TOWARDS AN UNDERSTANDING OF INDIVIDUAL RATINGS OF COHESION WITHIN WORK UNITS: A MULTILEVEL STUDY

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ABSTRACT

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The major aim of the current study of the current study was to advance the state of knowledge on cohesion within work units by looking at the influence of social identity; similarity in quantity of reported occupational stress, and domestic working location or international working location as factors influencing individual perceptions of cohesion. The current study analyzed self report data from 38,400 employees in a large, domestically based, manufacturing organization with international subsidiaries. Work unit cohesion is typically measured by aggregating individual responses to the group level and treated as a group level variable. The current study used Hierarchical Linear Modeling to simultaneously analyze individual and group level influences on individual perceptions of cohesion in work units. A linear relationship between individual identification with the overall organization cohesion was found; a curvilinear relationship between individual perceptions of quantitative work overload (relative to their respective group members) was found. It was found that domestic location intensified the relationship between identification with the overall organization and perceptions of cohesion. Implications of the study suggest an importance of considering social identity and chronic occupational stressors as factors influencing work unit cohesion. Results of the study also highlight the importance of considering the context of the study environment when considering relationships between individual level predictors and outcomes.

This work is dedicated to those who help others because it is the right thing to do.

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TABLE OF CONTENTS

Page

OVERVIEW OF COHESION 1

TYPES OF COHESION 4

PREDICTORS OF COHESION 6

INDIVIDUAL PERCEPTIONS AND GROUP AGGREGATION 7

RESEARCH QUESTIONS 9

QUANTITATIVE WORK OVERLOAD AND COHESION 11

SOCIAL IDENTITY AND COHESION 15

INTERACTIONS INVOLVING GROUP AND INDIVIDUAL VARIABLES 18

GEOGRAPHIC LOCATION AND SOCIAL IDENTITY 20

SHARED STRESSORS AS ENVIRONMENTAL CHARACTERISTICS 23

SHARED STRESSORS AND SOCIAL IDENTITY 27

PURPOSE OF PRESENT STUDY 30

METHODOLOGY 32

OBSERVED RESULTS 38

DISCUSSION OF RESULTS 43

LIMITATIONS AND FUTURE DIRECTIONS 48

REFERENCES 49

APPENDIX A. INSTRUMENT 56

LIST OF FIGURES/TABLES

Figure/Table Page

1 Descriptive Statistics and Reliabilities for all Study Variables 57

2 Intercorrelations for all Study Variables..... 58

3 Random Coefficient Models Predicting Individual Perceptions of Cohesion..... 59

4 Random Coefficient Models Testing Significance of Variance Components of Level-one Coefficients..... 60

1 International Location Moderates the Relationship Between Organizational Identity on Perceived Unit Cohesion 61

OVERVIEW OF COHESION

The concept of cohesion has been written about extensively in both the military and civilian academic literature. While some of the first writings on cohesion stem from military accounts of unit performance (Manning, 1991), the importance of this topic assures the interest of both civilian academics and applied psychological professionals. As indicated by research in the areas of counseling psychology (e.g., Marmarosh, Holtz, Schottenbauer, 2005) team athletics (e.g., Patterson, Carron, & Loughead, 2004) and capitalistic organizations (e.g., Jung & Sosik, 2002), cohesion is a topic of interest to those in numerous fields concerned with the performance of groups.

Cohesion is a very important topic to study and has been noted to influence relevant organizational outcomes such as task performance (Zaccaro & Lowe, 2001; Zaccaro & McCoy 1998) and the extent to which team members interact with one another to plan out task strategies (Zaccaro & McCoy, 1998). Cohesion also positively influences the wellbeing of group members (Bliese & Halveson 1996). Extremely high levels of cohesion have also been documented as having the effect of keeping teams intact and working under physically threatening situations (Shils & Janowitz, 1948). Cohesion is traditionally viewed as the extent to which a group will remain in tact. This is an important note to ponder because a team may have a very low level of cohesion, thus be more prone to group disintegration. This helps to illustrate the distinction between the definition of cohesion "the extent to which individuals will remain intact" and the influence of varying degrees of cohesion on the operational effectiveness of groups in situations under stress (e.g., Shills & Janowitz, 1948).

In reviewing the literature on cohesion it is readily apparent that this concept is important to both the military (e.g., Bliese & Halverson, 1996; Bartone et al., 2002; Shills & Janowitz,

1948) and civilian organizations (Zaccaro & Lowe, 2001; Zaccaro & McCoy, 1988). Unit cohesion is present in civilian organizations (Podsakoff & MacKenzie, 1994; Podsakoff, MacKenzie & Ahearne, 1994) and can have important influences on performance (Zaccaro & Lowe, 2001; Zaccaro & McCoy, 1988).

On the proceeding pages the concept of cohesion will be delineated. Following this a research project to investigate the role of an occupational stressor, social identity, and the dynamic role of environment in predicting an individual's perception of cohesion will be set forth. Results of the current research project will be presented followed by a discussion of the importance of these results focusing specifically on the implications of the current results for organizations interested in fostering cohesion.

To help illustrate the historical context of the study of cohesion, it is useful to note that as early as 1865, intellectuals were aware of the profound consequences of cohesion in regard to the performance of humans in groups (Manning, 1991). As cited by Manning (1991), DuPicq (1865) commented that one of the factors contributing to an individual's discipline is assurance in fellow unit members and a desire to remain with fellow unit members.

A commonly cited seminal work on cohesion was conducted by Festinger, Schachter, and Back (1950). In their work, cohesion was defined as "the total field of forces acting on the members to remain in the group" (Festinger et al, 1950 p. 37). It is interesting to note that this conceptual definition was substantially different from the operational definition: the extent to which members of a civilian housing unit agree with each other (Gross & Martin, 1952).

In a later publication, Schachter (1952) defined the concept as an end result of numerous social forces to maintain group membership. This latter definition suggests that numerous variables play a role in the development of cohesion and provides the possibility that some

variables (e.g., stressors and strains) may detract from cohesion while other variables (e.g., positive leadership) may enhance cohesion.

The extensive and sometimes conflicting history of the cohesion literature is delineated nicely by Dion (2000). While there is no universally accepted operational or conceptual definition of cohesion, overall the concept(s) of cohesion can be viewed as the extent to which group members will stick together. This cohesiveness or the extent to which members of a group will stick together is present in times of crisis, as noted by Shils & Janowitz (1948), and in times of routine operations, as examined by Zaccaro & McCoy (1988).

TYPES OF COHESION

While early work on cohesion (e.g., Festinger, 1950; Festinger et al, 1950) viewed the construct as one-dimensional in nature, contemporary researchers (e.g., Bliese & Halveson, 1996; Zaccaro & Lowe, 1988; Zaccaro & McCoy, 1988) provide evidence suggesting that cohesion is a multidimensional construct. Although they originally conceived of cohesion as a unitary construct, Festinger and colleagues (1950) did foreshadow the distinction between types of cohesion by theorizing two secondary factors influencing the numerous forces which result in cohesion: the extent to which the group is attractive to the members of the group, and the extent to which the group provides a means for satisfying goals for group members (Festinger et al., 1950). This important distinction illustrates that there can be numerous factors influencing cohesion and suggests, as the multidimensional view of cohesion holds, that there are numerous specific types of cohesion. The multidimensional view of cohesion suggests that there are distinct types or forms of cohesion that reflect different reasons groups remain intact. What follows are brief definitions of the common types of cohesion found in contemporary research literature.

Task based cohesion can be defined as the extent to which group members identify with the task to be performed by the group (Zaccaro & McCoy1998) or the extent to which group membership mediates the attainment of personal goals (Festinger et al., 1950). Interpersonal cohesion can be defined as the extent to which group members are attracted to the group because of interpersonal relations between the group members (Festinger et al., 1950). Zaccaro and colleagues are strong proponents of the multidimensional view of cohesion. By designing tasks with specific group performance requirements (i.e., disjunctive or additive) they have shown that task cohesion and interpersonal cohesion are two distinct constructs (Zaccaro & McCoy 1988;

Zaccaro & Lowe, 2001). For example, when performance required concentration on the task at hand and minimal interaction between group members (i.e., additive task), task cohesion facilitated performance but interpersonal cohesion actually inhibited group performance (Zaccaro & Lowe 2001). Furthermore, when task performance requires communication between group members (i.e., disjunctive task) the combination of both high task commitment and high interpersonal commitment is required for optimal performance while high task commitment or high interpersonal commitment alone does not result in optimal group performance on a disjunctive task (Zaccaro & McCoy, 1988).

