of stereotypes as a potent tool – when used appropriately – for better understanding people from diverse backgrounds. Her logic demonstrates the value of learning more about group norms, thereby developing more accurate stereotypes that can be applied in a diverse real-world workplace.

This chapter summarizes the findings of a study that was undertaken with the goal of contributing to our ability to describe more accurately group norms pertaining to

beliefs about what constitutes good management. It did so by investigating empirically the extent to which membership in various subgroups correlates with beliefs about the appropriate degree of directiveness in the management relationship. The chapter begins with a brief review of how the study was conducted and a summary of its limitations. This is followed by a discussion of the study's results and recommendations for future research. It concludes with thoughts about the study's implications for practitioners.

Review of the Study

This study set out to provide empirical evidence that can be used to understand ecological-level differences in beliefs about management. Specifically, it investigated whether particular aspects of life history tend to correlate with beliefs about the appropriate degree of directiveness in the management relationship, and the relative strength of those correlations. It focused on seven aspects of life history: age, sex, nationality, education level, education field, functional area, and hierarchical level. Eight hypotheses were proposed. The first seven related to the predicted direction of the correlation between the independent variables and respondents' positions on the directiveness continuum. The eighth hypothesis related to the relative strength of that correlation for each characteristic.

The hypotheses were tested using survey data collected in a 2,000 member international intergovernmental organization. The survey instrument was designed for the study, pretested in one division of the organization, and administered to the full staff

using a written electronic survey format. Some 780 useable responses were received – a response rate of 34%.

Summated rating scales were developed at the ecological level for each independent variable. Exploratory factor analysis was used to evaluate those variables with three or more subgroups, and the strongest factor was selected as the scale to be analyzed. For characteristics with only two subgroups, items that correlated negatively in a reliability analysis were deleted, and the remaining items used as the scale. All scales were evaluated using Cronbach's alpha, and were found to have internal consistencies upwards of .95.

The first seven hypotheses were tested using these scales. ANOVA followed by post hoc testing was used for those independent variables with three or more subgroups, while *t* tests were used for those independent variables with two subgroups. To test the eighth hypothesis, which concerned the relative strength of the correlation between each independent variable and position on the directiveness continuum, a common scale was required. Only a single item was common to the strongest scale for all seven independent variables. However, by eliminating sex from the analysis, a 3-item scale common to the remaining six variables was developed. Cronbach's alpha for the common scale ranged from .81 to .93 for the six independent variables that shared the common scale. The eta squared statistic was used to determine the strength of the association between the common scale and each independent variable.

Finally, when possible, the analysis for each independent variable was run again controlling for other independent variables. Nationality, educational field, and functional

area were affected by the inclusion of other variables in the analysis; age, sex, and level of education were largely unaffected by controlling for other variables. Analyses conducted to determine how sensitive the results were to the specific make-up of the scales selected for analysis revealed that the results remained consistent even with inclusion of all 23 survey items.

Limitations

This study had a number of limitations that should be taken into consideration when assessing its results.

First, the data available for this study did not permit some analyses that would have been desirable. In particular, because some subgroups were quite small, it was not possible to conduct the analyses based on more than one independent variable at a time. The testing that it was possible to do indicated that this type of in-depth analysis could alter the conclusions for some subgroups, and therefore should be sought in future studies.

Second, though virtually all of the means examined fell in the predicted order, many did not reach adequate levels of significance to be able to fully support the proposed hypotheses. Inadequate sample sizes for some groups and inadequate sensitivity of the instrument are possible reasons for this lack of significance. Further research that addresses these weaknesses would indicate whether the proposed hypotheses can be fully supported better data.

Third, the magnitude of the differences found were small in absolute terms, despite their statistical significance. There is certainly room to question the relevance, in practical terms, of information about characteristics that explain less than 5% of the observed variance. Nonetheless, the magnitude of the differences observed seemed to be relatively consistent with the results found in other studies. Applied research examining the tangible effects of such differences, or of having a better understanding of the differences, could help clarify the extent to which research about ecological-level differences can contribute to management improvement efforts in the real world.

Fourth, this study involved a convenience sample of respondents from a single organization. As such, its results cannot be generalized to other environments. There is no reason to expect the differences found within XYZ to differ systematically from those that might be found in other organizations. Nonetheless, generalizations beyond XYZ must be made with caution, and should be confirmed with further research in other environments.

Fifth, in the recommendations presented below, there is a fairly heavy reliance on open discussion of differences. In some cultural contexts this may not be an effective approach. Some individuals come from cultures where open discussion of disagreement is frowned upon. In some organizations, a culture of fear or secrecy inhibits open and honest dialogue. Thus, the suggestions provided below will need to be adapted, or new approaches developed, in order to be effective in some cultural milieus.

Finally, the results presented here deal with group means. While it would be convenient to be able to assess the management beliefs of an individual based on these

findings, group-level data never reveal anything about particular individuals. These data must be taken in that context. They can be used to help managers think about management strategies that may work for a diverse staff, but never to draw conclusions about individuals.

Conclusions and Suggestions for Future Research

Overall

Fully 95% (21 of 22) group means investigated in testing Hypotheses 1 through 7 followed the order predicted. Moreover, for each of the seven independent variables, the differences reached high levels of significance ($p < .001$). This provides strong support for the theory developed in chapter 2: Differences in beliefs about directiveness do appear to be linked to various aspects of life history in the directions predicted.

While the subgroups differed as predicted and differed significantly at the extremes, differences between some subgroups did not reach significant levels. For example, as predicted by Hypothesis 5, level of education was negatively associated with directiveness: Those with high-school educations were more directive than those with college degrees, who were more directive than those with master's degrees, who were more directive than those with doctorates. While those with high-school educations differed significantly from all other groups, however, the other three groups did not differ significantly from each other. This implies that for those with more than a high-school education, the negative association according to education level could have arisen by chance.

Across all seven independent variables, the means fell in the predicted order for all but one subgroup. It seems unlikely that such systematic differences would arise by chance. Instead, it seems more plausible that the lack of significance in the differences between some subgroups arose from technical limitations to the study. Two possible limitations would be the small group sizes for some subgroups, or inadequate sensitivity in the survey instrument. Nonetheless, it is possible that those subgroups for which the observed differences did not reach statistical significance did not, in fact, differ systematically from each other. Further study with more balanced sample sizes and/or a more sensitive measurement instrument could help resolve this question.

Age

As predicted by Hypothesis 1, older respondents tended to be more directive than younger staff ($p < .001$). Significant differences appeared only between GenX and the other age groups, however; the two older age groups, though their means were ordered as predicted, did not differ significantly from each other. In most cases, differences between GenX and older staff remained significant after controlling for other independent variables. This was not true for the college or master's levels of education, nor for those at the professional staff level of the hierarchy, for which significance disappeared.

Two types of future research could prove fruitful with regard to age. First, it is not clear whether the lack of significance in the differences between Boomers and Silents in this study reflects a true lack of difference, or inadequate measuring power, due either to sample size or the quality of the survey instrument. Further investigation

could help resolve this question. Second, Silents comprise a soon-to-retire segment of the workforce. The sample of respondents available for this study did not permit investigation of “Millennials” – the incoming cohort of post-GenX workers, born after the early 1980s (Smola & Sutton, 2002). Future studies that focus on Millennials could prove to be of greater benefit to managers charged with supervising this incoming generation of workers than would additional work investigating Silents.

Sex

As predicted by Hypothesis 2, men tended to be more directive than women ($p < .001$). This remained true after controlling for each of the other independent variables. At the same time, some independent variables, in particular nationality, education field, and hierarchical level, proved to be sensitive to gender. Historically, much research has been dominated by work with male subjects (Gormly, 1997). This study's results emphasize the importance of including women in future studies of diversity, and remaining alert to the possibility that gender differences may exist.

Nationality

As predicted by Hypothesis 3, Anglos and Germanics were less directive than Japanese and Latins. The Japanese subgroup was significantly different from all other groups ($p < .001$). Differences among the remaining groups did not reach significant levels, although the means for Anglos, Germanics and Latins all fell in the predicted order. The one subgroup in this study that did not conform with the predictions about mean scores was Nordics, who were far more directive than predicted.

Because the design was highly unbalanced, a separate analysis was conducted to determine whether improved analytic power from similar sample sizes would reveal significant differences between Anglos and Latins. The difference did emerge as significant with this treatment ($p < .05$).

Due to small sample sizes for some nationality groups, only the Latin and Anglo subgroups were included in the analyses conducted to control for other variables. The Anglo-Latin differences that emerged for the full sample did not generally appear when other factors were controlled for. The one notable exception was that for men, the differences were even stronger than for the sample as a whole.

This study's results suggest two avenues for future research regarding nationality. First, further investigation into the unexpected results obtained for Nordics could help determine whether the results of this study were anomalous, or indicative of underlying differences as yet unexplained. Because differences between Nordics, Latins, Anglos, and Germanics did not reach significant levels, it is possible that the highly directive Nordic score arose purely by chance. However, because the other 21 means assessed in this study did behave as expected, and because the Nordic mean deviated substantially from the position predicted, this is an important unanswered question.

Second, the fact that Anglo-Latin differences did not appear after controlling for most of the variables indicates a need to focus on controlling for other variables in future investigations of nationality – a point also raised by Hofstede (1980a, 1997). It may be that although there are nationality-based differences in the workplace values identified by Hofstede, these do not consistently translate into different beliefs about the

appropriate degree of directiveness in the managerial relationship. This seems somewhat surprising, given the major role that Hofstede's dimensions played in the development of the directiveness continuum. It is possible, however, that his value dimensions cannot be examined concurrently in the way attempted here.

