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Stress (burnout), social climate, and leadership patterns in organizational settings

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University of Hawaii, 1994

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STRESS (BURNOUT), SOCIAL CLIMATE, AND LEADERSHIP PATTERNS IN ORGANIZATIONAL SETTINGS

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ABSTRACT

With work representing such a significant component of people's lives today, the influence of organizational factors on the well-being of employees is of major concern and interest to mental health professionals and business leaders alike. The present study looks at the issues of how leadership patterns within work groups are related to ratings of social climate and, in turn, how social climate and leadership are related to measures of employee stress. Three-hundred seventy-nine (379) employees were asked to rate the climate of their work groups (Work Environment Scale, Moos, 1986) and the leadership style of their supervisors (PM Leadership Appraisal Scale, Misumi, 1985.) Self-report work-related stress measures were also obtained for each subject (Maslach Burnout Inventory, Maslach and Jackson, 1986.) Canonical and multiple regression analyses, along with t-group comparisons, were employed to analyze the data. The data suggest that relationship-based leadership behaviors appear to have the strongest influence on social climate, particularly on those factors having to do with relationships employees have with each other and to their work. Emotional exhaustion appears to be the most virulent of the employee stress measures, best predicted by work pressure and the degree to which supervisors provide clarity in terms of roles, responsibilities, and expectations.
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CHAPTER 1. INTRODUCTION

In recent years there has been an increased interest by employers in the mental health of their employees. In particular, they have become increasingly attentive to the associated costs incurred when the mental health of employees is being negatively impacted by the organization itself.

Employers have many reasons for this interest, not the least of which is the bottom line. While it is difficult to estimate the total financial and human impact of work-induced psychological disturbance, there is increasing evidence that an unsatisfactory work environment can contribute to the development of a number of psychological sequelae in employees (Center for Disease Control (CDC), 1986). The CDC (1986) estimates that the total medical, employment, and productivity costs due to work-related psychological disorders is in the range of $50-100 billion annually. Other estimates suggest that losses due to occupationally-induced absenteeism, disability, and decreased productivity approach $150 billion annually (Knight and Felts, 1988; Sauter, Murphy, and Hurrell, 1990).

Increasing health care costs are another reason that employee mental health has gained the attention of employers. Estimates on the average cost to businesses for treatment of
psychological disturbance in general (whether it is generated by the work environment or not) are difficult to obtain but range from 10% (Foster and Higgins, 1992) to 20% of employer's annual health care costs (Wall Street Journal, 1989). The Journal also reported that in 1988 alone these costs increased a dramatic 27% across industries nationwide.

Worker's Compensation claims of the work-related stress variety are on the rise and another reason for employer's concern. While current, accurate estimates are also somewhat elusive to obtain, it is known that stress claims under State worker's compensation systems accounted for 13.6% of all occupational disease claims in 1983 (an increase from 5.3% in 1980) with the average total cost of a stress-related claim in 1983 being $10,224 (up from $7,110 in 1979), as compared to $6,476 for other traumatic injury claims (Kendall, 1987). The potential liability to employers from occupational stress-related claims is highlighted by the 1985 National Health Survey which found that as many as 11 million American workers report health-endangering levels of "mental stress" at work with only one other hazardous work condition (loud noise) being more prevalent (Shilling and Brackbill, 1987).

In response to these concerns employers are implementing a variety of strategies designed to increase employee satisfaction or morale, decrease stress, provide assistance
for personal troubles, and which generally are aimed to assist people to function more efficiently and productively at work. These strategies include work site stress management interventions, employee assistance programs (company-sponsored counseling programs), and government-initiated leave programs designed to help employees cope with major family transitions or responsibilities (e.g., birth of a child, adoption, elder care, etc.). They also include the implementation of new approaches to management that enable employees to take on more involved and satisfying roles at work, increase their sense of personal control over their work, and where work processes are constantly evaluated for simplification. While these various strategies have different purposes and backgrounds from which they were developed, they all share a common objective: to create more positive, supportive, and employee-friendly work environments where both the organization and the employee stand to benefit from their association with each other.

**Occupational and Business Trends**

Occupational gradients with respect to mental health have long been known. Rates of psychological distress or disturbance are higher for low income, poorer educated, and less skilled workers (Fried, 1975; Langner and Michael, 1963). Similar patterns exist for alcoholism (Fillmore and Caetano, 1982; Guralnick, 1963). Health professionals have higher than
expected rates of suicide (Milham, 1983) and alcohol and drug abuse (Hoiberg, 1982). Nurses and other health care workers have increased rates of hospital and outpatient admissions for treatment of psychological disturbance (Gundersson and Colcord, 1982; Cooligan, Smith, and Hurrell, 1977). Burnout is especially prevalent among health, human service, and teaching professionals (Maslach, 1982). Workers employed in routine service jobs have also been found to be at increased risk for psychological disorders, especially stress-related conditions (Cooligan, Smith, and Hurrell, 1977).

Complicating matters is the fact that emerging trends in the workplace suggest many of these same occupational groups will be in high demand for the next 10 years or so. For example, of the 20 fastest growing occupations in the United States, approximately one-half are in the health and computer fields (Silvestri and Lukasiewicz, 1985). Furthermore, of every 10 new jobs between 1985 and 1995, 9 will be in the service sector (Bureau of Labor Statistics, 1985). As the previously cited data suggest, people in highly technical fields, those in health/human services, and those in traditional service industries are at particular risk for developing psychological disorders. Moreover, compensation and benefits in many of these occupational fields will probably not keep pace with that being offered in traditional industrial and manufacturing jobs (Bezold, Carlson, and Peck,
1986; Pederson, Sieber, and Sundin, 1986). This is likely to have additional negative implications for the psychosocial functioning and well-being of employees in these occupational groups.

In addition to these occupational trends, business itself has become an increasingly complex and stress-inducing endeavor for employers and employees alike. Today's competitive business environment requires being able to differentiate yourself from your competitors constantly and quickly (Bennis, 1993). This means that product line upgrades, work process redesign to achieve greater efficiencies, and improving/maintaining ever higher levels of service quality are ongoing challenges for business organizations today. This kind of an environment has tremendous implications for employees. It means that they need to be highly adaptive and multi-skilled, able to learn, grow, and change constantly, all of which can be a significant source of stress for many people (Senge, 1993).

Businesses are also finding it increasingly more difficult to recruit and retain qualified employees (Kahn and Byosiere, 1992). Employers have to compete against other businesses for human resource talent. This is another reason that supportive programs like employee assistance, child care options, and family-friendly leave policies are increasingly
finding their way into benefits packages. Such offerings are valuable as recruitment and retention tools that allow differentiation from one's competition.

With affirmative action, equal employment opportunity, and the American with Disabilities Act comes the corporation's responsibility to support the development and success of women, minorities, and the disabled. Additionally, a new breed of employees are surfacing in the business world; younger and socially-sensitive, who are insisting on more corporate responsibility towards social values in both internal and external activities (Manuso, 1981). Thus, employers are being asked and, in some cases, required to assume an increasing level of responsibility for dealing with some of America's deepest social problems.

What this all means is that employers can ill-afford to neglect the impact of internal conditions on their workforce. Rising health care costs, increasing employer responsibilities and liabilities, ongoing organizational change, and the need for more employees in at-risk occupations have served notice to employers that it may be far too costly to ignore the psychosocial influences of their work environments. This is especially the case when one considers that it does not matter whether the psychological status of one's employees finds its origins in workplace conditions, external factors, or even
individual variables. From the employer's perspective, once a condition surfaces employment conditions could exacerbate it, and either way the employer faces potentially significant business costs. Thus, employers who ignore these issues risk organizational survival in today's business environment. Whatever an employer can do to support the mental health of their employees holds the promise of significant benefit to their employees as well as for their organization.

**Organizations as a Source of Influence**

People operate within a number of social settings in their daily lives, the most common of these being family and work. It is generally agreed that the social settings within which one functions has an important impact on an individual's moods, attitudes, behavior, health, and overall sense of well-being (Moos, 1984). In other words, one's psychological and physical functioning can be dramatically affected by the dominant psychosocial dynamics within a given environment.

A work organization is a formal structure established for the pursuit of relatively specific objectives (Scott, 1964). Put another way, organizations provide a framework for the organization of behavior (Smith and Smith, 1973). Work organizations have rules, roles, and responsibilities that define the functioning of members within the setting, as well
as structural properties such as size (number of employees) and shape (levels of authority) which further organize people so that the objectives of the group may be attained in as efficient a manner as possible.

Like most environments, a work organization influences the behaviors and attitudes of the people who participate in it. Early on, Henry Murray (1938) pointed out that social environments can be looked at in terms of the benefits (satisfactions) and harms (dissatisfactions, obstructions) they provide to participants. Clearly, organizational systems such as compensation, discipline, and employee relations serve to shape the values, attitudes, and behavior of people operating within a given setting. Indeed, without this "leverage" the goals of the organization would likely never be attained.

The social climate perspective assumes that social environments, like people, have unique "personalities" (Moos, 1976). Just as people can be described in terms of their temperaments or dispositions, social environments can likewise be portrayed in terms of their psychological and behavioral dynamics. For example, social environments can differ from one another in their degree of supportiveness, cohesiveness, structure, and control. The particular blend of these and
other dimensions that characterize a social environment comprise its distinctive social climate.

The social climate of an organization is affected by many factors, the most influential of which may be its leaders (Bennis and Nanus, 1985). That is, the "personality" of a setting is likely to reflect the beliefs, values, experience, and behavioral tendencies of its leaders. This is easy to understand given the role of an organization's leaders in creating and maintaining the internal systems designed to direct, motivate, and control employee behavior. These systems are likely to be built around the leader's values and beliefs concerning what is correct or necessary to direct, motivate, and control. Thus, the influence of workplace climate is intimately tied to the characteristics and style of the organization's leadership.

The relationship between social climate, leadership patterns, and employee stress is the focus of the current research. While this is not a new area of inquiry, the current level of employer interest in mental health issues in general, and the fact that organizational functioning itself can be stress-inducing, calls for a continued broadening and deepening of our understanding of how work environments impact the mental health of those whom they are designed to direct, motivate, and control. Moreover, employers would be well-
served to remember that the economic impact of a negative social climate ultimately accrues at the expense of human distress and suffering. It has been suggested that the leaders of an organization have a moral and ethical responsibility for the stewardship of their employees (Covey, 1991). This implies that leadership be willing to constantly examine themselves and their actions, especially in terms of the potential impact of these actions on the psychological status of their employees. Research which focuses on how employees experience and display stress in their work lives, and that is suggestive of specific, workplace-based intervention strategies designed to limit (if not prevent) the potential negative impact of the work environment on its participants, may be more valuable in today's organizational settings than ever before.
Organizational theory and models describing the connections between the work environment and employee performance, behavior, psychological functioning, or other outcomes have gradually evolved over time. Several dimensions have served as organizing factors for the development of organizational theory. These factors have been suggested as the means for characterizing the nature and functioning of work environments and their influence on the people who occupy them. These include the way work is structured and organized (Taylor, 1911), leadership styles (Lewin et al, 1939; Withall, 1949), individual and aggregate group differences (Holland, 1966, 1973), and human relations or group dynamics (Katz and Kahn, 1978; Staw, 1984). Each of these dimensions have been found to account for a great deal of employee behavior and a variety of organizational outcomes, but each is limited in its scope of explanation (Moos, 1976). As might be expected then, the evolution of organizational theory has been towards progressively broader and more encompassing perspectives of organizations, individuals, and the impact they have on each other.

Clearly, there is no single factor that accounts for individual and organizational outcomes in work settings. Organizations are complex systems and there are many variables
that contribute to organizational conditions and the functioning of individuals within a given setting. For example, differences in demographics, education, and personality can influence relationships, work performance, and individual coping styles. We know from stress research, for instance, that individual differences in locus of control and generalized anxiety level can have a mediating influence on the stress employees experience in the work environment. Employees who tend to be highly anxious in their personality makeup and/or who tend to be more external on the locus of control dimension report higher overall levels of stress in the work environment, regardless of the exposure level to stress-inducing stimuli (Parasuraman and Alutto, 1984).

Organizational structure variables such as size and shape (i.e., supervisor-employee ratio) have been shown to be related to important outcomes like job-satisfaction (Talacchi, 1960; Harrell, 1971) and absenteeism and turnover (Porter and Lawler, 1965). Research has generally indicated that smaller organizations and those with lower supervisor-employee ratios are positively associated with morale and lower rates of absenteeism and turnover.

Technology is another important variable. Early studies established a negative link between automation and job-satisfaction, social isolation, morale, and communication
(Blauner, 1964; Kornhauser, 1965; Whisler, 1970; Lipstreu and Reed, 1964). Current research indicates that the increasing technology in work settings is related to depersonalization in employees (Kendall, 1987), one component of the burnout syndrome (Maslach, 1986).

Role variables are also known to have an important influence on job satisfaction and employee stress levels. Mediating factors influencing one's perception of the work environment can include a person's position in the organization and particular job characteristics. For example, Moos (1986) has found that, in general, managers tend to rate social climate more positively than staff, while in health care facilities those involved in patient care roles tend to view their work as more stressful and the organization more negatively than non-patient care workers.

**Conceptual Background**

The ability to identify common underlying dimensions along which social environments can be characterized is quite important. It allows for the consistent assessment of social environments and for those different environments to be compared directly. Original attempts to develop a system by which the climate of settings could be assessed focused primarily on the underlying leadership patterns of the
environment (Moos, 1976). That is, social climate, or the psychological experience that participants have of a setting, was seen as primarily a reflection of the leader's behavior. Understanding and classifying the leader's behavior was viewed as the best way to conceptually capture the dynamics of the psychological environment and to explain some of the resulting behavior seen in the setting's participants.

Leadership

For example, Lewin et al. (1939) conducted some of the earliest experimental studies in this area. Their work focused on establishing the differential effects of social climates on the behavior of 10-year old boys in activity group settings. Employing an experimental design, boy's activity clubs were organized with leaders put in place who were instructed to provide leadership that was either autocratic, democratic, or laissez-faire in nature. Experimental groups were formed based on patterns of aggressive behavior that had been observed in the boys. Aggressive behavior was then assessed as the boys moved from one activity club to another. As expected, the results indicated that the behavior of the boys changed markedly as they were moved from group to group. Aggressive behavior tended to decrease under more highly controlled conditions (i.e., under autocratic leadership) and increase gradually as controls became "looser" from democratic
to laissez-faire conditions. Experimental control was demonstrated as the children were moved back and forth between groups and their behavior was noted to change observably.

Using a similar approach, Withall (1949) developed a system which again focused on leadership influence in establishing social conditions. However, rather than making global characterizations of leadership patterns (i.e., democratic, autocratic, etc.), Withall established behavioral ratings of leaders in terms of the degree of reinforcement, organization/structure, limit setting, and punishment they provided to setting participants. Withall looked specifically at teachers and classroom settings. Withall observed that although there was some variation in the day-to-day climates of the classrooms, over time teachers created an overall consistent atmosphere in their classroom. For example, one teacher was observed to punish or disapprove of student behavior about 25% of the time and limit students' choices of action and to control the classroom more than other teachers. The coping behavior of the students (e.g., argumentativeness, passivity, self-direction, organization, etc.) was observed as they moved from classroom to classroom. Withall found that there were significant differences in the coping behavior of individual students as they moved from class to class. Withall concluded that these differences stemmed from the fact
that they had to cope with different psychological environments requiring different coping responses.

**Average Background Characteristics**

Important features of an environment are often determined by the average background characteristics of its members (Moos, 1976). How are demographic and social background characteristics linked to behavior in the group? Groups with particular configurations of background factors create different social climates, which in turn contribute to attitudinal and behavioral outcomes. Thus, organizations with similar goals or structures but composed of people with dissimilar backgrounds are likely to have distinctly different social atmospheres.

For example, in studies of high school environments it has been found that the climate of suburban schools, where students come primarily from middle and upper-middle class families, have been described as warm and friendly, with an emphasis on independent study and mutual support between students and teachers. In contrast, inner city schools are described as grim and angry, with greater regimentation of class structure and hostility between teachers and students (Johnson, 1970).
The use of average background characteristics in differentiating environments is based on the notion that most of the social and cultural environment is transmitted through other people (Linton, 1945). Thus, the character of an environment is dependent, in part, on the typical characteristics of its members. This line of thinking serves as the basis for much of the work of John Holland who has focused on the relationship between vocational interests (as an average background variable) and the social climate in university and college settings.

Holland (1966, 1973) proposed a theory of personality and environments based on vocational choice. Traditional vocational assessment approaches (such as the Strong-Campbell and Kuder scales) are premised on the idea that average background characteristics of a vocational group - in this case dominant interests - contain predictive information about job success and satisfaction. Holland theorized that people's vocational choices are expressions of their personality and that vocational interest scales were essentially personality inventories. Anecdotal support for this idea comes from the fact that there are shared beliefs and attitudes that many of us have (stereotypes) about the personalities of members of different occupational groups. For example, scientists are considered unsociable, accountants dull, and lawyers aggressive. Holland suggested that these stereotypes are
valid because occupational choice is in part based on personality and personal history. Certain kinds of people are attracted to and remain in certain kinds of jobs. Of greater importance, however, Holland went on to propose that because people in a given vocational group have similar personalities, they will respond to many situations and problems in similar ways and therefore will create characteristic interpersonal environments.

Holland drew support for his theory by looking at college environments. He hypothesized that, like vocational groups, students who chose to major in specific college fields are similar to each other in terms of personality. Holland had developed a classification scheme for categorizing occupations (Conventional, Artistic, Realistic, Investigative, Enterprising, and Social) and proposed that each group represented a personality type. He suggested that this classification scheme could be applied to college major fields and the students therein. Based on the assumption that similar personality patterns will create characteristic interpersonal environments, Holland further suggested that environments could also be described employing these six personality types. Environmental type is determined by the modal personality type, or the category in which the highest percentage of people in a setting have been classified. In this way, average background characteristics of a group (i.e.,
it's dominant vocational choice or major preference) creates an environment with unique rewards, demands, and opportunities. The six types are briefly described as follows:

**Conventional** - a personality that prefers structured activities, subordinate roles, is basically a conformist, and identifies with external authorities. A conventional environment is one which stimulates conventional activities, rewards social conformity, and tends to be structured and orderly in an attempt to increase efficiency. Relevant major fields include accounting, business, secretarial, library science, and economics.

**Artistic** - a personality that tends to be asocial, avoids structure and gross physical activities, and has a high need for individual expression. An artistic environment is one which emphasizes emotionality, independence, introspection, originality, and nonconformity. Relevant major fields include art, music, literature, and journalism.

**Realistic** - a personality that tends to be masculine, materialistic, unsociable, aggressive, persistent, uninsightful, and practical. A realistic environment is one which rewards people for traditional values and reinforces conformity, thrift, pragmatism, stability, and shyness.
Relevant major fields include agriculture, physical education, industrial arts, engineering, forestry, and trade and industry.

**Investigative** - a personality that tends to be task-oriented, introspective, asocial, and preferring thought over action. An investigative environment is one which reinforces precision, rationality, introspection, and pessimism. Relevant major fields include architecture, biological and physical sciences, medical technology, pharmacy, and mathematics.

**Enterprising** - a personality that is highly verbal, dominating in social settings, seeks leadership roles, and is effective in persuasion. An enterprising environment is one which reinforces ambition, flirtation, debate, and self-confidence. Relevant major fields include administration, public relations, political science, and industrial relations.

**Social** - a personality that tends to be very responsible, feminine, somewhat dependent, and avoiding of intellectual pursuits. A social environment is one which reinforces friendliness, responsibility, tact, kindness, insight, and social participation.
Holland developed the Environmental Assessment Technique (EAT) to measure college and other environments. In the college setting, a census of students' choice of major is obtained. The various major fields of study are categorized according to Holland's six types and rank ordered in terms of the overall tally of students' choice of majors. In this way a college environment can be assessed as to the extent it emphasizes, for example, scholarship, independence, and introspection as opposed to social conformity and imaginative thinking.

Several studies have been carried out to examine the validity of Holland's environmental descriptions as applied to university environments (Astin and Holland, 1961; Astin, 1963a, 1963b; Pace 1967). In these studies the EAT has been compared to college environment scales and consistent support has been generated for the proposition that significant background characteristics (such as major choice) is related to the social climate of university environments. For example, Pace (1967) looked at five university climate dimensions and how they related to Holland's Environmental Assessment Technique. The five dimensions are practicality (degree to which the environment emphasizes enterprise, organization, and material benefits), community (group cohesion, interpersonal friendliness, and group spirit), awareness (interest and understanding of health, social, and
aesthetic issues), propriety (consideration and politeness towards others), and scholarship (degree to which the environment emphasizes intellectuality and academic competition). Data was collected from over 100 colleges and universities across the country. Schools characterized by the EAT Conventional orientation tended to emphasize practicality and showed minor support for propriety and community. Colleges emphasizing an Artistic orientation emphasized awareness, Investigative settings emphasized scholarship, and Social settings emphasized community and propriety while deemphasizing scholarship.

Hearn and Moos (1976) looked at college living units and have found systematic differences in their social climates depending on their dominant EAT orientation. They examined college dormitory settings that were organized according to the major field choice of its residents and found consistent differences in the atmospheres of these settings. For example, living units with a Conventional major field orientation tended to emphasize individual and personal growth and tended to be more highly organized and structured. These settings deemphasized peer cohesion, interpersonal support, and innovativeness and student influence in their governance system. Units with an Investigative orientation emphasized independence and innovation and student influence while deemphasizing peer cohesion, interpersonal support, and formal
organization. Living units with an Enterprising orientation were characterized by high independence and low peer cohesion and interpersonal support, whereas those with a Social orientation emphasized peer cohesion and support and deemphasized independence. Hearn and Moos concluded that at least in regards to college living environments, Holland's basic assumption that the average background characteristics of the persons in a setting can lead to characteristic social climate conditions, is supported.

Further studies have looked at the influence of other background characteristics on the social climate of university settings. For example, Astin (1968) examined the differences between single-sex versus coeducational colleges. A total of 246 settings were surveyed involving some 30,000 college freshmen. Women's colleges were characteristically described as high in cooperation, cohesiveness, aesthetic appreciation, classroom participation, school spirit, and low in athletic involvement. Men's colleges were characterized as high in independence, competitiveness, permissiveness, and low in classroom participation. Coeducational institutions were rated as less academically competitive and low in personal support than single-sex schools. They also rated high on emphasis given to participation in social activities. Moos and Gerst (1974) discovered that the sex composition of college living groups is associated with systematic
differences in social climate. Women's dorms were typified by higher levels of emotional support and interpersonal involvement and as emphasizing traditional values and behavior. Men's dorms tended to stress competition and nonconformist values. Coed settings were high in intellectual activities and innovation and low in competition and organization.