Essentially identical to interpersonal cohesion, horizontal cohesion can be defined as the extent to which bonding and mutual affinity exists within a group (Bliese & Halveson, 1996). While cohesion is most commonly regarded as a group level variable, given the influence of an individual's perspective, this type of cohesion has been studied from both a group and individual level and has been noted to positively influence well being (Bliese & Halveson, 1996). One of the most dramatic effects of cohesion on group performance was documented in a seminal study of group cohesion in WWII; the strong interpersonal bonds among soldiers helped to sustain their combat efforts under overwhelming odds (Shils & Janowitz, 1948).

PREDICTORS OF COHESION

While the consequences of cohesion are well documented (Bliese & Halveson 1996; Shils & Janowitz, 1948; Zaccaro & Lowe, 2001; Zaccaro & McCoy, 1988), much less is known about the predictors of cohesion in groups. Researchers have hypothesized and investigated the role of variables such as the amount of time spent together (Bartone & Adler, 1999; Manning, 1991; Vaitkus & Griffith, 1990) collective efficacy[1] (Bandura, 1986; Pescosolido, 2003) and effective leadership (Bartone & Adler, 1999; Bass, Avolio, Jung, & Berson, 2003; Jung & Sosik, 2002; Rozell & Gundersen, 2003); it is well established that these variables (time spent together, collective efficacy, and leadership) are antecedents of cohesion.

Two variables which, from a theoretical standpoint, should influence cohesion are an individual's identification with the overall organization and shared perceptions of chronic occupational stressors. Furthermore, what has not been investigated in the cohesion literature is what role a group's setting will have on the relationship among variables. This last point does take significant time and effort to explicate and to understand. The question remains whether or not the geographic location that a given group is forced to work in will moderate the relationship between predictors and cohesion. It can be conceived that because of the cumulative influences of a work environment, the relationship between predictor variables and cohesion will vary systematically. Empirical studies and theoretical writings are used in the following pages to help explain the current research questions and hypotheses.

[1] Note: Collective efficacy can be defined as "a group's belief in their conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (Bandura, 1997; p. 477).

INDIVIDUAL PERCEPTIONS AND GROUP AGGREGATION

The proposed study will be investigating multiple influences on individual perceptions of cohesion within the work unit. The beneficial and potentially detrimental influences of cohesion have been discussed previously, thus highlighting the importance of fully understanding the process by which a cohesive group is developed. The influences on individual perceptions of cohesion are important to understand because the cohesive work group is necessarily composed of individuals; individual employees are the foundation of any work group. An understanding of what factors influence an individual's perception of cohesion will significantly enhance our understanding of this topic. Additionally, it is important to understand those factors influencing individual perceptions of cohesion because an individual's perception of cohesion has shown to influence numerous important outcomes such as productivity (Zaccaro & McCoy, 1988) and wellbeing (Bliese & Halveson, 1996).

Some have suggested that because cohesion is a construct most commonly conceived of at the group level, it should always be dealt with statistically by aggregating the individual perceptions of cohesion to a group level variable that represents the cohesiveness of the group (e.g., Siebold, 1999). However, numerous researchers have indicated the importance of individual perceptions when dealing with the concept of cohesion (e.g., Bartone et al., 2002; Piper et al., 1983). Aside from the arguments made in the literature advocating the importance of understanding individual perceptions of cohesion, the usefulness of studying individual perceptions is illuminated by the fact that any aggregate variable labeled group cohesion is made up of individual ratings of cohesion within a group. Indeed, as expressed by James (1982) an individual's opinion may correlate very well with those of his or her respective group members and become aggregated to the group level but the individual perceptions will always be

properties of the specific individual within a group. A variable representing a work climate (such as unit cohesion) can be considered a perception of the individual about his or her work group and not necessarily objective characteristics of the group environment James et al., 1978).

An aggregate variable is usually the arithmetic mean of all individual responses; therefore this variable will be far less likely to covary with important individual level experiences or characteristics (e.g., stressors, individual differences). This consequence of using the aggregate group cohesion variable can make it more difficult to detect which variables exert meaningful influences on cohesion.

RESEARCH QUESTIONS

Given the demonstrated importance of cohesion to both military and civilian organizations, the primary goal of the current research is to further the understanding of this variable, particularly to enhance our understanding of the variables which will relate to cohesion. Specifically, the research questions to be investigated here are to what extent individual perceptions of an occupational stressor and social identity, or the extent to which an individual identifies with the overall organization, influence an employee's perception of cohesion in his or her unit, and to what extent do group level variables predict both the individual ratings of cohesion and the strength of the relationship between individual perceptions of occupational stressors and individual perceptions of cohesion. To clarify this last general research question, is it possible that group level characteristics will influence average perceptions of cohesion? Also, is it possible that these group level characteristics will systematically alter the strength of the relationship between individual level predictors and cohesion? Before delineating more specific hypotheses, a brief discussion of the research questions and the specific individual level and group level variables is warranted.

Four specific research questions are examined in the current study. First, does the extent to which an individual perceives different levels of occupational stress (the extent to which work duties are overwhelming or provide excessive demands on the employee) relative to his or her group influence that individual's (or "their") perception of unit cohesion? Second, does the extent to which an individual identifies with the overall organization influence individual perceptions of unit cohesion? Third, does the variability in group member perceptions of chronic stressors (group level variables) predict the strength of relationships among individual level variables and the mean level of the individual level dependent variable (i.e., cohesion)? Fourth,

does the location in which tasks are carried out (a group level variable) predict the strength of relationships among individual level variables and the mean level of the individual level dependent variable? A review of the literature on the variables in question is offered with specific emphasis on the empirical and theoretical support for the hypotheses.

QUANTITATIVE WORK OVERLOAD AND COHESION

Quantitative work overload (QWL) is an occupational stressor that is generally categorized under the area of job demands (Bakker, Demerouti, & Euwema, 2005). Quantitative work overload refers to an employee's perception of the quantity of work or the pace at which work must be completed (Spector & Jex, 1998). Numerous articles have been written on the relationship between of work overload and negative consequences such as subjective ratings of exhaustion, and generally negative attitudes towards the job (see Lee and Ashforth, (1996) for a review of this literature). Recent literature links perceptions of work overload with higher ratings of job burnout (Bakker, Demerouti, & Euwema, 2005) higher ratings of personal distress (Reynolds, 1997) lower ratings of self reported altruistic behaviors, lower ratings of collective efficacy, lower ratings of job satisfaction, and lower ratings of general well-being (Jex & Thomas, 2003).

Given that most people have limited time, emotional resources, and physical resources, it logically follows that excessive work demands can result in personal strain. Previous researchers, using a military sample, speculated that increased workload would lead to soldiers focusing only on required duties, engaging in less discretionary behaviors and thus exhibiting altruistic behaviors with less frequency (Jex & Thomas, 2003 p. 160). The current research deals with cohesion, a construct with a theoretical foundation in equality of social experiences thus presenting the possibility of a curvilinear relationship between group centered ratings of QWL and cohesion.

Given the social unity and mutual bonding that is inherent in cohesion (Bliese & Halveson, 1996) and the fact that numerous researchers have identified the influence of shared experiences on fostering cohesion (e.g., Bartone et al., 2002) it is interesting and logical to

investigate the extent to which individual ratings of QWL relative to the average QWL ratings of others in the same group influence individual ratings of cohesion. Relative ratings of QWL are different from absolute, or raw score ratings of QWL mathematically and conceptually. Mathematically, a relative rating is computed by taking an individual's raw score then subtracting the group mean to which that individual belongs; this procedure is termed group mean centering (Bryk & Raudenbush, 1992). Conceptually, this newly created group centered variable indicates an individual's relative position in relation to other group members; this variable can also be viewed as the extent to which someone deviates from the mean of his or her group (i.e., a deviation score). In the proposed study, individual ratings of QWL will be group mean centered so that they represent an individual's deviation from his or her group mean. Therefore, a particularly high score would indicate that an employee is experiencing more stress than his or her cohort; a low positive or zero score would indicate that an employee is experiencing a level of stress similar to that of his or her cohort; finally a negative score would indicate that an soldier is experiencing less stress than the other members of his or her group.

