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Direct and indirect impacts of ethnicity and communication factors on performance ratings

Danny Shih-Cheng Huang

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DIRECT AND INDIRECT IMPACTS OF ETHNICITY AND COMMUNICATION FACTORS ON PERFORMANCE RATINGS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology: Industrial/Organizational

by
Danny Shih-Cheng Huang

June 1996
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ABSTRACT

The study investigated the sources, both performance-related and non-performance-related characteristics, which impact job performance and evaluation. Five theoretical models were proposed to describe the relationship between ethnicity, verbal accent, work values, communication effectiveness, performance ratings, and satisfaction. The models were tested with structural equation path model analyses. The results indicated that there was an adequate fit between Model 1 and the gathered data. Model 1 indicated that although ethnicity had an indirect link to performance evaluation, effectiveness communication had a direct impact on performance evaluation. Implications of the results and limitations of the study are discussed.
ACKNOWLEDGMENTS

This thesis project is the greatest accomplishment that I have achieved in my academic career. I would like to thank my family, instructors, and friends for providing me the supports and guidance that I needed to complete this goal. I could have never gone through it alone. Thanks for bearing through the frustrations and the difficult times with me, and now it is my turn to share the joy with you.
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INTRODUCTION

As business organizations move toward diversification, ethnically heterogeneous work groups are becoming more common. While homogeneous work groups are reportedly more productive and faster in problem solving processes, heterogeneous work groups can provide wider ranges of views and creative solutions to these various problems (Anderson, 1983). Research in a number of different settings provide evidence that homogeneous work groups may be superior in overall task performance and effectiveness than diverse groups. In addition, previous research indicates that culturally diverse work groups often have more conflicts on task priority, division of labor, member contribution, power distribution, role assignment, and individual expectations (Watson, Kumar, & Michaelsen, 1993); however, Greenhaus and Parasuraman (1993) argued that negative outcomes that are observed at the initial stages of group formation in culturally diverse groups will reduce as the members begin to share common experiences. Conflicts, such as role assignment and power distribution, will disappear as the group begins to define structure, rules, and norms of the group. In time, the perception and feelings that the group members have toward each other will be based on behaviors rather than stereotypical views. Since newly formed culturally heterogeneous groups have not had sufficient time to adjust for the differences, such as racial and communication
differences, between the members, diversity in work groups may cause temporary setbacks in early group process and performance (Watson et al., 1993). Nevertheless, as members in a heterogeneous work group begin to socialize and become familiar with each other, heterogeneous groups may be able to achieve equal, if not higher, effectiveness in terms of efficiency and creativity. The question remains, however, if diversity indeed has negative impacts on group functioning, how does it occur?

**Diversity**

One purpose of this study is to contribute to the definition of group diversity. Diversity cannot only be defined as differences in racial ethnicity, it can be defined as differences in cultural experiences, work values, and communication styles. Tsui and Barry (1986) believed that people are represented by a demographic profile rather than by one or two demographic features. Some researchers have defined diversity as ethnic and national differences (Watson et al., 1993), or racial and cultural differences among the group members (Dew & Ward, 1993), while others have defined diversity strictly in racial terms (e.g., Kraiger & Ford, 1985, and Ford, Kraiger, & Schechtman, 1986). Because the purpose of this study is to examine the roles of performance-related attitudes and skills and non-performance-related characteristics of the job incumbent, these particular aspects of diversity are selected as especially relevant.
Many studies, in investigating cultural values, have focused on individualism and collectivism. These two values, for example, are often found to differentiate Americans from Chinese. Cultural norms, such as verbal and nonverbal communication styles, are another set of frequently examined variables in the area of group diversity; however, this demographic information is not as easily obtainable and measurable as the variables of race and national origin. As a result, few researchers have integrated all the variables described above in a single study.

Purpose

The objective of this study is to answer the questions of: How does diversity in group composition influence the communication process among the group members. What effects do these variables have on performance evaluation and work satisfaction of individuals in work groups? The purposes of this study are to identify both performance-related and physical characteristics of individuals that affect the organizational experiences and examine the outcomes of the members in diverse work groups.
LITERATURE REVIEW

Fairness in Personnel Decisions

Fairness in personnel decisions and practices, especially performance evaluation, is often difficult to achieve in organizations. Two of the ways that biases in performance appraisal occur are 1) assigning inflated ratings to majority group members rather than assigning low ratings to minority members, and 2) differential attribution made by the rater to explain the causes of a ratee's level of performance (Nieva & Gutek, 1980). Kraiger and Ford (1985) conducted a meta-analysis of 74 research studies and concluded that the performance rating inflation for racial majority ratees were the result of majority group raters' consideration of job-irrelevant factors or external attributions for these ratees' poor performance. This phenomenon was not observed when the raters evaluated the minority ratees. Such a rating inflation pattern was expected because raters who were similar to the ratees in physical attributes were more likely to include the ratee as ingroup members and spend more time working with the ratee (Dipboye, 1985). Furthermore, the working experience shared by the rater and the ratee provided information about the ratee's unique strength and weakness and enabled the rater to display fewer attributional biases and judge the ratee on actual performance rather than racial membership (Greenhaus & Parasuraman, 1993).
The differential treatment of majority and minority group members in organizations not only could inflate the evaluation ratings of the majority group, such organization practices could also result in disparate treatment of minority group members. This may, in turn, lead to the unfavorable performance appraisal ratings for minority members. Low evaluation ratings for minorities may be the result of two possible processes. First, majority raters may use stereotypes rather than actual performance to evaluate the ratee (Ford, Kraiger, & Schechtman, 1986). The second possible cause is that minority members indeed demonstrate lower performance levels than do majority members. Hattrup and Schmitt (1990) reported that African Americans performed, on the average, one standard deviation below majority members (Whites) on basic ability tests. Waldman and Avolio (1991) proposed that the lower performance ratings for minority group members reflected actual performance differences that were associated with simultaneous differences in ability, education, and experience. Thus, Waldman and Avolio argued that the differential treatment of minority group members in organizations can explain the racial differences in job performance evaluations. Such evaluation may not necessarily be objective or reflect actual job performances.

Differences in organizational experiences, such as managerial support, attitude, and treatment, occurs not only after entry into an organization, but may start with
employment interviews. Using African American applicants and White interviewers, Dipboye (1985) found that negative nonverbal behaviors (eye contact, backward lean, and physical distance) exhibited by the White interviewer appeared to have negative effects on interview performance of the African American interviewees. Systematic biases in performance appraisal could place minorities at a distinct disadvantage in the personnel selection process, such as hirings, promotions, and even lay-offs. Albright (1973) argued that differences in personnel practices and outcomes should not only include the area of performance evaluations, but also criteria such as turnover, productivity, satisfaction, and effectiveness.

Theories of Differential Treatment

As stated earlier, people are represented by a demographic profile rather than by one or two demographic features. The most observable and easily perceived characteristics of an individual are the individual's racial identity, national origin, and verbal communication skills. With time and experience working with an individual, subtle characteristics such as cultural beliefs and work attitudes, will eventually be revealed as well. Diversity in demographic profiles may drive several dynamics in interpersonal interactions and outcomes. At least three major theories may be used to explain differences in individual outcomes. These theories are the stereotype-fit
model, the similarity-attraction paradigm, and the attribution theory.