Education Field

As predicted by Hypothesis 4, those educated in hard life and nonlife fields tended to be significantly more directive than those educated in soft life fields ($p < .001$). Controlling for other variables caused some of these differences to disappear, but this must be considered in light of the fact that there was a relatively small number of observations in some cells. Among some groups, differences in educational field remained significant – notably among GenX, women, college graduates, and support staff.

Existing research investigating the connections between educational field and beliefs about management is scant. For this reason, the hypotheses proposed for this study had to be made at an extremely general level (soft life vs. nonlife and hard life). The differences confirmed by this study, however, suggest the potential value of further exploratory research considering differences in education field at a more detailed level.

Level of Education

As predicted by Hypothesis 5, those with lower levels of education tended to be significantly more directive than those with higher levels of education ($p < .001$). The high-school educated subgroup was significantly different from all other groups.

Differences among the remaining groups did not reach significant levels, although the means were ordered as predicted. These results were highly robust after controlling for other independent variables. The only subgroup for which the mean order varied from that predicted by Hypothesis 5 was Anglos.

It is not clear whether the lack of significance in the differences between those subgroups with more than a high-school education reflects a true lack of difference, or inadequate measuring power, due either to sample size or the quality of the survey instrument. This, combined with the finding that the relationship between life history and beliefs about directiveness were stronger with regard to level of education than with regard to any of the other independent variables, suggests that level of education is an area ripe for future research. Special attention should be given, however, to the effects that nationality may have on such differences, since Anglos may differ from other nationality groups in this regard.

Functional Area

As predicted by Hypothesis 6, nonprofessionals tended to be significantly more directive than professionals ($p < .001$). The differences became nonsignificant after controlling for many other variables, although the means generally remained in the order predicted.

Because of the nature of the data available, the system used to classify respondents according to functional area for this study was not ideal. The professional/nonprofessional split is a fairly rough measure of functional area; had analysis been possible looking at more narrowly defined functional areas, the results would have been

more satisfying. Nonetheless, the results of this study, even with rather grossly defined functional areas, suggest that functional area may be a fruitful avenue for additional research. Since there are systematic differences between professionals and nonprofessionals, future studies that are able to differentiate more finely across functional areas could add welcome depth to this little-investigated area.

Hierarchical Level

As predicted by Hypothesis 7, those at lower hierarchical levels tended to be significantly more directive than those at higher levels of the hierarchy ($p < .001$). Significant differences were evident between service staff and the other groups; the means of the other three groups were ordered as predicted but did not differ significantly. Because of the small size of the service staff group, further investigation controlling for the other independent variables was not possible.

It is not clear whether the presence of significant differences only for those at the very lowest levels of the hierarchy reflects a true lack of difference among support staff, professional staff, and managers, or whether inadequate measuring power, due either to sample size or the quality of the survey instrument could be preventing the identification of true underlying differences. Future research could contribute to our understanding of the importance of hierarchical level in beliefs about management by obtaining more balanced samples of higher and lower level staff and making more detailed comparisons among the higher levels of the hierarchy.

Relative Magnitude of Effects

Hypothesis 8 proposed that fixed, self-selected, and organizational sources of influence would differ systematically with regard to the extent of the correlation between the independent variable and the degree of directiveness. This hypothesis was not supported. The relative magnitude of the effect sizes, whether measured according to a common scale or according to their own individual scales, bore no relation to the predicted order.

It was unclear why the hypothesis was not supported. One obvious possibility is that this aspect of the theory developed in chapter 2 was wrong. Alternatively, it may have been that the common scale was a poor metric for this purpose. Hofstede (1980a) pointed out that different scales may be needed in order to distinguish between different types of demographic groups. While this study sought a common scale to allow a comparison of the strength of the effects of various background characteristics, it may be that it is not feasible to make such a comparison.

Future research could usefully investigate this issue further by revisiting the theoretical basis of Hypothesis 8. If the theory appears sound, then further attempts to compare the magnitude of the effects using other measurement tools and analytic procedures should be considered.

Effect Size

The absolute size of the effects found in this study was small – only 1% to 4% of the differences in scores on the common scale appeared to be associated with level of education, nationality, hierarchical level, educational field, and functional area.

Nonetheless, this magnitude of difference was in line with the effect sizes that have been found for nationality-based studies (Hofstede, 1980a).

An important question that was not addressed by this study is what the practical implication of such small differences may be. A great deal of research has been generated by Hofstede's work, even though nationality only accounted for about 4% of the variation he observed (Hofstede, 1980a). Although it is true that this is a far larger percentage than one would expect based purely on chance, it is not necessarily obvious that the variation is large enough to make a practical, rather than merely a statistical, difference. Research to investigate how the differences play out in the workplace would give important information about the real-world importance of the statistical differences identified here, and in other studies.

Furthermore, according to the results of this study, several characteristics may be as important, or even more important, than nationality in explaining differences in beliefs about what constitutes good management, at least with regard to directiveness. Nationality-based differences have received a great deal of attention. Yet level of education proved to have half again as much association with the common scale as nationality, and hierarchical level and educational field had essentially the same amount of association. This suggests that if associations of this magnitude are, indeed, considered relevant from a practical point of view, these other areas may deserve much more attention on future research agendas than they have received to date.

Directiveness

In chapter 2, a single aspect of the managerial relationship – directiveness – was articulated in order to evaluate differences across a variety of different subgroups. It had been hoped that a single directiveness scale would emerge for all seven independent variables. This did not occur. Items did not group together consistently through ecological-level factor analyses. Ultimately, a common scale was identified, but it was reliable for only six of the independent variables, and consisted of only three items.

This study was designed primarily to determine whether subgroups differed in the direction anticipated with regard to the strongest scale that could be derived from a pool of directiveness-related items. This approach proved useful for the purposes of this study; the predictions made for each independent variable on the basis of the analysis of directiveness were almost entirely supported. Moreover, the differences between the extreme groups for each independent variable differed to highly significant degrees.

Despite this degree of predictive success, however, the concept of directiveness itself does not yet seem to be a stable one. The specific items that mark differences between groups were not consistent across independent variables. This is not a complete surprise, since others (e.g., Hofstede, 1980a) have indicated that group-level differences may need to be distinguished by different features, depending on the characteristic being investigated. What is surprising is that despite these clear differences at the level of the individual items, the predictions made in Hypotheses 1 through 7 were nearly 100% accurate. Thus, there appears to be some kernel of truth in the concept of directiveness.

Further investigation will be required in order to identify that underlying feature more clearly.

Implications for Practitioners

If knowledge about systematic differences in beliefs about what constitutes good management cannot be applied at the individual level, practitioners might well wonder why the information generated by the study has value. This section addresses that concern, and provides suggestions about the ways in which information about ecological level differences can be applied in the workplace.

An Analogy

An analogy to the physical world illustrates how an understanding of group means can prove useful to managers. Although some women are quite large and some men are quite small, on average, men are larger than women. In an all-female workplace, a stockroom manager responsible for providing uniforms would select a range of uniforms suited to the sizes of the women. Replacement of half the staff with men, however, would require a significant alteration of the uniform stocking plan. The distribution of sizes that suited an all-female work force would, overall, be too small for a mixed-gender staff.

Diversity works the same way in the less tangible world of beliefs about what constitutes good management. Even in a relatively homogeneous organization, staff hold a range of beliefs, just as the all-female staff would require a range of uniform sizes. In a more diverse organization, however, the range of beliefs is likely to be even broader. If

the stockroom manager is given advance warning that the staff is to become half male, plans can be made, based on mean differences between men and women, to order uniforms appropriate to larger staff. Understanding more about the kinds of beliefs about management held by diverse groups can serve the same function. Managers who know about differences, on average, between the groups represented among their staff, can use that information to plan ways to accommodate those varied beliefs.

Moreover, such attention to diversity can have unexpected benefits. Large women, who may have had to squeeze into the largest uniforms that were stocked for a female workforce, may be more comfortable in the “men’s” larger sizes. Small men may benefit from the presence of small uniforms that were, perhaps, intended for women’s use. Similarly, paying attention to the varied beliefs about management that may be present in a diverse workforce is likely to benefit a range of staff, since individuals who do not share particular subgroups’ characteristics may still share some of their beliefs.

At some point the analogy to the physical world breaks down. People can be measured and fit with uniforms, while it is not always evident how to measure and fit their beliefs. Nonetheless, the lesson of the importance of understanding and accounting for different group means in the physical world helps illustrate how understanding group means can add value in the less tangible world of beliefs.

An Application

This section discusses some ways that practitioners can use the results of this study. In each case, it moves from the abstract to the specific by demonstrating how those ideas can be applied to the case presented at the beginning of chapter 1. The

italicized sections below focus on Marie's efforts to help George, an excellent manager in the view of some staff, and a terrible one according to others, find ways to better meet the management needs of his diverse staff.

Raise Awareness

As the discussion of Adler's (1997) views about stereotypes at the beginning of this chapter pointed out, people are often unwilling to trust their stereotypes and to make use of them. Demonstrating, as this study does, that differences do exist on average, makes clear that stereotypes can be based in reality. When treated appropriately, sociotypes (accurate stereotypes) can have a place in our approach to understanding people and situations.

Marie's first step might be to make George aware of the importance of recognizing diversity among his staff. She could use this study's results to show George why he should expect to see different beliefs about the best way to manage among his diverse staff.