Schachter (1959), in a series of experiments, found that individuals anticipating electrical shock will tend to seek out social support. Similarly, Bartone et al., (2002) found that a shared stressful experience can increase unit cohesion, plausibly because this common experience serves as a means of initiating or facilitating social bonding. What has not been determined is whether or not a chronic occupational stressor, such as QWL, can similarly influence cohesion; also what has not been determined is the influence of similarity in the degree to which a stressor is experienced. It is hypothesized, given the above mentioned nature of cohesion, that a curvilinear relationship will exist between individual ratings of QWL (group mean centered) and individual ratings of cohesion. It is hypothesized that the extent to which a group member is

experiencing a higher or lower level of QWL relative to other group members will negatively influence an individual's perception of cohesion. As an individual's experience is more similar to those of his or her other group members, it is expected that a shared stressful experience will be experienced, thus enhancing individual perceptions of cohesion; as an individual's experience of QWL is less similar (either higher or lower) to the average experience of his or her group, a shared stressful experience will not be experienced, thus not enhancing individual perceptions of cohesion.

As noted previously, a significant amount of unity and mutual bonding is inherent in the concept of cohesion (Bliese & Halveson, 1996). It has also been noted that research has identified the potential influence of shared stressors on fostering cohesion (e.g., Bartone et al., 2002). To the extent that an individual's experience of QWL is similar to those of his or her group, a shared stressful experience will be present, thus facilitating perceptions of cohesion. However, as an individual's experience of QWL differs from other group members, a shared stressful experience will be lacking and will not enhance individual perceptions of cohesion. Given that a group mean centered variable will be used, a high score on this variable will indicate a significant departure of that individuals QWL score and his or her respective group mean. Given the preciously mentioned theoretical foundation of social unity in cohesion, it is likely that as an individual's perception of QWL quantitatively differs from his or her respective group mean, he or she will not perceive themselves as being "in the same boat" as fellow coworkers as a result perceptions of unit level cohesion will decrease. On the other hand, as an employee's rating of QWL is similar to his or her respective group members, he or she will be more likely to perceive themselves as being "in the same boat" as other employees and as a result will be more likely to rate cohesiveness within his or her work unit highly. As such, it is

hypothesized that a curvilinear relationship will exist between employee ratings of QWL (group mean centered) and individual ratings of cohesion.

Hypothesis 1: A curvilinear or inverted-U relationship will exist between employee ratings of QWL (group mean centered) and individual ratings of cohesion.

SOCIAL IDENTITY AND COHESION

Social identity theory proposes that an individual will derive a sense of pride and self worth from the act of belonging to an organization or group (Tajfel & Turner, 1986). Social identity theorists posit that individuals identify themselves in terms of the social organizations to which they belong in an attempt to keep a positive and consistent view of themselves (Franke, 2003). Indeed, Tajfel (1981) suggests that social identity is an "individual's self concept which derives from knowledge of their membership in a social group… (p. 255)." Social identification with an organization can be defined as the extent to which an individual's self concept is influenced by his or her belonging to a social organization (Ashforth & Mael, 1989). Social identification has been shown to influence the expression of behaviors that are congruent with one's social identity (Ashforth & Mael, 1989). It has been proposed that an individual who bases a significant portion of his or her identity on a social organization will be more likely to participate in organizational activities (Shamir, 1990). It has also been proposed that social identity should influence group dynamics, dynamics such as cohesion (Turner, 1982; 1984).

It is hypothesized that the extent to which an employee identifies with the overall organization and the extent to which an employee associates pride and significance to the organization will influence the extent to which he or she perceives his or her unit as being highly cohesive. In this sense, social identity and cohesion are strongly related (Levi, 2001). Indeed, these two streams of research are very similar to one another but should not be conceived of as being the same concept.

Related research in the area of commitment helps to illustrate some of the distinctions between cohesion and social identity. Commitment to a group within an organization has significant differences in correlates when compared to commitment at an organizational level

(Zaccaro & Dobbins, 1989). For example, commitment to the organization was best predicted by variables such as satisfaction with the organization and met expectations, while commitment to the group was predicted best by variables such as task-based group liking (Zaccaro & Dobbins, 1989). As these examples illustrate, the foci of an employee's commitment can be to a large organization or to a smaller and likely more familiar, work group. The distinction between social identity and group cohesion is similar in that the focus of the employee's psychological attachment varies from placing a great deal of importance on group membership (for social identity) versus placing a great deal of importance on the social bonding and comradeship inherent in group interactions. While an employee may place a great deal of psychological importance in being a member (i.e., being employed) by a large organization, an employee can also place a great deal of psychological importance on a similar but sufficiently distinct concept of interpersonal relationships between group members.

As described previously, social identity theory suggests that an individual will feel good about one-self or link perceptions of self worth to some social organization. If a given individual has a high level of attachment between organizational membership and self esteem, this individual will perceive his or her team within that organization in a positive light and will be willing to expend effort to establish and maintain ties within the unit. At present, the author is unaware of empirical studies investigating the influence of an individual's level of social identification with an organization on perception's of cohesiveness within his or her work group in that organization.

It is hypothesized that a linear relationship will exist between individual ratings of organizational identity and individual ratings of cohesion. It is expected that as individual ratings of organizational identity increase, so will individual ratings of cohesion. The

relationship between individual ratings of organizational identity and individual ratings of cohesion is hypothesized to be different from the relationship between individual ratings of QWL and individual ratings of cohesion because organizational identity is an individual difference, there is no reason to speculate that one's similarity in individual rating of organizational identity relative to those in his or her group will have influence on individual ratings of cohesion. Hypothesis two specifies a linear relationship between individual ratings of organizational identity and individual ratings of cohesion.

Hypothesis 2: Individual ratings of identification with the organization will be positively related to individual ratings of cohesiveness in one's unit.

INTERACTIONS INVOLVING GROUP AND INDIVIDUAL VARIABLES

Most organizations are hierarchical in nature such that individuals work in groups which are parts of a larger division, which is a part of an even larger organization. As a result, data collected from most organizations is hierarchical in nature. The hierarchical nature of this data necessitates the analysis of data at multiple levels to more adequately understand the dynamics involved among variables in an organizational study. For example it is possible that a common group level characteristic like leadership climate influences the extent to which individuals are reactive to stressors (e.g., Bliese & Britt, 2001).

Organizations are typically comprised of individuals who work in different units. Large corporations are best characterized as hierarchical organizations because any one individual may work in a distinguishable unit which is a sub part of the larger organization. Each unit is typically comprised of individuals with specialized skills appropriate for the accomplishment of the organization's goals. For example, a particular software engineer may work in a work group called the new product development team; this team may be part of the information technology division, which is part of a domestic appliances division, which is part of a large conglomerate organization.

Individuals working in groups share common experiences and are subjected to common stimuli; these shared experiences can constitute an organizational climate which will impact how individual experiences are interpreted (Tucker, Sinclair, & Thomas, 2005). To adequately understand the relationships among individual level variables operating within the prototypical organization, it is necessary to acknowledge the inherently heirachical nature of organizations and it is necessary to collect and analyze data at the appropriate level (i.e., at both group and individual levels) (Hoffman, 1997). Failure to use the appropriate statistical methods may not

only result in overlooking important group and individual level relationships (Bliese & Jex, 2000) but may cause a researcher to make invalid conclusions based on violations of statistical assumptions (Bryk & Radenbush, 1992). When group level effects are present, it is inappropriate to use linear regression because this will result in violating assumptions of independent observations (Kenny & Judd, 1986), this can result in underestimation of the standard errors which can increase the likelihood of making a type one error (Bryk & Radenbush, 1992).