The stereotype-fit model of discrimination (Dipboye, 1985) suggests that physical attributes of an individual are visually noticed by the observer. The observer then encodes and retrieves this information in conjunction with pre-existing experiences and expectations to assign the individual to stereotypical categories. Once an individual is classified into certain stereotypical categories, the observer looks for behaviors and attitudes exhibited by the individual that are in congruence, rather than contradiction, with the stereotyped expectations to re-enforce the observer's stereotypical beliefs. The stereotype-fit model is especially critical to the validity of job evaluations since performance ratings based on stereotypes are biases that will attribute to inaccurate and invalid measures of actual job performance.

Similarity-attraction paradigm is the concept that individuals categorize others to ingroups or outgroups according to the degree of similarities in values, beliefs, and physical attributes. Individuals make internal attributions to ingroup members more frequently than outgroup members. Heneman, Greenberger, and Anonyuo's attribution model (1989) proposes that attribution occurs in three steps. First, leaders see ingroup members as similar to themselves and identify themselves with the members. Second,
individuals have overall favorable images of the members of ingroups and unfavorable images of members of outgroups. Third, in order to maintain a high degree of trust between themselves and ingroup members, leaders may need to give preferential treatment to the ingroup members. A study conducted by Tsui and O'Reilly (1989) further supports Heneman's model. Tsui and O'Reilly have defined relational demography as the comparative demographic characteristics of members of dyads or groups who are in a position to engage in regular interactions. They also have suggested that relational similarities in demographics may result in further similarities in attitudes, values, and experiences.

Attribution theory can be viewed as the internalized information processing of an observer. There are four specific causal attributes: ability, effort, luck, and ease or difficulty of the task. Referring to the stereotype-fit model, once an individual is classified into a stereotyped category, the outcome of the individual is attributed to one or more of these four factors. When a negatively perceived individual succeeds, the success is more likely to be attributed to external influences, such as luck and ease of the task, rather than internal factors, such as ability or effort. However, experience or repeated associations are hypothesized to improve the accuracy of attribution since familiarity enables an individual to make judgments and attributions on the basis of personal merits rather than
subgroup membership, such as ethnicity. Furthermore, Green and Michell (1979) have concluded in their study that supervisors who feel psychologically close to a subordinate are likely to make attributions that would benefit the subordinate. Performance attributions made by the raters are contingent upon the stereotype, the similarity, and the attraction that the raters may have toward the ratee.

Stereotype-fit model, similarity attraction paradigm, and attribution theory play important roles in performance evaluations, organizational experiences, and job outcomes. These three theories can be used in explaining how and why evaluation biases occur. The three theories are similar in a way that they assume in-group/out-group distinction and take place at some point of the categorization process. The major negative consequence of these three cognitive process is that they often result in unfair preferential treatment or discriminatory actions. In the following sections, the impacts of these cognitive processes on organizational experience and outcomes will be discussed.

Stereotype-Fit Model and Evaluation

The stereotype-fit model is often used to explain disparate performance ratings for ethnic minorities in the workplace. Individuals are less likely to explicitly express negative attitudes when they believe that these attitudes will be evident to other individuals; therefore, these negative attitudes based on stereotypes are often disguised
as persistent unfavorable work evaluations (Lobel, 1988). However, in the absence of anonymity, expressed attitudes toward ethnic minorities are more favorable than those expressed toward the ethnic majority since individuals realize that it is no longer socially appropriate to attribute or explicitly express negative attitudes toward ethnic minorities (Lobel 1988). Performance appraisal is composed of several cognitive processes. Feldman's model (1981) of performance evaluation involved four cognitive stages. In the first stage, the raters must recognize and attend to relevant information about the ratee. The second stage is the storage of this newly acquired information and the integration of this information with previously gathered data. In the third stage, when evaluation judgments are required, relevant information must be recalled in an organized fashion. Finally, at various times in the above stages, information must be integrated into some sort of summary judgment. Thus, based on Feldman's model, performance evaluations rely more heavily on memory and categorization rather than observed behaviors of the ratees. This process is extremely vulnerable to rater effects such as stereotyping and leniency since raters typically gather information that is biased in the direction of confirming the rater's expectation (Dipboye, 1985, Feldman, 1981, and Ford et al., 1986).
Evaluation, Effectiveness, Communication, and Similarity-Attraction Paradigm

The similarity attraction paradigm suggests that, as the differences between people increase, interpersonal attraction and liking decreases (Rosenbaum, 1986). This paradigm proposes that similarities and attractions between the rater and ratee affect performance evaluation in an indirect manner. While the increases of demographic, attitudinal, and behavioral similarities, such as ethnicity, values, religion, and communication styles, positively affect the frequency of communication (Lincoln & Mill, 1979, Neimeyer & Mitchell, 1988, and Tsui & Barry, 1986), mutual perceptual dissimilarity between the rater and the ratee reduce the frequency of communication. Furthermore, dissimilarity not only leads to infrequent communication between work dyads, but supervisors in the dyad are less likely to exhibit behaviors that enhance their subordinate's feelings of worth which can facilitate the subordinate's ability to achieve work goals (Pulakos & Wexley, 1983). For example, differences in cultural and nonverbal communication styles not only affect interpersonal attractiveness, but they also create disruption of conversational flows (Dew & Ward, 1993). Such disruption in communication is detrimental to individual and group work performances in ways that produce role ambiguity and conflicts within the work group (Tsui & Barry,
1986). As a result, differences in performance ratings are not consequences of stereotypical biases, but rather results of actual work performance and effectiveness of the ratee. With the increase in similarities in physical characteristics (Mobley, 1982) and values (Tsui & O'Reilly, 1989), a rater will be more confident in his/her rating of performance (Schmitt & Lappin, 1980). Thus, similarity and dissimilarity between members of a work group can have dramatic outcomes to the individuals as well as the group and the task involved.

Performance Appraisal and Attribution Theory

Theoretically, job performance evaluations should be based on the ability of the job incumbent. When an individual's performance is attributed to non-ability or effort related criteria, the particular individual is less likely to receive fair evaluations and subsequently, advancements in career (Greenhaus & Parasuraman, 1993). Similarity-attraction and stereotype-fit models provide the foundation from which attribution of performance is made. Raters or supervisors categorize their ratees or subordinates into ingroup and outgroup based on the psychological closeness between them. Being an ingroup member not only enhances the interpersonal interactions between raters and ratees, but raters can also gather sufficient job-relevant information about the ratees to interpret and attribute the performance of the ratees. When assigning causality to work performances, raters who feel psychologically close toward a
ratee are more likely to make attributions that benefit the ratee (Green & Mitchell, 1979). In other words, ingroup members receive more favorable (internal) attribution than outgroup members when the work performance for both groups are equally effective. Heneman et al. (1989) gave three reasons for this attribution bias. First, raters see ingroup members as similar to themselves, therefore, attributions that the raters form for ingroup members are actually self-attribution. Second, individuals have overall favorable images of ingroup members (similarity-attraction) and unfavorable images of the outgroup members (stereotype-fit). Finally, raters maintain the level of trust between themselves and ingroup members by giving preferential treatment to ingroup members. In summary, the stereotypes of outgroups and the similarity of the ingroup members play important roles in determining and influencing the performance attribution, the organizational experience, and the differential treatment of an individual.

Ethnicity and Performance Evaluation Biases

According to the stereotype-fit and similarity-attraction theories, performance evaluations are extremely vulnerable to rating biases. Individuals (raters) may selectively attend to and recall behaviors that validate their underlying global trait impression of the perceived person (Kraiger & Ford, 1985). The perceived similarities or differences with the ratee by the rater may affect the
performance appraisal process in many ways. In Tsui & Barry's study (1986), they concluded that raters who have positive affect (similarity-attraction) toward the ratee were found to be more lenient on performance evaluation, while raters who have negative affect (stereotype-fit) gave less lenient ratings. There are systematic findings that ethnic minorities receive lower performance ratings than their White counterparts, when the rater is White (e.g., Greenhaus & Parasuraman, 1993). Furthermore, raters were also found to give significantly higher ratings to members of their own racial group (Kraiger & Ford, 1985).

