

EFFECTS OF SUPERVISOR-SUBORDINATE SIMILARITY  
ON PERFORMANCE EVALUATIONS

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A Thesis  
Presented to  
the Faculty of the Department of Psychology  
University of Houston

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In Partial Fulfillment  
of the Requirements for the Degree  
of Master of Arts

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By  
Daniel B. Turban  
December, 1985

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## ABSTRACT

Three models of supervisor-subordinate similarity were identified from the literature: (a) perceived similarity, perceptions of how similar the supervisor/subordinate is; (b) actual similarity, the actual similarity of demographic characteristics of the supervisor and subordinate; and (c) similarity of perceptions, similarity of perceptions about behaviors important in receiving a high merit pay raise. Results supported the idea that these models were conceptually distinct. The models accounted for different sources of variance in subordinate job satisfaction, performance and pay ratings. Perceived similarity provided the strongest relationship with the dependent variables. Results from exploratory analyses questioned the assumption that similarity affects evaluations through a bias. It was concluded that the supervisor-subordinate interaction accounted for variance in performance ratings, and issues for future research were identified.

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## CHAPTER I

### Introduction

Many theoretical articles and empirical studies have focused on factors that affect performance ratings. One area of interest is the manner in which supervisor-subordinate similarity affects ratings of subordinate performance. In their extensive review of the literature on performance ratings, Landy and Farr concluded "Research on the similarity effect and its correlates appears to be a fruitful area for performance rating work" (1980, p.82). The present paper reviews the literature on the similarity of a supervisor and subordinate and the possible influences of such similarity on organizational outcomes such as performance ratings, hiring decisions, and subordinate satisfaction. The research is discussed in terms of three models or types of similarity: (1) the perceived similarity between the evaluator and another person; (2) the similarity of supervisor and subordinate perceptions about aspects of the work environment; (3) the actual or demographic similarity between the members of the dyad. After reviewing research pertaining to each of the models, the paper discusses

underlying mechanisms that may explain the results of such studies. Finally an empirical study is described that tests the viability of some of these proposed mechanisms.

### Perceived Similarity Model

The first model of supervisor-subordinate similarity is labelled perceived similarity because it addresses the degree to which a perception that another person is similar to the evaluator influences the evaluation given to that person. Because extensive research exists for this model and because field studies have not always yielded results consistent with studies that have used experimental manipulation, experimental and field studies are reviewed separately for this model.

Many of the studies which analyzed the relationship between perceived similarity and an evaluation of another person apparently assumed that a similar-to-me bias influences the evaluations. This assumption stems, at least partly, from research done by Byrne and his colleagues (Byrne, 1961; Byrne & Wong, 1962; Byrne, Young, & Griffitt, 1966). Byrne suggested that four main classes of variables affect the attraction between two people: (1) propinquity, (2)



affiliation needs, (3) overt stimulus characteristics, and (4) reciprocal rewards and punishment occurring in the relationship. He argued that perceived similarity of attitudes is a rewarding experience (i.e., a member of the fourth class of variables) because persons in our culture have well-established, learned drives to be logical and to make a correct report of the environment. Thus, "any time that another person offers us validation by indicating that his percepts and concepts are congruent with ours, it constitutes a rewarding interaction and, hence one element in forming a positive relationship" (Byrne, 1961, p.713). In other words, perceived attitude similarity leads to greater attraction which then positively biases the evaluation.

### Experimental Evidence

Many laboratory studies manipulated the amount of similarity between the subject and another individual (usually portrayed through a job application or resume) and measured the resulting effects on decision-making. As an example of such research, Griffitt and Jackson (1970) manipulated similarity between subjects (78 introductory psychology students) and a job applicant using a 24-item attitude questionnaire. This 3 X 2

ANOVA design altered ability (high, medium, or low) and similarity (responses of the applicant were similar either 75% or 25% of the time). Dependent variables included hiring and salary recommendations. Similarity and ability positively affected the hiring decision, while only ability affected the salary recommendation. In terms of the hiring decision, an interaction between similarity and ability was observed where applicants in the medium ability-low similarity condition were given low ratings. Both ability and similarity positively influenced the subject's attraction to the applicant as measured by the Interpersonal Judgment Scale. In turn, attraction was positively related to the hiring and salary recommendations. These authors suggested that the similar-to-me effect occurs because similar individuals are perceived as more attractive by the evaluator.