Legitimate Diverse Views

Strong views about the right way to manage can lead managers to either discount the views of their staff as unimportant or uninformed, or to label those beliefs as wrong. This study's findings demonstrate the connections between background and beliefs. Conveying the idea that those from diverse cultures may differ in fundamental ways, without any right or wrong attached to their beliefs, can help lend a sense of legitimacy to staff beliefs that may differ from the manager's.

George is certainly aware that Rebecca and Jean-Luc have different backgrounds. Extending this awareness to how cultures differ, on average, in their beliefs about management could help George see that Jean-Luc's views about how one ought to be managed are not necessarily wrong – just different from those that he and Rebecca happen to share.

Identify Biases

It can be hard to become aware of one's own biases in a vacuum. The data from this study provide a baseline that can be used to help accurately identify one's own biases. Self-perceptions can be compared with group means. Whether the means fit or not, the comparison can help provide clarity about the individual's own beliefs.

Once it is clear to George that legitimate differences can exist, Marie will be in a position to help him assess his own biases. George could begin by comparing his own beliefs with the mean scores for the subgroups to which he belongs. An analysis of whether he fits neatly into those groups or whether he differs can serve as a tool for triggering insights about himself. Once he knows his own tendencies, he will be in a better position to assess his relationships with others.

Adler (1997) argued that everyone stereotypes, whether at a conscious or an unconscious level. This implies that managers' actions are viewed through the lens of the stereotypes held by those around them. An awareness of the likely stereotypes held by others can allow managers to clarify their actions and motives in ways that can help others understand them more accurately. This study provides data that can help clarify the perspectives that others are likely to bring to their assessment of our behaviors, and thus their likely perceptions of our actions.

By educating George about various subgroup means, Marie can help him see what others may expect of him, based on their stereotypes. She can also help him identify the kinds of biases they may have, and thus the

kinds of lenses through which they may judge his behavior. This information can help him see whether such assumptions may be coloring his relationships, and to pinpoint areas where clarification may be needed.

Gain Insights

Resistance to using stereotypes has some logic. It does seem reasonable to wonder why it should be necessary to think about groups at all – why one cannot simply look at individuals. Adler's (1997) response is that while blindly applying stereotypes to individuals is wrong, benefiting from the insights such stereotypes may provide can be helpful. Stereotypes can give us context, clues about differences to look for. The data generated by this study offer a tool to use in refining our stereotypes to more accurately reflect group norms.

George has certainly been aware that his management relationship with Jean-Luc has not been going well. He is now prepared to think about those problems more effectively. First, with his new understanding about the legitimacy of different beliefs about management, he will not dismiss Jean-Luc's beliefs as wrong. Second, he can keep his insights about his own biases in mind. Finally, George can use the data generated by this study to give him context. In Jean-Luc's case, the stereotypes that can be generated based on the study's results will fit reality quite closely. While this will not always be the case, in this situation, the clues offered by considering stereotypes should give George highly accurate insights into the areas of difference that he should be considering in his efforts to work more effectively with Jean-Luc.

Combine Methods

One question that a practitioner might raise is whether options such as asking individuals about their beliefs or observing how individuals behave might generate equally good or better information than relying on stereotypes. Both asking and

observing can have their place in one's efforts to work effectively with others, but they have their limitations. Asking can only be effective with individuals who are both insightful about their own beliefs and willing to discuss them openly. Observing can only be effective if the belief in question lends itself to observation, and if the observer is able to assess the situation clearly, without being unduly influenced by his or her own biases and stereotypes. The information provided by this study can help individuals become more insightful about their beliefs, and can help observers understand their own biases well enough to assess their observations more clearly. Thus, the value of asking and observing can be enhanced when stereotypes, reinforced by empirical observation, are used to help identify possible areas of difference.

Marie may advise George to discuss ideas about the best way to manage with his staff, or to observe more closely what strategies seem to be effective for Jean-Luc. He will be able to do this more effectively at this point in the process, after having assessed his own biases, and considered the biases likely to be held by someone with characteristics such as Jean-Luc's.

Develop Tactics

Once differences are identified and understood, the manager must determine how to deal with the differences effectively. While many permutations are possible, three basic options are available: the manager adapts to the needs of the staff; the staff adapt to the manager's preferred approach; or staff and manager make mutual accommodations.

Manager adapts. One possible tactic would be for the manager to try to accommodate the preferences of various staff by adapting management techniques to suit their preferences.

In this case, George might decide to make changes in his own approach that would satisfy Jean-Luc's desire for more directive management. This could work if George can adjust his own behavior in the ways that will be necessary to satisfy Jean-Luc, and can do so without having a negative impact on others in the group – for example, without impinging on Rebecca's ability to flourish in a nondirective environment.

Staff adapt. Managers may find it necessary or preferable ask their staff members to do the adapting for a wide variety of reasons. A manager may be unable or unwilling to adapt to a staff member's preferences. The change desired by the staff member might adversely affect others in the group. The manager might believe that consistent approaches to management across all staff are important. Or, the manager might simply find that it is the subordinate's role to do the adjusting. Whatever the reason, staff members will be better able to adjust if they understand the sources of difference.

With this discussion as background, George would be in a position to help Jean-Luc understand that he intends to provide a less directive form of management than Jean-Luc might prefer, and that Jean-Luc needs to develop strategies for accommodating that approach. Understanding those expectations could help Jean-Luc to adapt to George's management style. He might not like it or agree with it, but he would be in a position to work with it more effectively.

Mutual accommodation. Existing research suggests that beliefs such as those examined in this study are deeply held and not readily alterable (e.g., Hofstede, 1980a).

Thus, it is likely that one will be more effective in enhancing management relationships if the goal is not to eradicate differences, but to accommodate them.

George might decide that mutual accommodation makes the most sense. For example, George could acknowledge that Jean-Luc has legitimate reasons to want clearer direction about products and final deadlines, while Jean-Luc could agree that, while he is not comfortable doing so, he will take the initiative to contact George when support is needed, and to develop his own interim time lines.

Educate All Staff

This discussion has focused on how understanding cultural differences can help managers do their jobs better. In fact, the information provided here can be used much more broadly. It can be useful for all staff, not just managers, to understand differences. It can allow staff to better appreciate what their managers are attempting to do when they manage in particular ways. It can also help them adapt their behaviors to match those expectations more effectively. Moreover, relationships between peers are also affected by beliefs about the “right” way to do things. A wider understanding about the nature and sources of such differences can help improve inter-staff relations at all levels of the organization, not just between managers and staff.

George’s discussions with Jean-Luc are likely to be more effective if both George and Jean-Luc understand the sources of their differences and can contribute to developing solutions. Moreover, if Jean-Luc and Rebecca have to work together, it might be beneficial for them to go through some of the same exercises that Marie has done with George – identifying their own biases, considering the legitimacy of the beliefs of others, thinking about the kinds of beliefs likely to be held by those from different backgrounds. An explicit conversation about their different assumptions about what constitutes good management might not lead to agreement,

but might help everyone understand the kinds of accommodations that may be required in order for the group to work more smoothly together.

Acknowledge Diversity

It is possible to discuss differences in beliefs about management without ever referring to cultural diversity. The focus could, theoretically, remain at the level of individual preferences. People are widely aware of some cultural differences, however. Issues such as sex differences, nationality differences, or, in the United States, race differences, are likely to play a role in such a conversation, whether through explicit discussion or unspoken thoughts. Those engaging in the discussion must decide whether to make diversity an explicit part of the conversation.

In the scenario set out here, Rebecca embodies the characteristics that lead one toward the nondirective end of the continuum, while Jean-Luc embodies those that lean to the directive end of the continuum. If the work group were to enter into a discussion of their expectations about management, George could choose to raise the issue of cultural differences. Alternatively, he could simply focus on the specific beliefs under discussion. In either case, his job should be to help broaden everyone's patterns of thought, and to consider the group's diversity of beliefs in determining how they will interact.

Reconcile Conflicting Subgroup Norms

Another question that practitioners might legitimately raise is how one can possibly make use of information about seven different subgroup characteristics simultaneously, especially if an individual belongs to some subgroups that tend to be directive and to others that tend to be nondirective. Understanding group tendencies gives a starting place for assessing what approach to management is likely to work best

for an individual. It provides context, language for asking questions, tools for clarifying self-biases. True, one cannot assign percentages to each characteristic and deduce the individual's preferences. One can, however, remember to consider the various ways that the individual might prefer to be managed, and think consciously about how to deal with those preferences. Since some characteristics appear to have somewhat stronger correlations with beliefs about management than the others, one might begin by considering those first. But the research conducted here indicates that significant differences exist for all of the subgroups analyzed, indicating that consideration should be given to all of them broadly.

For Jean-Luc and Rebecca, George can make use of stereotypes easily, since both have characteristics that would place them consistently at one end or the other of the directiveness continuum. For other staff, however, George's job will be more complicated. Marie can help George by reminding him that he can use group norms as a starting point for his analysis, but not as his conclusion.

Harness Diversity

The foregoing discussion has focused largely on how to manage diversity in order to avoid conflict and improve relationships. It is important to acknowledge that with creative thinking, it may be that such differences can be not only managed but effectively harnessed. People who prefer different approaches to management may offer different strengths and perspectives. Consciously cultivating those differences may offer a way to add value to the organization.