There are several explanations for this difference in performance evaluations. First, Schmitt and Lappin (1980) believed that people are more confident in rating people of their own racial group than they are in rating those of other racial groups. One implication of this argument was that when a rater evaluated a racially different person, the evaluation might be based on stereotypes rather than actual job performance. The second plausible explanation provided by Greenhaus, Parasuraman, and Wormley (1990) was that the lower performance rating reflected the actual performance of the ratee. However, Greenhaus et al. argued that the low job performance of racial minorities resulted from the differential treatment and experiences of the minorities in the organization. The final explanation for the lower performance evaluation of minority ratees was that the
ratees' performances were falsely or inaccurately attributed. Successful performance of minority ratees may be negatively attributed by the rater (attributed to external factors such as help from others, luck, and ease of the task), while their failures are attributed to internal factors such as incompetence and lack of effort (Ilgen & Youtz, 1986, and Greenhaus & Parasuraman, 1993).

Although most studies have concentrated on the rating biases and differences between Whites and African Americans, evaluation and performance differences do exist among other ethnicities. Garza, Lipton, and Isonio (1989) reported in their study that Hispanics working in homogeneous group were more productive when working for an Anglo than for an Hispanic leader. However, in ethnically mixed groups, Hispanics and Anglo group members reported greater task motivation when working for a leader of the same ethnicity as themselves. Garza's findings suggest that self-reported, and perhaps actual, productivity and motivation may be dependent upon the ethnic composition of the work group. Another study compared the leader-subordinate dyads in Chinese (Taiwan) and U.S. organizations (Farh, Dobbins, & Cheng, 1991). Farh et al. studied the supervisor and self evaluation in both countries. Chinese employees rated their own job performance less favorably than did their supervisors. This finding contradicted the American finding that self ratings of performance were more lenient than supervisor ratings. The
Chinese supervisor rated their subordinate significantly higher on completing work on time. There are two implications of Farh, Dobbins, and Cheng’s study. First, low self ratings (modesty bias) may be encouraged in Chinese organizations, but are compensated by the higher supervisor rating. Second, using self rating by multinational firms or in ethnic diverse organizations may result in a bias against Chinese employees. Such employees may evaluate themselves as less effective than equally performing U.S. employees and may be unfairly discriminated against in any administrative decisions that are based on self ratings.

Even though most studies found race effects in performance evaluations, some studies suggested that it was premature to accept the racial differences in performance evaluations (Sackett & Dubois, 1991). Sackett and Dubois challenged Kraiger and Ford's (1985) findings by conducting a meta-analysis that included 36,000 individuals in both civilian and military samples. The results failed to confirm Kraiger and Ford's finding that "Blacks rate Blacks higher; Whites rate Whites higher" (cited in Sackett & Dubois, 1991, p. 876). Sackett's results showed that White ratees received identical ratings from both African American and White raters, whereas African American Ratees received higher ratings from African American raters than from White raters. Singer and Eder (1989) took an alternative approach in examining the effects of ethnicity and verbal accent on
evaluations. Singer and Eder's study was conducted in New Zealand and examined interview evaluations of job applicants from four major ethnic groups in New Zealand: Maori, Chinese, Dutch, and white New Zealanders. The results of the study indicated a significant main effect for ethnicity in selection decisions, but not for accent. However, the participants of the study revealed that they considered accent a greater criterion for the selection decision ratings rather than ethnicity. The implication of the study was that while accent might be claimed as the primary basis for evaluation, racial discrimination in evaluations did occur in a disguised form. The inconsistency in these findings generally leads to the need for further investigation of other factors which may lead to the differences in job performance and evaluations.

**Verbal Accent and Communication Flow**

Communication plays an important role in determining the effectiveness of a work group. Does verbal accent impede the flow of communication between people? The answer is yes if the listeners have difficulty in understanding the content of speech given by the accented speakers. Hollandsworth, Kazelskis, Stevens, and Dressel (1979) found that people believed that appropriateness of content was the single most important factor in verbal communication. This was followed by the fluency of speech. Nevertheless, if an individual exhibits incoherent speech or heavy accent, will the content
of the speech be comprehended by the listener? Accurate, effective, and efficient communication between people will be more difficult to achieve if there are extreme differences in language (Anderson, 1983). Although the burden of communication is shared by both participants, the burden is often heavily placed on the speaker rather than the listener (Lippi, 1994). Thus, in this study, accentedness will be hypothesized to affect the efficiency and the flow of communication between group members. Compared to a group of non-accented individuals, groups including accented individuals will be more likely to demonstrate poor and inefficient communication flows.

Work Values and Communication Expectations

One of the factors that determines the communication style is the work values that an individual possesses. In collectivistic cultures, interpersonal harmony, interdependence, solidarity, and group cohesion are emphasized. To promote this interpersonal harmony, collectivism constrains individuals from speaking boldly through explicit verbal communication (Kim & Wilson, 1994). While collectivists prefer mitigation, individualists prefer confrontation (Ohbuchi & Takahashi, 1994). For example, Americans consider direct statements and clear requests as effective strategies of communication while Koreans rate these strategies as counterproductive and less effective methods of communication because they violate the
interpersonal harmony and cohesiveness of the group (Kim & Wilson, 1994). The differences in communication styles and expectations shown in the above example can lead to conflicts within the group. Based on Kim and Wilson's proposition, when an individualist and a collectivist are in a work group, they are vulnerable to cultural, specifically communicative, conflicts because of their differences in communication expectations. Interpersonal conflicts can act as barriers to group effectiveness and result in low productivity. In either case, it may be paired with low performance ratings that directly result from the actual poor performance of the group. The incongruency in work values can also create frustrations among the group members, which may result in low group satisfaction. On the other hand, when the cultural or work values are consistent among the group members, the similar expectation in communication strategies may lead to the group's and the members' desired communication styles. Higher performance, effectiveness, and productivity may be achieved in culturally congruent groups since they have less communicative barriers and conflicts to overcome and resolve. These groups are more likely to have higher group satisfaction, not only because interpersonal harmony (for collectivists) and individual benefits (for individualists) are achieved, but also because higher group and individual performance evaluations can result from higher performance.
Satisfaction

The systematic differences in organizational treatment and experience can affect the level of satisfaction both at group and individual levels. Moch (1980) proposed two explanations for the differences in job satisfaction: cultural and structural. The cultural explanation attributes differential satisfaction to beliefs, values, or psychological states that influence individuals with particular demographic profiles to respond differently to their experiences in the organization. The structural explanation associates differential level of satisfaction to the differential treatment of the employees by the organization. For example, compared to White managers, African American managers felt less accepted in their organizations, perceived themselves as having less discretion on their job, consistently received lower performance ratings, and were more likely to experience lower levels of job satisfaction (Greenhaus, Parasuraman, & Wormley, 1990). Supervisors offer a higher degree of trust, interaction, support and rewards to ingroup rather than outgroup subordinates (Heneman et al., 1989). Such interpersonal interactions, as discussed previously, result in more frequent communication, greater group effectiveness, and higher performance ratings. These factors may either directly or indirectly influence the level of satisfaction of
an individual in a work group.

