

DEFENSE EQUAL OPPORTUNITY MANAGEMENT INSTITUTE

DIRECTORATE OF RESEARCH

THE EFFECTS OF EQUAL OPPORTUNITY CLIMATE ON JOB SATISFACTION, ORGANIZATIONAL COMMITMENT, AND WORK GROUP EFFECTIVENESS

by

Robert M. McIntyre, Simon Bartle
Old Dominion University

Dan Landis
University of Mississippi

and

Mickey R. Dansby
Defense Equal Opportunity Management Institute (DEOMI)

Summer 1997



REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 30 January 1998	3. REPORT TYPE AND DATES COVERED Final - May-July 1997	
4. TITLE AND SUBTITLE The Effects of Equal Opportunity Climate on Job Satisfaction, Organizational Commitment, and Work Group Effectiveness			5. FUNDING NUMBERS G-N00014-94-0515	
6. AUTHOR(S) Robert M. McIntyre, Simon A. Bartle, Dan Landis, and Mickey R. Dansby				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Directorate of Research Defense Equal Opportunity Management Institute 740 O'Malley Road MS 9121 Patrick Air Force Base, Florida 32925-3399			8. PERFORMING ORGANIZATION REPORT NUMBER RSP 97-9	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Office of Naval Research 800 N. Quincy Street Arlington, Virginia 22302			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This study examines the relationship between respondents' perceptions of Equal Opportunity (EO) climate, job satisfaction, work group effectiveness, organizational commitment, and workplace diversity. EO climate was defined from an organizational fairness perspective. A distinction between perceptions of EO climate at the work group and organizational levels is made. Respondents' perceptions of organizational EO climate and workplace diversity were hypothesized to influence perceptions of work group EO climate. Moreover, respondents' perceptions of work group EO climate were also hypothesized to influence their perceptions of organizational commitment, job satisfaction, and work group effectiveness. Results from a multi-sample LISREL analysis confirmed all paths except the "workplace diversity ---> work group EO climate path." The relationships between work group effectiveness, job satisfaction, and organizational commitment were also examined. Results indicated that the model was moderated by both gender and minority status.				
14. SUBJECT TERMS Equal Opportunity, Equal Opportunity Perceptions, Equal Opportunity Climate Survey, Job Satisfaction, Organizational Commitment, Work Group Effectiveness, Diversity, Race, Gender			15. NUMBER OF PAGES 39	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UL	

The Effects of Equal Opportunity Climate on Job Satisfaction, Organizational Commitment, and Work Group Effectiveness

Robert M. McIntyre, Simon A. Bartle
Old Dominion University,
Dan Landis
University of Mississippi,
&
Mickey R. Dansby
Defense Equal Opportunity Management Institute (DEOMI)

ABSTRACT

This study examines the relationship between respondents' perceptions of Equal Opportunity (EO) climate, job satisfaction, work group effectiveness, organizational commitment, and workplace diversity. EO climate was defined from an organizational fairness perspective. A distinction between perceptions of EO climate at the work group and organizational levels is made. Respondents' perceptions of organizational EO climate and workplace diversity were hypothesized to influence perceptions of work group EO climate. Moreover, respondents' perceptions of work group EO climate were also hypothesized to influence their perceptions of organizational commitment, job satisfaction, and work group effectiveness. Results from a multi-sample LISREL analysis confirmed all paths except the "workplace diversity → work group EO climate path." The relationships between work group effectiveness, job satisfaction, and organizational commitment were also examined. Results indicated that the model was moderated by both gender and minority status.

Summer 1997

This paper reflects the views of the authors and should not be construed to represent official views of the Department of Defense or any of its agencies. Research of this paper was conducted while the second and third authors were participating as summer faculty fellows at DEOMI under the Navy-ASEE program. An earlier version of this paper was presented at the 12th Annual Conference for the Society for Industrial and Organizational Psychology, St. Louis, Missouri.

The Effects of Equal Opportunity Climate on Job Satisfaction, Organizational Commitment, and Work Group Effectiveness

In recent years, there has been a growing concern with regard to the implications of an increasingly diverse work force (Jackson, Stone, & Alvarez, 1993). Traditionally, interest in this area has focused on the legal, social, and practical implications of racial and sexual discrimination within the workplace. Studies have highlighted the effects of discrimination on training, performance appraisal, selection, promotion, and compensation (Borman, Eaton, & Bryan, 1983; Byham, 1982; Harlan & O'Farrell, 1982). In the early 1990s, several researchers began to focus on a new topical area: Equal Opportunity (EO) climate (Dansby & Landis, 1991; Landis, Dansby, & Faley, 1993). Research in EO climate appropriately began by emphasizing the measurement of the EO constructs (see Dansby & Landis, 1991; Landis et al., 1993; Miller, Majors, Giesen, & Topping, 1990). To date, there has been little research on the correlates of EO climate. The purpose of the present research is to examine the relationship between EO climate, job satisfaction, organizational commitment, and work group effectiveness through the application of structural equations modeling.

Equal Employment Opportunity

Equal Employment Opportunity (EEO) was referenced in Title VII of the Civil Rights Act of 1964 (Robinson, Allen, & Abraham, 1992). This document stated that an employer engages in an unlawful practice by discriminating against any individual on the basis of race, sex, religion, or national origin. Further, opportunity for employment and all concomitant decisions pertinent to employment including hiring, promotion, training, and compensation must be equalized across racial, sexual, religious, and national origin categories. Several other statutes (e.g., Civil Rights Act of 1991, Americans with Disabilities Act of 1990, Age Discrimination in Employment Act of 1967) have widened the scope of equal employment opportunity to include age and disability. All of these laws, in conjunction with various court decisions and executive orders, have provided the basis for EEO policy and practice within this country (Cascio, 1991).

Within the scientific literature, research has highlighted the importance of discrimination in the workplace. At the individual level, research has found that workplace discrimination can affect employees' physiological and psychological health, compensation levels, degree of job mobility, and overall job satisfaction (Cooper & Davidson, 1982; Dreher & Ash, 1990; Harlan & Weiss, 1982; Nelson & Quick, 1985). At the organizational level, research has also highlighted the effects of discrimination on overall organizational effectiveness (Noe, 1988; St. Pierre, 1991). The implication is that the effectiveness of the military is jeopardized especially as the work force increases in diversity. This makes a response to discrimination by way of equal opportunity critical to the military's mission.

Climate

The term organizational climate--albeit a common one in the organizational science literature--does not necessarily have a universal definition. One interpretation of organizational climate is an attitude or set of attitudes (including perceptions, beliefs, and feelings) about the critical human processes within an organization. (See James & Jones [1974] for this interpretation.) Defined in this way, organizational climate can be assessed at the individual organizational member level because the individual member possesses an attitude toward the organization. There is an advantage to this interpretation of climate from the perspective of measurement: the questionnaire items measuring climate can address the individual organizational member on various aspects of fairness issues within the organization. Composites of the items can be presented as the climate index. The disadvantage of this perspective on climate is that the unit of theory is the individual. Measurements pertain to individuals, therefore, and cannot be legitimately conceived of as organizational characteristics.

Another interpretation of organizational climate is a shared attitude or set of attitudes among organization members toward the organization. (See Schneider & Reichers, 1983, for this interpretation.) The critical modifier, "shared," indicates that climate is more than an individual's attitude toward the organization. The proposition that climate is "shared" implies that it is associated with an almost discernible characteristic of the organization. It is something that has reality above the individual organizational member. The sharing is presumed to result from the interaction of the organizational members. The advantage of this perspective on organizational climate is that it is a creative and sophisticated way of conceiving of organizations at a macro level and assumes that organizations have characteristics and attributes as organizations. The disadvantage of this perspective is that there appear to be prerequisite conditions for the measurement of the construct. A minimal condition is that there must be some indication that the attitudes are indeed shared.

A third variation of organizational climate is similar to the second with an additional nuance: Climate is presented not just as a shared attitude but one that serves an important function--to help organization members understand appropriate and inappropriate, rewardable and unrewardable behaviors. This perspective assumes that organizational members have a "need" to decode which behaviors are positive and which behaviors are negative--or stated more generally, a need to make sense of the work environment. (See Schneider, 1990; Schneider & Rentsch, 1988, for an example of this perspective.) This perspective's advantage derives from its theoretical justification for the existence of organizational climate, which can serve to generate testable hypotheses and further our understanding of organizational behavior. A possible disadvantage to this perspective is that it places one more constraint on the construct, suggesting that if the shared attitude toward the organization does not help organizational members construe the organization's environment, then it is not organizational climate.

In the present paper, the first interpretation of climate is assumed in assessing EO climate. We used measurements of individuals' perceptions of work group and organization EO climate. Work group EO climate refers to respondents' perceptions of

EO climate with their immediate work group as the referent. Organizational EO climate refers to subjects' perceptions of EO climate with the larger organization as the referent.

Equal Opportunity Climate

Based on the above discussion of EEO and organizational climate and drawing from the work of Landis, Fisher, & Dansby (1988), EO climate is defined as the perception among organizational members that the policies and practices of the organization and the behaviors of organizational members are fair. As organization members' perceptions and "cognitive evaluations," EO climate is therefore perceived fairness; climate is based on employees' perceptions or "cognitive evaluations" (James & James, 1989) that the distribution of organizational rewards (such as opportunities, assigned responsibilities, compensation, status, respect, etc.) are accorded on the basis of ability, effort, and contributions and not on race, sex, natural origin, age, or disability.