Colleges, universities, and other settings are likely to be more or less homogeneous with respect to a number of background characteristics of its members. These can include not just sex or vocational choice but also race, social class, intelligence, education, religious affiliation, or other factors. As has been supported by these studies, the homogeneity of these variables can have a strong impact on the climate of the setting. In line with Holland's basic premises, Newcomb (1961) has suggested that this influence is due in part to the corresponding influence these variables have on attitudes and personalities. Interpersonal relationships and group processes are likely to be influenced by the attitudes and personalities of its participants which are in part determined by their background characteristics.
Social-Ecology

The social climate model has its roots in the social-ecological framework (Moos, 1976). It is a paradigm that views the psychological experience of people in a social setting as the primary mediator of their behavior in that setting. The social climate model proceeds from the basic assumption that employees will behave in desired ways to the extent that they perceive their jobs and the work environment as friendly, supportive, rewarding, comfortable, or unambiguous. Conversely, they will exhibit undesirable behaviors or perform poorly to the extent that they perceive the environment or their jobs as unrewarding, ambiguous, unsupportive, or uncomfortable.

The social-ecology paradigm recognizes the impact of environmental conditions on human behavior. Where psychodynamic and traditional personality theory focuses on internal drives, dynamics, and motivational causes of behavior, the social-ecological approach attempts to understand behavior in terms of the larger context within which man behaves. Environmental variables are seen as placing demands or constraints on people in given settings which serve to shape their behavior while in that situation. Contextual variables may influence individual functioning directly because they can set limits on the behaviors...
employees can actually exhibit, or they may influence people's perceptions of the setting and of themselves within that setting, thus serving to stimulate a cognitively-based mediating influence on behavioral responses. The social-ecology model recognizes the role of individual differences, such as education, training, and personality, but does so within the context of person-situation interactions. There is a reciprocal, interdependent relationship that the human and environmental components of a situation have on each other.

Evolution of the basic concepts comprising the social ecology paradigm stems, in part, from the early work of Henry Murray. Murray's thinking served as an important influence to the development of assessment schema for social setting research in general. Murray (1938) pointed out that while the concept of personality could describe the general course of an individual's behavior it ignores the influence of the environment. Murray classified environments in terms of the benefits and harms they provide. He selected the term "press" to designate the tendency in a setting to induce satisfying or dissatisfying experiences for its participants and argued that human behavior can be totally understood only when these environmental influences are accounted for. From an environmental assessment viewpoint, settings are looked at in terms of the psychological response they elicit in individuals.
Lewin (1935) explained the reciprocal relationship between man and environment in his field theory of personality development. In the field theory framework, people are seen to have needs and desires which serve to motivate behavior. Environmental conditions set limits on the capacity of that environment to satisfy or frustrate the meeting of man's needs and desires. Behavior in a given situation will be determined by how these components interact and which has a greater "valence". Thus, in order to understand or predict behavior in an organization one needs to assess both personal and environmental conditions and have some knowledge of the "forces" that connect the two.

Social learning theory served as another major influence in the development of the social ecology paradigm. It helped to further specify the processes by which the environment shapes human behavior. Pavlov's demonstration of the principles of classical conditioning provided the mechanism for explaining how environmental stimuli could "acquire" specific meaning for an organism and be linked to the development of new behavior. Skinner's theory of operant conditioning demonstrates that the environment is not a passive agent that permits individual differences to totally determine behavior. If anything, Skinner demonstrated that much of human behavior can be explained as a response to environmental conditions, particularly rewarding and punishing.
contingencies. Social learning theory does emphasize the role of the social environment. It assumes that people vary their behavior in different environments primarily because of the reinforcement consequences for particular behaviors. Although the influence of the physical environment is not emphasized, it certainly is not discounted. For example, the physical environment itself can serve as a reinforcing condition (Folkins et al, 1977).

Barker's (1968) behavior setting theory and research further developed our understanding of the reciprocal, interdependent relationship between people and social settings. In his work, Barker attempted to not just describe the relationship between the environment and people but also to explicate the processes by which these elements interact.

Barker defined behavior settings as naturally occurring situational units having specific time and locus attributes, characterized by standing patterns of actions or conduct. According to Barker, the behavioral patterns displayed in a given setting do not refer to the behavior of particular individuals but rather to groups of people behaving en masse. The overall patterns would be that which you would observe if, for example, you attended a baseball game, worship service, classroom lecture, or business meeting. Although a specific setting may have time and locus attributes the standing
patterns of behavior are not dependent on the particular people in a behavior setting at a particular time. That is, similar patterns of behavior would be displayed at, say, a baseball game if all of the people there were replaced by others.

The milieu exists independently from the standing patterns of behavior in a setting but maintains an interdependent relationship to those patterns of behavior. The milieu surrounds or encloses the behavior patterns of the setting so that the setting is a bounded unit. It can be distinguished from adjacent settings that exist outside its boundaries, demarcating where one pattern of behavior stops and another begins (e.g., the waiting area of a physician's office versus the examination room). The standing patterns of behavior will be similar in structure to the milieu. That is, the milieu places certain constraints on the types of behavior to be displayed in a given setting. In this way, Barker describes the milieu as synomorphic to the behavior that is exhibited in the setting.

A major focus of Barker's behavior setting research had to do with the number and size of behavior settings constituting a given environment, and the effects this has on people's participation in those settings. In a comparison of two Midwest towns, Barker found that the smaller of the two
was comprised of 1.2 times as many behavior settings. This led to a pattern where, on the average, a given resident of the smaller community participated in three times as many behavior settings as a resident of the larger community. Barker reasoned that to maintain the more numerous settings of the smaller town, residents were required to accept more positions of responsibility and that many of these settings were likely to include a larger proportion of people who were only marginally qualified to function therein. This led Barker to hypothesize that one important factor in the study of social settings has to do with its manning levels or the number of persons relative to the number of positions or roles within that setting.

A great deal of research was conducted looking into manning levels and particularly the impact of undermanned settings on setting occupants (Barker, 1960; Barker and Gump, 1964; Wicker and Kirmeyer, 1976). While some of Barker's original notions have been reformulated, the basic thrust of his undermanning hypothesis appears to be intact: that undermanned settings exert a greater "claim" on people by requiring greater effort and participation in a wider variety of roles; that actual proficiency levels at a given task are not likely to be as high since participants are carrying out a greater variety of tasks; that standards of performance are also likely to be lower since maintaining the setting is more
difficult when you have fewer available people; and that each individual is likely to have a greater sense of importance in an undermanned setting due to their increased responsibility but at the same time they will experience a greater sense of insecurity since they have more opportunities to fail.

**Development of the Social Climate Construct**

While this early research was revealing, it was also recognized that though the average person characteristics and the relationship between participants and leaders in a setting are important, it is not all-encompassing when it comes to understanding the dynamics of organizational functioning. Clearly, other relationships (e.g., participant to participant, participant to activity) can be important contributors to social dynamics as well, not to mention the influence of the physical environment and organizational variables as well (e.g., hierarchical structure). Any social setting assessment schema needed to be broader, focusing on the wide range of variables known to influence social climate. It was also recognized that better specification of variables was necessary if our understanding of social settings was to become more useful in designing intervention strategies.

The work of Rudolph Moos and his associates served to crystallize what had been missing in social setting research.
Moos more fully developed the concept of social climate to refer to the unique personality or qualities of social settings as determined by a myriad of variables beyond leadership and average person characteristics alone. Recognizing that settings create in individuals different psychological experiences, Moos' social climate model attempts not only to capture that experience conceptually, but also provides a means to more comprehensively measure it. Like the social-ecology paradigm, Moos' social climate model serves as an umbrella framework but is much more specific in its delineation of factors that need to be considered when assessing environments.

Moos and his associates turned to the use of statistical methods (factor analysis) to specify the underlying dimensions of social climate. Using observational and self-report methodology, pools of survey items relating to various setting characteristics were developed from which data was collected from various samples. These items spanned the range of possible influences on social climate and sampled areas such as leadership, peer relationships, organizational structure, policy/procedure, the physical environment, and organizational culture. Studies were conducted in a variety of settings including manufacturing, healthcare, educational, correctional, military, and psychiatric settings. Using factor analysis, item responses were grouped into subscales.
according to their correlations with each other. What Moos and his colleagues have generally found is that while the specific items which apply to various settings differ, three dimensions consistently emerge that serve to categorize the items that do apply. Moos and his colleagues call the three dimensions the relationship, personal development, and system maintenance/change dimensions.

The work of Gerst and Moos (1972) provides a good example of the application of this approach. Gerst and Moos looked at university residential environments in an attempt to identify the salient features of student living environments. Meetings were arranged with dormitory residents to discuss and record their perceptions and observations of dormitory living. Additionally, written accounts and observations of dormitory living were solicited from residents and housing personnel respectively. Information collected from these sources was then used to compile a 274 item questionnaire. Data from 74 residence halls was collected utilizing this original questionnaire, factor analyzed and the items grouped based on their intercorrelations. Redundant items and those having little relationship to others were eliminated from the original pool. The result was a 100 item assessment tool called the University Residence Environment Scale (URES).
The URES was found to be comprised of ten (10) subscales each containing items showing a high correlation with each other and low to moderate relationships to the other scales. These scales are: 1) involvement (degree of commitment to each other), 2) emotional support (extent of manifest concern for each other), 3) independence (diversity of behavior allowed without social sanctions being imposed), 4) traditional social orientation (degree of emphasis on dating and other traditional heterosexual interactions), 5) competition (degree to which activities in the setting are cast into a competitive framework), 6) academic achievement (importance of academic achievement in the setting), 7) intellectuality (emphasis on cultural, artistic, and other nonacademic intellectual activities), 8) order/organization (amount of formal structure in the form of rules and procedures), 9) student influence (extent of influence students have on decision-making in the setting), and 10) innovation (spontaneity, openness to new activities, variety of activities in the setting).

In looking at the URES data, Gerst and Moos concluded that the ten scales could be categorized into the three broader social climate dimensions. Involvement and emotional support comprise the relationship dimension; independence, traditional social orientation, competition, academic achievement, and intellectuality comprise the personal development dimension; and order/organization, student
influence, and innovation comprise the system maintenance/change dimension. As will be seen, when compared to the work setting characteristics identified by Moos (1987), the relationship, personal development, and system maintenance/change dimensions are comprised of somewhat different pools of items. The subscales which emerge in these studies are always partially unique to the characteristics of the setting. Emphasis on academic achievement, for example, is not likely to emerge in the typical work setting as a major environmental "press". However, it is the three main dimensions - relationships, personal development, and system maintenance/change - which do appear consistently across settings.

Definitions

In defining the social climate perspective as applied to occupational settings, Moos (1987) delineates the three dimensions thusly:

The Relationship Dimension

As suggested by its name, this dimension describes different aspects of personal relationships in a social setting. In the work environment three qualities are addressed: involvement, peer cohesion, and supervisor support.
Involvement has to do with the extent to which employees are concerned about and committed to their jobs. It describes the individual's own relationship to his/her work and work setting.

Peer cohesion has to do with the extent to which employees are friendly and supportive of one another. It describes the interpersonal relationships between coworkers in a given work setting.

Supervisor support has to do with the extent to which management is supportive of employees and encourages employees to be supportive of one another. It describes the human aspect of the more formal structural and hierarchical control mechanisms in work environments.

Research has been able to tease out the effects of these relationship variables on employee performance. For example, supervisor support can reduce the physical symptomology associated with video display operation (Stellman, 1987). In a study of video display terminal (VDT) operators, it was found that the psychosocial environment contributed strongly to physical symptoms experienced by employees. Supervisor supportiveness was related to the level of muscular aches and eyestrain felt by the operators with the greater the support the lower the physical symptomology.
More generally, an emphasis on the relationship dimension is associated with increased morale and job satisfaction (Moos, 1984). For example, lack of supervisor support was one of several factors found to be related to job dissatisfaction, mild depression, and withdrawal from patients among staff in a hospital burn treatment unit (Koran et al, 1983). Brady, Kinnaird, and Friedrich (1980) found that involvement, cohesion, and support was related to greater job satisfaction in staff members of an outpatient mental health center. Hunnicutt (1983) reported that involvement and supervisor support was related to lower levels of burnout in mental health workers. Support was also predictive of more positive work-related coping behavior. Finally, coworker support has also been found to help make demanding work situations less threatening (Stone et al., 1984).

In sum, the association between the relationship dimension and various employee outcomes appears to be generally a positive one. However, the mechanism of this association remains unclear. Moos (1984) has suggested that positive interpersonal relationships at work foster commitment and motivation. In turn, these are linked to lower absenteeism and dropout rates and to a more stable overall level of functioning in the setting. Other research seems to suggest a more mediating influence for the relationship dimension, i.e., support directly mediates an individuals'
experience of stressful conditions (Billings and Moos, 1982a, 1982b; Cronkite and Moos, 1983; Holohan and Moos, 1981). Whatever the mechanism, it does appear that the nature of the relationships between employees and between employees and supervisors is an important influence on the climate of the setting itself as well as the response of employees to those climate conditions. Additionally, the relationship between employees and their jobs (i.e., the involvement subscale) may be a reflection of the interpersonal climate itself or may be due to individual differences between employees.

The Personal Growth or Goal Orientation Dimension

The personal growth/goal orientation dimension assesses the ways in which an environment encourages or stifles personal growth and goal attainment. In the work environment three qualities are delineated: autonomy, task orientation, and work pressure.

Autonomy refers to the extent to which employees are encouraged to be self-sufficient and to make their own decisions. A work setting that is high in autonomy is one where employees are empowered by organizational policies to be actively involved in critical activities (e.g., planning and development) and where there is less direct hands-on supervision by managers.
Task orientation refers to the degree of emphasis placed on good planning, efficiency, and getting the job done. A work setting that is high in task orientation is one where people's activities are generally centered on the completion of tasks and one's job responsibilities. Relatively little time is spent socializing or engaged in non-work activities.

Work pressure refers to the degree to which the press of work and time urgency dominate the job milieu. High work pressure means that there are always deadlines to be met, overtime is a common occurrence (indeed, maybe even expected) and getting a lot of work done is important to everyone.

Generally, work settings characterized by the opportunity for independent action tend to promote morale and performance (Moos, 1976). On the other hand, the combination of high job demands and lack of freedom can have an especially detrimental impact on employee mental health and job satisfaction (Moos and Schaefer, 1987).

High work responsibility has been associated with the physiological concomitants of the stress response. Miller et al. (1970) demonstrated that hormone secretion levels and heart rates were higher in subjects who had exclusive control over a job task than passive associates who were present. High work pressure has also been associated with higher
incidence of coronary heart disease, though these effects may be mediated by other factors such as group support and individual differences in cognitive appraisal patterns (Rosenman et al., 1966; Friedman, 1969; Caffrey, 1968).

Organizational efforts to increase autonomy have been shown to buffer the influence of conflicting responsibilities, high work demands and other unfavorable organizational conditions (Ferris and Gilmore, 1984). However, it is obvious that the interrelationships between these qualities are varied and complex. Thus, attempts to intervene in settings characterized by climate problems stemming from autonomy, task orientation, and work pressure issues must often balance a number of counteracting forces.

The System Maintenance and Change Dimension

The system maintenance dimension refers to those aspects of work settings geared towards influencing and controlling day-to-day operations. The system change dimension refers to the adaptiveness of the organization to the demands of both their internal and external environments. There are four qualities of system maintenance and change that Moos defines: clarity, control, innovation, and physical comfort.
Clarity refers to the extent to which employees know what to expect in their daily routine and how explicitly rules and policies are communicated. Thus, clarity is reflective of the written and unwritten, formal and informal communication and performance feedback systems in the work setting.

Control refers to the extent to which management uses rules and pressures to regulate employee behavior and performance. It is reflective of the degree of limit setting that takes place in a given work setting. Settings high in control place clear limits on employee behavior that are usually enforced through strong contingency management. Low control can lead to chaos and disorganization.

Innovation refers to the degree of emphasis placed on variety, change, and new approaches. Innovation reflects the degree of flexibility the organization has that can be called upon to meet new demands and challenges rapidly and with minimal difficulties. When a work setting is flexible its employees can adjust to change and growth more efficiently.

Physical comfort refers to the extent to which the physical surroundings contribute to a pleasant work environment. Physical comfort is reflected in the design and amenities of the work environment. The physical environment
is seen as part of the system maintenance and change dimension because it "controls" actions by defining physical parameters which limit and/or make possible patterns of behavior in the organization.

The relationship between clarity and employee outcomes appears to be fairly straightforward. Clarity of job tasks and organizational policies, adequate performance feedback, and moderate structure all contribute to satisfaction and effectiveness in employees (Moos, 1976). The relationship between control and innovation to employee outcomes appears to be non-linear (Moos, 1984). Moderate emphasis on control serves to regulate and organize a setting and can promote goal orientation and personal growth. Research across different environments, however, shows that too strong an emphasis on control can be restrictive and inhibit individual development while overemphasis on change creates stress. Conversely, in the relative absence of these factors there is a higher prevalence of health and morale problems (Moos and Schaefer, 1987).

System maintenance/change qualities can also work in concert with other variables to exacerbate negative outcomes. For example, the combination of role ambiguity and lack of influence in decision making (a personal growth dimension) has been found to be related to poor morale and increased
detachment in hospital nurses (Maslach and Jackson, 1982), social workers (Jayaratne and Chess, 1984), and community mental health workers (Brady, Kinnaird, and Friedrich, 1980).

The office landscape can influence interaction patterns between employees through the seating arrangements of the setting and placement of internal boundaries (Gullahorn, 1952; Wells, 1965). Depending on management's goals, cohesiveness on an office- versus department-wide basis can be encouraged through strategic office design. On the other hand, research has indicated that even though the office landscape may increase group sociability its design may also result in increased noise levels, loss of privacy, and more visual distractions for employees (Brookes and Kaplan, 1972), all of which can negatively impact performance and effectiveness. Amenities such as paint color and factors such as cleanliness and tidiness have been shown to impact on the perceptions of persons in the setting when they are engaged in evaluative activities (Maslow and Mintz, 1956; Kasmar et al., 1968). More appealing color schemes and tidiness were associated with an increased likelihood of positive evaluations being given on a number of rating tasks. Carpeting has been found to reduce auditory distraction due to lowered noise levels in work settings (Greco, 1965).
A few investigators have examined the link between the physical features of health care settings with operational characteristics of the work setting and staff morale. Not surprisingly, staff working in newer, more pleasant physical facilities report higher satisfaction with their job (Folkins et al., 1977). Moos and Lemke (1980) found that when staff in residential care facilities have more adequate physical facilities, they tend to establish clearer policies for residents and provide them with more choice in their daily activities. Jaco (1979) found that the physical design of a nursing unit can affect staff morale and the type of care provided in it. Comparing radial and single corridor floor designs it was found that when the census was high and staffing low the level of patient care activities and direct bedside care was greater on the radial than single corridor units. However, when the census was low LPN's and nurse aides on the radial unit tended to use empty patient rooms for personal activities. As a consequence, radial unit RN's provided closer supervision of staff, especially during these times, and were not as likely to allow lesser trained staff to perform high level nursing functions. This appeared to result in lower levels of job satisfaction in the lesser trained staff. Staff relationships on the single corridor units were consistently more harmonious under these same conditions.
In summary, research on the systems maintenance/change dimension seems to indicate that moderate levels of control, high levels of clarity, and a moderate emphasis on change are associated with positive psychological and health conditions. The relationship between the physical attributes of settings and employee outcomes are much more complex and specific to the characteristic and outcomes being evaluated (e.g., color, amenity, design, etc.).

**Specific Applications: Hospital Milieus**

Research findings concerning the impact of climate conditions on employees in hospital settings has generally been consistent with findings obtained from other types of settings. For example, work settings that are high in coworker support can help make demanding patient care situations less threatening (Stone et al., 1984). On the other hand, nurses who report role ambiguity and lack of influence in decision making are more likely to experience poor morale and detachment, elements of the burnout syndrome (Maslach and Jackson, 1982). As is true for other types of settings, supervisory practices play an important role in setting climate conditions in health care environments. For example, it has been found that nurses who see their supervisors as oriented toward open communication report higher levels of job satisfaction (Duxbury et al., 1984).
Conversely, job dissatisfaction increases as nurses experience less independence and decision-making authority in their work (Decker, 1985; Gray-Toft and Anderson, 1985).

Despite the similarities, observations across settings highlight the fact that some work environments present unique challenges and stresses to their employees. For example, health care workers encounter (and must incorporate) new medical technologies on a constant basis. They face ethical dilemmas, human crises, cost containment efforts, and quality assurance reviews unlike those encountered in most work settings. Staffing shortages and unstable and unconventional work schedules are part and practice of health care work environments. A brief review of some of the research on hospital settings serves as an example of how the social climate construct can build our understanding of the uniqueness of specific organizations and/or types of work settings.

Moos and Schaefer (1987) have applied the social climate model to look specifically at the functioning of health care work settings. While they argue that research on health care settings needs to consider conceptual perspectives developed to understand other types of work environments, they also see the utility of recognizing the unique context of health care work itself. Utilizing Moos' Work Environment Scale these
authors have conducted a number of studies comparing health care and business work settings and concluded that there are special problems that seem to exist in health care work. For example, in comparison to business settings, health care workers report less job involvement, less coworker cohesion, and less supervisor support. Health care settings are generally seen by workers as more lacking in autonomy and clarity, as less physically comfortable, and as placing more emphasis on work demands and supervisor control. Moss and Schaefer conclude that these differences are probably the result of both the stressful and emotionally difficult nature of health care work and problems associated with working in large, highly structured organizations.

As might be expected, differences can exist between types of health care settings as well. In a comparison of staff from a residential care (RC) facility for elderly and those from a community mental health center (CMHC) these authors found that the RC staff were more committed to their jobs, supportive of each other, and saw their supervisors as more helpful. They reported higher than average autonomy, an emphasis on planning and efficiency, and little work pressure. In contrast, the CMHC staff reported conditions more commonly associated with health care settings. Little emphasis was placed on involvement while cohesion and supervisor support was rated as low. They saw their work as more demanding and
disorganized, reported a lack of clarity in expectations, and felt that there was poor communication with and support from supervisors. Moos and Schaefer did not speculate as to the reasons for the differences between RC and CMHC staff ratings of climate in this comparison. However, one possibility is that contrasts in the nature of the work, patients served, and the external socio-economic conditions within which each type of facility operates could have accounted for these differences.

While most of the research done in this area is of the correlational type there have been some attempts to causally link health care employees' performance and climate conditions. Capitalizing on naturally occurring experimental conditions Parkes (1982) followed student nurses who were temporarily assigned to a variety of medical units (medical or surgical) and who were required to work with both male and female clients. Climate measures of autonomy and social support were taken as were measures of performance, morale, and physical symptomology. The findings indicated that when student nurses were moved to wards that were higher in autonomy and work support, this was associated with a reduction in affective symptoms and an increase in job satisfaction. Furthermore, an increase in work support was related to improved performance whereas a move to a unit characterized by low support foreshadowed poorer performance.
In terms of organizational structure and policy, job formalization and centralization of decision making have been linked to lack of support and less emphasis on autonomy and clarity in health care settings (Moos and Schaefer, 1987). Parasuraman, Drake, and Zammuto (1982) studied nursing care modality (team vs. primary nursing) and found that team nursing units report higher levels of intershift staff conflict than primary nursing care units. In regards to scheduling, these authors also found that nurses who work night shift assignments experienced little role frustration or interunit conflict and had high levels of organizational commitment. Changes in the distribution of the work week (such as from 8 to 12 hr shifts) have also been linked to changes in climate, such as heightened job autonomy and innovation and reduced supervisor control (Eaton and Gottselig, 1980). Understaffing (a chronic problem in health care) has been related to poorer quality relationships between nurses, lower autonomy, and reduced clarity in roles and responsibilities (Drude and Lourie, 1984), an interesting footnote to Barker's manning level research.