GEOGRAPHIC LOCATION AND ORGANIZATIONAL IDENTITY

There is a growing trend of domestic organizations to shift significant amounts of their operations to international locations (Hutchings, 2002). As more organizational functions are exported to international locations, previous assumptions about HR practices or managerial tactics are coming into question (Vance & Paik, 2005). Discrepancies in core values between home (i.e., corporate headquarters) and host (i.e., subsidiary) nations stimulates a need to fully understand the influence of these differences on organizational relevant outcomes (Hofstede, 1980).

Just as individuals are nested within groups, groups are also nested in specific environments. For example, Industrial/Organizational psychology programs are typically nested within a psychology department, this environmental characteristic is relatively stable in that tasks are clearly specified and the subsequent nature and frequency of social interactions within groups is relatively static. Many individuals do not work in organizations with this same level of environmental stability, for example, those in the multi-national organizations work in groups which work in different environments as need be. In order to demonstrate loyalty or competence, oftentimes employees will accept international assignments in hopes of advancing their career. The different influences of organizational identity on employees in both the home and international locations should be investigated because of the well noted observation that social dynamics of a host country can vary dramatically from the social dynamics in the home country (Hofstede, 1980).

In the present study units were working within two different environments: domestic (i.e., within the United States) and international. The parent company is based within the United States and has a strong tradition of “American” values and honoring American traditions.

Indeed, this sense of solid American core values defines many aspects of the organization and may influence the individual level relationships between of business relevant variables. That is to say that the organizational culture present in the domestic (American) locations is likely to be different from the international location, this difference in psychological culture could influence the relationship between individual ratings of organizational identity and individual ratings of cohesion. For example, it is likely that there is a stronger relationship between these variables in domestic locations as opposed to international locations. For this reason, the influence of domestic or internationally located work unit on organizational identity was investigated.

It is proposed that whether the employee is working in a domestic or international location will influence the relationship between individual ratings of organizational identity and individual ratings of cohesion because of the well noted difference between organizational identity and national identity; to fully explicate the logic behind this proposition, I must delve into the related literature on social identity.

Research dealing with employees working in organizations residing within only one country has shown that there can be a distinct difference between identification with one's profession and with one's employing organization (Rotondi, 1975) and that psychological attachment to one's unit is different from and stronger than psychological attachment to the overall organization (Zaccaro & Dobbins, 1989). Research dealing with organizations located in more than one nation (i.e., multinational corporations) has shown that expatriate employees psychologically distinguish between the parent organization and the subsidiary (Gregersen & Black, 1992). Adding on to this, it was also found that managerial employees of multinational corporations have two social identifications to the organization: one identification with the organization overall and one identification with the subsidiary (Reade, 2001). The observation

that an individual can hold dual social identifications that are somehow stratified by domestic (the global organizations home country) and host country brings up the possibility that the relationship between identification with the overall organization and ratings of cohesion systematically varies as a function of domestic or international location. It is possible that because of the strong American values and tradition inherent in the current organization, location will moderate the relationship in such a way that the relationship between organizational identity and cohesion is strongest in domestic locations.

Due to the lack of literature on the influence of work environment on individual level predictors, hypothesis three is exploratory in nature. This is another important contribution of the proposed research; it will help to further the understanding of the influence of the setting where task behavior takes place in moderating individual level predictors and outcomes.

Hypothesis 3: The working location (i.e., international or domestic) will influence the relationship between organizational identity and cohesion such that relationships will be strongest in the domestic location.

SHARED STRESSORS AS ENVIRONMENTAL CHARACTERISTICS

Historically, organizational stressors have been studied at the individual level; however, the idea of looking at stressful events as shared group characteristics has emerged recently (e.g., Bliese & Halverson, 1996; Bliese & Jex, 2000; Tucker, Sinclair, & Thomas, 2005). Looking at shared stressful events as a group level variable or as an environmental climate helps researchers to understand how shared experiences influence the perception of and reaction to individual level stressors. Bliese and Jex (2000) fully illustrate the role of multiple level analyses in occupational stress research. More recently, Tucker et al., (2005) demonstrated that a shared stressor can be conceived as a group level characteristic which can moderate individual-level stressor-strain relationships. In their study, it was shown that shared occupational stressors had weak influences on individual level outcomes and had more pronounced effects in moderating the relationship between individual level stressors and strains; it was generally observed that shared stressors increased the strain response (Tucker, Sinclair, & Thomas, 2005). This relationship, where a shared group stressor influences individual level outcomes, has been termed a cross level effect (Tucker, Sinclair, & Thomas, 2005). It is proposed here that a unit's shared levels of QWL will similarly act as an environmental characteristic which will influence the average level of individual level cohesion (i.e., intercept).

It has been documented that the shared experience of a severe yet acute stressor (i.e., one with severe consequences but a quick marked onset and of relatively short duration) can enhance cohesiveness (Bartone et al, 2002). What has not been addressed is the extent to which a shared chronic occupational stressor can influence group cohesion. It must be noted that the emphasis is on the shared experiences of this stressor. To measure the shared experiences of QWL it is important to capture the extent to which these stressors are uniformly experienced

within a group. The extent to which stressors are uniformly experienced within a group will be measured using the variability of individual scores on QWL within groups.

It has been shown that individual level stressors can be meaningfully aggregated to a group level (Tucker, Sinclair, & Thomas, 2005). When individual level variables are aggregated to the group level, they do not always retain the same meaning; in fact the meaning of aggregate level variables can be quite different than their individual level counterparts (Bliese & Jex, 2000). When an aggregated variable has a different meaning than its individual level counterpart it is said that an emergent process has occurred (Bliese & Jex, 2000). For example, it has been shown that the aggregate form of work hours measures externally mandated workload while an individual level measure of workload does not necessarily measure this, the logic behind this is that entire groups do not choose to work excessively long hours without externally mandated work requirements (Bliese & Halverson, 1996). When aggregating an individual level variable to reflect a group level characteristic it is also possible that the group level variable effectively loses meaning. This loss of meaning would occur if an inappropriate individual level variable is chosen for aggregation.

It is proposed here that an emergent process will indeed cause the variability scores of QWL to measure a different concept than the corresponding individual level variables. This technique of using an index of group variability on a certain characteristic can have the advantage of detecting the influences of group heterogeneity (Barrick, Stewart, Neubert, & Mount, 1998). The QWL variability scores will reflect differences in personal lives, differences in the uniformity of externally mandated requirements, the uniformity of policy enforcement. This variability score of a chronic occupational stressor measures a lack of uniformity in perceptions of externally mandated professional demands. This variability score will represent a

group level characteristic, that of the variability of experience in QWL; this newly computed variable is distinct from the QWL individual level variables mentioned previously in that these individual level variables reflect a particular group member's experience of QWL relative to his or her group.

Theoretical and empirical writing suggests that cohesion increases as a result of a shared stressful event (e.g., Manning, 1991; Stein, 1976). Past research has indicated that experiencing a single stressful event (e.g., a rigorous training exercise) is related to increased unit cohesion (Bartone et al, 2002). In their study, Bartone and colleagues (2002) measured individual perceptions of cohesion prior to and after a simulated prisoner of war exercise. It was found that after the exercise, cohesion levels were higher than before the exercise (Bartone et al., 2002). In the proposed study, the idea of shared chronic occupational stress is addressed.

Given the potential influence of a shared stressor on individual level outcomes, and the above mentioned influence of a shared stressful experience on cohesion (e.g., Bartone, 2002; Manning, 1991; Stein, 1976), it is proposed here that social environments characterized by high levels of variability in perceptions of occupational stress will be negatively related to individual ratings of cohesion. Those who belong to groups with high variability in QWL will report lower levels of cohesion because as the variability score increases, the likelihood that team members share common stressful experiences decreases.

It is proposed that cross level effects will be present. Tucker, Sinclair, and Thomas (2005) have termed situations where an aggregated variable influences an individual level outcome of interest a cross level effect. For example, a cross level effect would be present if QWL group variability score influenced individual ratings of cohesion.