At work, employees expend effort and energy at a particular level in return for rewards of a tangible (i.e., fringe benefits, promotions, awards, etc.) and intangible (i.e., opportunities to excel, decision making authority, autonomy, prestige, etc.) nature. How the organization deals with allocation of rewards has a great impact on organizational functioning (Leventhal, 1980). While there have been several theories developed to explain perceptions of fairness such as equity theory (which focuses on the ratio of inputs to outputs (Adams, 1963)) and relative deprivation theory (which focuses on the upward comparisons made by "low-status" individuals to "high status" individuals within an organization (Cowherd & Levine, 1992; Martin, 1981)), researchers have generally accepted distributive justice theory to explain this phenomenon. According to this theory, individuals will evaluate distributions of outcomes with respect to some distributive rule, the most common being equity (Cohen, 1987; Greenberg, 1990).

Overall, the theory developed within this paper makes three statements with regard to the construct of EO climate. First, as suggested above, EO climate involves perceptions of fairness by the organization's members. These fairness perceptions focus on the organization's hiring, promotion, work assignments, and pay practices for various groups within the organization including what might be referred to as minority and majority groups. Fairness perceptions also focus on social processes and phenomena within the organization. For example, organizational members may perceive a certain level of exclusion of minority members from social activities. Alternatively, organizational members may perceive majority members' blocking minority members from formal and informal positions of power.

The second statement in the theory is that perceptions of fairness develop through interactions of employees with their immediate coworkers and managers (Schneider & Reichers, 1983). An organization member observes the actions and decisions of immediate supervisors and fellow workers and develops attitudes and beliefs of fairness about the organization. For example, if a woman observes that a less qualified man has been selected in preference to her for promotion by her immediate supervisor, she may develop a belief that her contributions to the functioning of the unit are not valued because she is a woman. In other words, how she is treated by her immediate coworkers may have a strong influence on her perceptions of EO climate within the organization.

Third, perceptions of fairness also develop through the interactions and treatment of employees within the broader organizational context. The organizational context includes Human Resources (HR) policies and procedures, the demographic composition of the organization, and how individuals are treated by organizational members outside of their immediate work group. The effects of these organizational factors on EO climate perceptions may be understood through the notion of psychological proximity discussed by Lewin in his field theory (Lewin, 1943).

Field theory asserts that an individual reacts to his or her perceptual environment based on the proximity of elements in this environmental life space. Elements more distal in one's environment (e.g., organizational characteristics) act as contextual influences. They have the ability to influence individual reactions directly--particularly if the organizational qualities are strong. However, in general, environmental characteristics exert an indirect influence on individuals, shaping perceptions of the more immediate or proximal elements in an individual's life space (Mathieu, 1991).

For example, if the disgruntled female worker in the illustration above voices her complaint of discrimination to the EO office only to find that the organization's HR policy is sexist (i.e., it discourages the promotion of women), her already negative perception of EO climate in the organization will be further strengthened. If, on the other hand, she perceives that the HR policy actively protects against sexual discrimination in promotion, then her attitude may be positive and these positive perceptions of EO will reduce her perceptions of a negative EO climate, although it is very unlikely that they will completely counteract her negative perceptions of her immediate work group.

Overall, this suggests that individual perceptions of EO climate can be divided into organizational and work group levels where work group EO climate is proximal and organizational level EO is distal. This leads to the statement of the first hypothesis:

Hypothesis 1: Respondents' perceptions of organizational EO climate will positively influence their perceptions of work group EO climate.

Outcomes of EO Climate and Relationships Among Outcome Variables

Justice theory (Adams, 1963; Greenberg, 1990) suggests that the perception of inequity or unfairness associated with a negative EO climate can be reduced or eliminated in a number of ways: Inputs can be altered either objectively or psychologically, comparative referents can be changed, the situation can be challenged, or the individual can leave or psychologically withdraw from the situation. Miller, Topping, and Wells-Parker (1989) suggest that the exact behavioral outcome is dependent on the level of ecological dissonance within the relationship. Ecological dissonance is a state of conflict that will result in the mobilization of forces directed to its attenuation (Miller et al., 1989). Miller et al. (1989) suggest that there are several ways that individuals can reduce this dissonance. One way is for individuals to change the system in conflict. Mechanisms used to bring about this change include bargaining, mediation, arbitration, legal, organizational adjudication, and voluntary capitulation of the weakest system (Miller et al., 1989). This theory provides a framework for understanding the effects of

EO climate on outcome variables such as organizational commitment, satisfaction, and work group effectiveness.

Organizational commitment can be defined as a state in which an individual identifies with a particular organization and its goals and wishes to maintain membership in order to facilitate these goals (Mowday, Steers, & Porter, 1979). Organizational commitment can be differentiated from job satisfaction in that commitment represents a global, generally stable attitude about the organization as a whole, whereas satisfaction represents an affective, less stable, response to facets of the job (Morrow, 1983; Porter, Steers, Mowday, & Boulian, 1974). Finally, work group effectiveness is defined in this study as the degree to which an individual perceives his or her work group as productive and effective in accomplishing its mission.

Several studies have examined the relationship between EO and job satisfaction. In a study of women police officers, Grant, Garrison, and McCormick (1990) found that the perceptions of equal access to special assignments and training significantly correlated with job satisfaction. Likewise, in a study of women in the Navy, researchers found that women assigned to departments or ships where the majority of male service members held pessimistic attitudes towards women were more dissatisfied than women assigned to departments or ships where the majority of male service members held more progressive attitudes (Rosenfeld, Thomas, Edwards, Thomas, & Thomas, 1991). Witt (1990) summarizes the nature of the impact of EO opportunity perceptions on job satisfaction in the military. He pointed out that because EO is touted as official policy in the military, the relative absence of EO would lead to feelings of dissatisfaction and high levels of EO would be associated with feelings of satisfaction.

In addition to these empirical findings, justice theory also suggests a strong relationship between EO climate and satisfaction. Adams (1963) suggests that perceived inequity results in the unpleasant state of dissatisfaction the level of which is determined by the magnitude of the difference between the amount of reward that the person believes he or she should receive and the amount of reward he or she does receive (Dubinsky & Levy, 1989). Based on this line of reasoning, the following is presented as second hypothesis:

Hypothesis 2: Respondents' perceptions of work group EO climate will positively influence their overall job satisfaction.

Moreover, one would expect a similar relationship between EO climate and organizational commitment. Several researchers have reported relationships between various climate dimensions and commitment (DeCotiis & Summers, 1987). Commitment was found to be high in organizations described as exhibiting high autonomy (Steers, 1977), cohesiveness (Buchanan, 1974), and trust (Steers, 1977). In addition, Salancik (1977) found that employees who felt that they were personally important to the organization were also highly committed. Few studies, however, have looked at the relationship between EO climate and commitment. In a study with undergraduate students, Miller et al. (1990) found that students who reported a negative EO climate in their department were more likely to change their major.

If there is a poor EO climate within an organization, where members feel less valued because of certain demographic characteristics or attributes (such as gender, race, etc.), they will be less committed to achieving the organization's goals, have greater ecological dissonance, and thus be more likely to leave the organization. Based on this reasoning, the third hypothesis is presented as follows:

Hypothesis 3: Respondents' perceptions of work group EO climate will positively influence their commitment to the organization.

These same mechanisms also apply to the relationship between EO climate and work group effectiveness. Work group EO climate will affect perceptions of work group effectiveness depending on the degree to which group members feel that their efforts and abilities are fairly valued. This leads to the fourth hypothesis:

Hypothesis 4: Respondents' perceptions of work group EO climate will positively influence the perceived effectiveness of their work group.

Finally, it was hypothesized that the amount of diversity in the workplace would affect the respondents' perceptions of work group EO climate:

Hypothesis 5: Respondents' perceptions of workplace diversity will positively influence their perceptions of work group EO climate.

These hypotheses are summarized in the form of a causal model presented as Figure 1. This model suggests that work group effectiveness is also hypothesized to influence job satisfaction and organizational commitment. That is, individuals who perceive their work group to be effective would be more satisfied with their jobs and more committed to the organization than individuals who perceive their work group to be relatively ineffective. The following hypothesis reflects this line of reasoning:

Hypothesis 6: Respondents' perceptions of work group effectiveness will positively influence their overall job satisfaction and commitment to the organization.

The model also suggests that job satisfaction and organizational commitment are related. However, within the literature, the relationship between job satisfaction and organizational commitment is somewhat convoluted (Mathieu, 1991). Porter et al. (1974) suggested that satisfaction is a relatively unstable and immediate affective reaction to the work environment, whereas organizational commitment is a relatively stable and slower developing attitude. Therefore, these researchers have proposed that satisfaction causally precedes organizational commitment. Research testing this relationship has generally produced mixed results (Mathieu, 1991). Studies by Price and Mueller (1986), Mathieu (1988), and Mathieu and Hamel (1989) have supported the hypothesis that satisfaction is an antecedent of organizational commitment. However, research by Bateman and Strasser (1984) has found that organizational commitment causally precedes job satisfaction. More recent research (Mathieu, 1991) has suggested a reciprocal relationship between these variables with satisfaction having a stronger bearing on

commitment than vice versa. Identification problems with the data precluded the testing of the reciprocal relationship. The following hypothesis is presented, therefore:

Hypothesis 7: Respondents' overall job satisfaction will positively influence their commitment to the organization.

Differences By Gender and Minority Status

Finally, it was hypothesized that the structural model would be moderated by gender and minority status. (We referred to anyone who was not a Caucasian man as Minority status.) With regard to gender, numerous studies have concluded that women are discriminated against in the labor market (see Cain, 1986 for a review). Women must cope with the "glass ceiling" as well as other obstacles, such as sexual harassment and access discrimination for promotion opportunities (Greenhaus, Parasuraman, & Wormley, 1990). Minority men must deal with issues like ethnic stereotyping, hostility to affirmative action programs, and a lack of minority role models (Greenhaus et al., 1990; Haberfeld, 1992; Smith & Kluegel, 1984). Caucasian men--who have traditionally dominated the work force--have been relatively unaffected by the issues of racial and gender stereotyping and discrimination and thus were hypothesized to be generally more ambivalent to the role of racial and sexual discrimination within the workplace. Consequently, the following hypotheses are presented regarding race and gender.