In the area of task factors it has been found that nurses who work on units where patient cases are medically complex report more autonomy (Leatt and Schneck, 1982). Not surprisingly, employees working with long-term care patients of lower level functioning tend to be less satisfied than
employees working with patients functioning at an intermediate level (Buffam and Konick, 1982). However, the influence of task-related variables does not stand alone. For example, the interplay between task variables and supervisor support in leading to certain climate conditions was addressed by Mohl et al. (1982). These researchers looked at the work climate of general medical (GM) and intensive care (IC) units. IC staff reported higher levels of autonomy, cohesiveness, clarity, and task orientation. The authors suggest that this is, in part, a reflection of the task differences between the IC and GM settings. IC settings are characterized by more medically critical and complex cases requiring more individual and specific care. However, climate differences were noted between GM and IC units, as well as within each type of setting, based on supervisor support. Settings where supervisor support was high, whether it was a GM or IC setting, reported higher levels of autonomy, clarity, and cohesiveness as well. Thus, task factors alone did not account for the differences in climate conditions observed.

Social Climate as a Mediating Variable

Moos' social climate construct accounts for a wide range of variables known to impact organizational functioning. Having developed a conceptual framework for consistently defining and assessing social climate across settings, the
next step was to generate a theoretical model explicating the role of climate in social settings. Moos (1976) earlier proposed a model of the relationship of organizational factors to organizational outcomes. The model delineates the interplay of organizational, role, individual, and social climate factors. Organizational factors include size, shape (supervisor-employee ratio), degree of centralization, management practices, and automation. Roles and role concommitants refer to positions in the organizational hierarchy, and the rewards, responsibilities, and expectations associated with those positions. Individual variables include educational level of employees, personality factors, ethnicity, and other demographics.

In this early model, Moos proposed that organizational, role, and individual variables directly and interactively lead to the organization's social climate. That is, the cohesiveness, supportiveness, autonomy, pressure, clarity, comfort, etc. of a setting stems from the interplay of these factors. In turn, social climate was hypothesized to lead directly to important organizational and individual outcomes like job satisfaction, stress, absenteeism, turnover, etc. Thus, social climate is the net effect of organizational, role, and individual variables and serves as a mediating variable between these conditions and employee outcomes.
Support for Moos' early theoretical framework was drawn not from a direct examination of the model but rather from inferences based on other organizational research. For example, in looking at the data on company and work group size Moos found support for the mediating role of social climate. Talacchi (1960) had examined the effect of plant size on interpersonal relationships in the workplace (employee-employee, employee-supervisor, employee-management) and its subsequent effects on job satisfaction (satisfaction with the job itself or its nonmaterial rewards) and satisfaction with material rewards. Talacchi reasoned that increased size would lead to poorer interpersonal relationships at all levels which in turn would be associated with lower levels of job satisfaction. He proposed that satisfaction with material rewards (salary and fringe benefits) would not be negatively affected by plant size. He studied employees of 66 manufacturing (blue collar) and 27 nonmanufacturing (white collar) firms. The companies ranged in size from 10 to 1800 employees. Talacchi found that the larger the company the more the employees rated their interpersonal relationships as being less cohesive and supportive and the greater was their job dissatisfaction. As expected, satisfaction with the material rewards of the job was not related to the size of the plant. Many other studies encompassing a variety of settings
basically support these same findings. Porter and Lawler (1965) offer a comprehensive review of the studies done on job satisfaction and size. Overall, the quality of interpersonal relationships and employee's job satisfaction decreases as size increases in both manufacturing and nonmanufacturing firms.

In addition, other types of outcomes besides job satisfaction have been shown to be related to the poorer relationship dynamics that are common in larger organizations. For example, Thomas (1959) found that increasing size was associated with greater conflict in employee-supervisor relationships, especially in regards to role functions. In turn, where there was greater conflict in the organization, commitment to the company and work ethics were considerably lower. In England, the Acton Society Trust (1953) conducted a widely cited study on the negative effects associated with increased size. As size increased there was less involvement by employees on work unit issues, less interpersonal familiarity with each other, and more rumor inciting amongst employees. As could be expected, where these relationship dynamics existed there was less commitment to the company and poorer workforce morale.

Moos interprets these findings as supportive of his model because interpersonal relationships are viewed as a primary
indicator of social climate and the quality of those relationships appears to mediate job satisfaction.

Moos' early social climate model also proposed that role-related factors contribute to climate conditions which in turn is associated with employee outcomes. Harrell (1971) had demonstrated that the effects of increasing size on job satisfaction was similar for managers as well as staff. That is, managers in smaller firms reported greater satisfaction with their work than those in larger companies. A common denominator of the small company managers work experience was that they were involved in a broader range of decision-making in their jobs. However, it was unclear in this study whether the relationship between size and satisfaction was mediated by the degree of involvement in decision-making. For example, the study was conducted as part of a longitudinal tracking of Stanford Business School graduates. It was suggested that Stanford graduates have considerably more latitude in their selection of an employer and thus these findings may have been due to the selective differences between those who chose (and were chosen by) large versus smaller firms.

Porter's (1963) earlier work looking at the effects of size and job attitudes amongst managers from different levels helps to shed some light on the effects of size on manager's job satisfaction. Porter surveyed a nationwide sample of 1900
managers from small (<500), medium (500-5000), and large (>5000) companies. Managers were categorized into five different levels ranging from vice-president to low level administrator. The results indicated that job satisfaction was mediated by both company size and manager level. Lower and middle level managers in smaller companies were more satisfied with their jobs than their counterparts in larger firms. At upper and vice-presidential levels large company managers reported greater satisfaction. However, the key finding was that managers who described their jobs as requiring broad involvement in decision-making, and their companies as permitting of greater experimentation and imagination in the exercising of their duties were, across the board, more satisfied no matter what size company they came from. Thus, size per se may be important in manager's job satisfaction to the extent that it creates certain role demands. That is, it is the role demands which alter an employee's relationship to their work and therefore lead to a more (or less) satisfying work experience, at least for managers.

Towards a Unifying Paradigm

Moos' early work on his social climate model resulted in a conceptual framework for defining the construct more consistently. His early work also began to help
organizational practitioners understand the role of social climate in mediating the influence of organizational, role, and personal factors on employee outcomes. Moos' original framework was not, however, encompassing in several areas.

For example, while Moos' original model delineated social climate to be the result of organizational, role, and personal factors, these domains remained relatively broad in their definition. For instance, the domain of "organizational conditions" could encompass a range of factors from the design and maintenance of facilities to company policy and procedure. While Moos had developed a definitional framework to more specifically delineate and assess social climate, the model itself did not capture the full complexity of the construct as he had intended.

In terms of important individual outcomes, Moos' original model also did not take into account the broader spectrum of adaptational responses that might be associated with social climate. Early research in this area by Moos and others tended to focus on singular dysfunctional responses to organizational climate (e.g., job dissatisfaction, absenteeism, turnover, stress). The relationship between climate and effective human coping or adaptation was not addressed in the earlier work. Moos (1977) recognized that individuals cope with life transitions, health, and other
personal crises in different ways. Although stressful situations can have negative effects, it is obvious that some people are able to shape acceptable resolutions to situations while others are not. In fact, some people manage not only to survive but also to mature in the face of overwhelming hardship (Bunker and Webb, 1992). Thus, Moos felt the need to expand the model to account for the resources (both contextual and personal) necessary for effective adaptation and how they interact.

In an attempt to better account for these concerns, Moos (1984) further expanded his social climate model to look at the relationship between personal variables, environmental conditions, and human adaptation. In this reconceptualization, social climate is more clearly defined to be the result of physical and architectural factors, suprapersonal factors (i.e., the aggregate characteristics of persons in a given setting), and policy, program, and organizational factors which characterize a given work setting. Collectively, physical, architectural, suprapersonal, and organizational variables are referred to as the environmental conditions of a given setting.

The conceptual model posits that behavior and adaptation is the result of environmental conditions (e.g., a negative work climate) and/or personal factors. Personal factors
include sociodemographic variables, personal problems, and individual variables such as values, intellectual ability, and cognitive appraisal patterns. Moos included in the definition of personal factors work- and role-related variables such as type of work performed and the role status of the individual in the organization. His use of the term personal factors refers to any variable that is specific to the individual and he saw work- and role-related states not as organizational conditions but as conditions unique to a given individual.

In this model, behavioral outcomes are predicted to be the result of interference from an individual's personal problem, incongruence between the individual's values and those of the group as a whole, intimidating management practices, a mismatch between ability and job requirements, personality tendencies, or any of a number of specific or combined influences. The individual's adaptive response will be shaped by the personal attributes they bring to the setting as well as the behavioral options set by organizational conditions.

Moos proposed that environmental conditions and personal factors have a bearing on shaping the availability and quality of social resources that are important for effective coping. For example, the availability and quality of social networks, which are important mediators of coping, can be the result of
environmental conditions (e.g., the supportiveness of the work
group) and/or personal factors (e.g., the person's tendency to
seek support in times of stress). Thus, not only do
environmental and personal conditions themselves potentially
create stressful life situations, they also affect the
likelihood of effective coping in that situation as well.
Therefore, environmental conditions, personal factors, and
social resources all influence the nature and efficacy of the
individual's adaptational and coping responses. The
individual's health and well-being ultimately stems from the
interplay of these domains. Moos describes the model as
recursive, that is, the paths between these domains are
bidirectional and transactional. Reciprocal feedback can
occur at each stage.

Research Support

As a result of this reconceptualization, Moos and his
colleagues were able to begin defining more clearly the
complex antecedent conditions that influence the development
of specific climate states. For example, using a multiphasic
environmental assessment procedure wherein various levels of
the environment are simultaneously evaluated, Moos and Lemke
(1983) gathered data on 90 residential care settings for the
elderly to identify the determinants of social climate. In
looking specifically at cohesion among residents they found
that this climate state was more likely to develop in settings that combined physical amenities (such as attractive decorations in the halls), social-recreational aids (such as lounges furnished for casual conversation), and personal space. This combination of architectural factors encouraged social interaction but also provided that individual, personal time could be enjoyed. Moos and Lemke concluded that this balance allowed people to meet both their needs for affinity or socialization and individual reflection which led to overall patterns of healthier functioning amongst themselves.

Conversely, a climate of independence was more likely to emerge in facilities that offered more social activities while at the same time allowing residents more choice in organizing their daily lives and more control over certain aspects of facility policies. Physical features such as social-recreational aids and amenities in some cases indirectly contributed to a climate of independence by allowing facilities to select more socially competent residents which enabled the enactment of more flexible, autonomous policies. This is an example of the reciprocal, transactional relationship between the environmental and personal systems proposed in Moos' reconceptualization.

Other research has also contributed to better defining the determinants of social climate states. For example, in
university residential environments it has been found that supportive-achievement oriented climates are more likely to develop in women's or coed living units where there is a high proportion of double rooms, better recreational facilities, and more scholarly and intellectual activities (Moos, 1979). Double rooms and the availability of recreational facilities appeared to encourage the development of personal relationships while an intellectual atmosphere kept the students focused on the purposes of them being in college. This balance seems to have led to an overall, more positive level of interaction between students as compared to those in other residences where this balance did not exist. These findings again demonstrate the complex interplay of physical, organizational, and social variables in leading to specific climate conditions.

The Moos and Lemke (1983) study also examined a broad range of adaptational responses associated with these climate conditions. Residents in settings that emphasized a balance between cohesiveness and autonomy were more involved in facility-based and community-based activities and showed less use of health and daily living assistance services. Three-month resident turnover rates were also lower in these settings. Moos and Lemke concluded from this study that architectural and policy factors can promote supportive,
independence-oriented social climates which in turn seem to foster health-related functioning among residents.

Moos draws further support for this broadened model of social climate from research on social networks and coping processes. Moos and his colleagues have conducted several studies which have looked at the adaptive functioning in adults as it relates to their social connectedness (degree of involvement in family, community, church, work, etc.) and the quality of their social relationships (cohesiveness of and supportiveness from family and workmates). Moos cites this research as applicable to an evaluation of his model in several ways. First, the social network of a work setting represents one aspect of that organization's environment. As such, it may serve as a source of frustration and stress or as a resource that facilitates adaptive functioning in employees. Secondly, a person's social connectedness in one setting may likewise serve as a source of frustration and stress or as a resource that can affect adaptive functioning in another setting. Thus, it may represent a significant personal variable that a person brings with them to the work setting that can affect their functioning in that setting.

One set of studies looked at the availability and quality of social network resources as it relates to depression in both men and women (Billings and Moos, 1982a, 1982b; Cronkite
and Moos, 1983; Holohan and Moos, 1981). These studies controlled for personal variables including individual coping style and sociodemographics (other than gender). The results indicated that low levels of social connectedness in family and work settings was significantly related to level of depression for both men and women, with this relationship being somewhat stronger for females. Particularly important for women was the degree of support they experienced at work and at home, with those who were less depressed having far more support than those who were more dysfunctional.

These researchers also looked at the importance of supportive relationships as they are associated with stress resistance as well. Stress resistance was identified by a lack of psychosomatic and depressive symptoms despite exposure to what would typically be considered high levels of stress inducing situations. In comparison to a distressed group, the stress resistant individuals, especially females, were found to enjoy higher levels of family support than the distressed group. Family support provided a buffer for these individuals even when the source of their stress existed outside of their family network.

In looking more specifically at interactions across situations, Moos and his colleagues found that individuals not living in family situations were more negatively influenced by
work-related stress. They displayed less effective coping behaviors (e.g., avoidance-oriented behaviors) and higher rates of psychological distress. For those who did live in a family environment, the presence of work-related stress was associated with lower levels of family cohesion and generally higher rates of family dysfunction. Thus, even though family support can serve as a buffer, the family system itself can be impacted when work-related stress becomes too high.

The utility of extending the social climate construct to looking at social networks is highlighted by findings such as these which show that the adaptive functioning of an individual across settings can be mediated by the nature and quality of their social connectedness within settings. These findings emphasize the links that exist between settings and how our functioning in one can be influenced by the stress we experience in another. In Moos' reformulation of his model, social climate takes on a much broader relevance than in previous frameworks. In looking at the attitudinal and behavioral sequelae of social climate we need not limit our focus to circumscribed responses such as job satisfaction or employee morale, nor do we need to limit our focus to an individual's functioning within a given setting. Rather, we see that there is a broader spectrum of adaptive and maladaptive psychological functioning that is related to
social climate. This broader perspective allows for greater applicability of the social climate construct.
CHAPTER 3. EVALUATING THE SOCIAL CLIMATE MODEL

The social climate perspective has slowly evolved to provide a more comprehensive, unified perspective to understanding the interplay between social settings and the people who occupy them. As Moos and Schaefer (1987) advocate, organizational models and research must begin to look at work in a holistic context. This means considering the complex interplay between physical, social, and personal factors in determining climate conditions. It also means being able to explain not just the correlation between climate conditions and negative employee outcomes, but also how climate affects the efficacy of employees' adaptation and coping.

Moos' social climate construct provides a convenient and comprehensive means for conceptualizing and assessing organizational dynamics. It serves as a method by which to consistently measure organizations that allows for comparisons to be made across settings. This permits the identification of conditions and patterns unique to organizational types. When applied to a given setting, the social climate construct adds to an ethnographic understanding of that particular organization.

Moos' original social climate model (1976) defines the climate construct in relatively broad terms. Social climate
was defined as the net effect of organizational, role, and individual variables and was identified as a mediating variable to explain the impacts of these variables on employee behavior. In Moos' reconceptualization (1984), social climate was more specifically defined as the result of physical, architectural, suprapersonal, and organizational factors. Personal factors are seen as an independent contributor to employee outcomes in the model.

In comparing the two models, several differences can be noted. First, the latter version offers greater specificity in terms of separating the physical from the organizational in delineating the factors that contribute to social climate. Secondly, it also more fully developed the concept of person-variables to look at the influence of aggregate individual qualities in addition to individual differences. Unlike the original model, role-related factors are included in the definition of an individual or personal variable. Third, the independent and combined effects of climate and personal factors are related to a broader spectrum of employee functioning in the latter version. Finally, and of critical importance, is that the role of the social climate construct in this reconceptualization appears to be fundamentally changed. While not necessarily highlighted in the model or supporting research, social climate does not appear to be identified as the primary mediating factor in determining
employee behavior. Rather, the construct seems to be used more descriptively to characterize, in sum, the environmental conditions of the work setting.

Conceptually, this difference between the early and later models is significant. It raises the fundamental question of how climate conditions are linked to employee behavior and functioning. The strength of Moos' social climate construct is that it provides a convenient means for conceptualizing the myriad of organizational conditions that influence employee behavior. It brings together, under an umbrella framework, the vast and varied research that has been conducted concerning the impact of organizational settings on its participants in general. The social climate model does not, however, explicate or propose an explanation for the "mechanism" by which climate conditions influence employee behavior and functioning. That is, how do organizational conditions exert their influence on employees? Is there a common mechanism by which climate conditions affect employees, or does each variable or variable-type have a specific explanatory link to employee outcomes? For example, do the physical conditions of the setting, supervisor support, and role-related variables influence employee performance through the same process(es), or are they different?
Organizational researchers who have looked at the influence of climate variables have suggested that these conditions themselves generally do not lead directly to coping responses or performance patterns in employees (Ivancevich and Matteson, 1980; Payne, Jick, and Burke, 1982; Levi, 1981; Marshall and Cooper, 1979; Frankenhaeuser et al, 1989). In particular, these researchers have looked at the role of stress as the key to understanding the link between organizational conditions and the behavioral and performance-related variables that have been the focus of climate outcome research. In general, stress theory and research has been a vital stimulus to theory development and empirical investigation in the organizational arena, especially in terms of understanding the process by which various organizational conditions result in a wide range of negative employee outcomes (Kahn and Byosiere, 1992).

**Stress as the Mediating Variable**

In their review of the organizational stress literature, Kahn and Byosiere (1992) compare the major models of stress. The models reflect a mix of disciplines, including psychology, sociology, biology, and medicine. Most of the models are not explicit about organizational variables (e.g., Elliot and Eisdorfer, 1982; McGrath, 1976; Lazarus, Delongis, Folkman, and Gruen, 1985; Dohrenwend, Pearlin, Clayton, Hanburg, Riley,
and Rose, 1982), but several were developed within the organizational arena specifically to guide research in the investigation of organizational stress (e.g., Ivancevich and Matteson, 1980; Schuler, 1981; Beehr and Franz, 1987; Marshall and Cooper, 1979; Frankenhaeuser et al, 1989; French and Kahn, 1962). Despite these different theoretical backgrounds, the models do converge on several key points.

For example, they all conceptualize stress as a process involving the same basic sequence: a) the presence of a taxing or damaging stimulus (stressor), b) a set of psychological, physiological, and behavioral responses triggered by that stimulus (stress response), and c) a more or less complex array of longer-term consequences in which the well-being of the individual is involved (e.g., health problems, dysfunctional coping responses). Additionally, there is partial agreement among the models about the ways in which the stress sequence is moderated or influenced by contextual factors, including material and social resources present in the environment, and individual characteristics that add up to what epidemiologists refer to as host resistance.

The applicability of this basic stress model to social climate research is evident. The stress model predicts that the human experience of employees, triggered by organizational conditions, serves as the basis for longer term consequences.
to the individual and, ultimately, to the organization. The social climate perspective provides an integrated and holistic means of conceptualizing organizational conditions, structural and processual, that affect the likelihood of stress. What the stress models offer are a means to begin understanding the link between organizational conditions and their eventual individual and organizational consequences. A brief examination of two pieces of organizational stress research will serve to illustrate some of the empirical evidence supporting the stress model and its relevance to social climate research.

Research Support

Parasuraman and Alutto (1984) proposed what they refer to as a structural model of the causes and consequences of job stress in organizations. The model posits that system characteristics, role- and job-related variables (e.g., job level, task characteristics, and shift work), and personal variables (e.g., personality and demographics) can interact and directly contribute to employee performance problems and turnover in an organization. For example, a given individual may be mismatched with a particular job in terms of the skill and/or knowledge requirements of the position. This can lead to the individual not being able to meet the performance standards of the position and having to be let go.
Parasuraman and Alutto also propose that system, role-/job-related, and personal variables can indirectly impact performance by first affecting employee stress levels. The model suggests that the stress experienced by employees in the presence of organizational realities and situational stressors (e.g., resource deficiencies, staff shortages, equipment failure) is the chief antecedent to actual performance outcomes. This occurs because of the interference stress can have on job performance, the effect it can have on employee health, or because stress tends to decrease levels of job satisfaction and organizational commitment. Thus, in the Parasuraman and Alutto model, social climate variables are viewed as contributors to job stress, while stress itself is seen as the key variable mediating the influence of organizational conditions and personal variables on behavioral or performance outcomes.

The main research carried out to examine this model was conducted in a medium-sized (approximately 350 employees) food processing company (Parasuraman and Alutto, 1984). The authors employed a stepwise multiple regression path analysis to examine the tenability of the model and the strength of the linkages among system variables. Social climate variables looked at in the study included autonomy, job involvement (i.e., participation in decision-making), work pressure (e.g., short lead times), unit conflict, and supervisor support.
Role- and job-related variables included job level, task complexity, task routinization, and interdependence of a given position to other positions in the company. Personal factors included locus of control, trait anxiety, and various demographic variables (i.e., sex, age, tenure). Dependant measures included self-ratings of job stress, role frustration and organizational commitment, as well as performance ratings by supervisors and turnover rates.

In general, the data indicated that personal variables negatively influenced employee's stress levels more strongly than role-related variables when confronting situational stressors. In particular, trait anxiety and external locus of control increased the perceived stressfulness of short lead times and exacerbated role frustration for employees. Organizational tenure and age were the most potent of the demographic effects with younger, less tenured employees reporting greater levels of stress. The authors suggest that this is due to the enhanced stress tolerance of older employees deriving from the greater maturity generally associated with age. In terms of role-related factors, task complexity and job level were the only variables found to have significant relationships to employee stress. Generally, greater task complexity led to more stress while supervisors and managers reported less stress than staff. Overall, none of the personal or role-related variables were found to be
significantly related to the behavioral measures assessed (i.e., performance ratings or turnover rates).

In comparison to the personal and role-related variables, Parasuraman and Alutto did find social climate factors to have relatively stronger relationships to job stress and its behavioral correlates. Both job autonomy and involvement in decision-making were independently related to lower levels of stress, more positive job attitudes, and reduced employee turnover. Anecdotal data suggested that job involvement itself tended to diminish role frustration by tempering the adverse perceptions of work overload and low status. These findings are consistent with the conclusions of Buck (1972) and McLean (1979) who suggest that it is the perceived lack of control that renders particular situations stressful. However, as Parasuraman and Alutto point out, it could be argued that high levels of job involvement set the stage for employees to report a more internal locus of control. Thus, it may be job involvement, as opposed to locus of control itself, that is the key mediator of job stress. Indeed, the correlation between job involvement and locus of control was found to be significant, albeit a weak one.