Hypothesis 4a: Quantitative work overload variability scores within units will be negatively related to individual level ratings of cohesion.

SHARED STRESSORS AND SOCIAL IDENTITY

As mentioned previously, social identity theory dictates that an individual will derive a sense of pride and self worth from the organizations or groups that he or she belongs to (Tajfel & Turner, 1986). An explanation for the psychological importance that is placed on group membership is that individuals identify themselves in terms of the social organizations to which they belong in an attempt to keep a positive and consistent view of themselves (Franke, 2003). Indeed, it has been noted that an individual's identity can be composed of both a personal identity (i.e., those aspects which are truly unique to the individual) and a social identity (i.e., those aspects which are common to other group members) (Ashforth & Mail, 1989).

It has been noted previously that when an individual identifies with a group, he or she should be more willing to interact with those group members (Shamir, 1990); and that this should influence group dynamics such as cohesion (Turner, 1982; 1984). To further explicate the relationship between organizational identity and cohesion, it is important to include the theoretical implications of the principle of compatibility (Ajzen, 1989; Fishbein & Ajzen, 1975). This concept states that a specific attitude will be related to other attitudes and behaviors that have similar targets, or foci (Ajzen, 1989; Fishbein & Ajzen, 1975). The principle of compatibility has been used to explain why an individual's attitude toward the organization can be used to predict different but related attitudes such as job satisfaction and related behaviors such as pro-social organizational behaviors and intention to quit (Becker & Billings, 1993). The principle of compatibility would suggest that those with high individual ratings of organizational identity (i.e., social identification with the overall organization) will be more likely to engage in pro-social organizational behaviors (Becker & Billings, 1975); it is proposed that these pro-

social behaviors will create a positive social environment, which can positively influence individual ratings of cohesion.

As noted previously, a shared stressful experience can foster group cohesion (Baratone et al., 2002; Gal, 1983; Manning, 1991; Marlowe, et al., 1985). It has been proposed that the shared experience of this stressful event will cause group members to look to each other for social support; through the provision and acceptance of support to or from other group members, social bonds are created and reinforced thus fostering cohesion. Other researchers have proposed that cohesion increases due to a shared stressful experience because of an increased attraction to other group members (Schalter, 1969; Sherif & Sherif, 1986) or because of an increased commitment to the group and to group tasks (Mudrak, 1989; Piper et al., 1983). Aside from the shared responsibility of dealing with stressors, early research (Stien, 1976) suggests that an external threat will foster cohesion within a group.

Individuals in groups characterized by high variability in QWL score will not experience the cohesion fostering influence of shared stressful events. As hypothesized previously, a group environment characterized by a high degree of variability in QWL scores will detract from individual ratings of cohesion. In these environments characterized by high variability in QWL, other variables will be more instrumental in the development of individual perceptions of cohesion. As proposed earlier, an individual with high ratings of organizational identity (i.e., high level of identification with the overall organization) should be more likely to exhibit pro-social behaviors that can create a social environment fostering individual perceptions of cohesion. It is hypothesized that in environments characterized by high variability in QWL scores, the influence of organizational identity on cohesion will be strengthened. Thus it is

hypothesized that QWL variability scores will moderate the influence of organizational identity on cohesion.

Tucker and colleagues (2005) termed cross level interactions involving an aggregate level variable and a completely different individual level variable a non-corresponding cross level interaction. For example, a non-corresponding cross level interaction would be present if variability score influenced the relationship between organizational identity and cohesion. It is proposed that QWL variability scores will have a non corresponding moderating influence on the relationship between individual ratings of organizational identity and cohesion such that the relationship between individual ratings of organizational identity on individual perceptions of cohesion will be stronger in groups characterized by high QWL variability scores.

Hypothesis 4b: Unit level quantitative work overload variability scores will moderate the relationship between organizational identity and individual ratings of cohesion such that organizational identity will have a stronger positive slope in groups with high variability as compared to groups with low variability.

PURPOSE OF PRESENT STUDY

The purpose of the present study was to further advance the knowledge of the predictors of cohesion. The focus was on predictors of cohesion because of the dramatic effects that cohesion can have on groups working together. As noted above this type of cohesion has been the focus of numerous military and civilian studies. Cohesion will keep a group intact and functional during times of routine operation and during times of hardship and danger. From a broad conceptual level, the variables under investigation include a measure of occupational stressor, work characteristics, and individual differences. Specifically, the variables to be included in the current study are: quantitative work overload, organizational identity and unit working environment.

The present study will contribute to the literature in several important ways. The author is aware of no studies addressing the influence of shared chronic occupational stressors on cohesion; occupational stressors are far more common and are much more likely to be dealt with by employees than acute and severe stressful events, therefore it is important to understand what role chronic stressors have in contributing to cohesion.

As noted by Barrick and colleagues (1998) group level variables can be aggregated and conceived of in numerous different fashions, the means by which a variable is aggregated should be founded on some theoretical relationship. The current research adds to occupational stress and group dynamics literature in that traditionally, individual ratings or group means are used to illustrate relationships (e.g., Tucker et al., 2005) the current study highlights the importance of uniformity in the experience of QWL through the use of group variability scores. Cross level analyses in occupational stress are typically underutilized and relationships among variables may go undetected if researchers concentrate on a single level of analysis (Bliese & Jex, 2000). The

current research will expand occupational stress research and cohesion research by highlighting the influences of occupational stressors simultaneously at multiple levels of analysis and consider the influence of social identification with the organization on cohesion. Another important contribution of the proposed study is that the influence of the environment where the work is done on individual ratings of cohesion and the role of the working environment in moderating relationships between individual level predictors will be assessed.

METHODOLOGY

Sample

The data for the present study come from an archival source of data collected from employees working for a U.S. based organization (i.e., corporate headquarters based in U.S.). When originally collected, employees were briefed and gave informed consent to voluntarily fill out an employee survey. The data for the present study come from an employee attitude survey distributed to employees in 2005. To take advantage of the multiple levels involved in the data set, hierarchical regression models will be incorporated. The analyses will be conducted using a potential sample of 38,561 individuals belonging to a total of 125 groups. After removing cases that did not indicate which work group they belonged to or which working environment they were working in, the sample was reduced to a total of 38,340 employees working in 125 groups (average unit size was 306). To help assure participants of confidentiality, age was asked as a categorical variable; the largest age group was 25-34 years of age (26.1%), 17.0% were females, 76.6% were males, 48.0% were white, 1.8% were African American, 0.9% were Hispanic, 0.6% were Asian, 0.3% were Native American, 47.7% did not respond to this question (in some international locations, data on ethnicity is not usually collected).

Clearly, these units consist of a large number of individuals which may raise concerns about the “group influence” of the current study variables; however, when considering the essential elements of group structure as being a collection of more than two individuals who recognize themselves as a group, share a common goal, share a common fate, have structured social interactions, and are interdependent (Johnson & Johnson, 1977) the proposed sample does meet the conceptual definition of a group. The current sample work on large scale production, the fact that the employing organization specializes in manufacturing large industrial equipment

necessitates the employment of large work groups to. The members of each work group may not know personal details about all other group members but while at work the actions of one group member can have a tremendous impact on the work lives of all other group members. In addition to this, there are always lines of communication available to group members to communicate information to all other group members.

Measures

Measure of QWL:

To measure the occupational stressor QWL, the proposed study will use a four item measure developed for internal use within a large manufacturing organization. Internal consistency (Chronbach's Alpha) for this scale is 0.72 in the current study. Respondents indicate the extent to which they agree or disagree to scale items on a five point scale ranging from "Strongly Disagree" to "Strongly Agree".

Measure of Organizational Identity:

To measure the individual difference of social identification with the organization, the proposed study will use a four item measure adapted from an existing internal employee survey. Internal consistency (Cronbach's Alpha) of this measure is 0.78. Respondents indicate the extent to which they agree or disagree to scale items on a five point scale ranging from "Strongly Disagree" to "Strongly Agree".