George's immediate goal may be to smooth out his working relationship with Jean-Luc. However, given that Rebecca and Jean-Luc bring such

different perspectives to their jobs, George has the opportunity to put their differences to work. For example, if an upcoming task is to organize a conference, he might make Jean-Luc, with his attention to protocol, deadlines, and details, responsible for logistics. Rebecca, with her love of working independently and creatively and her easy way of initiating contacts with people at all levels of the hierarchy, could be made responsible for developing the substantive agenda, finding speakers, and structuring activities. Assigning tasks that suit their preferred ways of working will help both excel.

The Challenge of Inclusiveness

The notion of addressing diversity in the workplace is not a new one, either in an American or an international context. Diversity is often viewed rather narrowly, however. In international settings, nationality is a dominant issue, accompanied in some cases by awareness of sex or age differences. In American settings, race may be the first aspect of diversity that comes to mind, followed by sex, and perhaps age. Characteristics such as education field, level of education, hierarchical level, or functional area are unlikely to be included in many people's initial definitions of diversity.

This study has identified systematic differences in beliefs about directiveness that are associated with seven aspects of life history. The fact that significant differences were identified in all of the areas examined suggests the need to think more broadly about what constitutes diversity. People may have an intuitive – and accurate – sense of how people with certain background characteristics tend to differ. For less well-understood characteristics, however, the data from this study provide evidence that can help people think more broadly about the diversity around them.

The analysis conducted here has demonstrated the importance of considering a wide range of characteristics when thinking about ways to address diversity in staff's

management needs. The data make clear that differences do exist across subgroups. The practitioner's challenge is to find ways to apply an understanding of those differences. A successful approach will result in a more inclusive work environment – one that elicits the best from a diverse staff by accounting for differences in beliefs about the appropriate degree of directiveness in the management relationship.

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APPENDIX A: ABOUT THE AUTHOR

Information about the author's background is provided here in order to allow readers to assess for themselves the kinds of biases that may have been brought to this research.

The author is a 42-year old American female. Her experiences with other cultures and languages include living as an exchange student for one year in German-speaking Switzerland; working as a Peace Corps volunteer for two years in Mali, where she spoke Bambara and French; and four years living in France, where this research was conducted. She is completing her doctorate in the field of Applied Management and Decision Sciences, and holds a bachelor's degree in Philosophy and a master's degree in Public Policy.

In her professional life, the author has been involved primarily in the field of affordable housing. Her specific engagements have included research, policy analysis and development, training development and delivery, and technical writing. She has also developed and delivered management training, and has herself served as a manager.

With regard to the directiveness continuum, she tends to hold relatively nondirective beliefs. She has particularly strong beliefs about the value of coaching and feedback, with more moderate beliefs about decision-making, assigning work, and setting objectives.

APPENDIX B: SURVEY INSTRUMENT

This appendix presents the basic content of the survey instrument, in English, as it was designed for paper-and-pencil administration. The presentation format was changed somewhat when the instrument was converted to an electronic design. Some questions were also edited here to allow XYZ to remain anonymous. Only those questions dealing with what respondents considered to be the ideal management situation were analyzed for this study. The remaining substantive questions were asked for internal XYZ use.

MANAGEMENT SURVEY AT XYZ

Since everyone at XYZ is managed, each of us has a stake in the quality of management in the Organization. Over the past few years, HR has been involved in ongoing efforts to help staff improve their people-management skills. These efforts have begun to pay off, but there are other ways for HR to help managers do their jobs even more effectively. This survey is being sent to all staff, in an effort to give everyone the opportunity to influence the efforts that will be undertaken to continue improving management at XYZ in the future.

SOME OF THE SURVEY QUESTIONS ASK YOU TO CONCENTRATE ON WHAT YOU CONSIDER TO BE THE IDEAL MANAGEMENT SITUATION. Please answer by indicating the extent to which you agree or disagree with the statements presented. These questions are not meant to find out how you are managed on a daily basis, or how you manage your team if you are yourself a manager. Instead, you should answer based on the kind of management that suits you best.

OTHER QUESTIONS ASK YOU TO CONCENTRATE ON YOUR PRESENT WORK SITUATION. The aim of these questions is to determine how well the way you are actually managed fits with the kind of management you believe works best for you. The scale for these questions runs from “Much Too Little” to “Much too Much.” Scores at either end of the scale indicate extreme dissatisfaction with the way in which you are managed. If your situation suits you exactly, you should give it the middle score: “Just Right.”

Since these questions involve your opinions and preferences, there are no right or wrong answers. If your reaction to a question is “it depends,” please respond based on the kind of situation in which you find yourself most frequently in your current job. The last few questions in the survey request information concerning your background. This information will help us understand how people’s ideas about management may vary depending on their backgrounds and work situations.

The questionnaire is simple and takes about 15 minutes to complete. Your participation is, of course, voluntary. Your answers will be sent to an outside consultant, who will analyse the data for HR. The results will be made available to help everyone appreciate the range of management-related ideas held by the staff. Your responses will be kept strictly confidential.

If you have any questions about using the electronic survey form, please contact [contact name]. If you have questions concerning the survey content, please send an e-mail to [e-mail address].

A. Work Atmosphere. People do not all have the same idea of what the best work environment is. The first set of questions asks for your ideas about workplace atmosphere.

For these questions, please focus on your ideas about the ideal work atmosphere for you.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
1. I like to work in a competitive environment.	1	2	3	4	5	6	7
2. I need to be in a cooperative workplace atmosphere in order to do my best work.	1	2	3	4	5	6	7
3. I am either motivated or I am not; there is not much a manager can do to change that.	1	2	3	4	5	6	7
4. My manager needs to find ways to help me get excited about my work if I am to perform my best.	1	2	3	4	5	6	7
5. Managers should tailor the way they communicate to suit the communication styles of individual staff members.	1	2	3	4	5	6	7
6. I am most productive in situations where a clear hierarchical structure is strictly followed.	1	2	3	4	5	6	7
7. Managers should distance themselves a little from their staff if they hope to keep the respect of their team.	1	2	3	4	5	6	7
8. The manager should do everything possible to make sure that when staff disagree with the manager, or with other staff members, those differences are discussed openly.	1	2	3	4	5	6	7
Now, please think about your current situation.	Much Too Little	Too Little	Slightly too Little	Just Right	Slightly too Much	Too Much	Much Too Much
9. The degree of hierarchical structure in my work environment is...	1	2	3	4	5	6	7
10. The degree to which staff in my work group openly express disagreement is...	1	2	3	4	5	6	7
11. The efforts made to help me feel motivated are...	1	2	3	4	5	6	7
12. The degree of cooperation among the colleagues I work with is...	1	2	3	4	5	6	7
13. The degree of competition among the colleagues I work with is...	1	2	3	4	5	6	7

B. Assigning Work. The next set of questions has to do with how you think tasks should be assigned, given the work that must be done.

For these questions, please focus on your ideas about how work would be assigned in an ideal workplace.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
14. The decisive criterion when assigning a task should be: "who can do the work most effectively?" A manager cannot allow him or herself to attach too much importance to the personal preferences of members of the team.	1	2	3	4	5	6	7
15. An ideal manager would push me to develop my skills – even when time constraints already make it difficult to accomplish the items in our work plan.	1	2	3	4	5	6	7
16. I can only be happy in a job if I am continually faced with new challenges.	1	2	3	4	5	6	7
Now, please think about your current situation.	Much Too Little	Too Little	Slightly too Little	Just Right	Slightly too Much	Too Much	Much Too Much
17. Given the constraints of the work we need to accomplish, the extent to which my interests appear to be taken into account when work is assigned is..	1	2	3	4	5	6	7
18. The degree of challenge I get in my work is....	1	2	3	4	5	6	7
19. The efforts made to enable me to develop my skills are...	1	2	3	4	5	6	7

C. Decision-making. This set of questions asks for your views about the best way to make decisions.

First, please focus on your ideas about how decisions would be made in an ideal situation.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
20. Staff should be consulted about virtually all management-related decisions.	1	2	3	4	5	6	7
21. I have less respect for managers who ask their staff for advice before making decisions.	1	2	3	4	5	6	7
22. The Organization's rules should not be broken – even if the staff member thinks it is in the Organization's best interest.	1	2	3	4	5	6	7
23. I generally prefer a quick decision from my manager to a group decision-making process.	1	2	3	4	5	6	7
24. I work better when my manager explains clearly what needs to be accomplished, but gives me complete flexibility about how to go about it.	1	2	3	4	5	6	7
Now, please think about your current situation.	Much Too Little	Too Little	Slightly too Little	Just Right	Slightly too Much	Too Much	Much Too Much
25. The extent to which I have authority for making decisions about my day-to-day work is	1	2	3	4	5	6	7
26. The extent to which I am included in decision-making processes for my part of the Organization is	1	2	3	4	5	6	7
27. The amount of guidance my manager provides about how to accomplish my tasks is....	1	2	3	4	5	6	7

D. Coaching and Feedback. People have different ideas about how much time a manager should spend coaching staff and providing feedback. By “coaching” we mean using actual work situations to help people see for themselves how to improve their performance. By “feedback” we mean concrete information about how an individual’s performance should be maintained or improved.