Additionally, the study found that supervisor support was strongly related to employee stress levels, performance ratings and turnover. In general, the less support and
attention employees received from supervisors, the greater their role frustration. Conversely, high support and levels of attention were associated with increased levels of job satisfaction, organizational commitment, and performance. On the other hand, in looking at the level of supervision provided, Parasuraman and Alutto found that too much supervisor attention was associated with more negative outcomes. When supervision was very close employees experienced greater role frustration, had poorer performance ratings, and displayed higher levels of voluntary turnover. The authors hypothesized that these findings may be due to the limiting effects on perceived behavioral options that close supervision can lead to. Thus, both the level and quality of supervisor attention are important when considering the effects of supervisor support on employee outcomes.

Overall, Parasuraman and Alutto concluded that there was qualified support for their model in this study. The stepwise regression revealed that employee stress and organizational commitment were the factors most strongly associated with turnover and performance ratings. System, role, and personal variables did not display as strong a correlation to performance and turnover as they had proposed in the model. Rather, it was their influence on the stress experienced by employees, and the resultant low levels of commitment, that
served to link these variables to poor performance and turnover.

Gray-Toft and Anderson (1985) have developed a model of organizational stress derived from research on hospital settings. In this model, employee behavioral outcomes (e.g., absenteeism) are hypothesized to be the result of attitudinal states in employees (e.g., job satisfaction). In turn, attitudinal variables such as job satisfaction are posited to be the direct result of the stress employees experience in the work setting. Organizational climate is seen as a trigger to job-stress, which can then lead to decreased job satisfaction and, eventually, poor work attendance. Person-variables serve to mediate stress by influencing role perceptions and attitudes. Gray-Toft and Anderson do not hypothesize a direct relationship between organizational climate and personal characteristics to behavioral outcomes. They limit the role of these factors to an indirect impact on behavior that occurs primarily through their influence on role perceptions, attitudes, and stress levels. Thus, stress and attitude states are viewed as a primary mediating variables in this model.

Data collected to estimate the parameters of the model was obtained from 159 nurses on seven units in a large (1,160 bed) private teaching hospital in the Midwest. Social climate
was assessed via a self-report questionnaire patterned after the Michigan Organizational Assessment Questionnaire. Climate variables assessed included nursing unit communication patterns (i.e., openness of supervisors in sharing information with subordinates), unit problem-solving processes (i.e., team-vs. authority-based decision-making), work group relations (i.e., conflictive vs. harmonious), role clarity, and role conflict. Personal variables included basic demographics and a measure of trait anxiety (IPAT Anxiety Scale). Stress and job satisfaction were assessed using the Nursing Stress Scale (Gray-Toft and Anderson, 1981) and the Job Description Index (Smith et al., 1969) respectively. Absenteeism served as the behavioral outcome focused upon in the study. Multiple correlation and partial regression analyses were employed to statistically evaluate the data.

The authors report that the data strongly supported the mediating role of job stress and satisfaction proposed in the model. Specifically, in those settings where social climate supported a more open expression of views and joint problem solving there was less role conflict and ambiguity, lower stress levels, increased job satisfaction, and reduced absenteeism. The only personal variables significantly related to role conflict, ambiguity, job satisfaction, stress, and absenteeism were trait anxiety and the employee's level of training and education. Trait anxiety was associated with
higher rates of stress, role conflict and ambiguity, job dissatisfaction, and absenteeism. Interestingly, level of training and education was found to be positively related to role conflict, ambiguity and stress. The authors suggest that this may be an occupation-related effect since higher trained nurses tend to have a broader scope of responsibility which may put them in conflicting roles with other health professionals (i.e., physicians, technicians, etc.) at times. The higher levels of training also mean they are more likely to have primary responsibilities in life and death situations, which is certain to increase stress levels.

As predicted, absenteeism was found to largely be a function of job satisfaction and stress. Interestingly, job satisfaction itself was the single largest direct contributor to absenteeism when compared to role conflict and ambiguity, training, anxiety, climate and stress. Gray-Toft and Anderson concluded that the net effect of the independent variables was that they lead to higher levels of job-related stress which in turn is associated with lower levels of perceived satisfaction with the work setting. Thus, it is the employee's experience of the setting, as indicated by stress and job satisfaction, that mediates the influence of climate and personal characteristics in determining absenteeism. This is consistent with the findings of Parasuraman and Alutto.
While Moos' (1984) reconceptualization of his social climate model includes the concept of stress as a precursor to adaptive functioning, he does not explicitly denote stress as a mediating variable. That is, stress is not explicitly discussed as the mechanism by which climate conditions affect employees in ways that ultimately lead to (dys)functional individual and organizational outcomes. While it can be inferred that Moos intends for stress to be viewed as a primary mediator of individual and organizational outcomes, the issue of how social climate (or the context within which behavior occurs) is linked to adaptive functioning is not addressed directly in his discussion of the model. As the research of Parasuraman and Alutto (1984) and Gray-Toft and Anderson (1985) indicate, stress and associated attitudinal states like job satisfaction seem to account more for employee behavior than climate states themselves. Thus, inclusion of employee stress as a mediating variable when considering the impact of social climate appears to be critical to the accuracy of the social climate model, and inclusion of stress measures appears to be essential in social climate research.

Evaluating Organizational Stress Research

While the literature on organizational stress is a rich one, it is not without its weaknesses. For example, Kahn and Byosiere (1992) point out one limitation has been that
research looking into the relationship between organizational stressors (i.e., climate variables) and employee outcomes has not always focused on job- or organizationally-relevant stress responses. Many organizational stress studies have employed traditional stress indicators, such as physiological reactions, as measures of people's stress response. For example, work stressors such as unpredictability at work, lack of control over work pace, distracting noise, intermittent work demand, and compensation methods have all been associated with increased catecholamine levels (Frankenhaeuser, 1979; Johansson, Aronsson, and Lindstrom, 1978; Gardell, 1987). Though less consistent, research findings have also linked cortisol levels to conditions such as work load and pace (Rose, 1987). Additionally, role conflict/ambiguity and work pace have also been correlated to elevated blood pressure, cholesterol, and triglyceride levels in employees (Kittel, 1983; Howard, Cunningham, and Rechnitzer, 1986). While it is important to understand the physiological changes that occur in the person working in a stress-inducing environment, these are not typically readily identifiable or observable responses. If organizational research is to aid in developing and focussing stress interventions in the workplace, job-related psychological and behavioral indicators of stress need to be identified so that the warning signs of a person's developing stress level are more evident.
This is not to say that organizational stress research has not looked at psychological and behavioral responses to workplace conditions. Affective states, employee performance variables, and coping patterns that are likely to be potential markers of stress have been studied. Much of that research that has already been reviewed in the discussion of Moos' social climate model. For example, anxiety (Billings and Moos, 1982; Hurrell, 1985; Jayaratne, Tripoldi, and Chess, 1983), depression (Billings and Moos, 1982; Caplan, and Jones, 1975; Hurrell, 1985; Jayaratne and Chess, 1984; Winnubst, Marcelissen, and Kleber, 1982), accident and error rates (Thoerell, 1974; Colquhoren, 1976), and self-damaging behavior, e.g., smoking, alcohol use, intentional misdeeds at work, (Mangione and Quinn, 1975; Davidson and Cooper, 1986; Howard, Cunningham, and Rechnitzer, 1986) have all been found to be correlated with work stressors such as pace and volume of work, group dynamics, supervisor support, and physical distractions. One problem with this research, however, is that many of these responses are only evident "after the fact," that is, after the person has exceeded some level of stress tolerance. Thus, while they may be more observable and readily identifiable than physiological indicators, they do not necessarily serve as early signs of the person's developing stress and therefore do not necessarily contribute to our ability to intervene early in a potential problem.
Finally, much of the research in this area has not controlled for the possibility that the stress indicators looked at may be a function of nonwork sources of stress (Kahn and Byosiere, 1992; Golembiewski and Munzenrider, 1988; MacNeil, 1981). Certainly, some of the self-damaging coping behaviors noted above could just as well be related to sources of stress outside of work. Although it has been assumed, relatively little research has been done isolating the nonwork sources of stress and finding, for example, that home and family responsibilities do affect attitudes and behavior at work (Burden, 1986; Kelly and Voydanoff, 1985). This further emphasizes the need for organizational research to focus not just on identifying early signs of employee stress, but also on how people respond specifically to the stress that they experience at work.

The research of Parasuraman and Alutto (1984) and Gray-Toft and Anderson (1985) suggests that one approach to developing a more useful organizational stress model is to focus on the job-relevant attitudinal and affective responses employees are experiencing in the face of stressful climate conditions. As the findings of these two studies indicate, employee attitudes such as job-satisfaction and affective states such as role-frustration and self-reported job-stress appear to be good predictors of behavioral and performance outcomes. As stress markers, these kinds of states would seem
to be readily identifiable, measurable, and easily traced to the person's work experience. Research that identifies other such markers could help to improve prediction, and therefore prevention, of the long-term negative consequences that exposure to stressful organizational climate conditions can lead to.

**Burnout as a Marker of Job-Related Stress**

The most frequently studied job-related attitudinal and affective states in the organizational stress literature appears to be job (dis)satisfaction and a grouping of responses that can be roughly described as job-related emotional arousal. For example, in their review of the literature, Kahn and Byosiere (1992) cite no less than twenty-four studies published since 1975 that have investigated the relationship between various climate variables and self-reported job (dis)satisfaction. Likewise, they also review twenty-six studies published since 1975 that have looked at various expressions of emotional arousal at work - including anxiety, frustration, irritation, hostility, strain, and tension - and which report expected relationships between them and a host of different climate variables. The basic assumption underlying this body of research is that such attitudinal and emotional states interfere with employee motivation and behavior and, consistent with Parasuraman and
Alutto (1984) and Gray-Toft and Anderson (1985), many have found that these variables display stronger relationships to behavioral outcomes than do climate variables themselves.

In comparison, relatively fewer studies appear to have been conducted looking at the relationship of organizational climate conditions to the syndrome of burnout. In the Kahn and Byosiere (1992) review, for example, only four studies are cited that looked specifically at climate conditions as they relate to this syndrome of job-related stress. In their earlier review of the burnout literature, Maslach and Jackson (1986) concluded that the identification of organizational conditions related to burnout continues to be an area in need of further investigation. While it is true that much of the research that has looked at other psychological responses associated with stressful organizational climate conditions is relevant to the concept of burnout, burnout has become an important clinical syndrome worthy of specific investigation itself (Paine, 1981; MacNeil, 1981; Golembiewski and Munzenrider, 1988).

Burnout has been described by Maslach and Jackson (1986) as a syndrome of negative affective and cognitive states associated with a person's current experience of their job. According to these researchers, the syndrome is comprised of feelings of emotional exhaustion, depersonalization, and a
reduced sense of effectiveness or accomplishment at work. The syndrome was originally thought to be a condition unique to people who work in the area of human services. The nature of human service work is such that interactions between caregiver and client are usually problem-centered. That is, these interactions are typically very intense and focused on the client's current problems, which may be physical, social, or psychological in nature. As Maslach and Jackson (1986) indicate, these interactions are frequently charged with strong emotions, including anger, embarrassment, fear, or despair. Because solutions to client problems are not always obvious and easily obtainable, the person whose role it is to facilitate the resolution of the client's problem(s) can become chronically stressed and emotionally drained.

Maslach and Jackson (1986) describe emotional exhaustion as referring to feelings of being emotionally overextended and fatigued because of work. Emotional exhaustion can be the result of both the volume as well as the intensity and problem-centeredness of one's work. It is a depletion of a person's psychological energy that results from involvement in emotionally-charged human interactions.

Depersonalization refers to an unfeeling, insensitive, and impersonal attitude that can develop towards clients of the human service professional due to the ongoing negative
focus of dealing with people's problems on a daily basis and often futile results of the professional's problem-resolution efforts (Maslach and Jackson, 1986). This attitude can be expressed in a reduction of empathy, care, or understanding for, increased frustration with, and impersonal treatment of others. Depersonalization can lead workers to view their clients as somehow deserving of their troubles (Ryan, 1971).

Accompanying prolonged periods of exhaustion and insensitivity, a reduced sense of personal effectiveness or accomplishment often develops (Maslach and Jackson, 1986). This can surface in feelings that one is not positively influencing the lives of others around them, is not contributing positively to the work of the group, or is not as productive in their work as they are otherwise.

Maslach and Jackson (1986) conceptualize burnout as a continuous variable ranging from high to low. Similar to the concept of stress, it is a process that is thought to involve exposure to difficult, frustrating human interactions which, over time, can lead to negative attitudes towards oneself and others and a lowered reserve of emotional resources. A high degree of burnout is characterized by increased emotional exhaustion and depersonalization and a lowered sense of personal effectiveness or accomplishment. A low degree of burnout is reflected in low levels of fatigue and a continued
sense of empathy and sensitivity towards others and effectiveness in one's work.

The virulence of these three dimensions have been examined by Shinn (1979), Cherniss (1980), and Golembiewski and Munzenrider (1988) who each have developed models of burnout that are explicit about the development of the condition. In these models, subsequent to exposure to stressful working conditions, burnout is seen as evolving first with the development of insensitive and negative attitudes towards others (depersonalization) followed by a decreased sense of personal accomplishment, which can ultimately result in emotional exhaustion as ones coping efforts prove unsuccessful. The basic progression: depersonalization - reduced personal accomplishment - emotional exhaustion, is explained in more theoretic terms by Golembiewski and Munzenrider (1988).

Job stress, which represents some balance between the demands of work and the internal/external resources available to deal with that stress, over time can lead to job-derived strain, which is typically reflected in irritability, frustration, and fatigue. Initial coping attempts frequently surface as a form of denial or "detached concern" for others (Lief and Fox, 1963), which can be useful because this creates some "distance" between the person and the stressor without
actual physical removal from the situation. Detached concern seeks a precarious balance: being accessible to others and concerned about them, but in ways that permit one to remain objective and skillful in situations that otherwise might be overwhelming. Such "distancing" becomes counterproductive when it results in emotional disengagement (insensitivity), cynicism, or withdrawal from work. Inappropriate emotional distancing may occur in the form of negative labeling (Maslach, 1978) or blaming of others (Ryan, 1971), prejudice or responding to others on the basis of membership in some category (e.g., "this is not a person, this is a case of X"), or the use of various devices to create a depersonalized structure in one's relationship to others in the work setting (e.g., such as appurtenances of power, status, or professional standing).

A reduced sense of personal accomplishment naturally follows when one's experience with people and the work itself is so negatively tainted. For example, if one's work mates or clients/customers are seen as a nuisance, inept, or to blame for their problems, the employee's self-evaluation of their effectiveness in working with these other people is likely to be negative (Maslach, 1978). Such negative valuations of work and others then begins to affect the individual's performance directly by reducing motivation and the quality of their work effort.
When the process of depersonalization and reduced personal accomplishment progresses to a sufficient degree, the stage is set for the development of emotional exhaustion. Continued unsuccessful efforts to cope with the stress of work, and escalating negative evaluations of self and others, creates a downward, self-reinforcing spiral of deepening irritability, frustration, and fatigue (Freudenberger, 1977). Unless it is checked, the spiral can lead to emotional and physical collapse.

While it is understandable how burnout can easily develop in those in the human services fields, these symptoms are hardly unique to such occupations. Stress is a common aspect of the work experience in general and exposure to difficult, frustrating, and emotional human interactions is not unique to human service occupations alone. Research findings in the organizational stress literature indicate that stress is experienced most frequently as job dissatisfaction, frustration, irritation, feelings of alienation from work and others, lack of commitment, boredom, fatigue, feelings of helplessness or hopelessness, lack of vigor, depressed mood, and lowered self-confidence and self-esteem (Kahn and Byosiere, 1992). Taken together, all of these symptoms would appear to describe the syndrome, or at least aspects of it, as Maslach and Jackson (1986) have. Thus, just as it has been suggested that social climate serves as a useful means for
summarizing organizational conditions, it is likewise suggested that burnout serves as a means for characterizing the process whereby a myriad of potentially negative attitudinal and affective states can develop over time in the presence of job-related stressors. As such, it is a construct that can facilitate conceptualization, research, and communication of what happens to people when they must function under difficult work circumstances, especially those involving frustrating human interactions.

Other researchers have arrived at similar or supporting conclusions concerning the applicability of the burnout concept to other occupational groups and the definition of burnout as a stress-related condition. For example, in a comparison of the occupational stress and burnout literature, MacNeil (1981) concluded that those who study the "burned-out" human service worker and those who deal with the "occupationally stressed" employee are seeing essentially the same phenomena but in different settings. The same terms used to describe each, e.g., dissatisfaction, boredom, anxiety, irritation, depression, negative attitudes towards others, etc., are transposable between the two bodies of literature. In reviewing the research in both domains, MacNeil also pointed out that findings detailing the correlates (both antecedent and consequent) of burnout were significantly consistent, with a more substantial organizational stress
database accumulated up to that point in time. Thus, rather than viewing burnout as a separate and distinct phenomenon, MacNeil (1981) argues that it needs to be viewed within the framework of stress theory and its place found in the attendant, voluminous organizational stress database.

Paine (1981) took a different path to investigate whether burnout represents a clinically unique syndrome. He determined that according to DSM III, the diagnosis of Dysthymic Disorder (Depressive Neurosis) came closest to the way burnout is described in the literature, although some aspects of the description of Adjustment Disorder also appeared relevant. However, he concluded that there were several major problems inherent in defining burnout as either. For example, Dysthymic Disorder has an implied etiology that is more internal and based on past experience, tends to be more general in its impact on physical, emotional, and interpersonal functioning, and tends to be a chronic condition. Adjustment reactions are maladaptive responses to an identifiable stressor that occurs within three months of onset of the stressor. Burnout, on the other hand, is much more related to job stress (an external factor active in the present and recent past), its negative impacts appear to be relatively more confined to the job (at least in its early stages), generally seems to take longer than three months to develop, and seems to be more readily reversed than a chronic
condition such Dysthymic Disorder. Paine (1981) felt that descriptions of burnout appear to meet the DSM definition of a syndrome, and he argues that it is most appropriately viewed as a stress syndrome with identifiable clusters of feelings and behaviors commonly associated with working in frustrating work environments. A comparison of DSM III and III-R reveals no substantive differences in their descriptions of Dysthymic Disorder and Adjustment Reaction, thus Paine's analysis and conclusions would appear to be remain germane.

Burnout Research

It has long been reported in the literature that burnout incidence data is scarce (Maslach and Jackson, 1984). In the present review of the burnout literature, only one study was found that included an epidemiological perspective in their look at burnout. Golembiewski and Munzenrider (1988) examined burnout survey data collected from 33 work sites on a total sample of 12,031 employees. Interestingly, the samples were not all from the human service industry and included construction laborers, retail sales, clerical support staff, students, oil drillers, and human resource staff, among others. Using an eight-phase model of burnout described in Golembiewski and Munzenrider (1988), they found that 42.3% of the respondents fell into the lowest cluster of phases in their model (Phases I-III), while 43.2% fell into the highest
cluster (Phases VI-VIII). Phase IV contained 9.8% of all respondents and Phase V, 4.7%. (In their model the low cluster describes early stage burnout and the high cluster describes advanced stage burnout). This bimodal distribution curve seemed to describe fairly accurately the majority of worksites surveyed. Specifically, 29 of the 33 worksites had at least 20 percent of their members in each of the two extreme clusters while 15 sites had approximately 40 percent in each of them. They concluded that contrary to their original assumption that burnout would be a normally-distributed phenomenon, it appears to be bimodally-distributed. Most people surveyed (approximately 85.5%) reported either low or high levels of burnout, with this group being roughly split between the two levels. Based on this pattern, they argue that burnout seems to be a substantial problem in need of further research, with incidence rates of high levels of burnout in the organizations sampled clearly being unacceptable.

Research looking at the relationship of job- and organizational variables to burnout has been broadly-focused. In general, the findings of this body of research have been in the predicted directions. For example, burnout has been shown to have a positive correlation with caseload size (Maslach and Jackson, 1984; Maslach and Pines, 1977), time spent in direct contact with clients (Lewiston, Conley, and Blessing-Moore,
1981; Maslach and Jackson, 1982), difficulty of client problems (Meadow, 1981; Pines and Maslach, 1978), role conflict (Schwab and Iwanicki, 1982), and work pressure (Rosenthal, Teague, Retish, West, and Vessell, 1983). Low levels of peer support (Maslach and Jackson, 1982; Burke, Shearer, and Deszca, 1984) and lack of promotional opportunities (Gaines and Jermier, 1983) have also been found to be related to higher ratings of burnout.

There has been at least one study that has looked specifically at burnout as defined by Maslach and Jackson and Moos' social climate model. Golembiewski and Munzenrider (1988) collected data from employees at 23 locations in a national chain of life-care retirement centers (N=2,393). The staff came from all major divisions of each organization, including administration, maintenance, dietary, housekeeping, and resident care. The sample represents 90% of all staff employed by the parent corporation. Employing norms that they have developed for the Maslach Burnout Inventory (MBI) for categorizing high and low burnout, Golembiewski and Munzenrider (1988) found significant differences between the high and low burnout groups for six of Moos' ten social climate scales. Involvement, supervisor support, autonomy, clarity, and physical comfort were significantly lower in the high burnout group. In addition, work pressure was significantly greater in the high burnout group. Three other
scales - peer cohesion, task orientation, and control - trended in the expected directions (lower peer cohesion and task orientation and higher control in the high burnout group) and closely approached, but did not meet, statistical significance.

In terms of outcome research, burnout has been linked to job dissatisfaction (Maslach and Jackson, 1982), low job performance ratings (Nowack and Hanson, 1983), intention to quit (Maslach and Jackson, 1984; Jackson and Maslach, 1982), and actual job turnover (Maslach and Jackson, 1986). Consistent with the literature demonstrating the longer term or farther reaching implications of job stress, burnout has also been associated with nonwork problems such as increased likelihood of family problems (Jackson and Maslach, 1982; Maslach and Jackson, 1979) and incidence of health problems (Belcastro and Gold, 1982; Belcastro, Gold, and Grant, 1982; Burke, Shearer, and Deszca, 1984). Individual coping styles have also been correlated to burnout. For example, Maslach and Jackson (1982) found that high degrees of burnout are associated with withdrawal coping strategies, such as avoiding people and using distraction to shut off thinking about one's job, while low levels of burnout were found to be associated with social-oriented coping strategies, such as talking to others about the job or seeking advice when in trouble.
In summarizing the literature on burnout and organizational factors several patterns and research issues can be identified. Maslach and Jackson (1986) conclude that survey research employing multiple regression techniques has identified several organizational factors that appear to contribute to burnout. Among those that seem to be most contributory, however, are those having to do with the nature of the employee's role in the organization and the degree of social support present (Anderson and Iwanicki, 1984; Pierson-Hubeny and Archambault, 1984; Schwab and Iwanicki, 1982). These studies suggest that role ambiguity, level of autonomy, level of participation in decision-making, and both peer and supervisor support have predicted a significant amount of variance in self-reports of depersonalization, emotional exhaustion, and personal accomplishment.