Hypothesis 7: Gender will moderate the structural model.

Hypothesis 8: Minority status will moderate the structural model.

Method

Respondents

Two samples of 5000 observations were randomly selected from the Military Equal Opportunity Climate Survey (MEOCS) database. At the time of the research, there were approximately 400,000 observations in this database. The two samples were identified for this study as Sample 1 and Sample 2. Demographic information for the two samples are summarized in Table 1.

Measurement of Variables

The MEOCS was originally developed by the Defense Equal Opportunity Management Institute (DEOMI) to measure the level of EO climate in the military (Dansby & Landis, 1991). The version of the MEOCS used in this study consisted of 124 questions grouped into three broad categories. The first part of the questionnaire focused on respondents' perceptions of EO behaviors within their specific units (Landis, Dansby & Faley, 1993). On a Likert-type 5-point scale, respondents estimated the likelihood that each of the identified discriminatory behaviors occurred during the previous 30 days at their duty location. The second part of the MEOCS consisted of 27 statements designed to measure respondents' attitudes towards EO issues in the general organization (Landis

et al., 1993). On a Likert-type 5-point scale, respondents indicated their agreement with these 27 statements.

For this study, 21 items that tapped fairness as it related to EO issues were selected from the larger MEOCS. Thirteen of these items pertained to work group EO climate from an organizational fairness perspective. Eight of these items pertained to organizational EO climate from an organizational fairness perspective.

Three measures of organizational functioning developed by Short (1985) were used as outcome variables for the present study. The first two consisted of 12 and 5 items presented in a Likert-style, agree-disagree format, that measured organizational commitment and work-group effectiveness, respectively. The third consisting of six items pertained to six general facets of job satisfaction (i.e., efficacy, effort, recognition, security, training, and with job as a whole). These were also presented on a Likert-type scale (where 1 = Very satisfied and 5 = Very dissatisfied). The fourth single-item measure indicating the degree of diversity in work group was also presented (where 1 = High diversity and 3 = Low diversity).

Development of Scales

To develop scales for this study, an exploratory factor analysis with a varimax rotation was conducted on the items. Items that did not load above .60 on the pre-identified scale were removed from the analyses. Following the exploratory factor analysis, a LISREL confirmatory factor analysis (CFA) was conducted to test the measurement model. CFA has the advantage over factor analysis in that it does not rely on an “arbitrary statistical criterion” or eigenvalues to determine the number of latent variables (Bollen, 1989). The purpose of this analysis was to identify items that did not load sufficiently high on their appropriate subscales, to identify specific items with high amounts of measurement error variance, and to determine the overall fit of the measurement model. Three goodness-of-fit indices were used to determine the fit of the models: the Root Mean Square Error of Approximation (RMSEA) (Steiger, 1990), the Non-Normed Fit Index (NNFI) (Tucker & Lewis, 1973), and the Comparative Fit Index (CFI) (Bentler & Bonett, 1980). These fit statistics were selected because they are unbiased estimators of the fit between the sample and population covariation matrices (Marsh, Balla, & McDonald, 1988). Generally, CFI and NNFI values of > .90 and RMSEA values of < .08 are indicative of moderate model fit. CFI and NNFI values of >.95 and RMSEA values of < .05 are indicative of superior model fit (Schumacker & Lomax, 1996). Because the degree of work group diversity was measured by a single item, error variance for this variable was fixed by applying the standard formula (i.e., $s^2_{\text{error}} = s^2_x (1 - r_{xx})$).

As a result of the confirmatory LISREL analyses, 15 items were dropped from the work group and organizational EO climate scales, seven items were dropped from the organizational commitment scale, two items were dropped from the job satisfaction scale, and one item was dropped from work group effectiveness scale. Goodness-of-fit indices for each scale were deemed adequate for testing the structural model (see Tables 2 & 7). An examination of the factor loadings indicated that all subscale items significantly loaded on the appropriate latent variables ($T > 6.00$).

Results

Zero-order correlations among scale items and descriptive statistics and for Sample 1 are summarized in Tables 3 and 4.

Structural Model

Analysis of the multivariate normal statistics generated by PRELIS indicated that the data were not normally distributed. To achieve more accurate parameter estimates, a weighted least squares (WLS) estimation method was used in the LISREL analysis (Joreskog & Sorbom, 1989). Unlike other estimation procedures (such as maximum likelihood or generalized least squares methods), the WLS method does not require the assumption of multivariate normality and is asymptotically efficient (Browne, 1984; Bollen, 1989; Joreskog & Sorbom, 1989). The required asymptotic covariance matrix used by this method was generated by PRELIS.

LISREL submodel 3B was used in the analysis of the structural model where parameters in the Λ_y , β , Ψ and Θ_e matrices were estimated (Hayduk, 1987; Joreskog & Sorbom, 1989). A series of chi-squared difference tests (Bentler & Bonett, 1980) were used to test the significance of each hypothesized path. Results from the chi-squared difference tests are summarized in Table 5. For Sample 1, goodness-of-fit indices indicated that the overall model fit the data well (see Model 1, Table 7). All paths were significant ($p < .01$) except for “work group effectiveness \rightarrow satisfaction” and “workplace diversity \rightarrow work group EO climate.”

To test the fit of Model 1, the framework developed by Anderson and Gerbing (1988) was used. This approach outlines a series of steps that researchers can use to identify the best fitting model for a set of data (see Table 6). In this approach, the proposed model (M_1) is first compared against the saturated or measurement model (M_5) by means of the chi-squared difference test. A non-significant chi-squared value at this step suggests that “...the theoretical ‘causal’ model is indistinguishable from the confirmatory measurement model, and causal interpretations should be carefully avoided” (Anderson & Gerbing, 1988, p. 419). A significant difference between M_1 and M_5 suggests that relationships exist among the variables of interest which can be tested.

Because the comparison between M_1 and M_5 was significant, M_1 was then compared to a model with a greater number of constraints (M_c). In LISREL, constraints are made to the model by “fixing” (i.e., assigning a value zero to) a particular path coefficient. For present purposes, the model was constrained by fixing the weakest path (“work group EO climate \rightarrow commitment”). Since the chi-squared difference test was significant, M_1 was tested against the model with fewer constraints (M_u). M_u was constructed by freeing four paths (i.e., allowing LISREL to estimate the parameter for a particular path). The first three paths that we “freed” were those linking organizational EO climate to work group effectiveness, commitment, and satisfaction. Previously, we argued that organizational level EO climate would indirectly affect these outcome variables through work group EO climate. However, one can also argue that

organizational EO climate has a direct effect on group effectiveness, commitment, and satisfaction. The fourth path we freed was the “workplace diversity → organizational EO climate” path. We had originally hypothesized that perceived work group diversity would positively affect work group EO climate. However, results from the LISREL analyses did not support this hypothesis leading us to allow for the possibility that perceived diversity of workplace would affect perceptions of EO climate within the overall organization. Results indicated a significant chi-squared value between the two models.

M_u was then tested against M_s . Since the chi-squared difference test between M_u and M_s was significant, M_u was then re-specified as M_u^a and then tested against M_s . M_u^a was specified by fixing all non-significant paths (i.e., “trimming the model”) and by estimating the “satisfaction → work group effectiveness” path (as indicated by the modification indices). Results indicated a nonsignificant chi-squared value between M_u^a and M_s . Under the decision tree guidelines presented by Anderson and Gerbing (1988), when no significant difference is found between the saturated model and the model with fewer constraints, the model with fewer constraints should be accepted (Anderson & Gerbing, 1988). Analysis of fit indices indicated that the revised model fit the data well (see Model 2, Table 7).

Cross Validation and Effect Sizes

As suggested by Anderson and Gerbing (1988) and Cudeck and Brown (1983), the revised model was cross-validated on Sample 2. According to this approach, the model-implied covariance matrix from the calibration sample (i.e., Sample 1) is compared to the covariance matrix derived from validation sample (i.e., Sample 2). Cudeck and Brown (1983) have developed a cross validation index (CVI) as an indicator of the similarity of these matrices. A CVI near zero indicates that the model cross-validates or is the same in the two samples (Schumacker & Lomax, 1996). In the present study, the CVI = .20 with the 90% confidence interval between 0 and .20 indicating that the model held up well across the second sample. Because of the size of the sample (and hence power of the statistic), effect sizes were estimated for each parameter by referring to the power tables outlined by Cohen (1977; see Figure 2). Overall, these results suggested small to medium effect sizes among latent variables.

Differences By Gender and Minority Status

To test the effects of race and gender on the structural model, moderator analysis was conducted according to the framework outlined by Jaccard and Wan (1996). Model fit was first calculated by using the multiple group solution in LISREL where estimates of parameters in each group were calculated separately (i.e., each parameter was estimated). This is an overall test of the validity of the structural model in both groups. Parameters were then constrained across groups by fixing corresponding parameters to be equal, after which the model was re-calculated. The chi-squared difference test was then used to indicate a significant moderator effect. A series of nested chi-squared tests were then performed to identify parameters that were responsible for group differences (Jaccard & Wan, 1996).

Respondents from all samples were combined to form a total sample ($n = 10000$), and were then divided by gender (men: $n = 7822$; and women: $n = 2038$). Results indicated that the unconstrained model fit the data well (see Model 3, Table 7) and that there was a significant gender effect, $\Delta\chi^2(10, n = 9860.00) = 67.81, p < .01$. The major difference between the two models involved the “workplace diversity \rightarrow organizational EO climate” path, which was not significant for women ($\beta = .01$). Moreover, an analysis of the standardized beta weights also indicated that the “organizational EO climate \rightarrow work group EO climate” path was significantly stronger for women than men, as was the “organizational EO climate \rightarrow satisfaction” path. Only the “effectiveness \rightarrow commitment” path was found to be significantly stronger for men than women (see Figures 3a and 3b). As was found previously, the effects of the predictor variables on the outcome variables were generally small (i.e., ϕ ranging from .07 to .16).