To summarize the literature review, performance evaluation is composed of complex cognitive processes. Using only one factor, ethnicity, may not be sufficient to explain the differential evaluations of performances. Furthermore, the evaluative process is complicated by other factors such as verbal accent, communication styles, and work values. Although many theories can be used to interconnect these factors, three main theories have been chosen for this study: Stereotype-Fit, Similarity-Attraction, and Attribution theories. Numerous hypotheses have been derived by using these three theories as possible explanations for individual differences in organization experiences and outcomes.
HYPOTHESES

Five path models (see Figures 1-5) were developed to represent different hypothetical causal associations among the major variables discussed in the literature review. The models created are designed to represent the sequence of events as they occur within work groups.

Model 1 (see Figure 1)

The ethnicity of an individual may determine the work value and the amount of foreign accent that the person possesses. According to Anderson (1983), the extreme differences in language among group members can impede the communication flow in a group. Under such circumstances, individuals with verbal accents will be likely to be categorized as outgroup members and the communication frequencies with accented individuals will decline dramatically. Work value (individualism and collectivism) has also been found to affect the communication strategies utilized by individuals in a group. Individualists and collectivists prefer and use different communication strategies and styles, and the differences in their expectations and practices can cause communicative conflicts (Kim & Wilson, 1994, and Ohbuchi & Takahashi, 1994) Thus, ineffective and inefficient communication flow within a work group may be directly caused by the degree of accent and the differences in communicative expectation of the individual group members. When conflicts in communication flows and
expectations arise in a work group, members of the group may suffer lower productivity and receive lower performance ratings. Conversely, similarity in communication styles among group members can positively affect individual member's ability to achieve work goals (Pulakos & Wexley, 1983). Kim and Wilson have shown that cultural and attitudinal conflicts can be destructive in work performance partly because some of the members may not be able to overcome the interpersonal and communication barriers. Without effective communication, group members are not able to share common experiences (Greenhaus & Parasuraman, 1993) and performance evaluations and attributions are more likely to be based on stereotypes rather than true job performance (Dipboye, 1985). The differential treatment and experiences of the group members, according to Moch's structural explanation of satisfaction (1980), can also lead to differences in work satisfaction. Model 2 (see Figure 2)

This model is similar to Model 1. The main difference between the two models is the expected role of ethnicity on performance ratings and effectiveness. Studies have failed to determine the true effect of ethnicity on performance evaluation. Kraiger and Ford (1985) have found that racial biases in performance appraisal do exist, especially through ratee stereotyping (Dipboye, 1985). Sackett and Dubois (1991) challenged Kraiger's findings and concluded that such racial stereotyping and biases were not supported. Greenhaus
et al. (1990) also proposed an alternative explanation for the racial differences in performance evaluations which suggested that the low performance evaluations reflected the actual lower performance of ethnic minorities. Contrary to Model 1, which hypothesizes that ethnicity has no direct effect on performance rating, Model 2 hypothesized that performance evaluation and effectiveness are contingent upon two factors, ethnic stereotypes and the functionality of group communication processes.

Model 3 (see Figure 3)

In this model, ethnicity is perceived as an independent factor to verbal accent and work values. Unlike Model 1 and 2 which hypothesized that verbal accent and work values are dependent upon ethnicity, Model 3 suggests that an individual's ethnicity may not necessarily determine the verbal accent or the work value that the person possesses. Race is not a sufficient nor a valid predictor of a person's national/regional origin. This is particularly true when the individual is not first-generation immigrant. For example, African Americans in the United States may or may not have a foreign accent depending on the person's national origin. Another example is that second or third generation immigrants who grew up in the United States may not have foreign verbal accents and may have mixed work values. If racial discrimination exists, it should directly affect racial minorities' performance evaluations regardless of accent or
values. Nevertheless, this does not rule out the possibility that verbal accent and work values affect the work attitudes and performance of the job incumbents. Furthermore, if an ethnic minority person received negative performance ratings, the person may be penalized three times by his/her ethnicity, verbal accent, and work values. However, the primary assumption in this model is that racial stereotypes do occur in the performance evaluation process. The main causes of evaluation biases are the similarity between the rater and the ratee and the attribution made by the rater to the ratee.

Model 4 (see Figure 4)

Verbal accent can be an indication of a person's national or geographic origin and social identity (Lippi, 1994). Although verbal accent may not be used to determine the ethnicity of a person, it can act as an important cue to a person's national origin, which is a major aspect of ethnicity. Level of work performance and communication flow may be influenced by the presence or the absence of verbal accent. Accurate, effective, and efficient communication among people can be difficult to accomplish when extreme language differences are present (Lippi, 1994). Under such situations, negative performance evaluations may be a direct consequence of the ineffective and inaccurate communication among the group members. In this model, ethnicity is not sufficient to determine the work value of an individual, since work attitudes vary among individuals. Members of a
group may internalize or conform to their group's norm and culture through time (Posner, 1992). One of the implication of Posner's study was that interpersonal and person-organization congruency in work values must be achieved to promote higher satisfaction and effectiveness.

Model 5 (see Figure 5)

Working with the notion that ethnicity may not be sufficient to identify the work values that an individual possesses, Model 5 can be considered as an extension of Model 1. The main difference between these two models is that work values are not hypothesized to be a function of ethnicity. However, verbal accent and work value are still hypothesized to affect communication within groups. Positive performance ratings and higher satisfaction are more likely to occur in groups that have more congruent and effective communication styles.
METHOD

Sample

The participants of this study are college students who have work experiences in groups that consisted of at least two members. Using EX-Sample Software (1993), the minimum number of participants needed for this study was calculated. With the alpha level set to .05, the effect size equal to .02, and 10 degrees of freedom (df = number of variables plus the number of error terms minus 1), the estimated sample size for this study is 198. A total number of 245 students participated in this study. Among the participants, 109 were Caucasians, 34 were African Americans, 56 Hispanics, 19 Asian Americans, 2 American Indians, 12 Bi-Racials, and 13 Others (see Table 1). The percentage of participants that identified themselves as the ethnic majority in the work group is 49.4%, while 50.6% identified themselves as the ethnic minority in the work group. The ethnic compositions of the work groups in which the participants worked were diverse. 41.6% of the participants worked in groups or organizations that had more than 50% non-Caucasians, while 58.4% of the participants worked in groups that are less than 50% non-Caucasians (see Table 2).

Measures

The variables examined in this study were ethnicity, verbal accent and work values (specifically individualism and collectivism), communication effectiveness, performance
ratings, and job satisfaction. A 45 item questionnaire was developed with combinations of the Wagner and Moch's Individualism-Collectivism Scale (Wagner & Moch, 1986), the Job Diagnostic Survey (Hackman & Oldham, 1975), and other items which measured ethnicity, communication effectiveness, and job performance. Most of the items on the survey, except item 1 to 7 and item 25, were based on a seven point Likert scale. Because of time and resource limitations of this study, all questions in the survey were based on self-reports. Although self-reports, especially past performance behaviors, could be vulnerable to recall biases, self-reports had been reported to have moderate validity as a measurement source (Gilger, 1992). Gilger studied self retrospective reports of academic achievement and found moderate correlation (range = .32 to .72). Furthermore, survey reports had been found to reflect as much as 51% of the variance in academic achievements, and the overall accuracy and validity of survey reports was adequate for most purposes.