In general, Maslach and Jackson (1986) report that variance accounted for has been highest for emotional exhaustion (up to 30 percent), and lower for depersonalization (20 percent to 30 percent) and personal accomplishment (10 percent to 20 percent). In discussing possible reasons as to why research has not been able to explain a higher proportion of variance in these burnout dimensions, Maslach and Jackson (1986) suggest that one reason may be because most burnout research has been limited to the human service professions and, therefore, certain setting types. For example, many
studies have focused on burnout in teachers and Maslach and Jackson (1986) feel that it is feasible that organizational researchers have not yet identified the proper predictors within the context of educational institutions. Moreover, and perhaps more importantly, they note that predictor variables have not always been theory-derived. Rather, as Moos and Schaefer (1987) recognized, organizational outcome research has had a tendency to focus on predictor variables due to their face validity or because they have been of unique interest to the researcher or of popular interest in the management literature. As the review of the social climate research has indicated, by virtue of the kind of work they do different organizational settings can have unique setting characteristics (Moos, 1987). This emphasizes the need to ensure that research looking at the organizational concomitants of burnout is based on sound theory and a thorough understanding of organizational structure and dynamics.

Additionally, while work setting research has a rich theoretical and empirical background, stress and burnout have typically been viewed exclusively from an individual perspective (Golembiewski and Munzenrider, 1988; Kahn and Byosiere, 1992). There has been a lack of integrative research between the two areas, particularly in understanding the relationship between organizational factors and burnout.
(Maslach and Jackson, 1986). This is especially evident in the area of stress intervention where most ameliorative efforts continue to target the individual in the form of increasing host resistance (Golembiewski and Munzenrider, 1988; Kahn and Byosiere, 1992). The notion of decreasing stress and preventing burnout by manipulating the organizational environment has been proposed by others (Maslach and Jackson, 1984; Golembiewski and Munzenrider, 1988; Kahn and Byosiere, 1992). However, despite existing suggestive research it can only be speculated that the reason for the preference of the individual over the organizational focus when it comes to intervention is because more knowledge in this area is still needed.

**Leadership, Social Climate, and Stress**

There is no doubt that leadership behavior is an important antecedent to setting climate conditions and influencing people's behavior. Management philosophy and practice has a strong impact on the "personality" of a setting and of people's psychological experience of that setting (Bennis and Nanus, 1985). However, much of the research in this area has led to more confusion regarding the impact of leadership on people and settings and the elements that constitute effective leadership.
For example, research has shown that the positive influence of certain leadership practices may not be realized without some deleterious effects. It has been found that allowance for employee autonomy can improve morale and performance (Moos, 1984). However, laboratory studies have found that changes in heart rate, hormone levels and breathing patterns are common during experimental conditions where the degree of task control, independence, and responsibility were manipulated (Miller et al., 1970). Generally, as subjects were given greater independence, task control, and responsibility, their heart rates increased, breathing became shallower and adrenalin levels were elevated. These changes are consistent with the physiological correlates of the stress response. Thus, increasing work responsibility and independence may actually increase stress which, as we have seen, can be a primary mediator of behavior and performance in the workplace.

Similarly, moderate levels of supervisor control can promote autonomy, personal growth and morale. However, job and procedural clarity, and ultimately morale, may suffer when supervisor control is not strong enough (Moos and Schaefer, 1987). Furthermore, decentralization of decision-making and increasing autonomy has been shown to improve morale and work performance (Moos and Schaefer, 1987) but can also lead to
greater conflict between employees (Parasuraman, Drake, and Zamuto, 1982).

Research looking directly at the relationship of leadership behavior and employee stress also leaves many questions remaining as a result of their findings. For example, Shipper and Wilson (1992) looked at subordinate ratings of leadership behavior as they related to self-reported employee stress and commitment levels. As expected, high leader ratings on time management, attention to detail, and a results orientation were significantly correlated to higher levels of self-reported stress and lower levels of commitment in employees. Conversely, high leader ratings on goal setting, planning, provision of feedback, and communication skills were related to lower stress and higher commitment levels in employees. These findings help to specify which behaviors engaged in by a supervisor could lead to higher levels of employee stress. However, it is obvious that both sets of behaviors are necessary to effectively manage group performance and these findings offer little in the way towards clarifying the elements of effective leadership.

Other researchers have found that the relationship between leadership behavior and employee distress is not clear and may depend on an investigator's assumptions and methods as
much as the phenomena itself. For example, Curphy (1992) reports that employee distress (as measured by their intention to quit) was not related to either facilitative nor control-oriented leadership behaviors. That is, supervisor style did not seem to have much to do with an employee's desire to leave. However, measures of group tension and climate were related to the supervisor's style. The more control-oriented the supervisor was, and the poorer a facilitator they were, the greater the group tension and disharmony. This suggests that how employee stress is defined and measured may have a great deal to do with the relationships found between leadership and stress.

The question of what constitutes effective leadership is further confused by research that has shown that the technical skills of organizational leaders have little relationship to measures of climate and team functioning. Quast and Hazucha (1992) looked at the relationship of the manager's technical skills (e.g., financial, engineering, administrative, etc.) versus their leadership style as they relate to work group dynamics and productivity. They found that leadership style had a stronger relationship to group dynamics and productivity then the manager's technical background and experience. Work groups that were managed by facilitative, empowering leaders that established a clear sense of purpose in the group displayed the most cohesive team functioning and highest
levels of productivity. In fact, technical skills (especially financial skills) showed little to no correlation to any of the measures of team functioning and productivity. Obviously, a manager's technical background is important to some extent but its role in contributing to leadership effectiveness is unclear.

While findings such as these are useful for understanding what management practices can enhance or diminish social climate, their utility is also limited by the fact that they stand as isolated conclusions. The investigation of leadership, social climate, and stress in organizations has lacked application of a theoretical model by which findings can be linked conceptually. Without a framework to serve as a foundation, research and intervention design remains haphazard, and the meaningfulness of current findings limited.

For example, as we have seen from this preliminary review, it would appear that both "too little" and "too much" supervisor control can have a negative impact on social climate and employee stress. This raises several related questions in regards to the role of leadership. How are managers to remain supportive of the needs of the employee without losing focus of the needs of the organization? What must managers do in order to emphasize goal orientation and productivity without inducing deleterious levels of stress or
lowering morale? How does one decentralize decision-making and increase autonomy and responsibility without overwhelming employees, exceed their stress tolerance levels, or cause burnout?

Obviously, managers are faced with the difficult task of balancing what may be at times diametrically opposed needs and objectives. To complicate matters, there is evidence to suggest that the effect of leadership by an immediate supervisor on employees is not necessarily a direct one. The influence of other climate variables may in some situations mediate the behavior of the leader.

For example, the relationship between leadership and job performance in hospital settings was looked at by Sheridan, Vredenburgh, and Abelson (1984). These authors predicted that the administrative climate within which supervisors must function will itself influence the impact of management practice on employee job performance. They looked at nursing job performance across four (4) non-profit hospitals. The results indicated that hospital administrative climate did have a moderating influence on the leadership-job performance link. In hospitals where there was a strong performance-reward climate, assertive and directive leadership behavior on behalf of the immediate supervisor was associated with higher job performance ratings. In hospitals where the performance-
reward climate was weak, assertive leadership behavior was associated with poorer job performance ratings. Similar findings have been reported by Koene, Pennings, and Schrender (1992).

Moreover, the Sheridan, Vredenburgh, and Abelson study also found that other factors significantly contributed to job performance levels. Work group dynamics and technology, both of which contribute to the immediate climate of the work group, were found to have generally stronger associations to performance levels than administrative climate or supervisor leadership.

Thus, it would appear that not only is there a need to develop a framework to guide the appropriate application of management practice but also to better define the relationship between management practice and other climate variables. Generally, social climate research has yet to generate a theoretical basis for unifying findings concerning leadership practice. While the social climate model has provided a conceptual schemata to describe an organization's dominant traits, it does not directly address the role of leadership in the organization. The social climate construct can serve as a measure of the effects of management practice, but it does not provide a basis for understanding the complex behavioral balance that seems to be required of an organization's
leaders. Thus, by itself the social climate model is inadequate as a guide for developing leadership interventions in organizations.

On the other hand, leadership theory focuses more directly on the nature of managerial behavior and its relationship to organizational conditions and employee outcomes. Theories of leadership are more concerned with the kinds of behavior that managers and supervisors must exhibit so that the goals of the organization can be most effectively achieved. The application of leadership theory in social climate research would provide a philosophical and conceptual basis for better understanding the role of leadership in creating climate conditions and offer more guidance in designing leadership development programs.

General Comments on Leadership Theory and Research

Research concerning leadership has generally been dominated by attempts to distinguish among different types of leaders and has been geared towards the development of models which classify leadership according to behavioral style. Typologies of leadership style have tended to be developed around single dimensions that describe some major component of leadership behavior, for example the amount of structure imposed on the group by its leaders. Contemporary thinking
has moved rather sharply away from the oversimplified notion that a single, global dimension of leadership style could account for any substantial amount of variance in subordinate behavior. Leadership typologies have become more sophisticated in their attempt to account for the complexities of person-situation interactions. A brief review of some of these problems will serve to illustrate the limitations of traditional leadership typologies.

Many traditional concepts in leadership theory have been shown to have multiple meanings which can lead to imprecision in operational definitions. For example, White and Lippitt (1960) analyzed the various connotations contained in the concept of democracy and identified four common elements in its numerous definitions: a) rule by the masses, b) individual liberty, c) personal responsibility, and d) respect for human dignity. Given this, measurement of democratic leadership can become very imprecise because it may not be entirely clear how people are interpreting its meaning. Even within each element itself, White and Lippitt argue that there can be problems in agreeing to what it represents. In rule by the masses, for example, Lenin and Stalin took one well-known perspective while Lincoln's "government of the people, by the people, and for the people" reflects a very different view.
Many conceptualizations in leadership are built around dichotomies in which leadership types are polarized according to a single dimension. For example, the following are some traditional leadership classifications: democratic-autocratic, conservative-progressive, participative-authoritarian, nondirective-directive, and employee centered-production centered. Such unidimensional dichotomies are problematic because it is not always clear they represent different aspects of a single dimension. Single dimension conceptualizations also do not generally capture the breadth of behaviors that leadership activity entails. Other early research by Lippitt and White (1943), for example, looked at a continuum of leadership behavior represented at its poles by autocratic vs. laissez-faire philosophies. Early thinking in leadership theory had hypothesized that democratic leadership lay at the midpoint of this continuum. In this study, Lippitt and White were able to demonstrate that democratic leadership does not reflect a "median" or "average" position between the poles of autocratic and laissez-faire leadership but rather can be characterized by both types of behavior. Democratic leadership may at times lead to high or low levels of external control in the group. It is the process by which control systems are decided upon and implemented that differentiates democratic philosophy from the other two. Because of findings like this it is now more generally accepted that single dimension, dichotomous methods of classifying leadership types.
are inadequate in that they do not depict the complexities of leadership behavior (Misumi, 1985).

A third problem with traditional leadership typologies is that they typically have been quite value-laden. What might be considered "good" leadership in one context may not be in another. While it is unlikely that we will totally avoid the influence of dominant cultural and societal values from the study of human behavior, social science must nonetheless strive to maintain as objective a posture as is possible when developing theory. When the conceptual foundation for a model of behavior has a strong value base, operational definitions emanating from that model may have less of an emphasis on the functionality of the behavior, which is one key to maintaining scientific objectivity.

The PM Leadership Model

The PM leadership model was developed by Jyuji Misumi, a Japanese researcher, whose interest in the study of leadership was spurred by early cross-cultural studies initiated by Kurt Lewin in post-war Japan. Lewin was interested in exploring the generalizability of White and Lippit's early research on democratic, autocratic, and laissez-faire leadership styles. In particular, Lewin was interested in determining whether the positive group outcomes associated with democratic leadership
found in the United States could be duplicated in Japanese
culture. These studies were focused on identifying the
universal and general nature of group dynamics as they are
affected by leadership style. A review of this early research
as well as Misumi's own studies and explication of his PM
theory can be found in his book *The Behavioral Science of
Leadership* (1985). The review that follows comes principally
from the research that Misumi reports therein.

Leadership, in general, refers to the role concommitants
and influence processes of an authoritative group or person on
subordinates that contributes to their group functioning
(Misumi, 1985). Leadership is the influence a person or
authoritative body has on a group's course of action at any
given time. Although all members can share in providing
different degrees of leadership, the more hierarchical the
group the more focused the expectations become that leadership
emanate from particular, usually designated, individuals in
the group.

The PM model itself is an attempt to move away from
conceptualizations of leadership that are unidimensional,
value-laden or are difficult to operationalize. As stated
previously, the PM concept emanates from research aimed at
identifying universal patterns of group dynamics. Numerous
studies of small groups and hierarchical organizations
indicate that group functions can be broadly divided into two components (Misumi, 1985). First, groups are usually formed with some purpose in mind. For example, a basic purpose of work groups is to increase the economic welfare of its members while families are formed in part to raise its young and preserve familial lineage. One function of all groups, then, is that they are involved in the achievement of some basic purpose (goal achievement). Secondly, in order to achieve its goal(s) every group must attain some level of social stability. If the group cannot be maintained and function as a stable unit over time than it will not be successful in attaining its goals. Thus, the second basic function found in all groups is that of promoting its own self-preservation or maintaining its social stability. In the PM model, leadership is understood as the role behavior of a specific group member who, more than other members, exerts notable, lasting and positive influence in fulfilling the group's functions of problem solving/goal achievement and maintaining social stability. Under the PM framework, leadership is defined as the influence authoritative person(s) have on these two basic group processes. Thus, the PM concept is a functionally-based approach to the study of leadership behavior.

Leadership itself is a value-laden concept. We are usually interested in positive leadership behavior, that is,
behavior that influences a group to move in a "desirable" direction. The PM concept allows us to evaluate "desirable" leadership within the context of basic group processes. External judgements about the leadership patterns in a group are made from the position of how those behaviors support or sabotage the group's purposes and social stability. "Negative" leadership would be those influences by designated persons which move the group away from achieving its purposes and/or which reduces the social stability of the group. This allows us to evaluate leadership not on the form the leadership behavior takes (e.g., authoritarian vs. participative) but rather on its functionality. This helps to ensure a greater degree of objectivity in the analysis of leadership patterns in a given group.

PM Leadership Types

All groups have some purpose to their existence. This may be to guide the development of its young (e.g., families), perpetuate its values and beliefs (e.g., cultural groupings), attain competitive superiority (e.g., athletics), or gain financial advantage (e.g., businesses). Without such a purpose the reason for the group congregating in the first place would be limited to satisfying individual needs for affinity or association. Accomplishment of the group's purpose(s) is enhanced if the group is guided in some form or
manner, thus leadership behavior needs to be focused on helping the group perform and achieve its goals. Misumi labels this the performance-oriented leadership function or "P".

Theoretically, any member of the group can influence it's goal achievement or problem-solving capacities. Even in groups where no leader has been appointed P leadership must appear to some extent if the group is to achieve it's purpose. However, the more hierarchical the group's organization the more the P leadership role converges on the acknowledged leader(s) of the group. This means that the supervisor's P behavior is more crucial in the hierarchical organization than in the fluid group setting because supervisors are expected to serve this function in the group.

In order to achieve these purposes groups must also strive for stability and self-preservation. Physical, environmental, and social conditions within which the group exists are likely to change over time. The group's internal composition and conditions may also change with members being added/lost, knowledge lost/gained, or consensus agreements being made which change the "culture" of the group. The group must be adaptable to these types of changes if its existence is to be assured. Therefore, leadership behavior will always need to focus on maintaining the group's social stability if
the group is to survive. Misumi labeled this the maintenance-oriented leadership function or "M".

M leadership behavior is oriented to promoting and reinforcing the group's tendency towards self-preservation. M behavior is directed toward dispelling excessive tensions that arise in interpersonal situations within the group, promoting the resolution of conflict and strife, giving encouragement and support, providing an opportunity for opinion to be expressed, inspiring personal development and need fulfillment, and promoting acceptance of interdependence amongst group members.

M leadership is particularly challenging for supervisors because it involves balancing our drives to fulfill contrary human needs. When a person joins a group the desire for self-expression inherent in humans is impeded or restrained to some extent. People also, however, have desires and needs that can only be satisfied by belonging to a group (e.g., affiliation, financial reward). Satisfying member's needs to belong serves to keep the group intact while frustrated self-expression serves to threaten the cohesiveness of the group. M leadership involves preventing any tendency toward disintegration by allowing room for self-expression while at the same time energizing and strengthening the tendency toward belonging and integration.
The PM model is based on the assumption that all leadership behavior contains to some degree both P and M functions even though they may be emphasized to different degrees. According to the PM model, there are four basic types of leadership behavior (designated in upper and lower case combinations) - PM, Pm, pM, and pm. PM is generally considered to be the most desirable of the four types. The PM leadership type is where both P and M behaviors are well-developed and emphasized in the supervisor's management style. That is, the manager's expression of both behaviors is appropriate in degree and form. The Pm (or P) type is where performance demands dominate the supervisor's interactions with employees while pM (or M) type supervisors attend primarily to the social/emotional needs of the group. The last type, pm supervisors, are relatively weak in both their press to maintain performance levels as well as their management of psychosocial issues and group stability.

PM Research

Validation studies of the PM model have focused on identifying the associations between the four PM supervisor types and a variety of subordinate variables. Experimental, field, and cross-cultural methods have been employed to establish the generalizability of the research findings.
For example, experimental research conducted early in the development of the PM model support its validity as applied to first-line supervisors. Misumi (1985) reports on some of his early research with other colleagues where they were able to demonstrate a positive relationship between leadership type with group morale and productivity. Supervisor behavior was experimentally controlled between different groups of postal worker trainees who were assigned the task of counting holes in IBM punch cards (an analog to the kinds of tasks they would be performing on the job). Supervisors were trained to provide periodic feedback to the group that emphasized productivity (P type) (e.g., "Work more quickly" or "We haven't got much time left"), empathy (M type) (e.g., "This is a tough job, isn't it?"), or both (PM type). Of the three experimental groups, the PM type was most positively related to group productivity followed by the P type and finally the M type.

The subjects' attitudes towards their supervisors, their work motivation, group cohesiveness, group attractiveness, and feelings of fatigue were also surveyed to measure different aspects of morale. Subjects working under PM conditions showed greater interest in their work and a more favorable attitude toward their supervisor than did those working under either P or M conditions. No significant differences were
found in group cohesiveness, group attractiveness, or feelings of fatigue between the $P$-, $M$-, and $PM$- types.

A second series of research reported by Misumi (1985) was designed to assess the generalizability of these early results to actual working conditions. The research was conducted to determine which supervisory patterns would correspond to the highest levels of group productivity and morale in real working groups. Japanese coal mining work groups were assessed for their levels of productivity based on actual mining output as well as supervisor ratings of efficiency and performance. Based on these measures, the work groups were classified as either high- or low-producing. Groups that could not be clearly classified were not included in the study. The resulting sample consisted of eight work groups (four low- and four high-producing groups) comprised of 215 workers. Morale was assessed via a questionnaire that was developed specifically for the study that targeted attitudes towards work, peers, and supervisors. Supervisor behavior was measured via subordinate ratings of specific behaviors representing the $P$, $M$, and $PM$ types using a five-point Likert scale.

The results indicated that supervisors in three out of the four low-producing work groups were all rated as $P$ type managers. In the other low-producing group it appeared that
the supervisor was overall very weak in both P and M behavior (pm type). No supervisors in the high-producing groups were rated as P leaders. Instead, they were consistently strong in both P and M behavior (that is, they could be classified as PM types). As in the early experimental study, differences between work groups on measures of morale were not all significant, nor were they uniformly in the same direction. In general, work attitudes and morale was higher under the PM supervisors than under P types. However, morale was also high under M type leaders and not significantly different from that found in PM conditions.

Later studies have looked at further defining the relationship of the four leadership types to a variety of dependant variables. All of these later studies were similar in scope, methodology and results. For example, Misumi (1985) reports on one study of shipyard workers where 186 work groups (N=2,257) were surveyed comparing subordinate ratings of leadership behavior to job satisfaction, satisfaction with compensation, satisfaction with the company, teamwork, quality of group meetings, communication adequacy, job-related stress, and group performance norms (attitudes shared by the group about how high a level of performance the group should achieve). Levels of job satisfaction were highest under PM leaders, followed by M, P, and pm types. However, despite the trend towards higher satisfaction under the PM leaders, there
were no significant differences between this group and those who worked under M leaders. Satisfaction with compensation (i.e., salary and promotional opportunity) was also found to be higher under PM leaders followed by the M, P, and pm types. As with job satisfaction, there were no significant differences between the PM and M led groups. Satisfaction with the company and job related stress were also found to have the same relationship to the four leadership types.

Like the previous pattern of results, the relationships between teamwork, quality of group meetings, and communication adequacy to leadership types were found to have the same configuration. That is, the highest ratings of these variables were found under PM leaders followed by the M, P, and pm types. Unlike the previous pattern of results, the difference between the PM and M leadership styles was significant with the PM type having a stronger, positive relationship with these dependant variables. This is not surprising given that communication and meeting quality are reflective of good teamwork, which itself probably requires a stronger balance of P and M behavior from the group's leader. In terms of group performance norms, the overall pattern of results was the same except that in this case there were no significant differences between the M and P led groups.
To further establish the generalizability of these initial findings, Misumi and his colleagues also looked at industrial safety as it relates to leadership behavior. Early research in the safety area had established a link between accident rates and work-related stress. Kerr (1957) had reviewed early data on factors related to on-the-job accidents and found that approximately 45-60 percent of industrial accidents were being attributed to stressors at work while 30-40 percent occurred in work environments that rated low in morale. More recent research has further supported these findings. Sarkis (1991) looked at 150 variables as they relate to worksite accident rates across companies nationwide. The two variables displaying the most consistently high correlation to accident rates were work-related stress and job satisfaction. Recognizing that workplace atmosphere and employee stress are closely related to leadership variables, Misumi (1985) reports on a study where he and his colleagues looked specifically at PM patterns as they relate to bus driver accident rates.

Japanese bus drivers (N=949) were asked to rate the P and M leadership behavior of their immediate supervisors (i.e., dispatchers). Data on driver-caused accident rates was collected for a three-year period. The results indicated that accident rates were highest under PM type leaders, followed by P, M, and PM types. Rank-order differences between types were
significant except for the M and PM comparison where accident rates were nearly the same. When the P and M dimensions were looked at separately, a significant inverse relationship was found. That is, high levels of either P or M behavior were associated with low accident rates, although the relationship between M leadership and low accident rates was much stronger. This inverse relationship supports Misumi's claim that weak leadership is evidenced by a lack of either dimension being demonstrated in the leader's behavior.