To determine if minority status moderated the model, the sample of respondents was divided into two subsamples: one consisting of Caucasian men ($n = 4843$) and the other consisting of minority members ($n = 3681$). Results indicated that unconstrained model fit the data well (see Model 4, Table 7) and indicated a significant minority effect, ($\Delta\chi^2(10, n = 8524) = 237.09, p < .01$). The major difference between the two models was that the “workplace diversity \rightarrow organizational EO climate” ($\beta = .02$), “organizational EO climate \rightarrow satisfaction” ($\beta = .05$), and “organizational EO climate \rightarrow effectiveness” paths ($\beta = .05$), were not significant for minorities. Analysis of the standardized beta weights also indicated several significant differences in the strengths of the paths across minority status. Results indicated that the “organizational EO climate \rightarrow work group EO climate” and “satisfaction \rightarrow effectiveness” paths were significantly stronger for minority members than for Caucasian men. However, the “satisfaction \rightarrow commitment” path was stronger for Caucasian males than minority members (see Figures 4a and 4b). Again, the effects of the predictor variables on the outcome variables were generally small (i.e. ϕ ranging from .12 to .27).

Discussion

The purpose of this study was to examine the relationship between EO climate, job satisfaction, organizational commitment, and work group effectiveness. Drawing from the organizational fairness literature and field theory it was hypothesized that respondents' perceptions of organizational EO climate will positively influence their perceptions of work group EO climate. Results from the CFA, structural analysis, and effect size estimates clearly supported this hypothesis. Specifically, the results suggest that distinct perceptions of EO climate occur at the work group and organizational levels. Thus, how individuals are treated by the organization as a whole (e.g., through hiring, selection, promotion procedures, how they are treated by top management) will influence their perceptions of EO climate within their immediate work group. If a female worker perceives that the promotional system within the organization is biased against women, this will negatively influence her perceptions of EO climate within her work group--irrespective of how she is treated by her immediate coworkers and supervisor. This

notion of multiple climates is congruent with the current thinking within the psychological literature that there are multi-dimensional climates dependent on work group type, job type, and other naturally occurring groups within an organization (Dansereau & Alutto, 1990; Glick, 1985).

This study also hypothesized that respondents' perceptions of work group EO climate would directly influence their perceptions of the effectiveness of their work group, job satisfaction, and commitment to the organization. Results from the structural analysis provided limited support for these hypotheses. While significant paths were found between work group EO climate and work group effectiveness, job satisfaction, and organizational commitment, the size of these effects were generally small. Thus, while EO climate plays a role in predicting individuals' levels of commitment, satisfaction, and their perceptions of work group effectiveness, other variables not included in the study are also important (for example, task characteristics (Fried and Ferris, 1987), personal characteristics (Mathieu and Zajac, 1990), role states (Jackson and Schuler, 1985; Mathieu and Zajac, 1990), motivation (Morris and Synder, 1979), leadership behavior (Podsakoff, McKenzie, and Bommer, 1996), and organizational structure (DeCotiis and Summers, 1987).

Results from the study also highlighted the importance of an individual's immediate work group in the development of attitudes toward EO issues. Larger effect sizes were generally found for the paths between work group EO climate and outcome variables than organizational EO climate and outcome variables. This suggests that while organizational level EO policies and practices are important, the behaviors of a sexist or racist supervisor or coworker (for example) will have a stronger influence on employees' commitment, satisfaction, and perceptions of effectiveness. Levinson (1965) suggested that employees view the actions by agents of the organization as actions of the organization itself. A minority worker will view the actions of his or her supervisor as indicative of the attitudes and policies of the total organization--especially if the traditions, policies, and norms of the organization have promoted these types of behaviors in the past. Thus, while an organization may adopt an official policy against discrimination and believe that there is a lack of discrimination within the organization, the actions of racist and sexist supervisors and coworkers will clearly subvert this policy. Therefore, organization-wide interventions (such as sensitivity training) may be doomed to failure.

An unexpected finding of the present research was the significant paths between "organizational EO climate → work group effectiveness" and "organizational EO climate → job satisfaction." While not as strong as the paths from work group EO climate to satisfaction and effectiveness, these results suggest that perceptions of organizational level EO practices have a small but direct effect on employee's job satisfaction and on their perceptions of work group effectiveness. Overall, this suggests that based on how they are treated within the organization, employees develop a global perception of how fair an organization is with regards to EO matters, which influences how effective and satisfied they are. Thus, for the organization, it is important that they insure that organizational policies, procedures, and agents (i.e., top management) are fair and unbiased.

Contrary to the hypothesis, workplace diversity was not significantly related to respondents' perceptions of work group EO climate. Rather, the results indicate that workplace diversity is related to organizational EO climate. These results suggest that diversity in the workplace affects respondents' global perceptions of EO climate but does not affect their perceptions of EO climate within their immediate work group.

This study further hypothesized that respondents' perceptions of work group effectiveness would positively influence their overall job satisfaction and commitment to the organization. Results from the structural analysis only supported the "work group effectiveness → organizational commitment" path. Respondents who reported high work group effectiveness tended to be more committed to the organization than respondents who reported lower levels of work group effectiveness and vice versa (although the size of this effect was small). Contrary to the hypothesis, the "job satisfaction → work group effectiveness" path was significant, indicating that respondents who were more satisfied with their jobs reported that their work group was more effective. Overall, this suggests that more satisfied employees will perceive their work group to be more effective. However, it is important to note that work group effectiveness ratings were self reports and thus it would be inappropriate to conclude that greater satisfaction leads to greater work group effectiveness. Further research should examine the causal relationship between these variables.

Finally, this study hypothesized that the structural model would be moderated by gender and minority status. Results from the chi-squared difference test indicated that the structural model was moderated by both gender and minority status. Across both gender and minority status, the most noticeable difference between the two models was the lack of the significant path for "work group diversity → organizational" EO climate for women and minorities.

Previous research in the area of relational demography has suggested that demographic similarity leads to an inference or assumption about the degree of similarity in values, beliefs, and attitudes (Tsui, Xin, & Egan, 1995). That is, the greater the demographic similarity of an individual to the group, the more likely that individual will be a member of the "in-group" and benefit from the rewards associated with "in-group" status (Duchon, Green, & Taber, 1986; Larwood & Blackmore, 1978; Milliken & Martins, 1996). Thus, one would expect a functional relationship between EO climate and workplace diversity for minority members. However, results from the present study suggest that for minorities, the number of minorities in the organization has no effect on their perceptions of EO climate. One explanation for these findings is that it is not the amount of diversity in the organization that is important as much as the diversity of people in positions of power. Research by Ely (1994) has shown that the demographic representation of executive management and other positions of authority influences perceptions of EO climate. For example, Riordan and Shore (1997) studied perceptions of discrimination in an organization composed of 34% African-American employees with an almost exclusively Caucasian executive management group. While the amount of diversity was high within the organization, the African-American employees perceived fewer opportunities for advancement than the Caucasian employees.

With specific reference to gender, there were several differences in strength of the relationship between antecedent and outcome variables between males and females. Most notably, the influence of organizational EO climate on work group EO climate and job satisfaction was stronger for women than men. This is not surprising given the fact that women have had to face gender discrimination in the workplace to a greater extent than men.

When subjects were divided according to minority status, there were several significant differences between the two models. For minority members, the “organizational EO climate → work group effectiveness” and “organizational EO climate → job satisfaction” paths were not significant. For minority men and women, how they are treated by their immediate supervisor and coworkers has the greatest influence on their perceptions of effectiveness and satisfaction; organizational factors have a strong indirect influence on outcome variables through work group EO climate. Thus, for the practitioner, interventions aimed at improving the EO climate within the organization should primarily focus at the level of the work group for minority members; whereas, interventions should focus at both the organizational and work group levels for Caucasian males.

Interestingly, there were no significant differences in path estimates between work group EO climate and job satisfaction and work group effectiveness across the two groups. Moreover, for the most part, the effect sizes for the “between EO climate” and the outcome variables were similar across subgroups. One explanation of the similarity in these path estimates is affirmative action in the military. There is evidence that Caucasian men view affirmative action as a kind of racial and sexual discrimination (putatively due to “preferential hiring practices” and “quota” systems). This makes Caucasian men more cognizant of the issues associated with EO than in the past, and similar in thinking and feeling to minority group members. Another explanation of similarity of paths across subgroups may be the heavy investment in educational programs promoting racial and sexual tolerance and diversity within the U.S. military. As a result of this investment, Caucasian men have become generally more aware of the issues and ramifications of racial and sexual discrimination within the workplace. These competing explanations deserve further research.

Limitations of the Study and Areas for Future Research.

In this study, work group EO climate was defined in terms of organizational fairness. Within the literature, organizational fairness has been divided into two components: distributive and procedural justice approaches. Distributive justice theory focuses on the perception of the fairness of outcome decisions, whereas procedural justice theory focuses on the perceived fairness of the procedures used in making decisions (Gilliland, 1993; Greenberg, 1990).

Research has shown that procedural and distributive justice have differing effects on organizational outcome variables (Folger & Konovsky, 1989). For example, in their study of 2,800 employees from the U.S. federal government, Alexander and Ruderman (1987) found that employees’ perceptions of procedural justice were significantly related

to measures of trust in management, intention to quit, evaluation of supervision, perceived conflict and harmony, and job satisfaction. Further, with the exception of turnover intention, procedural justice judgments accounted for significantly more variance in these dependent measures than did distributive justice. Other researchers have identified the importance of procedural justice in determining employee attitudes. In a study of employee reactions to drug testing, Konovsky and Cropanzano (1991) found that perceptions of procedural justice (and not perceptions of distributive justice) significantly predicted job satisfaction, organizational commitment, trust in management, turnover intentions, and performance. Therefore, to fully test the relationships between EO climate, organizational commitment, job satisfaction, and work group effectiveness, questions that tap both the distributive and procedural justice dimensions of EO should be used.