Ethnicity Ethnicity has been defined in numerous ways. Variables that have been used to define ethnicity include race (Garza, Lipton, & Isonio, 1989), nationality (Lobel, 1988), patterns of nonverbal behavior (Dew & Ward, 1993), culture (Anderson, 1983), and demographic profiles that can be combinations of all of these variables (Tsui & O'Reilly, 1989). For this study, four questions regarding the
ethnicity of the participants and their work group were asked. Included were questions that measured the ethnic composition of the work group, whether or not the participants were in ethnic majority or minority in their work group, the controlling power of the work group, and the ethnicity of the participant. Only the ethnicity of the participants were analyzed (see Appendix A).

**Verbal Accent** Verbal accent causes variation in resulting degrees of comprehensibility. Language accent not only can provide cues to the geographic origin and social identity of a person, it can also be a communication barrier among people (Lippi, 1994). Lippi argued that the degree of accentedness cannot predict the level of an individual's communicative and work competency. Thus, to examine the relationship between accent and communication effectiveness, five questions have been developed to examine the degree of verbal accent (see Appendix B).

**Work Values: Individualism and Collectivism** Value differences have been shown to cause poor communication, disagreement in work-related values and traditions, and differences in co-worker expectations (Anderson, 1983). One of the most studied work values is individualism and collectivism. Wagner and Moch (1986) defined individualism as the condition in which cooperation is motivated by the contingent satisfaction of personal interest, whereas collectivism is the condition in which cooperation stems from
the pursuit of interest shared among members of a collectivity. In collective cultures, group goals are more important than personal goals, while individualists strive for personal satisfaction (Ohbuchi & Takahashi, 1994). Members of an organization or a society are not purely individualistic or collectivistic. The distinction between individualism and collectivism should be viewed as a continuum composed of intermediate points as well as extremes (Wagner & Moch, 1986). In order to promote higher satisfaction and effectiveness, interpersonal and person-organization congruency in work values must be achieved (Posner, 1992). Therefore, in this study, the work value of an individual (the degree of individualism-collectivism) will not only be compared to other individuals, but to the cultural norm of the organization as well. Wagner and Moch's Individualism-Collectivism Scale (Wagner & Moch, 1986) will be used to assess the participants' work values and their work groups' norms. However, only parts of the Wagner & Moch's scale will be used in this study. Through factor analysis, Wagner and Moch were able to divide their questionnaire into three categories, beliefs, values, and norms. Wagner and Moch further distinguished the differences among the concepts of beliefs, values, and norms. Beliefs are statements about reality that individuals accept as true, such as an individual's perception of one's own work productivity. Values are generalized principles to which
people feel strong positive or negative emotional commitment, such as one's own preference to cooperate with others in a work group. Norms are socially shared rules or standards of behaviors that are considered socially acceptable, such as an organization's explicit and implicit rules and expectations. Based on Wagner and Moch's definition, values are most likely to be predictors of an individual's work attitude and expected communication style. Although beliefs and norms may be accepted by an individual, they may not necessarily be translated to behaviors. Since the focus of this study is on the individual values and attitudes, group norms and individual beliefs may not be relevant to the study. Thus, norms and beliefs were measured but were not analyzed (see Appendix C). The reliability and validity coefficients of Wagner & Moch's scale were not provided in their study and thus, were unavailable. The reversed-scale items will transformed, and the item scores will be added. Lower scores represent individualistic work values, and higher scores represent collectivistic work values.

Communication Three outcome variables were measured. They were communication, performance ratings, and satisfaction. The frequency and the effectiveness of communication will be measured through self-reports. Eight questions were developed (see Appendix D), and the sum of these scores were calculated and analyzed.
Performance Rating Performance rating was measured through participants' self-reports. The participants were asked to recall their most recent performance evaluation they received at work and report how they were ranked and rated in terms of work quality, effectiveness, and productivity. If participants were not recently or have never been evaluated at their work, then they were asked to report how they thought they would be evaluated by their current supervisors. The participants also evaluated themselves through self-appraisal (see Appendix E).

Satisfaction To measure general job satisfaction, the Job Diagnostic Survey (Hackman & Oldham, 1975) was used. The Job Diagnostic Survey (JDS) is a five item questionnaire with the coefficient alpha ranging from .74 to .77, depending on the job setting. The JDS response set is composed of a seven point scale that ranges from 1 (disagree strongly) to 7 (agree strongly) (see Appendix F).

Procedures

A 45 item questionnaire (all measures described above) were given to university students with prior experience working in a group. The respondents were given brief written instructions along with the questionnaire itself. All responses were anonymous.
Analyses

Since some of the sub-scales in the survey were newly developed items, the initial stage of the analysis was to determine the reliabilities of these scales. Because all the items and the factors measured in the survey were based on self-reports, the problem of common method variance may pose a potential threat to the suggested hypothesis. To detect the possibility of common method variance, Podsakoff and Organ (1980) have suggested a post hoc remedy which involved factor analysis. The procedure is known as Harman's one factor test, in which all of the variables of interest are entered into a factor analysis. The unrotated factor solution would be examined to determine the number of factors that are necessary to account for the variance in the variables. The basic assumption of this technique is that if a substantial amount of common method variance is present, a single factor would emerge. Thus, a factor analysis was conducted to detect potential common method variance. SPSS was used to calculate the descriptive, reliability, factor analysis results. Based on the correlation matrix of the selected variables, the correlations are corrected for attenuation using the following equation (Ghiselli, Campbell, & Zedeck, 1981):

\[ r_{x'y'} = \frac{r_{xy}}{\sqrt{r_{xx}r_{yy}}} \]
Using the attenuated correlations, a covariance matrix was calculated. Based on the covariance matrix, EQS was used to perform structural equation analysis to determine which ones of the five models have a superior fit to the gathered data.
RESULTS

Descriptive statistics and reliability of the measures were calculated (see Table 3), and the intercorrelation matrix for the selected variables were also determined (see Table 4). Normality was tested using SPSS Histogram imposed with a normal curve. Verbal Accent was negatively skewed and platykurtic; however, verbal accent was not transformed for two reasons. First, although the skew was apparent, the distribution of the responses still had a wide variation (Mean = 2.146, Standard Deviation = 1.153, and Range = 4.8) (see Table 5). Second, the accentedness may, in fact, be negatively skewed in the sample. Other factors, such as Communication and Performance Rating had slight positive skews. Job Satisfaction and Job Attitude/Value closely approximated normal.

Factor Analysis was also conducted on the questionnaire items. Using an Eigenvalue of 1 as a cut-off point, 10 factors were derived from the items. According to the theoretical composites of the questionnaire items, eight factors were hypothesized. An eight-factor analysis was conducted because the uninterpretable nature of the 10 factor solution. Using 10 factors resulted in a loss of simple structure in the factor matrix. An eight factor solution was imposed and is reported in Table 6. Using the principle of Harman's one factor test (Podsakoff and Organ, 1980), the post-hoc factor analysis indicated that common method
variance did not pose as a major threat to the survey instrument since no single factor emerged from the analysis. However, two items (Item 14 and Item 20) on the Communication scale cross-loaded on the factors of Communication Frequency and Effectiveness. The items were designed to assess the general communication skills of the participants and their co-workers, and perhaps the items did not tap the construct of frequency nor effectiveness since the items were ambiguous in nature. However, these two questions remained to be under the main construct of communication.

The Hypothesized Models

Using EQS, relationships were examined among six variables: ethnicity, accent, communication, work value, performance rating, and job satisfaction. Generalized Least Squares Test (GLS) was performed on the five models. GLS, rather than Maximum Likelihood, was chosen because of the it is a slightly better analysis when the sample size is less than 500 (Tabachnick & Fidell, 1996). All of the paths in the five models were statistically significant. For Models 1, 2, 3, and 5, the GLS normal distribution analysis indicated that all parameter estimates appear in order, and no special problems were encountered during optimization; but in Model 4, one of the parameter (E3, E3) was constrained at the lower bound. Table 7 illustrates the goodness of fit summary for the five models. Wald Tests (see Table 8) and Lagrange Multiplier Test (see Table 9) were conducted, and
the results for each of the model are discussed below.