For these questions, please focus on your ideas about “coaching” and “feedback” under the direction of an ideal manager.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
28. There are limits to coaching; sometimes the manager simply has to go ahead and rectify the work.	1	2	3	4	5	6	7
29. Once a performance problem has been identified and the manager has given clear guidance about what needs to be changed, it is up to the staff member to determine how to make the needed improvements.	1	2	3	4	5	6	7
30. Managers should express their appreciation for good work, but should not spend time giving detailed feedback to staff who are obviously doing a good job.	1	2	3	4	5	6	7
31. I am the sort of person who always welcomes more feedback on how to improve my performance.	1	2	3	4	5	6	7
32. Once my manager has explained the task clearly, I generally prefer to do my work without any coaching.	1	2	3	4	5	6	7
33. If a staff member is not performing well, it means the manager is not performing well either.	1	2	3	4	5	6	7
Now, please think about your current situation.	Much Too Little	Too Little	Slightly too Little	Just Right	Slightly too Much	Too Much	Much Too Much
34. The amount of coaching I receive is....	1	2	3	4	5	6	7
35. The amount of feedback I get about the aspects of my work that need improvement is ...	1	2	3	4	5	6	7
36. The amount of feedback I get about the aspects of my work that are very strong is ...	1	2	3	4	5	6	7

E. Establishing a Direction. Setting objectives and determining how to meet clients' needs are also important parts of a manager's job. Who your "clients" are will depend on the nature of your work, but might include committee members, or other staff members within the Organization.

For these questions, please focus on your ideas about working in an ideal situation.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
37. I can do my own work better when I understand the objectives for my part of the Organization clearly.	1	2	3	4	5	6	7
38. My performance objectives should be set by my manager, who knows what my contribution has to be for the team to achieve its objectives.	1	2	3	4	5	6	7
39. I feel uncomfortable if I must establish my performance objectives on my own.	1	2	3	4	5	6	7
40. It would be very useful if I could meet with my manager several times a year to discuss my progress towards achieving my objectives.	1	2	3	4	5	6	7
41. I don't need to know much about my clients and their interests, as long as my manager gives me clear instructions concerning my work.	1	2	3	4	5	6	7
Now, please think about your current situation.	Much Too Little	Too Little	Slightly too Little	Just Right	Slightly too Much	Too Much	Much Too Much
42. The amount of information I get about my team's objectives is...	1	2	3	4	5	6	7
43. The amount of information I get about what my performance objectives should consist of is...	1	2	3	4	5	6	7
44. The amount of information I get about what our clients want is...	1	2	3	4	5	6	7

F. General Questions. This section asks a few general questions about your overall view of management.

For these questions, please focus on your ideas about an ideal manager.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
45. To be a successful manager, it is essential to have very strong technical skills.	1	2	3	4	5	6	7
46. To be a successful manager, it is essential to have very strong people-management skills.	1	2	3	4	5	6	7
47. If I had to choose between a manager who excelled either at people-management skills or at technical skills, I would choose the one with strong technical skills.	1	2	3	4	5	6	7
Now, please focus on your current situation.	Strongly Disagree	Moderately Disagree	Mildly Disagree	Agree/Disagree Equally	Mildly Agree	Moderately Agree	Strongly Agree
48. The people I work for have excellent technical skills.	1	2	3	4	5	6	7
49. The people I work for have excellent people-management skills.	1	2	3	4	5	6	7

50. Overall how satisfied are you with the way you are managed?

1	2	3	4	5	6	7
Strongly Dissatisfied	Moderately Dissatisfied	Mildly Dissatisfied	Equally Satisfied and Dissatisfied	Mildly Satisfied	Moderately Satisfied	Strongly Satisfied

51. If you could change one thing about the way you are managed, what would it be?
(Please write your answer in your own words.)

DEMOGRAPHIC INFORMATION

The following information will help us understand more about the backgrounds of the people who have responded to this survey. We realize that in some cases, it may be possible to identify particular individuals based on the information requested here. To avoid any possible breach of confidentiality, data will be aggregated to a level at which identification of individuals will be impossible.

52. What division do you work for? _____
53. What is your grade? _____
54. How many performance reviews are you responsible for completing?
- No reviews
 - 1-2 reviews
 - 3-5 reviews
 - 6-10 reviews
 - 11 or more reviews
55. To what XYZ job family do you belong? *(In some cases, several families are relevant. If your work falls into this category, please indicate all the relevant job families.)* _____
56. How long have you worked at XYZ? *(If you have had more than one contract or have worked at XYZ on several different occasions, please indicate the total amount of time you have worked for XYZ.)*
- Less than 1 year
 - 1-2 years
 - 3-5 years
 - 6-10 years
 - 11-20 years
 - 21 years or more
57. How long have you been doing your current job?
- Less than 1 year
 - 1-2 years
 - 3-5 years
 - 6-10 years
 - 11 years or more

58. How long have you worked for your current manager?
- Less than 3 months
 - 3 months to 1 year
 - 1-2 years
 - 3-5 years
 - 6 years or more
59. What is the highest degree you have earned? *(If the precise name of your degree does not appear, please check the box that most closely approximates the schooling you have completed.)*
- Trade school or apprenticeship / CAP, BEP, CES
 - High school degree / Baccalaureate
 - 2-year Associate's Degree / BTS, DUT, DEUG
 - 4-year Bachelor's degree / Matrise, or Degree from a Grand Ecole
 - Master's degree / Mastère
 - Some Doctoral Work
 - Doctorate
 - Other *(please specify)* _____
60. In what country did you earn your highest degree? _____

61. What field did your formal education/degrees focus on? (Please select a single primary field. If you hold degrees in more than one field, please indicate your secondary field(s), in the second column.)

Primary Field (Select ONLY ONE)	Secondary Field(s) (If you hold degrees in only one field, please indicate "None")
<input type="checkbox"/> Economics	<input type="checkbox"/> Economics
<input type="checkbox"/> Public Policy	<input type="checkbox"/> Public Policy
<input type="checkbox"/> Mathematics, Chemistry, Biochemistry, Physics, or Earth Sciences (e.g., geology, hydrology, environmental science)	<input type="checkbox"/> Mathematics, Chemistry, Biochemistry, Physics, or Earth Sciences (e.g., geology, hydrology, environmental science)
<input type="checkbox"/> Biology	<input type="checkbox"/> Biology
<input type="checkbox"/> Medicine	<input type="checkbox"/> Medicine
<input type="checkbox"/> Agriculture/Agronomy	<input type="checkbox"/> Agriculture/Agronomy
<input type="checkbox"/> Statistics	<input type="checkbox"/> Statistics
<input type="checkbox"/> Engineering (e.g., chemical, civil, electronic, mechanical, nuclear)	<input type="checkbox"/> Engineering (e.g., chemical, civil, electronic, mechanical, nuclear)
<input type="checkbox"/> Law	<input type="checkbox"/> Law
<input type="checkbox"/> Social Science (e.g., psychology, sociology, political science, international relations)	<input type="checkbox"/> Social Science (e.g., psychology, sociology, political science, international relations)
<input type="checkbox"/> Education (e.g., training, teaching)	<input type="checkbox"/> Education (e.g., training, teaching)
<input type="checkbox"/> Humanities (e.g., history, literature, philosophy, languages)	<input type="checkbox"/> Humanities (e.g., history, literature, philosophy, languages)
<input type="checkbox"/> Interpreting/ translation	<input type="checkbox"/> Interpreting/ translation
<input type="checkbox"/> Budget/ Finance/Accounting	<input type="checkbox"/> Budget/ Finance/Accounting
<input type="checkbox"/> Business	<input type="checkbox"/> Business
<input type="checkbox"/> Management	<input type="checkbox"/> Management
<input type="checkbox"/> Human Resources	<input type="checkbox"/> Human Resources
<input type="checkbox"/> Administrative (e.g., secretarial, bookkeeping, purchasing)	<input type="checkbox"/> Administrative (e.g., secretarial, bookkeeping, purchasing)
<input type="checkbox"/> Communications (e.g., public relations, journalism, editing, publishing, graphic design, marketing)	<input type="checkbox"/> Communications (e.g., public relations, journalism, editing, publishing, graphic design, marketing)
<input type="checkbox"/> Information Technology	<input type="checkbox"/> Information Technology
<input type="checkbox"/> Trades (e.g., plumbing, carpentry, heating and air conditioning, printing)	<input type="checkbox"/> Trades (e.g., plumbing, carpentry, heating and air conditioning, printing)
<input type="checkbox"/> Services (e.g., chauffeuring, catering, security, reception)	<input type="checkbox"/> Services (e.g., chauffeuring, catering, security, reception)
<input type="checkbox"/> Other (please specify) <hr/>	<input type="checkbox"/> Other (please specify) <hr/>
	<input type="checkbox"/> None

62. Nationality

- a. What is your nationality? *(If you hold more than one passport, please indicate each nationality, with the one you consider your 'primary' nationality listed first)*

- b. If you were raised in a different country or had a parent whose national heritage played an extremely important role in your upbringing, please indicate the relevant country (or countries).

63. Are you:

- Male
Female

64. How old are you?

- Under 20
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60 or over

65. If you would like to add any comments, please feel free to do so here:

Thank you for taking the time to complete this survey. Knowing about your management preferences will help us keep improving management at XYZ.

APPENDIX C: PRETEST

Six weeks before sending the survey to all XYZ staff, a pretest was conducted. The researcher, the key XYZ contact for the survey effort, and the XYZ technician responsible for developing the electronic version of the survey and collecting the responses, were all involved in this process. The pretest was intended to serve three functions. The first was to ensure that the electronic survey form worked properly from the respondents' point of view, and provided their responses in a useable format for analysis. The second was to ensure that the questions were evoking responses in the ways the survey designers had anticipated. The third was to investigate the reliability and validity of the instrument and to make needed improvements before sending it to the full organization. Table C1 summarizes the steps taken to help assess the quality of the survey at the pretest stage. The remainder of this appendix describes the results of the pretest.