A second limitation with the present study was that the model was not tested across different minority groups. Specifically, the model for Caucasian males was compared to the model of all minority members. Further research should determine if there are substantive model differences across all minority groups (e.g., does the model differ between African-American members and Asian-American members). Moreover, gender differences within minority groups should also be tested (e.g., does the model for African-American males differ from African-American females?). This information would provide the researchers with a complete understanding of the relationships among these variables and allow them to develop specific intervention procedures targeted for each group (if differences do, in fact, occur).

In conclusion, the present study provides several important advancements in the area of EO climate research. First, this research suggests that there are multiple dimensions of EO climate within an organization, where the climate formed by workers' interactions with their immediate coworkers and supervisors is most salient. Second, defining EO climate from an organizational fairness perspective provides a theoretical justification for the construct of EO climate. However, further research should be conducted where measures of distributive and procedural justice are collected to measure more completely the EO climate construct.

Third, the data suggest that there is a small yet significant relationship between respondents' perceptions of work group EO climate and their perceptions of work group effectiveness, job satisfaction, and organizational commitment. While EO climate is an important antecedent of satisfaction, commitment, effectiveness, and other factors play an important role. Thus, it would be unwise for an employer to try to improve attitudes solely by means of addressing EO issues. Fifth, and as supported by previous studies, results from this study suggest that there is a strong relationship between organizational commitment and job satisfaction. Overall, with more research in this area researchers will begin to better understand the relationship between EO climate, organizational commitment, job satisfaction, and work group effectiveness.

References

- Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Applied and Social Psychology, 67*, 422-436.
- Age Discrimination in Employment Act of 1967, 24 U.S.C.A. § 621 *et seq.* (West 1993).
- Alexander, S., & Ruderman, M. (1987). The role of procedural and distributive justice in organizational behavior. *Social Justice Research, 1*, 177-198.
- Americans With Disabilities Act of 1990, 42 U.S.C.A. § 12101 *et seq.* (West 1993).
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*, 411-423.
- Bateman, T. S., & Strasser, S. (1984). A longitudinal analysis of the antecedents of organizational commitment. *Academy of Management Journal, 27*, 95-112.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness-of-fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588-606.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: John Wiley & Sons.
- Borman, W., Eaton, N. K., & Bryan, R. L. (1983). Validity of Army recruiter behavioral assessment: Does the assessor make a difference? *Journal of Applied Psychology, 68*, 415-419.
- Browne, M. W. (1984). Asymptotically distribution-free methods for the analysis of covariance structures. *British Journal of Mathematical and Statistical Psychology, 37*, 62-83.
- Buchanan, B. (1974). Building organizational commitment: The socialization of managers in work organizations. *Administrative Science Quarterly, 19*, 533-546.
- Byham, W. C. (1982). Applying a systems approach to personnel activities: II. Developing job related, legally defensible personnel subsystems for training, selection and appraisal. *Training and Development Journal, 36*, 70-75.
- Cain, G. G. (1986). The economic analysis of labor market discrimination: A survey. In O. Ashenfelter, & R. Layard (Eds.), *Handbook of labor economics: Vol. 1*. (pp. 683-785). New York: Elsevier Science Publishers.
- Cascio, W. (1991). *Applied psychology in personnel management* (4th Edition). Englewood Cliffs, NJ: Prentice Hall.

- Civil Rights Act of 1964, 43 U.S.C.A. § 2000e *et seq.* (West 1993).
- Civil Rights Act of 1991, 43 U.S.C.A. § 2000e *et seq.* (West 1993).
- Cohen, R. L. (1987). Distributive justice: Theory and research. *Social Justice Research, 1*, 19-40.
- Cooper, C. L., & Davidson, M. J. (1982). The high cost of stress on women managers. *Organizational Dynamics, 10*, 44-53.
- Cowherd, D. M., & Levine, D. I. (1992). Product quality and pay equity between lower-level employees and top management: An investigation of distributive justice theory. *Administrative Science Quarterly, 37*, 302-320.
- Dansby, M. R., & Landis, D. (1991). Measuring equal opportunity in the military environment. *International Journal of Intercultural Relations, 15*, 399-406.
- Dansereau, F., & Alutto, J. A. (1990). Levels of analysis issues in climate and culture research. In B. Schneider (ed.), *Organizational climate and culture* (pp. 193-236). San Francisco, CA: Jossey-Bass.
- DeCotiis, T. A., & Summers, T. P. (1987). A path analysis of a model of the antecedents and consequences of organizational commitment. *Human Relations, 40*, 445-470.
- Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology, 75*, 539-546.
- Dubinsky, A. J., & Levy, M. (1989). Influence of organizational fairness on work outcomes of retail salespeople. *Journal of Retailing, 65*, 221-243.
- Duchon, D., Green, S. G., & Taber, T. D. (1986). Vertical dyad linkage: A longitudinal assessment of antecedents, measures, and consequences. *Journal of Applied Psychology, 71*, 56-60.
- Ely, R. J. (1994). The effects of organizational demographics and social identity on relationships among professional women. *Administrative Science Quarterly, 39*, 203-238.
- Folger, R., & Konovsky, M. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. *Academy of Management Journal, 32*, 115-130.
- Fried, Y., & Ferris, G. R. (1987). The validity of job characteristics model: A review and meta analysis. *Personnel Psychology, 40*, 287-322.
- Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review, 18*, 694-734.

- Glick, W. H. (1985). Conceptualizing and measuring organizational and psychological climate: Pitfalls in multilevel research. *Academy of Management Review*, *10*, 601-616.
- Grant, N. K., Garrison, C. G., & McCormick, K. (1990). Perceived utilization, job satisfaction and advancements of police women. *Public Personnel Management*, *19*, 147-154.
- Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management*, *16*, 399-432.
- Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations and career outcomes. *Academy of Management Journal*, *33*, 64-86.
- Haberfeld, Y. (1992). Employment discrimination: An organizational model. *Academy of Management Journal*, *35*, 161-180.
- Harlan, S. L., & O'Farrell, B. (1982). After the pioneers: Prospects for women in nontraditional blue-collar jobs. *Work and Occupations*, *9*, 363-386.
- Harlan, A., & Weiss, C. L. (1982). Sex differences in factors affecting managerial career advancement. In P.A. Wallace, (ed.), *Women in the workplace* (pp. 59-100). Boston, MA: Auburn House.
- Hayduk, L. A. (1987). *Structural equation modeling with LISREL*. Baltimore, MD: The Johns Hopkins University Press.
- Jaccard, J., & Wan, C. K. (1996). *LISREL approaches to interaction effects in multiple regression* (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-114). Thousand Oaks, CA: Sage.
- Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, *36*, 16-78.
- Jackson, S. E., Stone, V. K., & Alvarez, E. D. (1993). Socialization amidst diversity: Impact of demographics on work team old-timers and newcomers. In L. L. Cummings & B. M. Shaw (Eds.), *Research in Organizational Behavior: Vol. 15*. (pp. 45-109). Greenwich, CT: JAI Press.
- James, L. A., & James, L. R. (1989). Integrating work perceptions: Explorations into the measurement of meaning. *Journal of Applied Psychology*, *74*, 739-751.
- James, L. R., & Jones, A. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin*, *81*, 1096-1112.

- Joreskog, K. G., & Sorbom, D. (1989). *LISREL VII: User's reference guide*. Mooresville, IN: Scientific Software.
- Konovsky, M. A., & Cropanzano, R. (1991). Perceived fairness of employee drug testing as a predictor of employee attitudes and job performance. *Journal of Applied Psychology, 76*, 698-707.
- Landis, D., Dansby, M. R., & Faley, R. H. (1993). The military equal opportunity climate survey: An example of surveying in organizations. In P. Rosenfeld, J. E. Edwards, & M. D. Thomas (eds.), *Improving organizational surveys* (pp. 210-239). Newbury Park, CA: Sage Publications.
- Landis, D., Fisher, G., & Dansby, M. R. (1988). Construction and preliminary validation of an equal opportunity climate assessment instrument. In *Proceedings of Psychology in the DoD Symposium (Technical report 88-1)*. Colorado Springs, CO: U. S. Air Force Academy.
- Larwood, L., & Blackmore, J. (1978). Sex discrimination in managerial selection: Testing predictions of the vertical dyad linkage model. *Sex Roles, 4*, 359-367.
- Leventhal, G. S. (1980). What should be done with equity theory? New approaches to the study of fairness in social relationship. In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), *Social exchange: Advances in theory and research* (pp. 27-55). New York: Plenum Press.
- Levinson, H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly, 9*, 370-390.
- Lewin, K. (1943). Defining the field at a given time. *Psychological Review, 50*, 292-310.
- Mathieu, J. E. (1988). A causal model of organizational commitment in a military training environment. *Journal of Vocational Behavior, 32*, 321-335.
- Mathieu, J. E. (1991). A cross-level non-recursive model of the antecedents of organizational commitment and satisfaction. *Journal of Applied Psychology, 76*, 607-618.
- Mathieu, J. E., & Hamel, K. (1989). A causal model of the antecedents of organizational commitment among professionals and nonprofessionals. *Journal of Vocational Behavior, 34*, 299-317.
- Mathieu, J. E., & Zajac, D. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin, 108*, 171-194.
- Martin, J. (1982). The fairness of earnings differentials: An experimental study of the perceptions of blue-collar workers. *Journal of Human Resources, 17*, 110-122.

- Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, *103*, 391-410.
- Miller, D. E., Majors, M., Giesen, M., & Topping, J. S. (1990). The Hooper Equal Opportunity Measure: An operational definition of ecological dissonance theory. *Bulletin of the Psychonomic Society*, *28*, 164-166.
- Miller, D. I., Topping, J. S., & Wells-Parker, E.N. (1989). Ecological dissonance and organizational climate. *Psychological Reports*, *64*, 163-166.
- Milliken, F. J., & Martins, L. L. 1996. Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, *21*(2), 402-433.
- Morris, J. H., & Snyder, R. A. (1979). A second look at need for achievement and need for autonomy as moderators of role perception-outcome relationships. *Journal of Applied Psychology*, *64*, 173-178.
- Morrow, P. C. (1983). Concept redundancy in organizational research: The case of work commitment. *Academy of Management Review*, *8*, 486-500.
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, *14*, 224-247.
- Nelson, D. L., & Quick, J. C. (1985). Professional women: Are distress and disease inevitable? *Academy of Management Review*, *10*, 206-218.
- Noe, R. A. (1988). Women and mentoring: A review and research agenda. *Academy of Management Review*, *13*, 65-78.
- Podsakoff, P. M., McKenzie, S. B., & Bommer, W. H. (1996). Meta-analysis of the relationships between Kerr and Jermier's substitutes for leadership and employee job attitudes, role perceptions, and performance. *Journal of Applied Psychology*, *81*, 380-399.
- Porter, L.W., Steers, R.M., Mowday, R.M., & Boulian, P.V. (1974). Organizational commitment, job satisfaction and turnover among psychiatric technicians. *Journal of Applied Psychology*, *59*, 603-609.
- Price, J. L., & Mueller, C.W. (1986). *Absenteeism and turnover of part-time employees*. Greenwich, CT: JAI Press.
- Riordan, C. M., & Griffeth, R. W. (1994). The opportunity for friendship in the workplace: An unexplored construct. *Journal of Business and Psychology*, *10*, 141-154.

- Roberts, K. H., Hulin, C. L., & Rousseau, D. M. (1978). *Developing an interdisciplinary science of organizations*. San Francisco: Jossey-Bass.
- Robinson, R. K., Allen, B. M., & Abraham, Y. T. (1992). Affirmative action plans in the 1990s: A double-edge sword? *Public Personnel Management*, 21, 261-272.
- Rosenfeld, P., Thomas, M. D., Edwards, J. E., Thomas, P. J., & Thomas, E. D. (1991). Navy research into race, ethnicity and gender issues: A historical review. *International Journal of Intercultural Relations*, 15, 407-426.
- Salancik, G. R. (1977). Commitment and the control of organizational behavior and belief. In B. M. Staw & G. R. Salancik (eds.), *New directions in organizational behavior*. Chicago, IL: St. Clair Press.
- Schneider, B. (1990). The climate for service: An application of the climate construct. In B. Schneider (ed.), *Organizational climate and culture* (pp.383-412). San Francisco, CA: Jossey Bass.
- Schneider, B., & Rentsch, J. (1988). Managing climate and culture: A futures perspective. In J. Hage (Ed.), *The futures of organizations* (pp.181-200). Lexington, MA: Lexington Books.
- Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. *Personnel Psychology*, 36, 19-39.
- Short, L.O. (1985). *The United States Air Force Organizational Assessment Package*. Maxwell Air Force Base, AL: Leadership and Management Development Center, Air University.
- Smith, E. R., & Kluegel, J. R. (1984). Beliefs and attitudes about women's opportunity: Comparisons with beliefs about blacks and a general perspective. *Social Psychology Quarterly*, 47, 81-95.
- Steers, R. M. (1977). Antecedents and outcomes of organizational commitment. *Administrative Science Quarterly*, 22, 46-56.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173-180.
- St. Pierre, M. (1991). Accession and retention of minorities. *International Journal of Intercultural Relations*, 15, 469-489.
- Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Tsui, A. S., Xin, K. R., & Egan, T. D. (1995). Relational demography: The missing link in vertical dyad linkage. In S. E. Jackson & M. N. Ruderman (eds.), *Diversity in work teams* (pp. 97-129). Washington, DC: American Psychological Association.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1-10.

Witt, A. L. (1990). Equal opportunity perceptions and job attitudes. *The Journal of Social Psychology*, 13, 431-433.

Appendix 1
Final Scale Items

Work Group EO
Climate

- WGEO1 A supervisor gave a minority subordinate a severe punishment for a minor infraction. A majority member who committed the same offense was given a less severe penalty. R
- WGEO2 A qualified minority first level supervisor was denied the opportunity for professional education by his/her supervisor. A majority first-level supervisor with the same qualifications was given the opportunity. R
- WGEO3 A majority supervisor did not select a qualified minority subordinate for promotion. R
- WGEO4 A majority supervisor frequently reprimanded a minority subordinate but rarely reprimanded a majority subordinate. R
- WGEO5 A minority member was assigned less desirable office space than a majority member. R

Organizational EO
Climate

- ORGEO1 Minority members get more extra work details than majority members. R
- ORGEO2 Majority members get away with breaking rules that result in punishment for minorities. R
- ORGEO3 Majority men have a better chance than minority women to get the best training opportunities. R

Organizational
Commitment

- COM1 For me, this organization is the best of all possible ways to serve my country.
- COM2 I am proud to tell others that I am part of this organization.
- COM3 I find that my values and the organization's values are very similar.
- COM4 This organization really inspires me to perform my job in the very best manner possible.
- COM5 I am extremely glad to be part of this organization compared to other similar organizations.

Job Satisfaction

- SAT1 The chance to help people improve their welfare through the performance of my job.
- SAT2 The recognition and pride my family has in the work I do.
- SAT3 The chance to acquire valuable skills in my job that prepare me for future opportunities.
- SAT4 My job as a whole.

Work Group Effectiveness

- EFF1 The amount of output of my work group is very high.
- EFF2 When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job of handling these situations
- EFF3 My work group's performance in comparison to similar work groups is very high.
- EFF4 The quality of output of my work group is very high.

Workplace Diversity

- DIV The diversity in the workplace here is very...R

Note: R indicates items that were reverse-scored.

Table 1

Demographic Information

	Sample 1	Sample 2
Race		
Caucasian	2930	3185
African-American	927	853
Native American	127	99
Asian-American	409	284
Hispanic	308	312
Other	190	172
Missing	109	95
Sex		
Man	3714	4108
Woman	1202	836
Missing	84	56
Rank		
Officer	701	827
Warrant Officer	114	160
Enlisted	4097	3952
Missing	88	61

Table 2

Summary of MEOCS Factor Structure

Scale	Number of Items	Alpha
Work Group EO climate	5	.83
Organizational EO Climate	3	.79
Work Group Effectiveness	4	.84
Job Satisfaction	4	.81
Organizational Commitment	5	.82
Workplace Diversity	1	-

Note. Alpha = Cronbach's Alpha.

Table 3

Correlations Among Scale Items

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1. WGEO1	-																						
2. WGEO2	.58	-																					
3. WGEO3	.55	.52	-																				
4. WGEO4	.52	.48	.52	-																			
5. WGEO5	.48	.47	.50	.45	-																		
6. ORGEO1	.51	.43	.42	.45	.40	-																	
7. ORGEO2	.55	.45	.44	.49	.40	.62	-																
8. ORGEO3	.42	.38	.38	.38	.33	.50	.56	-															
9. COM1	.12	.11	.13	.11	.10	.12	.12	.10	-														
10. COM2	.22	.19	.21	.18	.18	.20	.22	.15	.47	-													
11. COM3	.20	.18	.19	.18	.15	.19	.22	.15	.48	.43	-												
12. COM4	.15	.14	.17	.15	.12	.13	.15	.13	.50	.49	.48	-											
13. COM5	.21	.21	.21	.21	.18	.19	.21	.15	.50	.51	.42	.46	-										

14. SAT1	.12	.11	.12	.07	.12	.10	.13	.07	.20	.23	.22	.22	.22										
15. SAT2	.10	.07	.07	.07	.08	.09	.12	.07	.18	.25	.19	.20	.21	.53									
16. SAT3	.10	.10	.09	.09	.09	.09	.10	.10	.26	.27	.24	.29	.27	.46	.47	-							
17. SAT4	.12	.12	.13	.11	.12	.14	.13	.12	.34	.32	.29	.35	.33	.53	.50	.61							
18. EFF1	.14	.15	.13	.10	.14	.13	.14	.09	.17	.22	.21	.22	.19	.20	.16	.16	.19	-					
19. EFF2	.20	.20	.18	.18	.19	.22	.20	.14	.21	.30	.26	.25	.27	.20	.18	.18	.23	.48					
20. EFF3	.18	.18	.17	.15	.17	.18	.18	.13	.22	.28	.26	.25	.26	.21	.19	.17	.23	.53	.60	-			
21. EFF4	.17	.17	.16	.13	.16	.15	.16	.11	.18	.26	.23	.25	.25	.20	.17	.16	.22	.66	.56	.58	-		
22. DIV	.05	.04	.03	.05	.02	.07	.06	.02	.02	.05	.05	.02	.01	.03	.01	.02	.00	.03	.03	.04	.05	-	

Note: Correlations in **bold** are NS; others are all significant at $p < .05$.