Mediating Variables

Organizational conditions and the nature of different types of work can have an effect on what leadership style will be most effective in a given work setting. The research by Sheridan, Vredenburgh, and Abelson (1984) that was reviewed earlier outlined how the impact of supervisor behavior on nurse's job performance is affected by the administrative climate of the organization. Under high performance-reward climate conditions, assertive and directive leadership behavior was more strongly associated with higher job performance than nondirective leadership. The opposite pattern was found when supervisors operated under an administrative climate that did not strongly emphasize performance-reward contingencies.
Other conditions can also determine which supervisory practices may be most effective in a given situation. For example, project-oriented work has high time-limit demands and where it constitutes the typical type of work it tends to occur in "flatter", less hierarchical organizational structures. Managers and project team members are likely to have to take on a wider range of responsibilities than most employees who work in a more pyramid-shaped, functionally structured traditional organization. In an examination of PM leadership and project-oriented work, Misumi (1985) reports on a study where he looked at the leadership behavior of engineering project managers and overall ratings of their managerial effectiveness. Effectiveness was defined along several criteria that are typically used to determine success or failure in project management, such as how well are deadlines and budget limits met. Data was obtained from 480 engineers who rated the leadership behavior of two managers each, one who they defined as successful in completing projects effectively and one who was not. The results indicated that of those managers considered successful, 52.1% were rated as PM leaders, 25.5% as P leaders, 16.2% as M leaders, and 6.2% as pm leaders. The reverse was found for those managers considered ineffective, 5% were rated as PM leaders, 21.7% as P types, 30.4% as M types, and 47.4% as pm type leaders.
When the four leadership types have been compared in the past, the PM leadership type has typically been found to be most strongly associated with positive employee outcomes. Furthermore, relative to each other the M dimension has generally been found to be more highly associated with positive group outcomes when compared to the P dimension. In this study of project-oriented leadership, it appears that P behavior takes on relatively more importance. For example, managers rated as P types were generally seen as more successful and less ineffective than M types. Misumi (1985) argues that the difference in the relative relationship between P and M leadership behavior in project managers versus what he has found in most other organizational settings is probably due to the nature of project-oriented work. Project-oriented work tends to center on more complex problem-solving while more traditional organization structures are focused on the efficient disposition of routine business. Project organization usually involves a sequence of relatively short-term tasks involving a changing set of group members. Moreover, timelines and contingencies are generally very clear and tend to be somewhat strict in project-oriented work. Because the work is more complicated, requires a great deal of coordination, involves changing team membership over time, and has timelines and associated contingencies that are stricter, Misumi feels that project managers are forced to place a premium on P type behavior in order to accomplish the
objectives of the group in a timely fashion. Thus, he concludes that the nature of the work and its associated organizational structure can influence the kind of leadership behavior that will be deemed most functional or effective in that setting.

In another attempt to look at the influence of contextual variables on leadership patterns, Misumi (1985) also reports on his studies of governmental administrative leadership. The basic premise of his work in this area is that organizational missions vary and what constitutes effective leadership in one setting may differ from that which would be effective in another type of setting due to the dissimilarity of goals between organizations. For example, Misumi (1985) describes the mission of governmental enterprise as 1) to provide social services and 2) to maintain social order through the exercise of official authority (i.e., laws and regulations). The mission of government covers a broader range of goals than does most private enterprise, requires the balancing of interests of a wide range of groups, and involves activities that are unique to publicly-vested authoritarian structures (e.g., to adjust interest claims between citizens and to uphold social values). Thus, governmental administration tends to be more authoritarian and political in nature than what may be found in private enterprise.
Misumi and his colleagues conducted a series of studies to see whether these types of leadership demands impact on the relationship between PM types and employee functioning in government organizations. These studies were conducted covering eight (8) prefecture government organizations (a prefecture in Japan is roughly equivalent to a state in the United States). Employees (N=967) were asked to rate the leadership behavior of their section chiefs and deputies. Respondents were also surveyed on a number of climate and morale variables including job satisfaction, satisfaction with compensation, teamwork, meeting quality, communication adequacy, job-related stress, and performance norms.

The studies produced consistent results between prefectures and revealed that the ranking of PM types to ascending levels of climate and morale was pm, P, M, and PM. These results coincide very well with those previously found in the private sector research and such a high degree of similarity was not expected at the outset of the studies. It had been assumed that the particular characteristics of government and private enterprise would produce substantial differences in the correlations between the different leadership types and subordinate functioning. Since this does not appear to be true, Misumi (1985) concluded that this lack of difference indicates that basic group processes and human relations between supervisors and subordinates do not seem to
vary with the overall mission of the organization. However, as indicated by the findings concerning project management and performance-reward conditions, leadership demands may be different given the nature of the work itself, the organization of the work group, and other climate variables.

The Behavioral Morphology of Leadership

Since the relationship between the P and M functions to workplace climate and employee outcomes appears to have cross-situational support, the focus of more recent research has been to better delineate the morphology of P and M behavior. That is, how do contextual variables affect the specific expression of P and M behavior? Are certain actions by the leader likely to be perceived as either P or M universally, or do contextual factors such as cultural and societal norms affect how that behavior is interpreted by employees? As might be expected, a cross-cultural approach has been employed to investigate the behavioral morphology of leadership as well as to further establish the cross-situational validity of Misumi's early work which was conducted primarily in Japan.

The basic premise in this line of research is that in order to understand a leader's style it needs to be examined in terms of both general structure and specific expression (Misumi and Peterson, 1985). In other words, there may be
certain underlying universal structures to the way a leader's behavior is interpreted, which are inherent to leader-subordinate relationships. However, the skillful leader needs to be able to express these general structures in a variable manner, which could be affected by a variety of factors in the environment. While the PM model outlines a framework for understanding the universal structure of leadership behavior and the basic nature of leader-subordinate relationships, it does not necessarily identify specific, universal P or M leadership actions.

Smith, Misumi, Tayeb, Peterson, and Bond (1989) report on the findings of a study employing the PM model conducted across four different settings representing two pairs of culture whose values about leadership are characterized by individualism and collectivism. These settings are the United States and Great Britain (individualistic cultures) and Hong Kong and Japan (collectivist cultures). Employees (N=1177) surveyed were line workers in electronic assembly plants. Respondents in Great Britain and the United States were administered the English versions of the PM questionnaire while those from Japan and Hong Kong were administered versions translated into Japanese and Cantonese respectively. The respondents from all settings were primarily young (<35) females.
The research involved two sets of analyses. The first analysis looked at verifying the generalizability of the two factors, P and M, across cultures. Separate factor analyses for each country's data were performed with two factors in each instance being extracted. The variance accounted for by the two factors within each country's data set was moderately similar, 50.2% in the British sample, 42.7% in the Hong Kong sample, 43.8% in the US sample, and 45.8% in the Japanese group. Factor I was clearly similar to the M or maintenance factor with equally strong loadings for all countries. The structure of Factor II was less clear. While most of the original P items clustered closely together many of the items having to do with planning by the leader were found to load heavily on Factor I as well. This particular pattern had been found in some of the earlier Japanese studies and made intuitive sense (Misumi and Peterson, 1985). Planning is a crucial function of the leadership role. The activity of planning can serve to strengthen a sense of direction and belonging in a group because it outlines the group's purposes and what people's roles in achieving those purposes will be. While planning may not be purely a P function, the authors judged that it is more closely aligned with the P function and concluded that evidence for the generality of the P factor was significant.
Questionnaire items which loaded on both factors were generally similar for all four countries. For example, in all four countries a high M supervisor was seen as someone who responds sympathetically when told about a member's personal difficulties, who spends time discussing subordinate's careers and plans, and who is more likely to accept suggestions for work improvements. A high P supervisor is one who talks a great deal about progress in relation to work schedules, who shares a great deal of information about planning activities, and who is consistently within visual sight of employees. The authors concluded that the overall results were supportive of the study's initial hypothesis of the PM model reflecting universal leadership structures. However, there was no discussion of the unaccounted-for-variance, which was substantial.

The second hypothesis proposed that there are specific behaviors which constitute the P or M dimensions within cultures. That is, what employees would interpret as P or M behavior would differ between cultures because of the influence of specific values concerning leadership. The analysis focused on examining the differences between loadings of questionnaire items on the P or M dimensions for each possible pairing of countries. Unique patterns were identified on the basis of significant differences that were found between loadings. Results were discussed for patterns
that emerged for each country although it was evident that there were similarities for the US and Great Britain (individualistic cultures) and for Japan and Hong Kong (collectivist cultures).

British supervisors rated high on M were seen as more task-oriented and more consultative than high M supervisors from other countries. They were also more likely to demonstrate the use of equipment, work side-by-side with staff, explain new tasks, consult widely about changes at work, solicit suggestions, and respond positively when suggestions came. British supervisors rated high on P were more likely to show disapproval of latecomers and to evaluate the work of the group as a whole.

The US supervisors rated high on M were very similar in the consultative and participatory management behaviors that high M British supervisors displayed. However, US M supervisors tended to be far less task-centered than their British counterparts. High M US supervisors were not likely to: 1) show disapproval of latecomers to work, 2) send written memos, 3) meet socially outside of work with staff, and 4) talk about immediate work problems. High P US supervisors were more likely to: 1) demonstrate task behaviors, 2) dress similarly to their subordinates, and 3) be addressed formally by subordinates.
Distinctive Hong Kong M supervisor behavior included discussing subordinate's personal difficulties with others in the person's absence, spending time socially with staff both at work and after hours, and talking about work problems. The Hong Kong P supervisor engages in these behaviors as well but in addition discusses career plans, has more frequent meetings with subordinates, and encourages communication between work groups.

Distinctive Japanese M supervisor behavior included teaching new job skills, talking about work problems, sending written memos, and discussing a subordinate's personal difficulties with others in their absence. Some behaviors linked to M leadership in other countries did not show up in the Japanese data. These include the demonstration and/or use of equipment and the solicitation and/or implementation of suggestions for work improvements. Distinctive Japanese P supervisor behaviors included meeting socially after hours, arranging help with the workload of someone experiencing personal difficulties, and checking work quality. The high P supervisors also displayed the M behaviors of teaching new job skills and discussing a subordinate's personal difficulties with others in the person's absence.

Based on these findings Smith et al. (1989) conclude that there are distinctive patterns of leadership both within and
between collectivist and individualist cultures. For example, in British, Hong Kong, and Japanese culture, consideration or M leadership is associated with talking about work and remaining task-centered whereas in American culture it is not. In both Japan and Hong Kong cultures, it would appear that M behavior is best exemplified by the tactfulness employed in helping to resolve subordinate's personal difficulties in an indirect manner as compared to the US and Great Britain. Unlike the Japanese, US, and Great Britain, however, Chinese P behavior is shown much more by the encouragement of cooperative work behaviors. Finally, Japanese M behavior does not appear to include demonstrating the use of equipment, seeking suggestions for work improvements, and accepting them when they come.

Overall, the findings of Smith et al. (1989) suggest that behaviors which pressure subordinates are a stronger element of P leadership in the Western than Eastern data. Conversely, facilitating cooperative planning and group process are stronger components in the Eastern conception of P leadership. Moreover, in the Eastern data P and M behavior seem to be less distinctive. This pattern of results is consistent with Hofstede's (1980) findings concerning leadership values in Western and Eastern cultures. Where individualist values prevail, leaders are expected to exert more direct pressure towards goal achievement since the basic assumption about
subordinates in Western models of man is that they lack direction and motivation. Where collectivist culture prevails, leadership will be expected to emphasize reciprocal influence processes.

Final Comments on the PM Model

In the early empirical studies of leadership a bipolar continuum with P and M poles was often assumed. Leadership patterns were dichotomized and contrasts were made between democratic, employee-centered, and consideration-oriented leadership on the one hand and despotic, authoritarian, production-centered leadership on the other. Generally, the former was regarded as "good" and the latter as "bad". A laissez-faire style was usually assumed to lie somewhere at the mid-point.

According to Misumi (1985), within the framework of the PM model the pm type may roughly be considered to correspond to laissez-faire leadership, the M pattern to an employee-centered or consideration-oriented leadership style, and the P type to a job-centered and control-oriented supervising approach. The closest equivalent to the PM type might be a democratic leadership pattern. However, there is no definite way to show that the M type is not also a democratic leadership pattern. In fact, when democratic leadership is
discussed the elements of M leadership are often emphasized. While colloquial labels may be given to various supervisory styles it is important to remember that they are merely descriptive terms. In and of themselves they do not represent a unified theory of leadership nor do they even have a consistent meaning across settings.

The PM model represents a system by which managers can be evaluated in terms of universal dimensions that represent the functional roles of leaders. That which is considered "good" leadership are those behaviors which promote both goal achievement and social stability in a group. These are separate dimensions which interact in unique ways given a variety of setting conditions. Thus, the model gets away from treating leadership as an overly simplistic dichotomous behavior.

Because of its functional focus, the PM model also permits one to study specific behavioral expressions of leadership. The preliminary cross-cultural research reviewed demonstrates that what might be considered to be M leadership in one setting may be interpreted as P behavior in another. Actions taken by a manager that are intended to be part of roles other than that of "leader" may be seen and interpreted from a leadership perspective by subordinates. Thus, the same behavior could theoretically have a vastly different impact on
subordinate functioning depending on any of a number of setting variables.

These are important considerations not just for the study of leadership but also for the training of leaders. Studies of PM leadership have shown that many leaders have not recognized or learned the constructive results of a combined emphasis on both P and M dimensions (Misumi, 1985). The PM model represents a parsimonious framework for understanding leadership behavior and organizing research findings. It is also extremely useful for developing leadership training programs that would have both universal and setting-specific applications.
Several broad conclusions can be drawn and summarized given the research reviewed on social climate and leadership, some of which have been outlined previously. First, in terms of Moos' social climate construct, positive employee and organizational outcomes are generally associated with higher levels of involvement, peer cohesion, supervisor support, autonomy, clarity, innovation, and satisfaction with the physical environment. High levels of control and work pressure are generally associated with negative outcomes. In terms of task orientation, the data is mixed with some emphasis on planning and efficiency being good, but only to a certain degree (Golembiewski and Munzenrider, 1988).

Second, it would appear that while the early research on social climate confirmed a predictable, consistent relationship between climate and a variety of employee outcomes, later studies suggest that stress is a more direct predictor of actual performance and behavior. One reason for this may be that while the social climate construct provides an overall feel and portrait of a setting, stress seems to better capture the psychological experience an individual is having of that setting, and the events, dynamics, and conditions occurring within it. However, while stress has been looked at as a mediating variable, it is not clear in all
cases whether the stress measures employed targeted job-specific psychological distress. Obviously, stress may arise from a number of different sources, some of which are not related to work. Moreover, individual differences can affect our interpretation of what is stressful, the expression of psychological tension (i.e., stress), and our stress resiliency. Thus, it is important that stress measures employed in organizational outcome research be linked to the way we experience and express stress in the workplace (Kahn and Byosiere, 1992). Otherwise, inferences drawn from the relationships found between organizational variables and stress are clouded by the possibility that the stress being assessed has little or nothing to do with an employee's experience of the work environment.

As we have seen, the concept of burnout offers one means to assess work-related stress. It describes the emotional and attitudinal responses that typically develop when workplace stressors become overwhelming. As such, it is suggested that the syndrome of burnout is an appropriate measure of work-related stress that employees may experience as a result of workplace climate conditions.

Third, research on the relationship between social climate and leadership has not been guided by the application of a systematic leadership theory or model. While it seems
clear that leadership would be an important influence on social climate, the nature of that influence has not been specified. The PM model provides a means to more clearly investigate the functional effect a leader has on the work environment and group. This would add to our ability to accurately diagnose and intervene in settings with poor climate conditions. For example, with a clearer understanding of the effects of leadership on climate, climate conditions themselves could be used to help identify what the leader may be doing to negatively impact the group. Moreover, expected outcomes of different interventions with the group's leader(s) could be predicted more accurately. Thus, application of the PM model in the study of social climate could have multiple applied benefits.

Fourth, PM research has generally shown that climate and employee functioning is most positive under leaders rated high on both P and M functions. However, relative to each other, M leadership behavior has generally been found to have a stronger positive association with climate, performance, and employee functioning when compared to P leadership behavior. (The one exception to this concerned project-oriented work where strong P leadership was associated with more positive ratings on a number of dependant measures). Much of Misumi's research has shown that when comparing outcome measures under each, there is relatively little difference between the PM and
pM leadership types. Larger, negative differences have typically been found when comparing PM and pM types to Pm leaders, with subordinates working under the latter consistently being found to have greater job-related difficulties. This suggests that M leadership behavior may be particularly important as a positive influence on employees.

Considering these conclusions together, it becomes evident that while the relationship between social climate and leadership is an important one deserving of further inquiry, a more practical question is how climate and leadership contribute to stress and burnout, since these appear to have a stronger link to actual performance and behavioral outcomes. Furthermore, in looking at the relative relationship of climate and leadership to stress, it would appear that leadership itself may have a particularly strong association to stress and burnout (Maslach and Jackson, 1984). Misumi's research clearly suggests that strong P leadership behavior can be stress-inducing. Moreover, when examining Moos's social climate model, it appears that many of the dimensions he employs to define the construct represent elements of leadership behavior and style. Task orientation, work pressure, and control would appear to closely represent aspects of the P leadership function since they are forces under the control of leadership that are geared towards influencing employee productivity and efficiency (i.e., goal
attainment). Alternatively, by definition supervisor support would appear to be clearly an M type behavior since support tends to promote stability and cohesiveness in a group. Moos' definitions of autonomy, clarity, and innovation also seem to speak directly to the leader's behavior, although it is perhaps not quite as clear which PM dimension(s) these climate variables may most closely reflect. It could be argued that each of these potentially impacts both goal attainment and group development/stability. Involvement, peer cohesion, and satisfaction with the physical environment would seem to represent some of the results of the leader's behavior, at least in part, but do not themselves reflect specific leadership actions. Thus, seven of Moos' ten climate scales would appear to reflect some aspect of the leaders' behavior.

This means that a good portion of Moos' social climate model appears to be measuring the group's leadership, and that these social climate variables actually reflect specific behaviors represented by Misumi's P and M leadership functions. If this is true, then much of what has been found regarding the relationship between climate conditions and stress may be appropriately interpreted as outcomes associated with the leadership patterns existent in the group. It would seem then, that the leadership dimension of social climate and its contribution to stress and burnout is particularly important and in need of further clarification.
Research by others comparing the relative relationship of leadership behaviors and climate variables to individual and organizational outcomes supports the idea that climate states reflect the dominant leadership patterns in a setting. Tallarigo and Rosebush (1992) looked at leadership style (e.g., task orientation, supportiveness, etc.) and climate (e.g., peer cohesion, openness of communications, etc.) as they relate to satisfaction with one's supervisor and group productivity. They found that leadership behaviors were more strongly related to satisfaction with supervisors than productivity measures, while climate variables were more strongly related to productivity as opposed to satisfaction with the supervisor. The authors argue that the reason for these findings is that the impact of leadership behaviors are likely to be felt at the individual level first, affecting the experience of a given person more strongly than the functioning of the group as a whole. However, over time the collective experience of the group is affected by the leader and this is reflected in climate states and group functioning, which then begins to influence broader scale outcomes such as the productivity of the group. Although not investigated directly in the study, the authors suggest that climate states represent the long term effects of leadership practices in a work group.
Research Hypotheses

The focus of the research is to examine employee stress (as measured by the syndrome of burnout) as a function of leadership behavior and social climate. The first step will be to examine the relationship between predictor variables themselves. It is suggested that Moos' social climate model is, to a large degree, a reflection of leadership patterns in the work setting. Thus, for example, employee ratings of task orientation, work pressure, and control are hypothesized to be positively correlated to ratings of the P function in their immediate supervisor. Alternatively, ratings of supervisor support are hypothesized to be positively correlated to ratings of the M leadership function in their immediate supervisor. As possible aspects of leadership behavior, no specific hypotheses are made regarding the relationship between ratings of role clarity, innovation, and autonomy to the P and M functions. As possible outcomes of leadership behavior, no specific hypotheses are made as to the relationship between satisfaction with the physical environment, involvement, and peer cohesion to the P and M functions.

In terms of the burnout-climate-leadership relationship, it is predicted that emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment will be greater
where work pressure, task orientation, and control are high (i.e., high P conditions), and where supervisor support is low (i.e., low M conditions). Burnout is also expected to be associated with other setting characteristics included in Moos' conceptualization of social climate. That is, emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment will be high where involvement, peer cohesion, autonomy, clarity, innovation, and satisfaction with the physical environment are low. From a regression perspective, it is hypothesized that high P and low M leadership behaviors will account for the greatest degree of variance in the burnout variables.

**Research Design and Methods**

Employees will be surveyed and asked to rate the social climate of their immediate work group and the leadership behavior of their immediate supervisor. Self-ratings of burnout will also be collected from each employee. Data collected from supervisors will not be included in the analysis for several reasons. First, ratings of social climate have been shown to be influenced by job level (Moos, 1986a) so, to prevent any role biases from entering into the interpretation of climate ratings, supervisor perceptions need to be eliminated. Second, it would be inappropriate to include ratings of supervisor behavior offered from a
supervisor since they are rating the behavior of their supervisor and not themselves and including self-ratings of supervisor behavior would also be subject to the same role bias mentioned previously. Finally, since the focus of the research is to look at the impact of supervisor behavior on burnout in employees, it does not make sense to include the supervisors self-ratings of burnout in the analysis. The following is a brief review of the survey methods to be employed in the study.

**Work Environment Scale (Moos, 1986a)**

The Work Environment Scale (WES) is a 90 item self-report survey comprising ten scales that measure the social climate of work environments. These scales are grouped into Moos' three underlying climate dimensions: the relationship, personal growth, and system maintenance/change dimensions. The scales are grouped thusly: relationship - involvement, peer cohesion, and supervisor support; personal growth - autonomy, task orientation, and work pressure; system maintenance - clarity, control, innovation, and satisfaction with the physical environment. Each of the scales is tapped by nine items, each to be scored as true or false, which are coded as 1 or 0, respectively. Thus, the maximum raw score for any scale is 9. Standard scores have been developed for the WES and conversion tables are provided. Dimension and
overall climate scores are not derived from the WES. Rather, each of the scales are scored and interpreted separately. Each WES scale is scored so that a high score indicates a greater degree of the environmental feature at issue.

The WES was developed from an original pool of 138 items describing work settings. These were developed employing naturalistic observation of work environments and interview data obtained from employees in a variety of work settings. Items were grouped into one of the three dimensions based on the degree to which it appeared to emphasize or focus on that aspect of the work environment. This initial pool was administered to a sample of 624 employees from 44 different work settings. To ensure that the WES would be applicable to a wide range of work settings, the sample included people from all organizational levels in government, business, health care, and manufacturing organizations. Several psychometric criteria were applied to the data to select the final items comprising the WES including: 1) items should correlate more highly with their own scale than with any other, 2) each scale should have an approximately equal number of items scored true and false, and 3) scales should have low to moderate intercorrelations with those from other dimensions and moderate intercorrelations with those from the same dimension. Moos (1986a) reports that, in general, all of these conditions were met in the selection of the final 90 items and that
subscale intercorrelations ended up accounting for less than 10 percent of the overall variance of the WES.

Reliability estimates were developed from data collected on over 3,000 employees from both general business work groups and a variety of health care settings. Test-retest reliability for each scale over a 1-month period ranged from .69 (clarity) to .83 (involvement) and over a 12-month period from .51 (supervisor support) to .63 (work pressure). This suggests that the WES appears to be stable over time but can also reflect changes that occur in the work milieu (Moos, 1986a). Internal consistency ranged from moderate (.69) for the peer cohesion subscale to substantial (.86) for the innovation subscale.

Lastly, the WES has been shown to have cross-cultural applicability. It has been translated into Dutch, French, German, Hebrew, Japanese, Portuguese, Spanish, and Vietnamese with comparable reliability and internal consistency findings being obtained (Moos, 1986a).