**Model 1** (see Figure 6) Results from EQS analysis showed that Model 1 fit the data very well. The observed $\chi^2$ was 9.800 ($p = .36688$). The Bentler-Bonett normed fitting index (NFI), Bentler-Bonett non-normed (NNFI), and the comparative fit index (CFI) were .897, .983, and .990, respectively. The Wald Test suggested that none of the free parameter should dropped. The Lagrangian Multiplier (LM) Test suggested adding three univariate Lagrange multipliers; however, none of these were statistically significant. Because the univariate multipliers were insignificant, EQS did not perform the multivariate multiplier test. The proportion of variance accounted for by this model was 53%. Ethnicity, as hypothesized, had direct impacts on both Verbal Accent (standardized coefficient = .202) and Work Values (standardized coefficient = .127). As the level of Verbal Accent increased, communication effectiveness decreased (standardized coefficient = -.468). However, collective individuals tended to be more effective communicators than individualists; the more collective an individual is, the greater the communication frequency and effectiveness (standardized coefficient = .219). Communication directly affected the Performance Rating or the work effectiveness of the participants (standardized coefficient = .405). And finally, the higher the Performance Rating, the higher the Job Satisfaction (standardized coefficient = .210).
Model 2 (see Figure 7) Model 2 was very similar to Model 1 in structural and causal paths. The only path difference between these two models was the hypothesized direct link between Ethnicity and Performance Rating which was present in Model 2 but not in Model 1. NFI, NNFI, and CFI for Model 2 were .908, .981, and .990, respectively. LM Test for adding parameter two additional paths, once again, the addition were not significant ($\chi^2 = .670$ and .367, $p = .413$ and .545). The additional path between Ethnicity and Performance Rating yielded a relatively low standardized coefficient (-.059). Because the coefficient was low and the Wald Test suggested dropping this parameter, The path coefficient failed to reach statistical significant ($\chi^2 = 1.018$, $p = .313$).

Model 3 Model 3, which suggested that Ethnicity caused the differences in Performance Rating but was not predictive of Verbal Accent and Work Value, was not supported ($\chi^2 = 20.684$, $p=.02341$). The recommended parameter for adding in Wald Test and for dropping in LM Test were all statistically insignificant except the parameter for Ethnicity and Verbal Accent in LMT ($\chi^2 = 7.844$, $p = .005$). However, with this addition, the model would closely resemble Model 2 in structural paths. Furthermore, the fit indices were inferior to those in Model 1 and Model 2 (CFI = .867, NFI = .783, and NNFI = .783).
**Model 4** Model 4 can be rejected on four bases. First, at the initial analysis of this model, one parameter in which the Generalized Least Square Test was conducted was constrained at the lower bound. According to Bentler (1993), test results might not be appropriate for analysis when out of range estimates are found. Second, the Chi-square value was 27.307 ($p = .001$). Third, the comparative, NFI, and NNFI were lower than other models. Finally, the results from the LM Test showed that two parameter should be added to the path model, Work Values to Communication ($p = .000$) and Ethnicity to Work Values ($p = .034$).

**Model 5** Model 5 had the same paths predictions of Model 1, except that Model 5 hypothesized that there would not be a relationship between Ethnicity and Work Values. GLS Test indicated that the $\chi^2$ was 13.543 ($p=.19488$). The NFI and NNFI were shown in Table 7, and CFI was .956. One parameter was marginally rejected for addition ($\chi^2 = 3.695, p = .055$) in the LM Test. This suggested parameter was the path between Ethnicity and Work Values. If this addition was significant, Model 5 will become identical to Model 1.

**Significant Models** Although the goodness of fit summary indicated that Model 1, Model 2, and Model 5, fitted the data, Model 1 was concluded to be the best fitting model among the three. Since Model 1 was the original model, Model 2 and Model 5 were modifications or extensions of the
original model. The comparative, Bentler-Bonett Normed and Non-normed fit index for the three models showed similar results, thus, the method to distinguish the three models was based on the Wald and the LM Tests. For Model 2, there were no suggested parameter for modification. For Model 5, the LM Test marginally rejected the parameter of Ethnicity and Work Values for addition. Based on this premise, Model 5 could be concluded to have an inferior fit than Model 1.
DISCUSSION

This study was designed to identify the sources, both performance-related and non-performance relevant physical characteristics of individuals that affect the organizational experiences and outcomes of the members in work groups. The study provided statistical evidence for some of the hypothesized causal models. First, evidence did support the notion that ethnicity can be a valid predictor of verbal accent and work values. Second, consistent with Dew and Ward’s (1993) findings, verbal accent, work values, and communication frequency were linked to performance effectiveness. The more individualistic and the greater the level of verbal accent that an individual had, the lower the communication frequency with co-workers and the less effective the communication would be. Without frequent and effective communication, individuals could not share common experience or have frequent contacts with their co-workers and supervisors (Dipboye, 1985, Watson et al., 1993, and Tsui & Barry, 1986). Individuals who had infrequent and ineffective communication with their co-workers may be perceived or might perceive themselves as having lower job performance. However, one of the potential sources for such perception of ineffectiveness and unproductivity could be that effective communication might be a key component in job performance, and the lower performance evaluation (both supervisory and self ratings) may be reflective of actual
performance on the job (as indicated in Model 1). The final path of the model, that performance evaluation had a positive effect on job satisfaction, was confirmed. The level of job satisfaction was partly contingent upon the performance evaluation of the individual.

Rejected Models

Many criteria were examined and considered in determining which one of the five models had the best fit to the data. Model 3 and Model 4 were rejected simply because many of the hypothesized paths did not fit in the models. In Model 3, ethnicity was hypothesized not to be related to verbal accent and work values. The reason behind these hypotheses was that second generation immigrants or native-born minorities might identify themselves with their racial ancestry but not necessary possess verbal accents nor the values of their native culture. The result of the study indicated that ethnicity and verbal accent correlated with each other and this path should be included in the model. There were two possible explanation for the disconfirming result. First, even though individuals were native-born and had English as their primary language, individuals might still possess accents due to the variation in region and sub-cultural dialects (e. g., Southern accents and dialects). Second, the sample of this study might not have enough participants who fit the criterion as being second generation immigrants. To fully understand the relationship between
ethnicity, verbal accent, and work values, the sample of the study had to be controlled and the participant requirement should be narrowed.

In Model 4, two parameter were suggested for addition: Work Values to Communication, and Ethnicity to Work Values. Work value (collectivism vs. individualism) appeared to have significant impact on how an individual communicates. Individualists tended to be more lenient in self ratings then collectivists, but collectivistic supervisors tended to be harsher raters than individualistic supervisors (Farh et al., 1991). Because the criterion, Performance Rating, was based on the combination of self- and supervisory ratings, without knowing the values held by the supervisor, it was impossible to determine the relationship between work value and performance evaluation (both self- and supervisory ratings). The path between work values and job satisfaction was problematic in measurement. The original hypothesis of Model 4 was that the congruence between individual work values and group/organization norms would promote greater satisfaction. Values and norms were measured by the Moch and Wagner Individualism-Collectivism Scale (1986); however, whether these two variables were additive was unknown. Theoretically, person-organization congruency could be calculated as the absolute value of work value minus the group norm. But to maintain the integrity of this study, results based on this assumption could be misleading. Since the factor, Work
Value, was basically individual work value rather than person-organization congruence, the construct and content validity of the factor was questionable.