Table 4

Descriptive Statistics for Sample 1

Variable	Mean	SD
WGEO1	.84	1.21
WGEO2	.84	1.12
WGEO3	.27	1.09
WGEO4	.84	1.15
WGEO5	.55	.96
ORGE01	1.00	1.22
ORGE02	.97	1.22
ORGE03	1.34	1.34
COM1	3.07	1.30
COM2	1.85	1.16
COM3	2.84	1.27
COM4	2.71	1.30
COM5	2.32	1.36
SAT1	2.21	1.24
SAT2	2.54	1.30
SAT3	2.46	1.35
SAT4	1.85	1.31
EFF1	1.85	1.09
EFF2	1.90	1.11
EFF3	1.95	1.09
EFF4	1.83	1.04
DIV	1.91	.49

Table 5

Chi-squared Difference Tests

Model	<u>n</u>	<i>df</i>	<u>$\Delta\chi^2$</u>
Null Model	5000	231	24956.11*
Hypothesis 1: Org EO → WG EO		22	22693.33*
Hypothesis 2: WG EO → Sat		1	10.14*
Hypothesis 3: WG EO → Com		1	76.51*
Hypothesis 4: WG EO → Eff		1	76.93*
Hypothesis 5: Div → WG EO		1	.19
Hypothesis 6a: Eff → Sat		1	1.18
Hypothesis 6b: Eff → Com		1	60.12*
Hypothesis 7: Sat → Com		1	345.63*

Note. * $p < .01$. NNFI = non-normed fit index; RMSEA = root mean square error of approximation; CFI = comparative fit index. Alpha = Cronbach's Alpha.

Table 6

Sequential Chi-squared Difference Tests for the Development of an Alternative Model

Comparison	Chi-squared Difference Tests	
	$\Delta\chi^2$	<u>df</u>
$M_t - M_s$	322.54*	9
$M_c - M_t$	90.83*	1
$M_t - M_u$	32.03*	4
$M_u - M_s$	290.51*	5
$M_u^a - M_s$	10.66	5

Note. * $p < .01$.

Table 7

Structural Models From LISREL Analyses

Model	<u>n</u>	<u>df</u>	<u>χ^2</u>	NNFI	CFI	RMSEA	CVI
1. Measurement model	5000	195	983.27*	.96	.97	.03	
2. Model 1,	5000	204	1305.81*	.95	.95	.03	
3. Model 2 - revised model	5000	200	993.93*	.96	.96	.03	.20
4. Model 3 - gender	9860	400	2714.25*	.97	.97	.03	
5. Model 4 - minority status	8524	400	1755.89*	.96	.97	.02	

Note. * $p < .01$. NNFI = non-normed fit index; RMSEA = root mean square error of approximation; CFI = comparative fit index; CVI = crossvalidation index.

Figure 1

Hypothesized Model

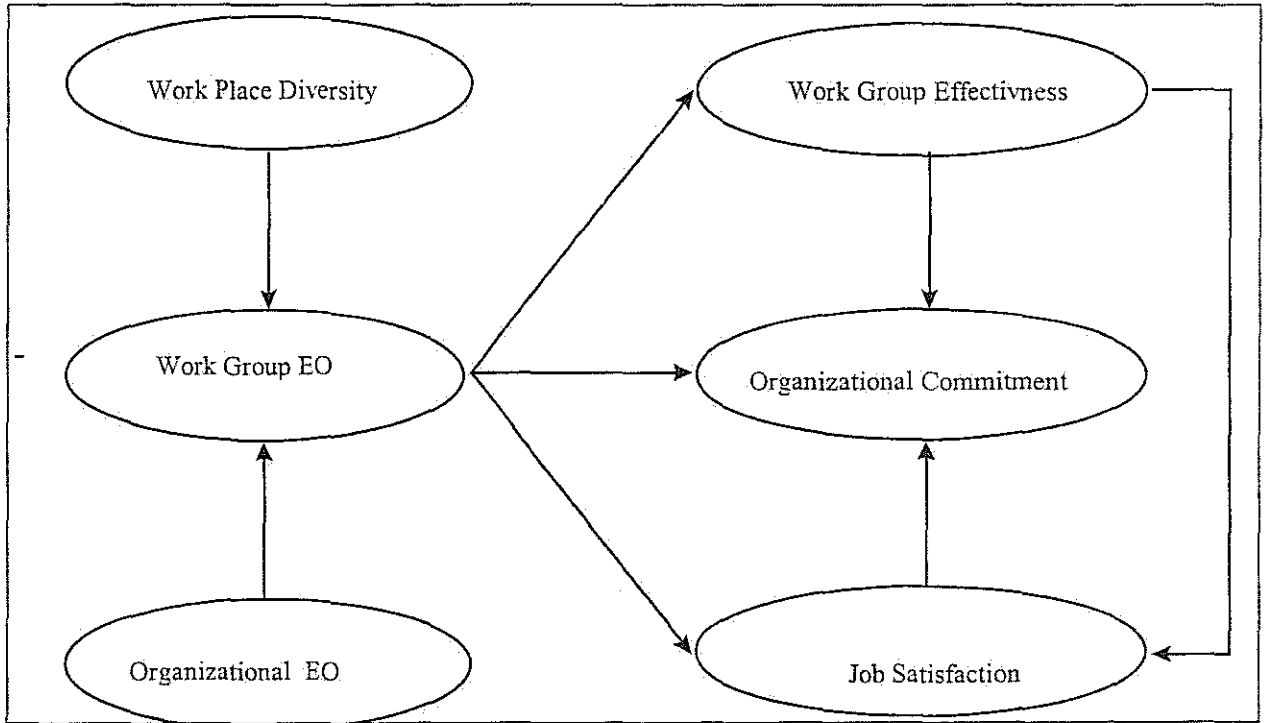
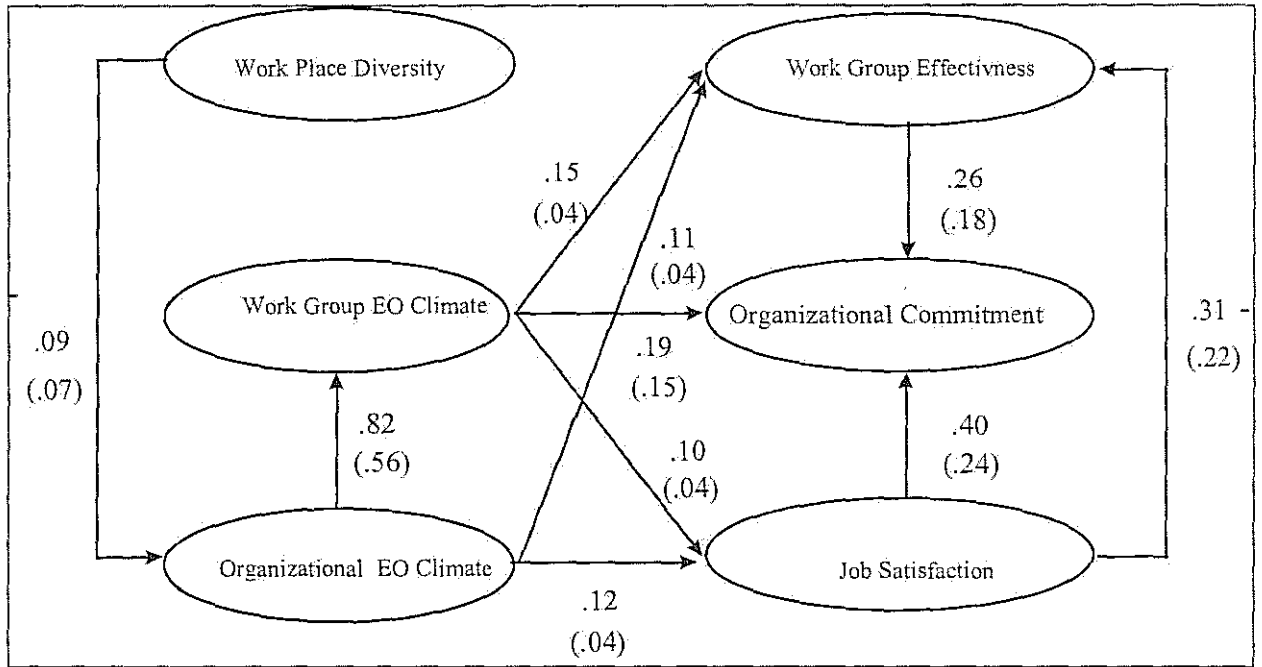


Figure 2

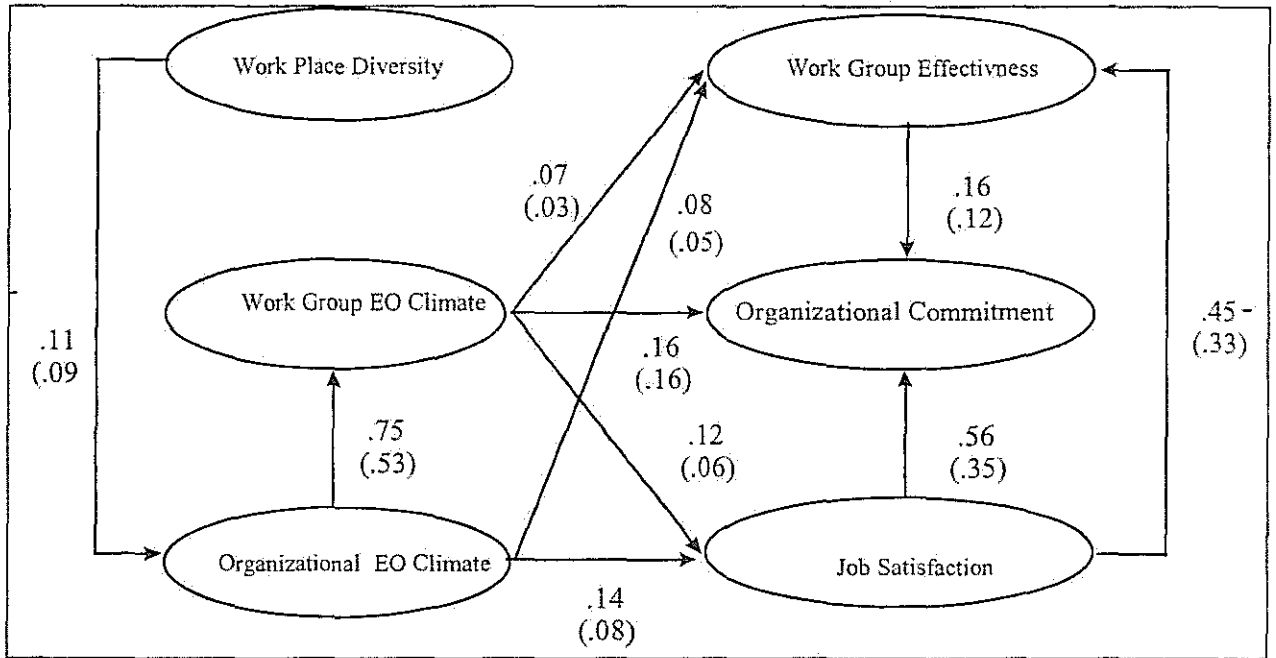
Revised Model for Sample 1



Note. All standardized β are significant, $p < .01$. Effect size estimates (ϕ) are in brackets.