Maslach Burnout Inventory (Maslach and Jackson, 1986)

The Maslach Burnout Inventory (MBI) is a 22-item self-report scale measuring the syndrome of burnout. Three subscale measures are derived from the MBI: emotional
exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion refers to feelings of being emotionally overextended and exhausted by one's work. Depersonalization refers to an unfeeling and impersonal response and attitude towards one's colleagues and customers. Personal accomplishment assesses feelings of competence and successful achievement in one's work. Burnout is conceptualized as a continuous variable, ranging from low to high (Maslach and Jackson, 1986). A high degree of burnout is reflected in high scores on the emotional exhaustion and depersonalization subscales and low scores on the personal accomplishment subscale. A low degree of burnout is reflected in low scores on the emotional exhaustion and depersonalization subscales and in high scores on the personal accomplishment subscale.

The emotional exhaustion subscale is comprised of nine items describing feelings of being emotionally overextended and exhausted by one's work, depersonalization is comprised of five items describing an unfeeling and impersonal attitude towards peers and recipients of one's service, and personal accomplishment is comprised of eight items describing feelings of competence and successful achievement in one's work. Each item is rated on a seven point frequency scale where the person rates how often they experience that feeling or attitude. There are no standard score conversions for the MBI. Maslach and Jackson (1986) have developed norms for
categorizing scores into low, moderate, and high levels for each scale. Golembiewski and Munzenrider (1988) have developed additional norms for classifying scores into high and low levels that facilitate two-group comparisons. In both sets of norms, scale scores are not combined into an overall burnout score. Each scale is scored and interpreted separately.

Maslach and Jackson (1986) report the internal consistency of the three scales as .90 for emotional exhaustion, .79 for depersonalization, and .71 for personal accomplishment. They report test-retest reliabilities for two samples: a sample of graduate students and health agency administrators (N=53) who were administered the MBI twice over a four-week interval, and a sample of teachers (N=248) who were readministered the MBI after an interval of one year. Test-retest reliabilities for the first sample were .82 for emotional exhaustion, .60 for depersonalization, and .80 for personal accomplishment (all significant at the .001 level). Reliabilities for the second sample were .60 for emotional exhaustion, .54 for depersonalization, and .57 for personal accomplishment. Convergent and discriminant validity has been demonstrated with measures of job satisfaction, intention to quit, impairment in relationships at both work and home, and stress outcomes such as insomnia and increased use of drugs and alcohol (Maslach and Jackson, 1986). The reader is
referred to Maslach and Jackson (1986) for a more complete review of the developmental research on the MBI.

**PM Leadership Appraisal Scale (Misumi, 1985)**

The PM Leadership Appraisal Scale contains twenty (20) items that sample P and M oriented leadership behavior which subordinates complete in reference to their immediate supervisor. Each item is rated on a five-point Likert-type scale where the subordinate is asked to indicate the frequency with which the supervisor displays the behavior described in each item. Separate P and M scores are calculated from these ratings.

Development of the scale began in 1967 when an initial pool of 63 items was generated based on Misumi's own work as well as that of F.C. Mann at the University of Michigan and other Japanese researchers (Misumi, 1986). Factor analysis of the original items resulted in three factors: the performance-dimension, the maintenance-dimension, and a planning dimension (the degree to which supervisors emphasize planning and organizing subordinates work). Later research and discussion suggested that this planning factor was actually a part of the performance management function of the supervisor, thus, some of these items were incorporated into the P-scale. The 20 items selected were those having the strongest discriminant
loadings between the two dimensions. The alpha coefficients obtained for each factor was quite high: .77 for the P function and .88 for the M function, attesting to the homogeneity of items within each composite.

One-year test-retest reliability of the PM Scale is reported in Misumi (1985) for leadership ratings obtained from several different settings. Care was taken to assure that the two sets of ratings analyzed were from the same subordinate groups and were of supervisors who had remained in the same assignment over the one-year period. Data were collected from 13,290 subordinates rating a total of 2308 first- and second-line supervisors. Reliability coefficients ranged from .35 to .88 (median .65) for P scores and from .51 to .80 (median .55) for M scores, all significant at the .05 level. A detailed account of the development of the PM Leadership Appraisal Scale can be found in Misumi (1985).

Research Sample

Subjects will be sampled from two Hawaii-based organizations that trace long histories in the local community. Straub Clinic and Hospital, Inc. (Straub) is a private, for-profit group practice located in Honolulu, with a tradition of some 80+ years of providing medical care to the citizens of the State. Straub employs approximately 1800
professional and support staff who provide acute and preventative health care through outpatient and satellite clinics located throughout the State and an 80 bed hospital in central Honolulu. Hawaiian Electric Company, Inc. (HECO) is a regulated utility whose primary business is the generation and distribution of electrical energy to Honolulu residents. HECO employs approximately 1500 professional, technical, and support staff with plant, baseyard, and office locations located throughout the City and County of Honolulu.

Several parallels can be drawn between sample sites. In general, the nature of the work in both organizations tends to be quite technical. This means that employees tend to be well-trained in both settings. Both organizations operate in highly regulated business environments, with government and business controls determining much of the service that can or must be provided. Also, both organizations are currently facing competitive pressures that have led to significant organizational change including structural reorganization and reallocation of human and material resources. In other words, both organizations are subject to similar legal/regulatory and competitive environments that always have and will increasingly be significant sources of influence.

The research sample will be comprised of natural work groups, randomly sampled or identified by management as
experiencing problems with climate, morale, leadership, group performance, and/or team dynamics (these problems are reported by senior management to be long standing, predating the recent organizational changes that have occurred around them or in their area directly.) Assessment data collected will be for research and intervention design purposes, which will be clarified to all participants at the outset.

**Data Analysis**

Canonical regression analysis will be used to explore the relationship of social climate as a function of leadership. The relationship between burnout, climate, and leadership variables (i.e., burnout as a function of social climate and leadership) will also be examined employing canonical analysis, relating the three burnout variables to the 10 WES subscales and the P and M ratings of leadership behavior to assess the degree of variance accounted for by the predictor variables. Individual regression analyses will be used to explore the details of the canonical relationships where indicated. Additionally, using the norms that have been developed by Golembiewski and Munzenrider (1988) the total research sample will be categorized into high and low groups for each of the three burnout variables. Group means on each of the 10 WES scales and P and M dimensions will be compared for the high and low groups for each MBI scale to examine the
direction and significance of the proposed relationships between burnout and the predictor variables.
A sample of three-hundred seventy-nine (N=379) employees were surveyed. The matrix of correlations between all research variables is listed in Table 1. A broad examination of the correlations listed in Table 1 reveals a number of significant correlations in the low to moderate range, generally in the expected directions.

Within Scale Relationships

Analysis of the correlations between the scales comprising each survey instrument reveals some of how the variables represented by those scales seem to be related. For example, looking at the correlations between the WES scales themselves we see that involvement is significantly correlated with a number of variables but particularly peer cohesion (r=.70), supervisor support (r=.54), task orientation (r=.66), clarity (r=.58), and innovation (r=.57). This would seem to make sense given that one would expect employees to be more focused and involved with their roles and responsibilities where support from peers and supervisors is high, where there is clarity around expectations and what needs to be done, and where systems exist that allow for creativity and flexibility.
Table I.
Matrix of Correlations

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* p = .05
** p = .01
Peer cohesion is most highly related to involvement (r=.70), supervisor support (r=.51), task orientation (r=.56), and clarity (r=.55). Stronger levels of cohesiveness between employees is consistent with what you would expect where leadership is modeling supportive behavior themselves and is sensitive to the dynamics of interpersonal and group behavior, where confusion between employees in regards to the relationship of their roles and responsibilities to each other is being minimized, and where they are committed to and highly involved with their work.

Supervisor support is most significantly related to involvement, (r=.54), peer cohesion (r=.51), autonomy (r=.58), clarity (r=.54), and innovation (r=.50). This seems reasonable given that employees are likely to view supervisors as supportive and trusting when they are allowed leeway to function independently, where there is room for expression and implementation of new or novel ideas, and where there is clarity about performance expectations.

Autonomy is most highly related to supervisor support (r=.58), innovation (r=.53), and involvement (r=.49) which is consistent with the idea that commitment is likely to be higher when employees are allowed or encouraged to make decisions and implement ideas. It is also moderately related to clarity (r=.45) which is consistent with the notion that
clarity around roles and responsibilities defines for the employee the limits of decision-making and autonomous behavior that will be accepted by management, and thus makes acting autonomously (at least within the bounds of those defined limits) easier.

Task orientation is most strongly related to involvement (r=.66), clarity (r=.61), peer cohesion (r=.56) and to a lesser extent, innovation (r=.46). To the extent that good planning has occurred and that there is a focus on getting work done, one might expect employees to be more involved with their work (and possibly each other) and expectations to be clearer. The relationship between task orientation and innovation is interesting but consistent with the fact that planning and a focus on efficiency often lead to change being introduced into work settings so that work can get done more effectively.

Work pressure displays low, inverse relationships with clarity ((r=-.24), physical comfort (r=-.19), and supervisor support (r=-.18), suggesting that where expectations about roles and responsibilities are clear and supervisor support high, there is less pressure due to workloads and time constraints, and where the physical setting is uncomfortable the demands and pressure of work may be exacerbated.
Clarity displays consistent moderate relationships with involvement (r=.58), peer cohesion (r=.55), supervisor support (r=.54), autonomy (r=.45), task orientation (r=.61), innovation (r=.46), and physical comfort (r=.43). This suggests that where roles and responsibilities are clear, employees will generally be more focused on and involved with their work, their relationships with each other will generally be more positive, and they are likely to have a better sense of change in their work settings.

Control does not appear to be related very strongly to any of the other WES scales except to some extent with task orientation (r=.31) and clarity (r=.24). It makes sense that perceptions of management working to keep employees under control may be stronger where there was a focus on efficiency and an emphasis on clarity of expectations.

Innovation displays moderate correlations with involvement (r=.57), peer cohesion (r=.49), supervisor support (r=.50), autonomy (r=.53), task orientation (r=.46), and clarity (r=.46). As discussed previously, it is not surprising that an openness to new ideas would be associated with an increased focus on work, support for and between employees, and clarity around the limits of trying new things.
Physical comfort is moderately related to clarity ($r = .43$) and displays low positive correlations with all of the WES scales except for work pressure ($r = -.19$).

The P- and M-Leadership Scales exhibit a moderately strong relationship with each other ($r = .64$). This could imply that they not independent leadership dimensions. However, comparison of how the P- and M-dimensions relate to the supervisor support scale on the WES ($r = .34$ and $r = .50$, respectively) and to the control dimension on the WES ($r = .21$ and $r = .01$, respectively) suggests that the these two dimensions of leadership can be differentiated in terms of a focus on people as opposed to performance, as suggested by Misumi. An alternative explanation to the correlation between P and M found here may be that the supervisors being rated by the research sample were, overall, generally strong leaders, thus having strong skills in both areas (i.e., PM types according to Misumi's typology). The data was not analyzed to examine Misumi's model so the validity of this hypothesis cannot be verified.

Examination of the correlations between the employee stress measures reveals that emotional exhaustion is significantly related to depersonalization ($r = .55$) and shares a slight inverse relationship to personal accomplishment ($r = -.13$). Depersonalization and personal accomplishment share
little association with each other ($r=-.04$). One might expect the physical (exhaustion) and attitudinal (depersonalization) components of burnout to be related. The relationship of these to personal accomplishment is more curious. One would expect that as exhaustion and depersonalization increase, employees are likely to report lower levels of effectiveness and accomplishment. Thus, it would be expected that the direction of the relationship be inverse but that the magnitude larger than observed. It may be that the disclosure of lower effectiveness is subject to greater response bias (e.g., under-reporting, social desirability) than that of exhaustion or depersonalization, and thus the small relationship observed between these variables. Alternatively, it may be that decreased effectiveness accrues much later, only after exhaustion and depersonalization have become clearly more clinically significant.

**Between Scale Relationships**

Examination of the correlations between the WES, PM, and MBI scales in Table 1 reveals both supportive and curious findings relative to the research hypotheses. First, looking at the relationships between the WES scales (social climate) and the PM Scale (leadership) it is evident that, in general, M-leadership behavior is more positively related to ratings of social climate relative to ratings of P. This difference is
most pronounced in the relationship of P and M to supervisor support (r=.34 and r=.60, respectively), which was expected. That is, by definition the M dimension is inclusive of the supportive role of the supervisor so you would expect a stronger relationship there. The P and M difference is less pronounced in the cases of involvement (r=.30 and r=.41, respectively), peer cohesion (r=.23 and r=.38, respectively), autonomy (r=.36 and r=.49, respectively), and innovation (r=.37 and r=.46, respectively). The differences are, however, reasonable in that one would expect employees to view autonomy and leeway for innovation as supportive and that under supportive supervisory conditions there would be stronger commitment to the work and better overall interpersonal relationships.

Alternatively, task orientation and work pressure, which were hypothesized to be more strongly related to P relative to M, have correlations of similar magnitude with P and M. The correlation between task orientation and P is r=.31 and with M is r=.30. This would suggest that while it would appear that leadership has some relationship to the degree to which planning and a focus on efficiency are emphasized in a work setting, this emphasis can be associated with both P and M leadership behaviors. The correlation between work pressure and P is r=-.02 and with M is r=-.06, neither of which were significant. Along with the fact that the relationships
between work pressure and the other social climate scales were not particularly strong, it could be that the pace, urgency, and pressure to get the work done in a work setting is more a function of demands external to the work setting as opposed to internal conditions, including leadership patterns.

The relationship between control and P was $r = .21$ and with M it was $r = .01$, which was expected.

A general examination of the correlations between social climate and leadership to the employee stress measures indicates consistently stronger relationships for emotional exhaustion than for depersonalization and personal accomplishment. Also, the social climate scales appear to generally correlate stronger with the stress measures as opposed to the leadership measures.

Low levels of clarity ($r = -.47$) and high levels of work pressure ($r = .42$) are associated with higher levels of exhaustion. Also significantly associated with higher levels of exhaustion, but to a lesser extent, were low involvement ($r = -.36$), low peer cohesion ($r = -.31$), low supervisor support ($r = -.24$), low autonomy ($r = -.20$), low task orientation ($r = -.25$), low control ($r = -.18$), low innovation ($r = -.18$), low physical comfort ($r = -.36$), and low M-leadership behavior ($r = -.23$). The inverse relationships between exhaustion with
task orientation and control were not expected. It was hypothesized that exhaustion would be higher where the emphasis on getting the job done and the use of rules and pressure by management were also high. This suggests that where there is too little structure imposed by management, exhaustion may be exacerbated, perhaps because of greater inefficiencies due to disorganization.

Depersonalization was most strongly related to low peer cohesion ($r = -0.33$) and low control ($r = -0.29$). Also significant were correlations with low involvement ($r = -0.27$), low supervisor support ($r = -0.19$), low task orientation ($r = -0.21$), and high work pressure ($r = 0.18$). As in the case of exhaustion, the inverse relationships between task orientation and control with depersonalization were also unexpected. The same rationale concerning structure may apply here as well in that negative attitudes towards others and the job may develop when disorganization exists that contributes to inefficiencies.

Personal accomplishment was most strongly related to involvement ($r = 0.22$), peer cohesion ($r = 0.20$), autonomy ($r = 0.24$), task orientation ($r = 0.22$), and M-leadership ($r = 0.21$). Personal accomplishment was weakly related to work pressure ($r = 0.05$) and control ($r = -0.07$), which was unexpected. These results suggest that personal accomplishment is higher where there is support
for acting independently, people support each other, and systems exist for working effectively.

Canonical Analysis of Social Climate as a function of Leadership

The objective of canonical analysis is to derive a weighted linear composite for each of two sets of data that themselves are comprised of multiple variables, such that these weighted linear composites are maximally correlated. The weighted linear composite for a given set is referred to as that set's canonical variate and the canonical correlation reflects the relationship between the canonical variates for the two sets of data. A number of pairs of linear combinations (canonical functions) can be derived for the two sets of variables. The first canonical function extracts the maximum amount of variance between the two sets of variables, the second is computed to account for as much variance between the two sets not accounted for by the first canonical function, and so forth. The maximum number of canonical functions that can be extracted is equal to the number of variables in the smallest data set, criterion or predictor.

The canonical correlation analysis of social climate as a function of leadership is summarized in Table 2. Since there are two variables in the smaller of the two data sets (P- and M-leadership), two canonical functions are extracted

163
Table 2.
Canonical Correlation Analysis: Social Climate = f{Leadership}

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Table 3.
Canonical Loadings: Correlations Between the Social Climate Variables and their Canonical Variables

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for this relationship. The canonical correlation for the first function extracted is $r=.65$, which accounts for 43% of the variance between the two linear composites. The canonical correlation for the second function is $r=.34$, which accounts for 12% of the variance between the second two linear composites. Both canonical correlations are significant.

Deciphering the nature of the relationship for each canonical function begins with an examination of the composition of each linear composite contributing to that function. Table 3 lists the canonical loadings for the social climate variables. These canonical loadings represent the correlation between the observed social climate variables and their canonical variate or weighted linear composite. They are interpreted like factor loadings.

Supervisor support ($r=.9186$), autonomy ($r=.7565$), and innovation ($r=.7136$) load most strongly on the first social climate canonical variate. Also contributing to the first canonical variate are involvement ($r=.6294$), clarity ($r=.6807$), and peer cohesion ($r=.5797$). Given these results, the first social climate canonical variate appears somewhat analogous to Moos' relationship dimension, with some modification. Moos defined the relationship dimension of social climate as describing the relationships employees have with their work, boss, and each other. In his model,
involvement, peer cohesion, and supervisor support are the scales that comprise this dimension. All three, but especially supervisor support, load strongly on this first canonical variate. In addition, however, autonomy, innovation, and clarity also load high on this variate. It could be argued that autonomy, innovation, and clarity also serve to describe an employee's relationship to their job. To the extent that an employee is encouraged to be self-sufficient, where there is leeway for creativity and trying new things, and where expectations and routines are clear, the functioning of an employee in his/her job is likely to be much different than where these conditions do not exist.

The second social climate canonical variate loads primarily on the control scale ($r=0.7495$) with some additional loading on the task orientation ($r=0.3931$) and clarity ($r=0.3936$) scales. These seem to describe much more the emphasis given to managing work performance (as opposed to relationships) in a setting. The fact that clarity loads somewhat on this variate as well as the first is not surprising since clarity itself is significantly correlated with both control and task orientation (see Table 1) and serves to manage work performance by defining the role and responsibilities (i.e., the relationship the person has to their work) for the employee.
The canonical loadings for the leadership variables are summarized in Table 4. The first leadership canonical variate loads primarily on the M-leadership scale \((r=.9979)\) but also contains a sizeable P-leadership loading \((r=.6855)\). This is consistent with the moderately strong relationship found between P- and M-leadership \((r=.64)\) listed in Table 1. The second leadership canonical variate loads primarily on the P-leadership scale \((r=.7281)\). Taken together, it would appear that the first leadership canonical variate describes a management style that focuses more on managing the social and interpersonal dynamics of the group while the second clearly describes a style concerned more with managing performance.

The canonical correlation describing the first canonical function between social climate and leadership appears, therefore, to be extracting the variance in social climate having to do with defining and structuring relationships between employees, supervisors, and their work accounted for by a relationship-based management style. Conversely, the second canonical correlation appears to be extracting the variance in social climate having to do structuring and organizing the work setting accounted for by a performance-oriented management style.

A more direct analysis of social climate as a function of leadership can be made by examining the canonical cross-
### Table 4.
Canonical Loadings: Correlations Between the Leadership Variables and their Canonical Variables

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### Table 5.
Canonical Cross-loadings: Correlations Between the Social Climate Variables and the Leadership Canonical Variables

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</table>
loadings between the social climate variables and the leadership canonical variates. These cross-loadings represent the correlations between each of the observed social climate variables and the leadership canonical variates. These are listed in Table 5.

The first leadership canonical variate loads most strongly on supervisor support ($r = .5990$), autonomy ($r = .4932$), innovation ($r = .4653$), clarity ($r = .4439$), and involvement ($r = .4104$). (These correlations are very similar to those listed in Table 1 for each of these climate variables and the M-leadership scale, providing support that the first leadership canonical variate appears to be describing an M-leadership pattern.) Taken together, these results are consistent with the previous analysis that the first canonical function appears to primarily describe the relationship between the various connections employees have with each other and their jobs as accounted for by a relationship-based management style.

The second leadership canonical variate loads most strongly on control ($r = .2557$) with some contribution by task orientation ($r = .1341$) and clarity ($r = .1343$). This is also consistent with the previous analysis in that the second canonical function appears to be primarily a reflection of the
emphasis given to structuring and organizing work in a setting accounted for by a performance-oriented management style.

**Canonical Analysis of Stress as a f(Climate and Leadership)**

There are three canonical functions calculated for this analysis since the lesser of the number of variables in either the predictor or criterion data sets is three (stress = exhaustion, depersonalization, personal accomplishment). The canonical correlations for these functions are presented in Table 6.

The canonical correlation for the first function is \( r = 0.63 \) accounting for 40% of the variance between the first pair of canonical variates. At first glance, the direction of this relationship may appear inconsistent with the hypothesis that under more favorable (i.e., more positively rated) climate and leadership conditions, observed stress levels would be lower. Examination of the nature the stress and leadership canonical variates, however, clarifies this apparent discrepancy. Table 7 lists the canonical loadings for the observed stress variables on their canonical composites or variates. The first stress canonical variate appears to primarily describe a state of low exhaustion (\( r = -0.9970 \)) and, to a lesser extent, low depersonalization (\( r = -0.4893 \)). Table 8 lists the canonical loadings for the observed climate and leadership variables and
Table 6.
Canonical Correlation Analysis: Employee Stress = f(Social Climate + Leadership)

<table>
<thead>
<tr>
<th>Canonical Function</th>
<th>Canonical Correlation</th>
<th>Adjusted Canonical Correlation</th>
<th>Squared Canonical Correlation</th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>p &gt; F</th>
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<tr>
<td>1</td>
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<td>.61</td>
<td>.40</td>
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<td>2</td>
<td>.39</td>
<td>.35</td>
<td>.14</td>
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<td>.0001</td>
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<td>3</td>
<td>.23</td>
<td>.19</td>
<td>.05</td>
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<td>.0235</td>
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Table 7.
Canonical Loadings: Correlations Between the Employee Stress Variables and their Canonical Variables

<table>
<thead>
<tr>
<th></th>
<th>Canonical Variate 1</th>
<th>Canonical Variate 2</th>
<th>Canonical Variate 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>-.9970</td>
<td>-.0102</td>
<td>.0774</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-.4893</td>
<td>-.5402</td>
<td>.6846</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>.1724</td>
<td>.7393</td>
<td>.6509</td>
</tr>
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</table>
Table 8.
Canonical Loadings: Correlations Between the Social Climate and Leadership Variables with their Canonical Variables

<table>
<thead>
<tr>
<th></th>
<th>Canonical Variate 1</th>
<th>Canonical Variate 2</th>
<th>Canonical Variate 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
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<td>.4993</td>
<td>.0725</td>
</tr>
<tr>
<td>Peer Cohesion</td>
<td>.4717</td>
<td>.6534</td>
<td>-.2713</td>
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<td>Supervisor Support</td>
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<td>.3933</td>
<td>.0487</td>
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<td>Autonomy</td>
<td>.3354</td>
<td>.4338</td>
<td>.5501</td>
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<td>Task Orientation</td>
<td>.3951</td>
<td>.5556</td>
<td>.1503</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>-.6546</td>
<td>.2887</td>
<td>.2597</td>
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<tr>
<td>Clarity</td>
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<td>.2856</td>
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<td>Control</td>
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<td>Innovation</td>
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<td>.2796</td>
<td>.1820</td>
</tr>
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<td>Physical Comfort</td>
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<td>.0553</td>
<td>.4424</td>
</tr>
<tr>
<td>P-Leadership</td>
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<td>.0847</td>
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<tr>
<td>M-Leadership</td>
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<td>.4233</td>
<td>.3460</td>
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</tbody>
</table>

Table 9.
Canonical Cross-loadings: Correlations Between the Employee Stress Variables and the Social Climate/Leadership Canonical Variables

<table>
<thead>
<tr>
<th></th>
<th>Canonical Variate 1</th>
<th>Canonical Variate 2</th>
<th>Canonical Variate 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>-.6328</td>
<td>-.0040</td>
<td>.0180</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-.3106</td>
<td>-.2085</td>
<td>.1596</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>.1094</td>
<td>.2854</td>
<td>.1517</td>
</tr>
</tbody>
</table>
their canonical composites or variates. The first climate/leadership canonical variate is loaded most heavily on clarity (r=.7410) with moderate contributions made by physical comfort (r=.5831) and involvement (r=.5685). Work pressure (r=-.6546) acts as a suppressor but overall the rest of the variables make smaller but positive contributions to the canonical variate. Taken together, one would expect that the relationship between a linear composite that describes low stress levels with a composite that describes generally favorable climate and leadership conditions to be positive. That is, it is expected that under favorable leadership and climate conditions, exhaustion and depersonalization would be lower. Support for this can also be found by examining the correlation coefficients listed in Table 1 where it will be noted that the exhaustion and depersonalization scales exhibit inverse relationships with most of the climate and leadership variables except for work pressure, where it is expected that a positive relationship would exist.