**Fitted Models**

Among the fitted models, the final questions of this study was to determine whether Model 1 or Model 2 had the superior fit and which one of the three theories of differential treatment best explain the fitting model. Model 1 had been chosen as the better fitting model for two reasons. Referring back to Figure 6 and Figure 7, the only noticeable difference between the two models was the path of Ethnicity to Performance Rating. The standardized solution indicated that regression equation for Performance Rating was:

\[ V5 = 0.402 \times V4 \text{ (Communication)} - 0.059 \times V1 \text{ (Ethnicity)} \]

From the above equation, Ethnicity could be seen as having a very weak and statistically insignificant contribution (standardized coefficient = -0.059, \( z = -1.009 \)) to the prediction of Performance Rating. The second reason for selecting Model 1 over Model 2 as a better fitting model was Model 1 had less parameter (6 vs. 7) and greater degrees of freedom (9 vs. 8) than Model 2. If less parameter were needed to achieve equivalent fit, the simplicity of Model 1 was preferred over Model 2.
Lastly, how can the three theories of differential treatment be used to explain the fitted models? The stereotype-fit model and attribution theory describe how rating biases in the performance evaluation process occur. These two theories are often used to illustrate racial and other non-job-related discrimination in organizations. Since the Ethnicity to Performance Rating path in Model 2 was not established, the theories appeared to have limited application in the model. However, the results of Model 1 indicated that attribution-theory provided an essential link between the causal paths. Linguistic and attitudinal similarity did affect the similarity in communication styles and strategies. These similarities directly and indirectly were translated into greater productivity and higher performance ratings. Thus, similarity-attraction paradigm provided the theoretical foundation for differences in organizational experiences and outcomes.

Implications

One of the objectives of this study was to determine whether ethnicity had a direct impact on the performance evaluations. The results of this study had shown that communication, rather than ethnicity, had a direct effect on an individual’s performance rating. This study has two major implications. First, the findings of the study may be useful in selection and training procedures. In organizations or job fields where frequent and effective communication are
required, work values may act as indicators of communication styles. If future work attitudes are accurately assessed during the screening procedures, individuals who do not fit the organization’s demands (e.g., willingness to work overtime, sacrificing self-interests, and being a team-player) can be identified and trained accordingly. Incongruency between organizational demands and individual expectation can lead to poor performance, low job satisfaction, and subsequently, high turn-over rate. Such interest conflicts may be reduced if realistic preview and requirement of the job are given to the applicants prior to their acceptance of the job. Furthermore, organizations must give employees sufficient times to adjust and adopt the organization’s norms. Changes in work values and attitudes do not occur immediately after employment. With socialization and more common experience, internalization of group norms and expectations will take place.

The second application of this study is to promote fair treatment and greater job performance of employees. To enhance job performance and fairness in evaluations, effective and frequent communication must be achieved. Although verbal accent may lead to poor communication, effectiveness of communication should not be solely attributed to accents. Frequent communication (being more collectivistic) may mediate the negative effects of verbal accents. As Lippi (1994) has argued, the burden of
communication is shared by both participants. Verbal accents may not necessarily impede communication. The source of communication problems may partly be caused by accents; however, the negative subjective evaluation on the part of the listener may pose as an even greater threat to the process. Thus, with repeated exposure, most accents can be comprehended and overcome. The bottom line in dealing with individuals or employees with accents is to give these individuals a fair opportunity to perform and succeed before judgments on their performance are made. To increase its performance, the goal of a group or an organization should be to promote better communication flows and processes, not to eliminate verbal accent of its members. As long as adequate accommodation and effort are made by both the speaker and the listener, such goal will not be difficult to accomplish. Limitations

Due to the time and resource constraints, the study was limited in many ways. First, the sample of the study was university students rather than actual organization employees. The generalizability of student samples or laboratory studies is limited because supervisors, compared to student raters, had more training and greater knowledge of both the job and the ratees (Mobley, 1982). Furthermore, although self-reports and self-rating had been shown to have moderate validity (Gilger, 1992), self-rating and retrospective recalls may still be affected by some biases.
such as self-serving or over-attribution (Ohbuchi & Takahashi, 1994). Thus, self-reports and retrospective recalls still cannot replace actual performance records of the individual. Since it was impossible to obtain the actual supervisory performance ratings and past job evaluations, self-reports and ratings were left as the only source of performance measure. If the measures of job performance and verbal accent can be obtained from a different rating source other than from the participants themselves, the validity and the generalizability of this study can be greatly improved. Further research using different methods is necessary to establish the generalizability of this study. To maintain the simplicity of this study, the number of variables and factors examined were limited. Other possible factors that are not included in this study may potentially have equal, if not greater, effect on the organizational outcomes.
CONCLUSION

Three of the five proposed structural path model came out significant in the study (Model 1, 2, and 5). Among the three models, Model 1 appeared to have the best fit to the data. Based on the results of the study, causal associations among the major variables (ethnicity, verbal accent, work values, communication, performance ratings, and satisfaction) were determined. One of the main objectives of the study was to determine the sources which caused the difference in organizational experiences and outcome. Although most studies (e.g., Greenhaus et al, 1990, and Kraiger & Ford, 1985) hypothesized and found ethnicity to have an impact on performance evaluation, such findings were not confirmed in this study. Ethnicity was found to have only indirect links to performance ratings. The final question to be addressed in this study is, "Are homogeneous work groups better than heterogeneous work groups?" Results of this study did provide evidence that higher job performance would be obtained with greater verbal and attitudinal similarities. But the study failed to support the notion that racial homogeneity in work groups would enhance job performance. In other words, characteristics that promote better communication will enhance job performance as well. Lastly, the study and its results were limited by its measurement and sampling methods. Additional research is needed before the findings can be generalized.
Appendix A

Information Sheet

1. What is your ethnicity (race)? Circle one.
   Caucasian  African American  Hispanic  Asian American
   American Indian  Bi-Racial  Other

2. Approximately how diverse is the ethnic composition of your work group? Check one.
   ____ More than 75% non-Caucasian
   ____ 75% to 50% non-Caucasian
   ____ 50% non-Caucasian
   ____ 25% to 50% non-Caucasian
   ____ Less than 25% non-Caucasian

3. Based on the ethnic composition of your work group, are you a member of the ethnic majority or minority in your work group? Check one.
   ____ Majority  (More than half of the workers in your group/organization is the same ethnicity as you)
   ____ Minority  (Less than half of the workers in your group/organization is the same ethnicity as you)

4. The controlling power of your group/organization is predominantly _______. Circle one.
   Caucasian  African American  Hispanic  Asian American
   American Indian  Bi-Racial  Other

5. How many people are in your work group? ____

50
Appendix B

Accent Questionnaire

6. What is the language you speak most of the time during work? _______________________

Question 7-12 refer to the language indicated in Question 6.