Measure of cohesion:

To measure the individual perceptions of unit cohesion, the proposed study will use a four item measure developed for an internal employee survey. Internal consistency (Cronbach's Alpha) of this measure is 0.82. Respondents indicate the extent to which they agree or disagree

to scale items on a five point scale ranging from “Strongly Disagree” to “Strongly Agree”. All measures are included in the appendix.

Translation procedures

To facilitate participation in non-English speaking countries, all measures were translated to languages spoken by respondents. All items were originally written in English; these items were read and translated by professional translators. The translated items were then read by native speakers, who also spoke English, then translated back into English. Any discrepancies between meanings of words or phrases was then corrected so that all translated items maintained the conceptual theme of the original item as written in English.

Analysis

Hypotheses one and two, which propose a curvilinear relationship, will be tested using curvilinear regression. The first step in this analysis will entail group mean centering the independent variables (QWL) and estimating average ratings of cohesion with a regression equation including the mean centered variable. The second step will entail calculating a quadratic term; this is the squared, centered independent variable. The quadratic term is then added to the regression equation predicting ratings of cohesion. If the addition of this quadratic term results in an increase in explained variability in the dependent variable, the hypothesis of a curvilinear relationship is not rejected.

As mentioned previously, the data to be analyzed are organized in such a way that individuals are nested within work units. Because of the nested structure of this data set, it is possible that group level variables, or variables common to all group members, will influence responses by group members, thus violating the independence of observations assumption of

linear regression which may invalidate any conclusions that can be drawn from analysis conducted only at the individual level (Bryk & Raudenbush, 1992; Grawitch & Muntz, 2004; Hoffman, 1997).

To fully analyze the current data set, cross level analyses (focusing at both the group and individual level) will be conducted. This will include calculating the Intraclass correlation (ICC) to determine whether or not group level analyses will be appropriate (Bliese, 2000). The ICC is a descriptive statistic which compares within group variance to between group variance. An ICC statistic can be conceived as indicating the amount of total variance explained by group membership (Tucker, Sinclair, & Thomas, 2005). An ICC (1) value can range from 0 to .50; a value above zero indicates group influence on variables (Tucker, Sinclair, & Thomas, 2005). Within the literature using HLM for multi-level analysis a range of options exist for justification for aggregation (Bliese & Halverson, 1996; Grawitch & Munz, 2004).

Assuming that aggregation is appropriate, analyses will employ hierarchical linear modeling (HLM) software. This HLM software will estimate the influences of individual level variables on the individual level outcome and simultaneously estimate group level influences on the individual level outcomes. HLM does this by simultaneously calculating three regression equations. One equation predicts the individual level dependent variable (DV) from individual level predictors; this is the very familiar least squares regression equation. HLM also calculates a “slopes as outcomes” model and “intercepts as outcomes” model where the individual level slope and intercepts are the dependent variable. These two models take the form of a regression equation predicting the individual level slope (the relationship between individual level predictor and individual level DV) from a group level intercept and a slope relating a group level variable to the individual level slope and a regression equation predicting the individual level intercept

(the average level of the individual level DV) from a group level intercept and a slope relating a group level variable to the individual level intercept (Bryk & Raudenbush, 1992; Hoffman, 1997). The resulting equation predicts individual ratings of cohesion from both individual level and group level variables. An optimal solution is reached by weighting the group and individual level parameters based on their reliability which is a function of how precise, or how well these estimated parameters actually predict the observed values. For a detailed discussion of this estimation process see Bryk and Raudenbush (1992).

Random coefficient models will be used to disentangle and adequately understand both the within-group and the between-group influence on individual perceptions of cohesion (Raudenbush & Bryk, 2002; Tucker, Sinclair & Thomas, 2005). The Hierarchical Linear Modeling program by Radenbush, Bryk & Congdon (2004) (HLM 6.0) will be used for the analyses. Hypotheses 1 and 2 will be tested using RCM such that individual ratings of QWL and Organizational Identity will be used as individual predictors of individual ratings of cohesion; the slopes associated with these predictors will be allowed to vary between groups. Hypothesis 4a, will be tested using the random intercept (i.e., intercepts as outcomes model) to determine if, given the influence of individual level predictors, the hypothesized group level characteristics influence the individual level outcome (i.e., cohesion). Hypotheses 3 and 4b will be testing using the random slope (i.e., slopes as outcomes model) to test if group level predictors significantly predict the degree of relationship between individual level predictors and outcomes (i.e., slopes).

If group level effects are not present, HLM will not be used to test the above mentioned hypotheses. Traditional linear and non linear statistical techniques will be used to test hypotheses if group level effects are not present. The analysis strategy for testing hypotheses 1

and 2 will remain unchanged. Hypothesis 3 will be tested by estimating regression coefficients for each work environment separately then comparing the difference between the estimated regression coefficients. Hypotheses 4a and 4b will be tested by computing QWL variability scores for each group to be included in regression equations to estimate the average level of cohesion. It is proposed that QWL variability scores will moderate the relationship between organizational identity and cohesion such that organizational identity will have a stronger positive slope in conditions of high QWL variability.

OBSERVED RESULTS

Table one presents means, standard deviations, and reliabilities for the variables in the present study. It is interesting to note that the dependent variable's mean was extremely close to the midpoint of the scale, suggesting that central tendency (i.e., not endorsing extreme responses) may have influenced observed results. Also, the standard deviation for this variable is relatively low, indicating a potential restriction of range which may also influence observed results.

Table two presents correlations for all study variables. It is interesting to note that there is a significant positive relationship between group mean centered QWL and individual perceptions of cohesion. This provides partial support for hypothesis 1, suggesting that as individual ratings of QWL get closer to the group mean score on QWL, individual perceptions of cohesion do increase. The negative correlation between the QWL quadratic term also provides support for hypothesis one. It is also interesting to note that the extent to which an employee identifies with the overall organization is significantly and positively related to individual perceptions of cohesion. This provides partial support for hypothesis 2, suggesting that as an individual places more psychological importance in membership with the overall organization, that individual will be more likely to see his or her respective work group as cohesive.

Due to the significant relationship between organizational identity and cohesion and the significant relationship between group centered QWL, it is possible that there is an individual level interaction between organizational identity, group centered QWL and individual perceptions of organizational identity (Aiken & West, 1991). To determine whether or not a significant individual level moderating effect was present, a post hoc analysis was conducted using moderated multiple regression techniques discussed by Aiken and West, (1991). This technique involves using a stepwise hierarchical regression technique where all standardized

predictors are entered into the regression equation at step one, then the multiplicative interaction terms are entered in at step two (Aiken & West, 1991). Results from this analysis indicate that the multiplicative interaction term of organizational identity by group mean centered quantitative work overload was not significant, suggesting that the extent to which a employee identifies with the overall organization does not moderate the relationship between shared perceptions of QWL and individual perceptions of cohesion.

To determine if significant differences exist between groups on the variables of interest, a one way ANOVA was conducted. Significant differences on QWL [F (38,518) = 1.78, p <.01]; organizational identity [F (38, 516) = 2.53, p < .01]; and individual perceptions of unit cohesion F [(38, 518) = 3.91, p < .01]. These results suggest that group level influences may be the cause for significant differences between groups on these variables.

To further examine the extent to which group level effects are present, variance components were estimated using HLM 6.0 (Raudenbush, Bryk & Congdon, 2000), which are similar to those results obtained using a one way ANOVA, and were used to calculate the ICC(1). The ICC (1) value for individual perceptions of cohesion was .05; indicating that 5% of the total variance in individual perceptions of cohesion resided between groups (Hofmann, Griffin & Gavin, 2000). This suggests that group level influences are present and that the observations are not independent from one another, thus necessitating the use of HLM in analyzing the current data set. The between-group variance in individual perceptions of cohesion was significant χ^2= 2129.28 (124) p <.001.

Table three presents the results testing the overall influences of individual level variables across groups for the variables involved in hypotheses 1 and 2. Note that these tests involve the significance of the overall intercept term associated with each level one coefficient. A

significant intercept term indicates that overall, across groups, the level one coefficient had an influence on the individual level outcome.