The canonical correlation for the second canonical stress function is r=.39 which accounts for approximately 14% of the variance between the second pair of canonical variates. The loadings listed for the second canonical stress variate in Table 7 indicate that this composite is loaded most heavily on personal accomplishment (r=.7393) with the overall combined weighting for the composite being attenuated by
depersonalization ($r = -0.5402$). It would appear, then, that this composite describes generally higher levels of personal accomplishment along with lower levels of depersonalization. The loadings on the second climate/leadership composite listed in Table 8 indicate that it most strongly loads on peer cohesion ($r = 0.6534$), with a number of other moderate loadings including task orientation ($r = 0.5556$), involvement ($r = 0.4993$), autonomy ($r = 0.4338$), and M-leadership ($r = 0.4233$). The overall weighted composite is also attenuated somewhat by control ($r = -0.4012$). In general, this second climate/leadership canonical variate appears to describe a situation where employees are generally involved with each other and their work, where the supervisor shares decision-making and is sensitive to the dynamics of the work group, and where the use of explicit control mechanisms is low. The second canonical correlation indicates, then, that there is a slight relationship between these climate/leadership conditions and increased levels of personal accomplishment and lower depersonalization. This is also supported by the correlations listed in Table 1 where depersonalization shows low inverse relationships to most of the climate and leadership variables and where personal accomplishment can be found to display low positive relationships to most of the climate and leadership variables.
The canonical cross-loadings for the observed stress variables on the climate/leadership canonical variates are listed in Table 9. Again, this provides a more direct assessment of the relationship between the observed stress measures and the climate/leadership variables taken together. Emotional exhaustion ($r=-.6328$) correlates the strongest with the first climate/leadership variate accounting for 40% of the variance in the set of stress measures. Depersonalization displays a slight inverse relationship to the second climate/leadership canonical variate ($r=-.2085$) while personal accomplishment displays a slight positive relationship ($r=.2854$). Taken together, it would appear that the relationship described in the first canonical function is primarily that of emotional exhaustion as a function of clarity, involvement, physical comfort, and low work pressure. The relationship described in the second canonical function is primarily that of increased personal accomplishment and decreased depersonalization as a function of peer cohesion, task orientation, involvement, autonomy, M-leadership, and lower levels of control.

As can be seen in Table 6, the third canonical function results in a correlation coefficient of $r=.23$, accounting for 5% of the variance between the third pair of variates, which is not significant. Thus, it was not interpreted as a part of
this discussion but the data are reported in the tables for review.

A brief comment also needs to be made as to the redundancy indices often found in canonical analyses. Redundancy indices were computed for each canonical correlation. They were not included in the discussion of this analyses because of their susceptibility to the influence of unequal numbers of variables in the criterion and predictor sets. They were generally smaller than the computed r squares and consistent with the data in suggesting that while social climate is related to leadership, and stress related to climate and leadership, the variance in the criterion variables accounted for by the predictor variables is moderate at best.

**Multiple Regression of Stress as a f(Climate and Leadership)**

Factor analysis of the data revealed that the three stress measures - emotional exhaustion, depersonalization, and personal accomplishment - could be extracted as a single factor from the entire set of variables. A simultaneous multiple regression procedure was run looking at a weighted combination of these three variables (i.e., considering them together as a single dependant variable) as a function of the
social climate and leadership variables. The results of this analysis are listed in Table 10.

The analysis revealed a multiple r of .83 accounting for 68% of the variance in the stress factor. The most significant loadings represented by the beta's in the regression equation were for work pressure (.63), clarity (-.301), and physical comfort (-.201). P-leadership also loaded significantly (.163), though to a lesser extent. These results suggest that the strongest predictors of overall employee stress from this set of predictors are the pace, load, and urgency of the work, low levels of clarity and physical comfort, and a management style concerned primarily with directing work performance.

**Group Comparisons**

Golembiewski and Munzenrider (1988) provide normative data for delineating high and low groups for each of the MBI scales. Simple t-group comparisons on the emotional exhaustion, depersonalization, and personal accomplishment scales were made for each of the social climate and leadership variables. The results of these analyses are listed in Tables 11-13.
Table 10.
Multiple Regression Analysis: Stress = f{Social Climate + Leadership}

**Analysis of Variance**

|Multiple R | .83 |
| R Square | .69 |
| Adjusted R Square | .68 |
| Standard Error | .57 |
| **DF** | **Sum of Squares** | **Mean Squares** | **F** | **Signif F** |
| Regression | 12 | 260.98 | 21.75 | 68.02 | .0001 |
| Residual | 366 | 117.02 | .32 | |

**Variables in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Standard Error B</th>
<th>Beta</th>
<th>T</th>
<th>Signif T</th>
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<td>.003</td>
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<td>.002</td>
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<td>.002</td>
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<td>.0001</td>
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<td>P-Leadership</td>
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<td>M-Leadership</td>
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<td>.006</td>
<td>-.031</td>
<td>-.67</td>
<td>.5024</td>
</tr>
<tr>
<td>Constant</td>
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Table 11.
Comparisons between High vs. Low Emotional Exhaustion (EE) Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>High EE</th>
<th>Low EE</th>
<th>t-value</th>
<th>Signif T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td>40.905</td>
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</tr>
<tr>
<td>Peer Cohesion</td>
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</tr>
<tr>
<td>Supervisor Support</td>
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</tr>
<tr>
<td>Autonomy</td>
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<td>-4.30</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Task Orientation</td>
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<td>-5.00</td>
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</tr>
<tr>
<td>Work Pressure</td>
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<tr>
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</tr>
<tr>
<td>M-Leadership</td>
<td>34.494</td>
<td>37.715</td>
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</tr>
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</table>

Table 12.
Comparisons between High vs. Low Depersonalization (DP) Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>High DP</th>
<th>Low DP</th>
<th>t-value</th>
<th>Signif T</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Work Pressure</td>
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<td>.793</td>
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## Table 13.
Comparisons between High vs. Low Personal Accomplishment (PA) Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scale Means*</th>
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<td></td>
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</tr>
<tr>
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<td>34.318</td>
<td>36.993</td>
<td>-2.88</td>
<td>.004</td>
<td></td>
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</tbody>
</table>

*Scored in opposite direction
Table 11 shows the results of comparisons between high and low exhaustion groups for each of the climate and leadership variables. The results indicate significant group differences at the .01 level for all variables except for control which is significant at the .05 level. The most significant differences between high and low exhaustion groups were found for clarity (t=-8.73), physical comfort (t=-8.11), involvement (t=-7.47), and work pressure (t=6.69). Except for work pressure, the group means for each of the climate and leadership variables were lower for the high exhaustion group. Thus, exhaustion seems to be higher where involvement, peer cohesion, supervisor support, autonomy, task orientation, clarity, control, innovation, physical comfort, and P- and M-leadership is low, and where work pressure is high. The results concerning P-leadership are interesting in that it was expected that exhaustion would be more common where there was a strong focus on managing performance by supervisors. Even though significant, however, the group differences on P-leadership were small.

Table 12 shows the results of comparisons between high and low depersonalization groups for each of the climate and leadership variables. Unlike emotional exhaustion, significant differences at a minimum .05 level were found for one variable only, control (t=2.46). Peer cohesion (t=-1.95) was nearly significant at the .05 level. Levels of
depersonalization, then, seem to be greater where explicit use of rules and policy to control performance are prevalent.

Table 13 shows the results of comparisons between high and low personal accomplishment groups for each of the social climate and leadership scales. This scale, unlike the other two, is scored in the opposite direction. Thus, "high" in this instance refers to lower ratings of personal accomplishment, which is the aspect of personal accomplishment that is clinically significant from the perspective of dysfunctionality. Significant differences at the .01 level were found for involvement (t=-2.96), peer cohesion (t=-2.91), autonomy (t=-4.70), task orientation (t=-2.93), and M-leadership (t=-2.88). At the .05 level significant differences were found for work pressure (t=-2.36), control (t=2.18), and physical comfort (t=-2.16). Thus, it appears that lower levels of personal accomplishment (i.e., clinically "high" groups) are found where involvement, peer cohesion, autonomy, task orientation, work pressure, physical comfort, and M-leadership is low. The finding that personal accomplishment tends to be clinically "high" (i.e., rated lower) where task orientation and work pressure are low is interesting but not unexplainable given that it is generally agreed that some degree of pressure or stress is usually associated with incremental performance enhancement, at least
up to some point. A lower level of accomplishment was also found where control tended to be higher.
CHAPTER 6. DISCUSSION OF RESULTS

Social Climate as f[Leadership]

The first research hypothesis asked the question to what extent is the social climate of a work setting related to the leadership behaviors of the supervisor? Based on the results of this study the answer to this question appears to be that workplace climate is related to leadership behavior, with the strongest influence seeming to be made by supervisor behaviors that focus on relationships and maintaining the social stability of the work group. Not surprisingly, these supervisor behaviors appear to be most strongly related to aspects of climate having to do with the relationship employees have with each other, especially their boss, as well as to the work and their job. This conclusion is based on the general pattern of correlations listed in Table 1 where M-leadership appears to be more strongly related to the social climate scales when compared to P-leadership, as well as by the canonical analysis that indicated the strongest relationship between social climate and leadership is described by the variance M-leadership accounts for in supervisor support, autonomy, innovation, and clarity.

Specific hypotheses concerning the relationship of P- and M-leadership to the social climate scales were partially
supported. P-leadership had a weak though significant relationship to control but, relative to M-leadership, was much more strongly related to control. Task orientation was not more strongly related to P-leadership as had been predicted. Task orientation was equally related to P- and M-leadership suggesting that getting employees organized and focused on getting the job done has both P- and M-leadership components to it. Work pressure was not related to P-leadership as had been predicted but neither was it related to M-leadership. Supervisor support was significantly related to M-leadership as had been predicted but was also significantly related to P-leadership suggesting that a performance-oriented management focus could be construed as supportive by some employees. The relationship to M-leadership, however, was much stronger.

Discussion

The conclusion that M-leadership may be a particularly important source of variance when it comes to social climate must be made with some degree of caution. There are several significant correlations between P-leadership and the social climate variables found in Table 1, and the canonical analysis of climate as a function of leadership revealed a second significant canonical function that appeared to describe the relationship between P-leadership and climate factors having to do with the
structuring and organizing of the work environment. Thus, while there appears to be a general relationship between social climate and leadership, the specific nature of that association may depend on what aspects of social climate and leadership are being investigated. Still, the canonical analysis does indicate that M-leadership behavior did account for a greater proportion of the variance in social climate than did P-leadership behavior.

Other methodological reasons also make tenuous the conclusion that M-leadership behavior is a more important source of influence when it comes to workplace climate than P-leadership. The relationship of M-leadership behavior with social climate found in this study could be a function of there being an inordinate number of "M-susceptible" climate factors included in the WES. Supervisor support was the only WES scale predicted to be significantly related to ratings of M-leadership behaviors. The fact that M-leadership appears to load significantly on autonomy, clarity, and innovation - which Moos describes much more in terms of orienting, organizing, and directing employees towards the accomplishment of some end - was not predicted. While these do not seem to be overtly M-leadership behaviors, it is not difficult to imagine how they may be related.
Misumi describes M-leadership as the degree to which the supervisor focuses on managing the interpersonal and social dynamics of the work group and maintains the group's social stability. Clearly, supervisors can affect the social dynamics of a work group in more ways than by demonstrating support. For example, to the extent that roles, relationships between employees, and performance expectations are not clear, employees may get confused, feel ineffective, and tension may result. Conversely, as was seen in the cross-cultural leadership work by Smith et al (1989) there appear to be some supervisor behaviors that universally load on the M-leadership dimension. In that study, these behaviors included responding sympathetically and spending time with employees discussing matters of concern (i.e., demonstrating support), encouraging decision-making (i.e., autonomy), and being willing to accept suggestions for work improvements (i.e., innovation). Thus, there is both intuitive and empirical support for the broader relationships found between M-leadership and social climate in the present study which supports the idea that how the concept of social climate is operationalized will affect the relationships found with leadership.

However, to the extent that Moos' social climate model does accurately reflect the important dimensions that contribute to an employee's experience of the work environment, than these results do argue for relatively
greater importance being given to developing supervisors' understanding of their M-leadership role and the behaviors needed to support that role. This is not to say that a supervisors' P-leadership is unimportant. Clearly, Misumi's research has shown that supervisors with strong skills in both domains are generally considered the most effective. But these results are consistent with Misumi's own findings that there are few differences in employee measures when comparing supervisors classified as PM and pM types within his framework, thus suggesting that the M-dimension may be particularly important when it comes to positively influencing employees.

Despite the relationship found between leadership and social climate it is also important to note that the canonical analyses reveals that only about 55% of the variance in social climate is accounted for by the two canonical functions combined. This means that there are other significant sources of variance in social climate not measured in the study. Intuitively, this makes sense but there is also some data that could be interpreted to support this. For example, it was found that work pressure displayed weak, insignificant correlations with P- and M-leadership and generally weak (albeit significant in some cases) correlations with the other WES scales. That work pressure was not strongly related to other workplace conditions suggests that the pace, load, and
urgency of the work may be more strongly affected by external conditions. It is not difficult to imagine how the external environment can affect organizational functioning. Our daily news is fraught with stories about the effects increased competition, deregulation, more complex legal constraints (e.g., EEO, ADA), or better informed and more demanding consumers are having on organizations and their leaders. The need to change, particularly when facing the challenge of controlling costs, is having a major impact on the systems and climate of organizations today, in many cases radically altering the experience employees are having of what they have come to expect in their work environments.

**Stress as a Function of Social Climate and Leadership**

The second research hypothesis asked the question of how employee stress is related to social climate and leadership patterns in a setting. The general answer to this question is that there appears to be a relationship between stress and climate/leadership which is described most strongly by the association between emotional exhaustion with work pressure and clarity.

Specific hypotheses concerning the relationship of the individual stress measures to climate and leadership also received partial support. The relationships of exhaustion and
depersonalization to task orientation, control, and P-leadership were not in the predicted directions. Thus, exhaustion was lower where task orientation, control and P-leadership was high, albeit the correlations were small. The same pattern existed for depersonalization with the exception that there was virtually no relationship to control. As was suggested previously, this may suggest that some degree of structure imposed by the supervisor in the work setting may actually help prevent or alleviate employee stress.

The relationships of personal accomplishment to task orientation, work pressure, and P-leadership were in the opposite direction (positive) and weak; the direction of the relationship to control was in the expected direction and also weak. These results suggest that some degree of pressure and keeping employees focused on the work needing to be done is associated with increased levels of personal accomplishment.

The direction of the relationships between exhaustion, depersonalization, and personal accomplishment with supervisor support and M-leadership were as predicted (inverse) but lower than expected.
Discussion

The correlation matrix in Table 1 reveals that of the three employee stress measures used in the study, emotional exhaustion displays the strongest relationships to social climate and leadership, followed by depersonalization and personal accomplishment. Emotional exhaustion and depersonalization generally have inverse relationships with social climate and leadership indicating that they are lower where these climate and leadership variables are rated high. One exception to this is the case of work pressure where it was expected that the relationship would be direct, that is, exhaustion and depersonalization would be higher where work pressure was higher. The correlations for personal accomplishment are generally low but positive, indicating that employees feel more effective where these climate and leadership variables are rated high. Emotional exhaustion was most strongly related to work pressure and clarity, depersonalization to peer cohesion and clarity, and personal accomplishment to autonomy.

The canonical analysis highlights the relationship between exhaustion, work pressure, and clarity. The first canonical function, which accounts for 40% of the variance between the first pair of canonical variates, loads most strongly on these three variables. That is, low exhaustion,
as accounted for by high clarity and low work pressure, resulted in the strongest relationship between the predictor and criterion sets. The second canonical function, which accounted for 14% of the variance between the second pair of canonical variates, was less precise in what it seemed to describe. (It loaded most strongly on personal accomplishment, depersonalization, peer cohesion, task orientation, involvement, autonomy, M-leadership and low control.)

Even when considering the third canonical function, which was not significant, it is evident that there is still a substantial proportion of variance in the criterion set not accounted for by the social climate and leadership variables. This makes sense in that the sources of stress for people can be many, only one of which is their experience at work. Thus, even though the study attempted to isolate stress as it is related to work by focusing on the syndrome of burnout and the job factors that may be related to it, these results suggest there may be some overlap or transfer of stress from one situation to another since the climate/leadership set accounted only for about 57% of the variance in the stress measures.

The contributions of work pressure and clarity to employee stress levels are further accented in the regression
analysis where the three stress measures were considered together, as a single dependant variable. Work pressure was clearly the strongest contributor to employee stress of the 12 climate and leadership variables, with clarity loading second in an inverse direction (i.e., low clarity being associated with higher stress). Interestingly, physical comfort was the third strongest, also loading in an inverse direction.

That work pressure, which may be more influenced by external conditions to the organization, loads strongly in the regression analysis is consistent with the aforementioned observation that a considerable proportion of variance in employee stress may be attributable to conditions outside of the organization.

The results of the comparisons of means on the social climate and leadership scales between the high and low stress groups provides further support for the role of emotional exhaustion as a primary component in employee stress. Significant differences at a minimum .05 level were found between high and low exhaustion groups on all 12 climate and leadership measures. In contrast, one significant difference was found for depersonalization (on the control scale) and while several significant differences were also found between personal accomplishment groups, these tended to not be as highly significant as they were for exhaustion. Thus, climate
and leadership appear to differentiate most the level of exhaustion employees are reporting, followed by personal accomplishment and depersonalization.

The fact that emotional exhaustion shows the strongest overall correlations with the climate and leadership variables and loads most strongly on the canonical function linking stress to climate and leadership, along with the fact that it can be differentiated the easiest on the climate and leadership scales, is consistent with the hypothesis advanced by Golembiewski and Munzenrider (1988) that exhaustion is the most virulent of these three employee stress measures. That is, exhaustion appears to be the strongest overall contributor to employee stress that can lead, ultimately, to burnout.

In general, there is only partial support for the hypothesis that stress would be strongly related to Misumi's leadership variables. P- and M-leadership display generally weak correlations with the stress measures and load minimally on the canonical regression equation describing stress as a \( f(\text{climate and leadership}) \). In the multiple regression where stress was treated as a single criterion, P-leadership was the fourth highest loading. In the group comparisons, there were significant differences on P- and M-leadership for emotional exhaustion, and for M-leadership on personal accomplishment.
Lack of strong support for this hypothesis may be due to the broad range of supervisor behavior encompassed in the definitions of each dimension. It could be that certain features of P- or M-leadership behavior are more strongly related to measures of employee stress while other aspects are not, making the overall net effect much weaker. For example, clarity displays a moderate relationship to P-leadership and is also moderately correlated with exhaustion. Control, on the other hand, which is also significantly related to P-leadership, has a much weaker relationship to exhaustion. To the extent that the climate scales describe more specific conditions or attributes of the setting, one could expect more reliable resulting correlations between them and the stress measures.

It would be inaccurate, however, to say that the data do not support the more general hypothesis that leadership is related to stress. To the extent that the climate scales are correlated with Misumi's P- and M-leadership dimensions, then part of their relationship to stress may be attributable to leadership actions. Clarity, for example, is related to both P- and M-leadership dimensions and is the strongest contributor to exhaustion and second only to work pressure in predicting overall stress. The extent to which employees know what to expect in their daily routines and how explicitly rules and policies governing behavior are communicated -
clearly management actions - were found to be related to employee stress.

Conclusions

What has been an attempt in this last section to summarize and simplify the results of this study may have served only to make the drawing of any conclusions more confusing, at the least, and certainly more difficult because of the number of variables, and therefore relationships, analyzed in the study. Clearly, just the nature of the research questions themselves beg of complexity. So, what will be attempted here is to succinctly restate the major conclusions drawn as well as the main considerations impacting those interpretations.

1. Social climate as a function of leadership appears to be mainly an issue of the variance in social climate accounted for by M-leadership behavior. The aspects of social climate that are most strongly related to M-leadership are those that describe employee relationships with others, particularly their boss, and to their work (i.e., involvement, autonomy, innovation, and clarity).

2. A significant proportion of variance in social climate is unaccounted for by the leadership variables. It is
suggested that external variables, such as those that may affect the pace, load, and urgency of work (i.e., work pressure), may be important sources of influence on social climate.

3. It is acknowledged that to some extent the relationship between social climate and leadership may be a function of how these variables are defined and operationalized. That is, there may be a preponderance of "M-susceptible" variables included in the social climate measures. However, this conclusion (that M-leadership may be particularly important in shaping social climate) is consistent with Misumi's research implicating the importance of M-leadership behaviors.

4. Employee stress as a function of climate and leadership appears to be mainly an issue of emotional exhaustion as it is related to work pressure and clarity.

5. Emotional exhaustion appears to be the most virulent of the employee stress measures, being implicated as such through a variety of analyses.

6. There is a significant proportion of variance in employee stress not accounted for by the social climate and leadership variables. This is consistent with the observation
that employees are subject to many sources of stress, the effects of which can overlap from situation to situation. The finding that work pressure (which may be reflective of external conditions) relates most strongly to employee stress is consistent with this idea.

7. Leadership, as assessed by Misumi's framework, was not strongly related to measures of employee stress. However, this may be due to definitional issues concerning P- and M-leadership. Certainly, to the extent that some social climate variables are related to leadership, and these climate variables were in turn related to the stress measures, then the influence of leadership on employee stress can be inferred.


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