Survey Administration Issues

The survey was administered using an electronic survey format. XYZ had previously used this electronic approach for a few small surveys with good results. They had found that responses came in quickly, response rates were higher than those experienced with paper and pencil surveys, and respondents reported liking the electronic format. Nonetheless, the electronic approach was still relatively new for XYZ, and the organization had never attempted to administer a survey of this size before. This meant that careful testing was important to ensure that the survey document functioned

Table C1
Pretest Analyses

Survey Administration Issues

Response range and Distribution

Response Distributions

Range of Responses

Missing Responses

Redundancy and Inconsistency

Response Patterns

Response Rate

Response Waves

Representativeness of the Sample

Reliability and Validity of the Instrument

Reliability

Validity

Respondent Concerns

Response Scales

Length

properly, and that the data were properly coded and accurately transferred to a database appropriate for analysis.

Response Range and Distribution

From the perspective of the respondents, the pretest went very smoothly. The introductory message, the survey itself, and the follow-up memo were all sent without difficulty. No one reported any difficulties accessing or sending responses to the survey. No one contacted the support numbers offered in case of questions or difficulties.

Behind the scenes, several programming issues were identified and corrected during the course of the pretest. First, two questions had the wrong response scales. That problem was identified and corrected for the full survey. Second, the data capture

process was reviewed. Several variables were omitted from the first data extraction, and this problem was corrected. In addition, some variable names provided with the raw data were ambiguous. These were confirmed with the programmer to ensure that the data could be interpreted accurately. Finally, the data contained demographic information that, taken together at the level of individual records, could permit identification of individual respondents. Thus, security measures were reviewed carefully to ensure confidentiality.

Response Distributions

Responses to each of the substantive questions were analyzed to determine whether the distributions obtained were acceptable. Three factors were examined with regard to each individual question – the range of responses, the distribution of responses, and the nonresponse rates. In addition, crosstabulations were examined to help identify potential problems with redundancy or inconsistency across questions. Finally, response patterns were examined to see if respondent background seemed to be associated with the decision to participate in the survey. Because the sample was nonrandom – including only staff from the Unit Responsible for the survey (UR) group – the results of these analyses needed to be interpreted with caution. However, they were expected to yield useful results.

Range of Responses

The range of responses for each substantive question was analyzed to determine whether the question was phrased in a way that could distinguish between different

points of view. The decision criterion selected in advance of the pretest was to retain the question as-is if the range was greater than two. In addition, a range of exactly two was to be considered carefully to see if the limited range might be attributable to the nonrandom sample, or if it seemed to indicate a problem with the question.

Of the 30 substantive questions, the ranges for all but one were greater than two, and 26 had ranges of five to six. The question with a range of only two dealt with the degree to which people-skills are important for a manager. Because of the UR division's focus on the importance of people-skills among managers, this narrow distribution was thought to reflect the population bias stemming from the nonrandom sample, rather than necessarily indicating a problem with the question. The review team decided to retain the question as-is, despite the narrow range found in the pretest.

Distribution of Responses

Even if the range of responses was relatively wide, it would still have been possible for the distribution of responses on any question to be highly concentrated. In order to ensure that the questions were evoking a broad distribution of responses, the standard deviation was examined for each question. The decision criterion selected was to retain the question only if the standard deviation was 0.5 or greater. If the standard deviation was close to 0.5, the question was to be considered carefully to determine whether the narrow distribution might be an effect of the nonrandom sample, or if there might be a problem with the question's wording.

Analysis of the pretest results showed that the standard deviations for all of the questions exceeded 0.5. The lowest standard deviation was for the people-skills question, at 0.8. Therefore, no questions were removed on the basis of this criterion.

Missing Responses

“I don’t know” and “no opinion” options were not offered. Thus, any time a respondent was unable or unwilling to answer a question, the only choice was to leave the question blank. It was anticipated that there should be very few questions for which the respondent might choose not to answer, but this needed to be tested. Therefore, the number of missing responses for each question was examined. The decision criterion selected was to retain a question as-is if the nonresponse rate was no greater than 10%. If the rate was greater than 10%, the question would be examined to see whether the problem might arise from the survey lay-out, or if it appeared to be a content-related problem.

Analysis of the pretest data showed that there were no missing responses for any of the substantive questions. However, the demographic data showed more missing responses. Seven of the 13 demographic questions had at least one missing response. Two of the demographic variables (age and education level) were missing four responses – a 10.5% missing response rate.

During discussions about these figures, the key contact indicated that several people had expressed concerns about confidentiality if all demographic data were provided. These concerns were, in some sense, valid ones. It would, in theory, be possible to identify many individuals based on their combined demographic

characteristics. Therefore, numerous steps were taken to ensure that confidentiality would be protected. No one within the organization, with the exception of the computer technician who extracted the data, ever had access to the data. It was passed directly to the researcher, who was not a member of the organization, for analysis. Once the data transfer had taken place, the data were deleted from XYZ's computer system. Moreover, in reports provided to the organization, groups were aggregated to a level where identification of individuals was impossible. Nonetheless, perceptions about a possible confidentiality problem could well have affected people's willingness to provide all of the requested information.

It was clear that, although missing responses were undesirable, it was not possible to conduct the required analyses without requesting these demographic data. Thus, it was impossible to eliminate these questions from the survey. Several steps were taken to help address this problem. The survey text that acknowledged the possibility for identification of individuals, and that indicated a commitment to protecting confidentiality, was strengthened. The cover letter for the survey emphasized the survey team's concern about protecting respondent privacy. The first follow-up letter emphasized this issue again. It was hoped that these reassurances would help enhance respondents' willingness to reveal potentially sensitive information.

Redundancy and Inconsistency

A correlation analysis was conducted in order to help identify any questions that appeared to be redundant or inconsistent. This analysis was not expected to provide any final verdict about the acceptability of the questions. However, the results had the

potential to reveal areas where questions were so highly correlated that including a second question provided little additional information. In addition, if questions were found to correlate in the opposite direction from that expected, it offered the opportunity to reconsider the questions. In particular, it was thought that this kind of backward correlation might indicate that a question's phrasing was unclear or confusing, causing respondents to select the wrong response option.

Spearman's rank correlation coefficient was selected for the correlation analysis because it does not require an assumption that the data are normally distributed (Aczel, 1999). The analysis revealed no redundancy among the questions. There were numerous significant correlations. None approached 1.00, however. In fact, the highest correlation between any two questions was 0.666. Thus, no questions were considered for removal based on redundancy.

Two questions correlated significantly with several other questions in the unexpected direction. Each of these questions was inspected carefully to determine whether respondent interpretations of the questions might be different from that intended by the survey development team. In both cases, the review team discovered reasons that the reverse correlation was likely to be occurring. The questions were revised in an effort to avoid the problem in the final survey.

Response Patterns

The pretest data also allowed an examination of respondent response patterns. Analyses were conducted to consider issues of overall response rates, waves of responses related to the reminder note, and the representativeness of the sample.

Response Rate

The overall response rate was 60% (38 out of 63). This rate is not as high as the review team had hoped, given that the pretest was only distributed to UR staff – a group that presumably had a vested interest in the outcome of the survey. The respondents were aware, however, that the survey was part of a pretest, rather than “the real thing,” which could have dampened enthusiasm for participation. This rate, though it yielded a sufficient number of responses to conduct the analyses required as part of the pretest effort, pointed out the importance of outreach prior to distribution of the survey, and follow-up reminders to increase the number of responses.

Response Waves

The date each survey was received was recorded, allowing analysis of how quickly respondents completed and returned the survey, and what types of patterns might prove significant. The data were received in two waves. Fully 42% of the responses were received on Day 1, with a sharp decline in responses by Days 3 and 4. Another large wave of responses was received following the reminder note – 29% of the responses were received on Day 5. In all, two thirds of the responses were received in the first wave, and the final one third after the reminder notes were sent.

Crosstabulations comparing the demographic characteristics of the two waves suggested that there may have been some differences in response patterns for particular groups. For example, 80% of the Anglo and Nordic responses were received in the first wave, compared with only 57% of the Latin responses. Those with shorter tenure at the organization and those with less education also tended to respond in greater percentages during the first wave. Many of the cells in the demographic crosstabulations were small, indicating a need to interpret the results with caution. However, the fact that there appeared to be some differences in response patterns emphasized the need for rigorous follow-up efforts, in order to ensure adequate participation by groups that tended to respond more slowly.

Representativeness of the Sample

Response rates for various demographic groups was considered in order to determine whether the sample appeared to be representative of the population from which it came. UR records contained basic information about staff demographics. This information was compared with the demographic distributions of those who actually responded to the survey in order to identify any disparities. It was anticipated that this information might be used to help in targeting the outreach efforts for the full survey effort.

A chi-square analysis was used to make the comparisons. Data categories were first combined as necessary to ensure a minimum of five respondents per cell. The distributions for the population were then obtained, and used to assign expected values for the analysis of the pretest data. There was insufficient evidence to indicate that the

two groups had different distributions. This suggested that the respondent group was similar to the overall population in terms of the demographic characteristics under consideration, and indicated that there was no need for targeted outreach in order to reach particular demographic groups.

Reliability and Validity of the Instrument

Ensuring that an instrument is reliable and valid is a complex and on-going process. The beginning, middle, and end of a research project involving survey development all have information to contribute about a survey instrument's reliability and validity. This section describes the steps taken to enhance and assess reliability and validity at the beginning and middle stages of the project.

Reliability

The problem of reliability involves the extent to which a measurement is susceptible to random error (Cooper & Schindler, 1998; DeVellis, 1991). One set of factors that contributes to consistent measurement involves developing a consistent data collection protocol (Fowler, 1993). Another is thoughtful instrument development. Chapter 3 described the instrument development and survey administration procedures. Thus, only the internal consistency reliability aspects of the pretest are discussed here.