Figure 3a

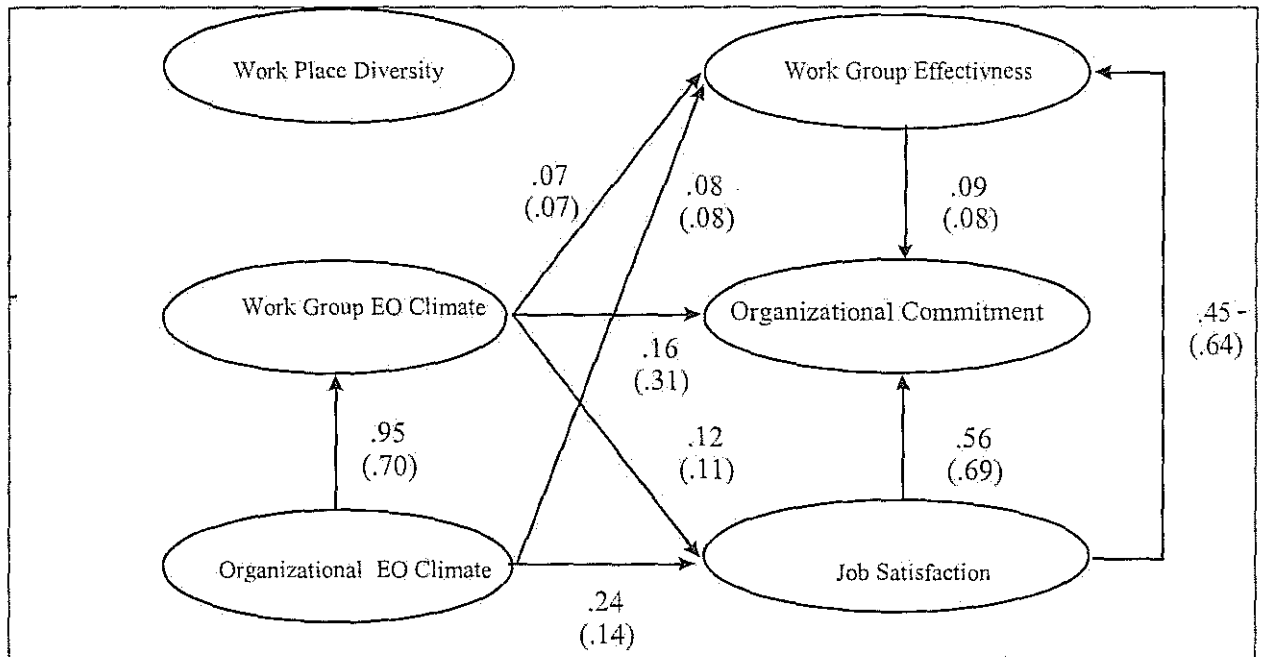
Structural Model for Men



Note. All standardized β are significant, $p < .01$. Effect size estimates (ϕ) are in brackets.

Figure 3b

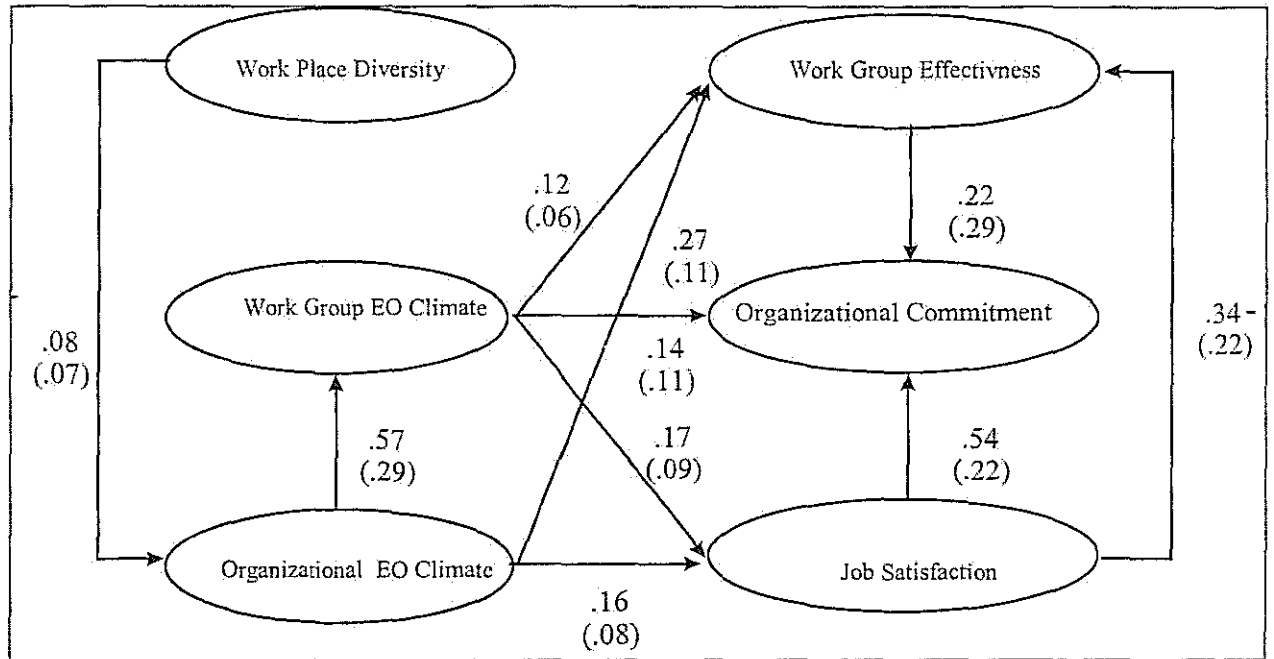
Structural Model for Women



Note. All standardized β are significant, $p < .01$. Effect size estimates (ϕ) are in brackets.

Figure 4a

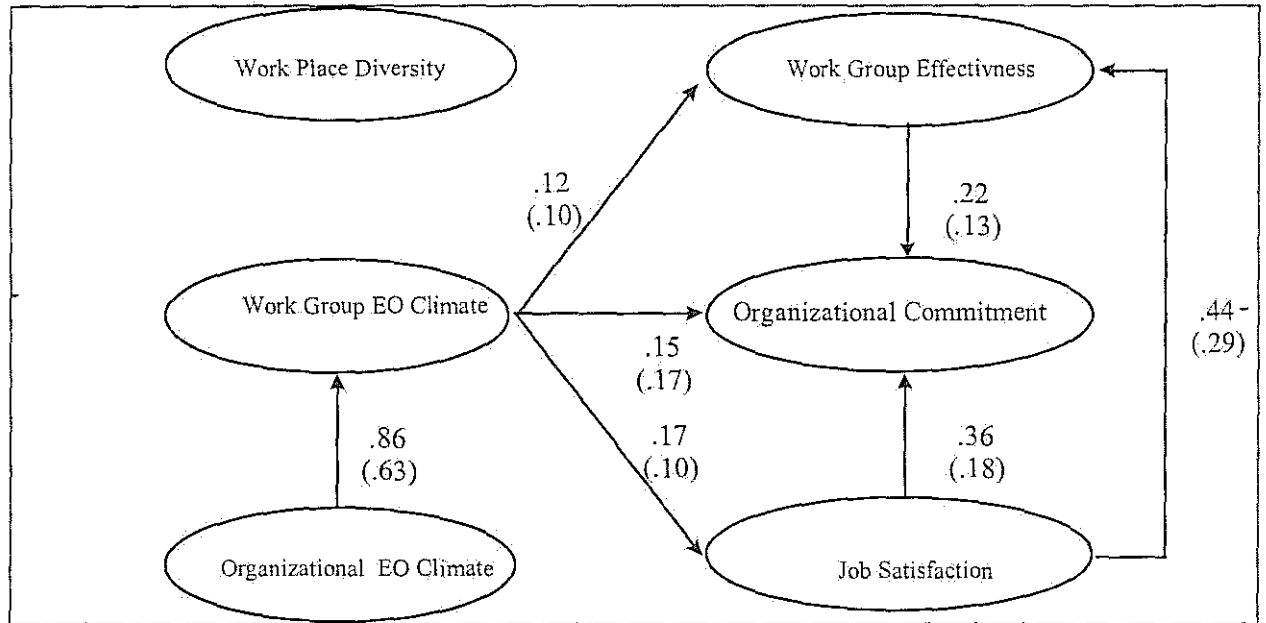
Structural Model for Caucasian Men.



Note. All standardized β are significant, $p < .01$. Effect size estimates (ϕ) are in brackets.

Figure 4b

Structural Model for Minorities



Note. All standardized β are significant, $p < .01$. Effect size estimates (ϕ) are in brackets.