To evaluate hypothesis 1, curvilinear regression analyses were conducted. Results indicate a significant influence for group centered quantitative workload [t (38324) = 3.89, p<.01] and the quadratic term associated with group centered quantitative workload [t (38324) = -1.14 p<.01] on individual perceptions of cohesion. To calculate variance explained by a level one random coefficient on the level one dependent variable a ratio of the estimated error variance of the dependent variable in the fully null model minus the error variance of the dependent variable in the random coefficient model all divided by the error variance of the dependent variable in the fully null model (Hoffman, 1997). The R^2 for the level one model including group QWL is .14; adding the quadratic term does not result in a significant increase in R^2 in the traditional sense (see Hoffman, 1997 for a review of this technique for estimating effect sizes). However, this particular statistical test does not necessarily invalidate the practical importance of the quadratic term in predicting cohesion (see Snijders & Bosker, 1984 for a critique of methods for estimating effect sizes for multinomial, two-level analyses). These results partially support hypothesis one, suggesting that as an employee's rating of QWL is quantitatively more similar to the group mean, his or her ratings of cohesion will increase; as an employee's rating of QWL is more quantitatively dissimilar from that of his or her respective group mean, ratings of cohesion will decrease. Hypotheses 2 did not specify a curvilinear relationship; therefore no quadratic term was calculated for organizational identity. Results support hypothesis 2, [t (38324) = 39.76, p<.01], suggesting that as an individual's level of identification with the overall organization increases, so does that individual's perception of cohesion within the work team. The R^2 for the

level one model including individual ratings of organizational identification, including QWL and the QWL quadratic term is .23.

Table three presents the results of random coefficient models testing for direct and moderating influences of group level characteristics on individual level relationships. Of the variables studied, significant group level influences were found on level-one coefficients for domestic or international location. This suggests that whether or not employees are living and working in the home country of the organization does moderate the relationship between identification with the overall organization and individual perceptions of unit level cohesion.

Hypothesis 3 was supported; domestic or international work location did moderate the relationship between organizational identity and cohesion [t (38324) = -2.55, p<.05]. To calculate variance in level-one parameters explained by a level two coefficient, a simple ratio of the residual variance of the slopes in the intercepts as outcomes model minus the residual slope variance slopes as outcomes model all divided by the residual slope variance in the intercepts as outcome model (Hoffman, 1997). The R^2 for the slopes as outcomes level-2 model is .22 this indicates that the level two; this estimates the amount of variance explained in individual perceptions of cohesion by unit location (i.e., domestic or international) as a moderator variable of the relationship between individual level organizational identity and individual perceptions of cohesion. These results confirm hypothesis 3, indicating that the relationship between organizational identity and perceptions of unit cohesion are strongest in groups working in the home country of the organization (i.e. the country where corporate headquarters is located). Hypotheses 4a specified a direct relationship between quantitative work overload aggregated to the unit level on individual perceptions of cohesion. Hypothesis 4a, concerning the variability in the experience of quantitative work overload was not supported [t (38324) = -1.14, p>.05]

indicating that the levels of variability of the experiences of quantitative work overload were not significantly related to ratings of cohesion. Similarly, hypothesis 4b was not supported [t (38324) = -.15, p>.05] suggesting that unit level QWL variability score did not moderate the relationship between organizational identity and cohesion.

A random coefficient model was tested in which no level-two predictors of level-one coefficients were specified; this model can be used to test for the significance of the variance components of the level-one coefficients (Hoffman, Griffin, & Gavin 2000). Essentially, this model tests for the presence of variability in the level-one slopes and intercepts to be predicted by level-two variables. Hierarchical Linear Modeling uses the chi square statistic is used to test for the presence of significant between group variance components in level-one coefficients (Raudenbush, et al., 2004). Table four lists variance components and chi-square statistics for the variance of level-one coefficients predicting individual perceptions of unit cohesion with organizational identity. Results indicate significant variance components for the level one coefficient associated with the slope and intercept terms of organizational identity relating to perceptions of cohesion. These results demonstrate that there is systematic variability in the level one coefficients (i.e., slopes and intercepts) predicting individual perceptions of unit cohesion with organizational identity.

DISCUSSION OF RESULTS

The purpose of the current study was to further the understanding of individual perceptions of cohesion. The influences of individual and group level variables were investigated using HLM. The present study is an important addition to the occupational stress literature and to the group dynamics literature because of the simultaneous analysis of important variables at both group and individual levels.

It was found that shared chronic occupational stressors did, to a limited extent, relate to individual perceptions of cohesion. Specifically, a curvilinear relationship between an individual's rating of QWL and individual perceptions of cohesion. This relationship took on the classic inverted-U shape and suggests that as individual ratings of occupational stress approach depart too far from their respective group mean individual ratings of cohesion decrease. This particular result is an example of the application of psychological theory and quantitative analysis at the correct level to illuminate important relationships. This does provide support for the idea that the shared experience of a chronic occupational stressor can have an influence on perceptions of cohesion. This helps to further our understanding of cohesion by illuminating the importance of considering chronic occupational stressors as being significantly related to perceptions of cohesion.

This stressor is important to consider because, unlike the catastrophic events previously written about in the cohesion literature, chronic occupational stressors are experienced on a more frequent basis and are more easily addressed by organizations and individuals (e.g., provision of flexible work schedules or on site daycare).

The fact that group centered QWL exhibited a curvilinear relationship with individual perceptions of cohesion is an important finding with implications for researchers and for

practitioners. From the perspective of a research psychologist, this highlights the importance of a theoretical background when selecting variables; it is important to initially select variables which should have theoretically important relationships. When these variables are selected, then aggregated to a group level, as in the present case, this aggregation must also make sense from a theoretical perspective. In the current study, the concept of a shared stressor was considered; the extent to which group members had similar levels of quantitative work overload did significantly influence individual perceptions of cohesion. This makes intuitive sense from a theoretical perspective given the extensive work done in the area of shared catastrophic stressors and mutual bonding among group members. This extension of the literature from documentation of severe acute shared stressors influencing perceptions of cohesion to the documentation of chronic occupational stressors influencing individual group member's perceptions of cohesion is a significant theoretical contribution to the occupational stress and group dynamics literature.

The documentation of shared experiences of this chronic occupational stressor is important from a practical standpoint as well. Occupational stress practitioners and management professionals alike can benefit from this knowledge because it highlights the importance of uniformly enforcing work policies within and between work groups. Applying and enforcing human resource and/or management practices will lead to more homogeneous perceptions of QWL. Those workers who perceive themselves to be "in the same boat" will also tend to perceive their workgroup to be more cohesive. Enhancing unit cohesion is extremely important because of its well documented relationship with worker wellbeing and productivity.

The extent to which an individual identifies with the overall organization was found to significantly relate to individual perceptions of cohesion. This also furthers our understanding of cohesion in that it is apparent that organization wide programs and activities, which enhance the

image of the organization to its employees, can positively influence perceptions of cohesion among employees working in work groups.

The relationship between identification with the overall organization and perceptions of cohesion is important from both a theoretical perspective and from a practical perspective. From a theoretical standpoint it makes intuitive sense that as an individual is more psychologically vested in his or her organization, he or she would be more likely to extend offers of assistance to other group members. The theory of cognitive dissonance (Festinger, 1957) would suggest that because of this, an individual will be more likely to see his or her team-mates as willing to help and to view them in an overall positive light. It is also likely that this type of organizational member would be more likely to attend organizational functions such as conferences or work meetings. Because of this, there are more opportunities to socialize with team members; this exposure effect is likely to influence perceptions of cohesion.

The fact that variability of experiencing QWL did not significantly influence perceptions of cohesion can be explained by the high prevalence of QWL in contemporary organizations. It is possible that the prevalence of these stressors is so widespread that there is not enough variability in experiences to moderate any relationships between groups.

It was found that working location did moderate the influence of individual level relationships. Specifically, the group characteristic of international or domestic location moderated the relationship between individual identification with the overall organization and individual ratings of cohesiveness within the work unit. It was found that the relationship between organizational identity and perceptions of cohesion were strongest in units working in the home country. The implications of this finding are quite valuable to scholars interested in the study of social identity and specifically those interested in international considerations.