An examination of the internal consistency of the factors that emerged from the exploratory factor analysis provided some information about the instrument's reliability. It was considered unlikely that the directiveness scale that was ultimately developed would equate exactly to the factors that emerged from the responses of the small,

nonrandom sample of respondents used at the pretest stage. This was particularly true because the analyses done at the pretest stage were conducted at the individual level, while many of the planned tests were to be carried out at the ecological level.

Nonetheless, an examination of the factors that emerged provided a preliminary indication of the likely internal consistency reliability of the scales that would ultimately emerge from the instrument.

After reverse-scoring items as necessary, a reliability analysis was conducted in order to determine which items correlated strongly enough to form a scale. Cronbach's alpha for a scale consisting of all of the relevant survey items was compared with the alphas that could be obtained by deleting each item. Items were selected for deletion based on which deletion would result in the largest increase in alpha. The reliability analysis and deletion process was repeated until no further deletions would result in a stronger scale (Spector, 1992). The resulting 13-item scale produced an alpha of .7863. The 13 items are listed in Table C2. These items all fit with the theoretical framework of the directiveness scale developed in chapter 1. This suggested that they created a reasonably strong and theoretically interpretable scale.

Table C2
Variables Forming Strongest Scale

Cooperation

Tailored communication

Skill development

Challenges

Consult staff: general

Rules are flexible

Flexibility

Improvement feedback

Coaching

Progress discussions

Know clients

People skills

People vs. technical skills

It was beyond the scope of the pretest to conduct a full-fledged analysis of the data. However, an exploratory factor analysis was conducted in order to determine whether the 13-item scale appeared to contain any subscales, and if so, if they were readily interpretable according to the theory proposed in chapter 1. The principal component analysis extraction method was used, and the solution was subjected to orthogonal (Varimax) rotation, which converged in eleven iterations. Five factors were identified, one of which contained only one item, as indicated in Table C3. The alphas

for the scales with more than one item ranged from .7884 to .5740, and are reported on the last line of the table.

Table C3
Factor Analysis of Pretest Data – Individual Level

Item	Component				
	1 Atmosphere	2 Growth	3 Communication	4 Pragmatism	5 Feedback
Flexibility	.82				
Cooperation	.74				.33
People skills	.58		.35		
Skill development		.87			
Coaching		.78			
Challenges are essential	.58	.65			
Progress discussions	.53	.63			
People vs. technical skills			.83		
Tailored communication	.57		.58		
Know clients			.58		.57
Consult staff: general				.93	
Rules are flexible			.60	.64	
Improvement feedback					.82
α	.72	.79	.60	.57	

Note. Only absolute values of .30 or greater are reported.

The first component consisted of three items, and had an alpha of .72. The three items all dealt in some respect with the kind of *atmosphere* a manager should foster in the workplace. The three items focused on flexibility, cooperation and the quality of human interactions – all important elements of the overall workplace atmosphere.

The second component was the strongest, with an alpha of .79. It consisted of four items revolving around the idea of the manager's role in supporting staff members' personal *growth*. The items involved attitudes about the importance of the manager's role in providing coaching, opportunities for on-going skill development, challenges in the job, and input about the individual's progress.

The third component consisted of three items, and had a weaker alpha, at .60. These items dealt with beliefs about the importance of *communication*. One item dealt specifically with tailoring communication. Another concerned the need to know the clients, and by association, the importance of communicating directly about their needs. The final item involved the relative importance of people skills and technical skills – the tension between the need to have strong technical knowledge and the ability to communicate clearly and constructively with staff members.

The fourth component consisted of two items, and had an alpha of only .57. Despite the weak alpha, however, the factor was interpretable. It contained items that dealt with a sense of *pragmatism* – of doing what it takes to get the job done, rather than following social conventions and organizational rules. The items that loaded on this component dealt with a willingness to break rules in order to get the job done, and to

consult with staff members, regardless of social pressures for managers to know all the answers.

The foregoing analyses of the components that emerged from the factor analysis seemed reasonable, but were not intended to be the final word on the interpretation of the factors. Deleting items from some of the components could have improved their alpha scores. With more in-depth analysis, it was quite possible that more appropriate, or at least, more refined interpretations of the factors could have been developed. However, intensive analysis of these factors was not the purpose of the pretest. Indeed, it was expected that with the ecological-level analysis that would be possible after the full study, new factors would emerge. The level of analysis undertaken at the pretest stage was sufficient to suggest that the factors were readily interpretable as subscales related to the overall directiveness scale, and provided some evidence to support the idea that the instrument would yield reliable and interpretable results.

Validity

Content validity, construct validity, and convergent validity were all considered at the pretest stage. However, only the analysis of convergent validity differed for the pretest and the full study. Thus, Content and construct validity were discussed in chapter 4. This section discusses the analysis of convergent validity conducted at the pretest stage.

Chapter 4 argued that convergent validity can, at least in a weak sense, be evaluated by considering the extent to which a study's hypotheses are supported, as long as the hypotheses are based on measures of related constructs already investigated by

other researchers. Because of the small size of the pretest sample, it was not possible to use precisely the hypothesis tests that were used for the full study. However, mean scores on the full 13-point scale and the four subscales identified through the factor analysis were examined for each independent variable in order to determine whether any differences that existed were in the expected direction. The results that follow must be viewed with caution. The independent variable groupings were collapsed into only two groups per variable, which may well have masked differences. Moreover, the number of respondents in some subgroups was quite small. Nonetheless, the analyses provided some indication of the extent to which support for the proposed hypotheses provided evidence of the survey instrument's convergent validity.

The data were not normally distributed, which indicated the need for a nonparametric test to determine whether responses differed significantly among groups. Moreover, for each demographic variable, the data were divided into only two groups in order to ensure that all of the cells were reasonably large. Thus, the Mann-Whitney U test of the equality of two population distributions (Aczel, 1999) was applied in order to determine whether the groups appeared to come from two different samples. The following null and alternative hypotheses were proposed for each analysis:

H_0 : The distributions of the two populations are identical.

H_1 : The distributions of the two populations are not identical

The Mann-Whitney U test was conducted for the full 13-point scale, and for each of the four subscales identified through the exploratory factor analysis. The full study sought a significance level of at least 0.05. However, for the purposes of examining the

results of the pretest, significance levels of up to 0.10 were considered in order to capture as much information as possible. The results of those tests are presented in Table C4.

Table C4
Significance of Differences in Means for Scores on 13-Item Scale and Subscales

Independent Variable	13-Item Scale	Subscale 1: Atmosphere	Subscale 2: Growth	Subscale 3: Communication	Subscale 4: Pragmatism
Age					
Sex					
Nationality	.025*	.092 [!]		.005**	
Education Level					
Education Field	.048*	.055 [!]			
Hierarchical Level	.081 [!]		.032*		
Functional Area					

Note. [!] $p < .10$. * $p < .05$. ** $p < .01$. Shading indicates differences that were not in the expected direction.

The null hypothesis was rejected for seven of the 35 tests. In each of those cases, the difference was in the hypothesized direction. In addition, all differences in means, whether significant or not, were examined to determine the direction of the difference. For education level, the differences for four of the five scales, though not reaching significant levels, were not in the predicted direction, suggesting that the instrument may not adequately capture differences in this dimension, or that the original hypothesis

regarding education level may not have been correct. Of the remaining 28 pairs of differences, however, all but four were in the predicted direction.

Evidence of a larger number of significant differences, and at higher levels of significance, would have provided stronger evidence of the instrument's validity. Nonetheless, some significant differences were found, even with the limited size of the pretest sample. Moreover the significant differences, without exception, were in the predicted direction, and four fifths of all differences were in the predicted direction. Taken together, this analysis provided at least some support for the instrument's construct validity.

Respondent Concerns

The pretest included an open text field asking whether the respondent encountered any difficulties in completing the survey. Over half of the respondents made no suggestions about ways to improve the survey, or commented explicitly that no problems were encountered. The researcher reviewed and categorized the comments that were received according to the type of concern raised. The researcher and the key contact met to discuss these comments and to decide whether changes in the survey would be required. The substantive and technical problems raised, and the ways in which they have been addressed, are discussed here.

Response Scales

The largest category of respondent comments dealt with the survey's response scales. During the cognitive interviews respondents had difficulty understanding the

response scales, and the scales were revised and the explanations clarified for the pretest. This process seems to have been effective, since none of the comments about the response scales involved respondents' ability to understand the scales. Instead, respondent concerns focused on the number of points on the response scale, the presentation of the response choices, the opportunity for giving open-ended responses, and the midpoint for the judgment scale in the French version of the survey.

Number of Points on the Scale

Three respondents indicated that the 7-point response scale was too detailed – that it was difficult to be so nuanced in making judgments about their responses. This issue had been debated during the survey development process, and was investigated during the cognitive interviews. Some respondents in the cognitive interview process expressed appreciation for the ability to differentiate their answers more precisely; others indicated that a 5-point scale was more usual and comfortable. Members of the survey development team were also divided in their opinions about the preferable number of scale points. Thus, the ideal amount of nuance in an answer scale seemed to depend on personal taste. Further, there was no reason to think that offering seven, instead of five, response choices would deter people from participating in the survey. Since the respondent comments offered no compelling reason to switch to a 5-point scale, and since making the change would have involved a significant amount of reprogramming, the review team decided to retain the 7-point response scale for the full survey.