7. Is the language you speak at work your native (first) language? Check one. ___ Yes ___ No

8. How do you describe the level of accent you have in this language?

(1) No accent (2) Very Light (3) Light (4) Moderate
(5) Heavy (6) Very Heavy (7) Extremely Heavy

9. How often do people tell you that you have a verbal accent in this language?

(1) Never (2) Very Infrequently (3) Infrequently (4) Sometimes
(5) Often (6) Very Often (7) All the Time

10. How often do you find it difficult to pronounce some of the words in this language?

(1) Never (2) Very Infrequently (3) Infrequently (4) Sometimes
(5) Often (6) Very Often (7) All the Time

11. How often do you mis-pronounce words in this language?

(1) Never (2) Very Infrequently (3) Infrequently (4) Sometimes
(5) Often (6) Very Often (7) All the Time

12. How would you rate your pronunciation in this language?

(1) Very Accurate (2) Accurate (3) Somewhat Accurate (4) Average
(5) Slightly Accented (6) Moderately Accented (7) Heavily Accented
Appendix C

Individualism-Collectivism Scale*

Sometimes it may be best when people make personal sacrifices for the sake of the work group. Other times it may be best when people concentrate on their own interests and concerns.

How much do you agree or disagree with each of the following statements about these sorts of things?

1 = Disagree strongly, 2 = Disagree, 3 = Disagree, slightly, 4 = Neutral, 5 = Agree slightly, 6 = Agree, 7 = Agree strongly

35. ___ I prefer to work with others in my work group rather than to work alone.

36. ___ Given the choice, I would rather do a job where I can work alone rather than do a job where I have to work with others in my work group.

37. ___ I like it when members of my work group do things on their own, rather than working with others all the time.

38. ___ My work group is more productive when its members do what they want to do rather than what the group wants them to do.

39. ___ My work group is most efficient when its members do what they think is best, rather than what the group wants them to do.

40. ___ My work group is more productive when its members follow their own interests and concerns.

41. ___ People in my work group should be willing to make sacrifices for the sake of the work group (such as working late now and then; going out of their way to help, etc.)

42. ___ People in my work group should realize that they sometimes are going to have to make sacrifices for the sake of the work group as a whole.

43. ___ People in my work group should recognize that they are not always going to get what they want.
44. People should be made aware that if they are going to be part of the work group, they are sometimes going to have to do things they don't want to do.

45. People in my work group should do their best to cooperate with each other instead of trying to work things out on their own.

* Adapted from Wagner & Moch (1986)
Appendix D

Communication Questionnaire

13. I ________ talk to my co-workers.

(1) Never (5) Often
(2) Very Infrequently (6) Very Often
(3) Infrequently (7) All the Time
(4) Sometimes

14. My communication skill _____________.

(1) Needs Improvement (5) Above Satisfactory
(2) Needs Some Improvement (6) Is Effective
(3) Somewhat Satisfactory (7) Is Very Effective
(4) Is Satisfactory

15. I ________ have problems understanding my co-workers verbally.

(1) Never (5) Often
(2) Very Infrequently (6) Very Often
(3) Infrequently (7) All the Time
(4) Sometimes

16. My co-workers ____________ talk to me.

(1) Never (5) Often
(2) Very Infrequently (6) Very Often
(3) Infrequently (7) All the Time
(4) Sometimes

17. My co-workers ________ have problems understanding me verbally.

(1) Never (5) Often
(2) Very Infrequently (6) Very Often
(3) Infrequently (7) All the Time
(4) Sometimes

18. My co-workers and I ________ have communication breakdowns

(1) Never (5) Often
(2) Very Infrequently (6) Very Often
(3) Infrequently (7) All the Time
(4) Sometimes
19. My co-workers and I ______ misunderstood each other.

(1) Never   (5) Often
(2) Very Infrequently   (6) Very Often
(3) Infrequently   (7) All the Time
(4) Sometimes

20. The communication between me and my co-workers ______.

(1) Needs Improvement   (5) Above Satisfactory
(2) Needs Some Improvement   (6) Is Effective
(3) Somewhat Satisfactory   (7) Is Very Effective
(4) Is Satisfactory
Appendix E

Performance Rating Questionnaire

Questions 21 to 25 refer to the most recent performance evaluation that you receive at your work. If your job performance is not evaluated recently, how do you think your current supervisor is going to rate you.

21. How was the quality of your work rated?

(1) Below Average
(2) Average
(3) Above Average
(4) Good
(5) Very Good
(6) Excellent
(7) Exceptional

22. How was your productivity rated?

(1) Below Average
(2) Average
(3) Above Average
(4) Good
(5) Very Good
(6) Excellent
(7) Exceptional

23. How was your work effectiveness rated?

(1) Below Average
(2) Average
(3) Above Average
(4) Good
(5) Very Good
(6) Excellent
(7) Exceptional

24. How were you ranked in your work group or organization? Check one.

___ Upper 1%
___ Upper 5%
___ Upper 10%
___ Upper 15%
___ Upper 25%
___ Upper 50%
___ Lower 50%

25. Was the person rating you the same ethnicity as yourself? Check one. ___ Yes ___ No
Questions 26 to 29 refer to how would you rate your own work performance.

26. How do you rate the quality of your work?

(1) Below Average  (5) Very Good  
(2) Average  (6) Excellent  
(3) Above Average  (7) Exceptional  
(4) Good

27. How do you rate your own productivity in reference to your peers?

(1) Below Average  (5) Very Good  
(2) Average  (6) Excellent  
(3) Above Average  (7) Exceptional  
(4) Good

28. How effective are you in your work group?

(1) Below Average  (5) Very Good  
(2) Average  (6) Excellent  
(3) Above Average  (7) Exceptional  
(4) Good

29. Based on what you know about others in your group, how would you rank your own work performance in reference to your peers? Check one.

___ Upper 1%
___ Upper 5%
___ Upper 10%
___ Upper 15%
___ Upper 25%
___ Upper 50%
___ Lower 50%
Appendix F

Job Diagnostic Survey*

How much do you agree or disagree with each of the following statements?

1 = Disagree strongly, 2 = Disagree, 3 = Disagree, slightly, 4 = Neutral, 5 = Agree slightly, 6 = Agree, 7 = Agree strongly

30. ___ Generally speaking, I am very satisfied with this job.
31. ___ I frequently think of quitting this job.
32. ___ I am generally satisfied with the kind of work I do in this job.
33. ___ Most people on this job are very satisfied with the job.
34. ___ People on this job often think of quitting.

* Adapted from Hackman & Oldham (1975)
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Note. N=245
*p ≤ .05.
**p ≤ .01.
Table 5

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^Items for verbal/language accent.
^bItems for communication frequency.
^cItems for communication effectiveness.
^dItems for performance ratings.
^eItems from JDS developed by Hackman and Oldham (1975).
^fItems from values scale developed by Wagner and Moch (1986).
^gItems from norms scale developed by Wagner and Moch (1986).
^hItems from norms scale developed by Wagner and Moch (1986).
Table 7

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### Table 9

**Lagrange Multiplier Test**

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<th>Parameter Change</th>
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**Note.** N=245  
*p ≤ .05.*  
**p ≤ .01.*  
* Marginally Rejected.
Figure 1. Causal paths, variables, and error terms which represent the proposed theoretical Model 1. E = Error term.
Figure 2. Causal paths, variables, and error terms which represent the proposed theoretical Model 2. E = Error term.
Figure 3. Causal paths, variables, and error terms which represent the proposed theoretical Model 3. E = Error term.
Figure 4. Causal paths, variables, and error terms which represent the proposed theoretical Model 4. E = Error term.
Figure 5. Causal paths, variables, and error terms which represent the proposed theoretical Model 5. E = Error term.
Figure 6. Resulting path coefficient and error terms from the structural equation path analysis of Model 1.

*Significant standardized coefficient
Figure 7. Resulting path coefficient and error terms from the structural equation path analysis of Model 2.

*Significant standardized coefficient
REFERENCES


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