Similarly, this result is also of importance to professionals consulting with or managing work teams in a multinational organization.

It was found that significant variance exists in the average individual ratings of cohesion between groups. The group level variables investigated in the current study were not significantly related to the average individual ratings of cohesion between groups suggesting the need for future research to investigate other potential group level predictors.

Given the importance of cohesion for facilitating performance and wellbeing, the present results are important to consider and offer valuable implications for fostering cohesion in large international organizations. Firstly, it is important that employees are exposed to significant materials portraying the overall organization in a positive light. Similarly, it is important that employees are made to feel that they are important to the overall organization. These two strategies will not only foster identification with the overall organization but will help to create crucial social bonds within working groups. As indicated previously, these social bonds are extremely important to the functioning of the unit; when this logic is aggregated upward, it stands to reason that these social bonds help the overall organization function. Also, in order to facilitate social bonding within work groups, it is important that employees perceive similar levels of occupational stressors. When this is so, employees will be able to relate to one another and the characteristics of group membership will be highlighted while individual differences will be minimized. For this end, it is necessary to ensure that special treatment of some types of employees does not result in a qualitatively different working experience because this would not highlight group membership and would not foster cohesion.

LIMITATIONS AND FUTURE DIRECTIONS

Limitations

The current study is limited in that all variables were measured with self report measures which introduce the possibility that common method variance is influencing the observed results. It is also possible that by using only self report data, a deficiency in the measurement of the dependent variable exists. For example while individual perceptions of cohesion are useful, perhaps another fruitful source of information would be actual helping and bonding behaviors exhibited to other group members. A related limitation of the current study is restriction of range in the dependent variable possibly due to the response style of central tendency as indicated by the mean of the scores being extremely close to the midpoint in the scale and the low standard deviation associated with this scale.

Future Directions

Future directions of research are needed to further the understanding of individual perceptions of cohesion in work teams. Due to the previously mentioned importance of cohesion in military units, the replication of the current study in military organizations is promising. The tenability of generalizing the present findings beyond civilian organizations can be validated through investigating these relationships in military organizations. Moving beyond studying self reported perceptions of cohesion and looking at actual helping behaviors or bonding behaviors indicative of cohesion is another future direction for researchers to peruse. This type of information would remove influences of common method bias and would help by giving an understanding of the predictors of actual behavior.

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APPENDIX A.

Instrument

Cohesion scale

1. The people I work with cooperate to get the job done.
2. The people I work with treat me with respect.
3. My work group has a climate in which diverse perspectives are valued.

Organizational identity

1. I would recommend this organization as a good place to work.
2. My work gives me a feeling of personal accomplishment.
3. I see a strong link between the work I do and this organization's overall success in creating Shareholder Value Added (SVA), or value for investors.
4. I see a strong link between the work I do and this organization's overall success in creating Operating Return on Assets (OROA).

Quantitative workload

1. The amount of stress I experience on my job is acceptable.
2. My Company supports me in maintaining a balance between my work and personal life.
3. I find it difficult to keep up with the work that is expected of me.
4. I am able to focus most of my time and energy on activities that help achieve my work group’s key objectives.

Table 1.

Descriptive Statistics and Reliabilities for all Study Variables

Variables	*Means*	*Standard Deviations*	*Reliabilities*
1. Unit cohesion	2.22	0.82	0.82
2. Quantitative work overload	2.67	0.78	0.72
3. Quantitative work overload quadratic	7.74	4.58	--
4. Organizational identity	-0.18	0.80	0.77
5. Group quantitative work overload mean	2.64	0.28	--
6. Group quantitative work overload variability	0.70	0.12	--

Table 2.
Intercorrelations for all Study Variables

Variables	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. Unit cohesion	--						
2. Quantitative work overload	0.38**	--					
3. Quantitative work overload quadratic	-0.10**	0.98**	--				
4. Organizational identity	0.46**	0.53**	0.52**	--			
5. Group quantitative work overload mean	0.10**	0.31**	0.30**	0.22**	--		
6. Group quantitative work overload variability	0.04**	0.25**	0.24**	0.13**	0.79	--	
7. Domestic or international	-0.01	-0.15	-0.15**	-0.03**	-0.03**	-0.59	--

Note. * p<.01; Sample size for individual variables (1-4) = 38,340. Sample size for group variables (5-7) = 125.

Table 3.

Random Coefficient Models Predicting Individual Perceptions of Cohesion

Variable	Parameter estimate	SE	T-ratio	p	df
Main effect model					
Intercept	2.16	0.02	125.30	0.00	121
International or domestic location	-0.03	0.04	-0.848	0.40	121
Group QWL mean score	0.33	0.08	3.89	0.00	121
Group QWL variability score	-0.19	0.23	-1.14	0.26	121
Group mean centered QWL (intercept)	0.25	0.01	25.89	0.00	38324
Group mean centered QWL quadratic (intercept)	-0.04	0.01	-4.75	0.00	38324
Organizational identity (intercept)	0.38	0.01	39.76	0.00	38324
Cross level moderation model					
Domestic/international location X organizational identity	-0.08	0.03	-2.55	0.01	38324
Group QWL mean score X organizational identity	-0.04	0.06	-0.64	0.52	38324
Group QWL variability score X organizational identity	0.04	0.28	0.15	0.89	38324

Note. QWL: Quantitative work overload

Table 4.
Random Coefficient Models Testing Significance of Variance Components of Level-one Coefficients

Random Effect	Variance component	df	x^2	p
Organizational identity intercept	0.03	124	2695.95	*0.00*
Organizational identity slope	0.01	124	275.97	*0.00*
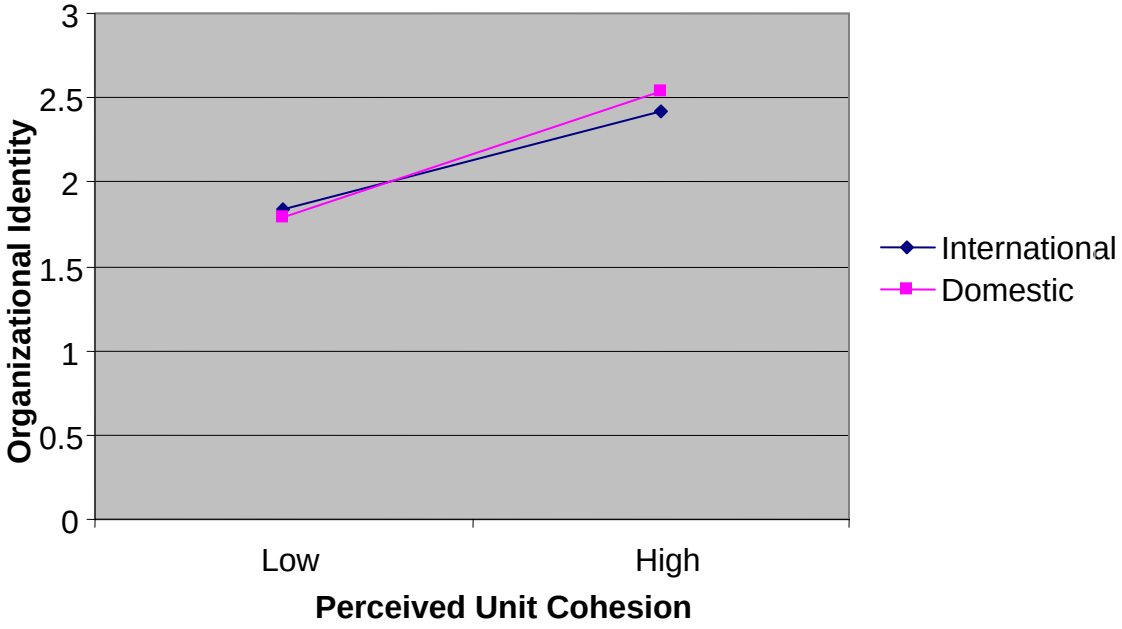
Figure 1.
International Location Moderates the Influence of Organizational Identity on Perceived Unit Cohesion