Presentation of Response Choices

One respondent suggested that the response choices should be listed from positive to negative, rather than from negative to positive. This issue had also been raised during the cognitive interviews, and the survey development team's discussions about making such a change revealed that people have different tastes about this issue as well. Again, given no evidence that the change would improve response rates or response accuracy, it was decided to leave the scale unchanged.

One question (not analyzed for this study) had a unique response scale. To make this difference clear, it was presented graphically, with the choices spread across the screen, rather than presented in a drop-down list. One respondent indicated a preference for using this graphic presentation for all of the response scales. This presentation would have taken substantially more space, thus requiring the respondent to page through many more screens. It was thought that such a change would give the impression of a longer survey, thus potentially deterring people from responding. Moreover, adopting this approach would have required a significant amount of reprogramming. Thus, while the review team agreed that there was some appeal to using a more graphic presentation, this approach was not adopted.

Open-Ended Responses

One respondent indicated a preference for having the possibility to submit open-ended comments about the questions. A field is already provided at the end of the survey to allow respondents to make open-ended comments. The review team discussed whether adding a free-text field to each section of the survey might be helpful. While it

was acknowledged that respondents might like to submit such input, however, the analysis plan did not envision substantial reviews of open-ended text. Thus, it was decided that adding more free-text fields would encourage open-ended answers, which would not contribute to the overall analysis, and this change was not adopted.

Mid-Point for Judgment Scale

The scale for recording judgments about how well current management practices suited the respondent (not analyzed for this study) ran from “Much too Little” to “Much too Much,” with “Just Right” as the ideal situation, in the middle of the scale. One respondent noted that the French term used as the mid-point (“Bien”) seemed rather lukewarm – that a stronger expression of approval was needed. The review team agreed. The English mid-point remained unchanged, but the French text was adjusted to convey a stronger sense of approval.

Length

The survey development team was concerned throughout the development process that the survey’s length might deter people from responding. The number of questions was reduced substantially during the survey refinement process, but the questionnaire remained lengthy, and it was not clear how much time it would take those unfamiliar with its content to complete it – especially in an electronic environment. In fact, two respondents commented that the survey was too long as part of their general comments, and one respondent sent a separate message to the key contact expressing concern about the survey’s length.

The survey development team had estimated that it would take most people about 15 minutes to complete the survey, but had no evidence that this would, in fact, be the case. For this reason, a question was added to the pretest asking for an estimate of the time required to complete the survey. Over two thirds of those who responded to the question about the amount of time required to complete the survey finished in 15 minutes or less. Ten of the 38 respondents – more than a quarter – did not respond to this question, however. The review team speculated that those who did not respond might have felt that they did not have accurate information on which to base an estimate. It seemed likely that if these individuals had found the survey overly time-consuming, they would have chosen to respond to this question in order to express that frustration; therefore, there was no reason to believe that the large number of nonresponses would have caused an underestimation of the time required to complete the survey.

The review team considered attempting to eliminate some questions in order to shorten the survey further. It was determined, however, that eliminating a few questions would not shorten the survey substantially enough to make a significant difference to respondents, and would reduce the amount of useful data available for analysis. Moreover, the key contact considered 15 minutes a reasonable amount of time to request from staff for this purpose. Therefore, no effort was made to trim further questions from the survey.

The review team also considered whether it would be a good idea to emphasize the amount of time it actually took the pretest group to complete the survey as part of the introductory section of the survey. It was concluded that lingering on the subject would

turn it into a bigger issue. Therefore the survey instructions remained unchanged, merely mentioning that the survey was simple and required about 15 minutes to complete.

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CURRICULUM VITAE

WORK HISTORY

“XYZ,” Paris, France, 2000-2002. Consultant for an intergovernmental organization, with responsibility for designing, implementing, and analyzing a staff survey to provide information to guide the organization’s management improvement efforts.

ICF Incorporated, Washington D.C., USA. 1990-1998. Project Manager for the Housing and Community Development Group of a large consulting firm, with responsibility for managing multiple contracts with the U.S. Department of Housing and Urban Development and the U.S. Department of Agriculture.

Metropolitan Council, St. Paul, Minnesota, USA. 1988-1990. Housing Planner for a metropolitan government organization, with responsibility for conducting statistical analyses and making policy recommendations.

University of Minnesota, Minneapolis, Minnesota, USA. 1986-1988. Research Assistant for projects examining differential pay across female and male-dominated job categories, and loss of subsidized housing.

Sabathani Resource Center, Minneapolis, Minnesota, USA. 1986-1987. Director of a resource center designed to support the efforts of 30+ nonprofit organizations dedicated to assisting poor and minority residents.

YES Crisis Hotline, Minneapolis, Minnesota, USA. 1986-1988. Volunteer counselor at a small nonprofit organization, with special responsibilities in the implementation and evaluation of a pilot expansion program.

Peace Corps, Mali, West Africa, 1983-1985. Community Development Agent working in rural villages with a focus on environmental preservation and primary health care issues.

WORK EXPERIENCE

Survey Design and Implementation

“XYZ”. Helped XYZ develop a survey to assess staff beliefs about what constitutes appropriate management, and to gauge staff satisfaction with management. Helped identify survey topics; drafted survey questions; facilitated multicultural team’s efforts to refine questions and response scales; oversaw translation/back-translation of survey instrument; and worked with computer programming staff to automate survey administration and data collection process. Analyzed survey data, and provided a report including data summaries, analysis by demographic group, and policy recommendations for future management improvement efforts.

U.S. Department of Housing and Urban Development (HUD). As part of a broader evaluation, managed development and implementation of in-person surveys with public housing residents. Coordinated the process of articulating the survey's goals, drafting survey questions, and refining questions to work effectively with poorly-educated respondents. Worked with client to identify paired samples of resident-managed and control sites. Oversaw work of a national survey research firm charged with helping to finalize survey questions and format, hiring interviewers capable of working effectively in dangerous neighborhoods, and ensuring adequate training and supervision of interviewers. Co-authored final report presenting survey results.

YES Crisis Hotline. Worked with a small nonprofit organization to determine the feasibility of expanding its services. Helped the organization design and implement a pilot program of expanded services. Developed survey instruments for volunteer phone counselors and supervisory staff to investigate reactions to the pilot and to assess the potential for implementing the program on a permanent basis. Provided policy recommendations to the Board of Directors.

Organizational Development and Design

U.S. Department of Agriculture (USDA). Managed projects for USDA's Rural Housing Service to evaluate and revise policies and procedures for the Single Family Direct Loan Program, and the Guaranteed Rural Housing Program. Activities included working with key agency staff to identify policy goals; facilitating sessions with central office staff, field staff and stakeholders to determine how the program functioned in the field; and analyzing procedures to identify areas for streamlining. In response to proposed streamlining measures, drafted simplified regulation text and developed user-friendly program manuals for staff.

U.S. Department of Housing and Urban Development (HUD). Helped Public Housing Authorities (PHAs) detect procedural problems that inadvertently encourage racial segregation. Designed and delivered training to help PHAs understand HUD's voluntary compliance program aimed at reducing segregation problems. Worked with PHAs in violation of discrimination-related regulations to identify problem areas and to provide related staff training.

Lexington-Hamilton Cooperative. Designed and carried out an assessment of organizational issues facing this low-income federally subsidized homeownership cooperative. Conducted interviews with cooperative members and advisory board members, and worked with the two groups to identify organizational problems and ways to address them.

ICF Kaiser International. Provided organizational development and management-related training for staff of ICF's Housing and Community Development Group. Courses focused on improving performance feedback and on developing system-based approaches to problem solving.

Minneapolis Area United Way. Evaluated the likely impact of shifting resources from emergency service programs to prevention programs. The study involved examining service programs designed to meet basic food, clothing and shelter needs. Assessed the role United Way programs played in the area's emergency service network and provided recommendations for the organization's pending priority restructuring efforts.

Additional Experience

Analytic Work. Conducted data analysis and program evaluations for a range of clients. Topics included the supply of housing for older people, loss of subsidized housing for low-income families, disposition of federally-owned property, and effects of resident management in public housing. Worked with clients to create research designs; gathered and analyzed data; and assessed policy implications.

Training Design and Delivery. Managed development and delivery of training programs on topics such as civil rights, affordable housing, performance feedback, regulatory analysis and writing skills. Worked with clients to determine specific training objectives; developed training designs; wrote detailed training and reference materials; trained trainers; oversaw logistics; and delivered training.

Writing/Editing/Policy Clarification. Coordinated policy clarification and editing projects designed to simplify complex federal programs and regulations. Worked with program managers to articulate policies; put materials into plain English; and developed user-friendly formats and clarifying examples. Topics included accessibility for individuals with disabilities, racial discrimination, lead-based paint hazards, direct administration of federal housing programs, and local compliance with federal housing regulations.

Facilitation. Facilitated stakeholder sessions, program design meetings, training sessions, and focus groups. Worked with clients to articulate desired outcomes of sessions, identify appropriate participants, and develop detailed meeting agendas. Facilitated sessions and wrote summary reports of meeting outcomes.

EDUCATION

- 2003 Doctoral Candidate in Administration and Management, Walden University.
Dissertation: *Beliefs About the Appropriate Degree of Directiveness in the Management Relationship, as Related to Demographic Characteristics, Educational Background, and Organizational Position.* Degree expected in 2003.
- 1992 Certified Mediator, Center for Dispute Settlement, Washington, D.C.
- 1988 M.A. in Public Affairs, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota.
- 1983 B.A. in Philosophy, Carleton College