Further support for this similarity-attraction hypothesis was provided by Golightly, Huffman, and Byrne (1972) who manipulated attitude similarity to determine its affect on the amount of money given to a loan applicant. Subjects (53 graduate students enrolled in a finance course) responded to an 8-item attitude questionnaire. The subjects were asked to make loan decisions based on an actual loan application

and responses to the same 8-item attitude questionnaire. The latter information consisted of either randomly generated responses or a mirror image of the random generated responses. The sample was divided into five groups based upon the proportion of items marked on the same side of the neutral point by the subject and the applicant. The dependent measures consisted of the magnitude of the approved loan and the degree of rated attraction as measured by the Interpersonal Judgment Scale. Results from ANOVA indicated that similarity affected both dependent measures. Further analyses indicated that attitude similarity was correlated with both the degree of attraction ( $r = .58$ ) and magnitude of the approved loan ( $r = .43$ ). The relationship between the dependent measures was also significant ( $r = .38$ ).

Still further support for the similarity-attraction hypothesis was provided by a study investigating the influences of temporal placement of unfavorable information and attitude similarity on personnel selection decisions (Peters & Terborg, 1975). Male undergraduate students ( $N = 94$ ) read applications that consisted of eight statements about the job applicant's qualifications and eight items, on six-point scales, reflecting attitudes about

nonjob-related topics. The 2 X 2 ANOVA design manipulated placement of information (unfavorable information early or favorable information early) and attitude similarity (responses highly similar to responses of the large sample of subject's attitudes or a mirror image of the above profile). Dependent variables were the hiring decision, the starting salary (only if person was hired), a measure of attraction from the Interpersonal Judgment Scale and ratings of the applicant's ability to learn the job and get along with coworkers. Attitude similarity positively affected all the dependent variables except for rated ability to learn the job. The temporal placement of information also affected the hiring decision and the ratings of the applicant's ability to get along with coworkers but was not related to the other dependent measures.

In a second study involving 68 business students, Peters and Terborg (1975) presented more accurate information about the job requirements in order to determine whether such information would reduce the previously found biasing effects of the two independent variables. Although temporal placement of the information did not affect any dependent variable when accurate information about job requirements was

presented, attitude similarity still positively affected all the dependent variables except the salary recommendation.

In an experiment with a different twist, Smith, Meadows, and Sisk (1970) investigated the relationship among perceived attitude similarity, attraction and performance evaluations. Male college students ( $N = 44$ ) answered a questionnaire reflecting attitudes toward 12 issues. Subjects were assigned randomly to either a low attitude similarity condition (a stranger's responses showed agreement on 2 of the 12 issues), or a high attitude similarity condition (agreement on 10 of the 12 issues). After viewing the stranger's responses, subjects completed a measure of attraction derived from the Interpersonal Judgment Scale. The subjects then viewed through a one-way mirror the stranger's (confederate's) programmed responses to a verbal-learning task. After observing the stranger in the learning task, the subjects again completed the Interpersonal Judgment Scale and evaluated how well the stranger performed on the task. Analysis of variance indicated that attitude similarity positively influenced attraction in the pre and post-observation ratings. Both attitude similarity and attraction resulted in higher performance ratings even

though subjects were exposed to the same task performance.

Baskett (1973), however, studied the effects of competency and perceived similarity of attitudes on hiring and salary recommendations and found only marginal support for the similar-to-me effect. Subjects (51 college students) answered a 53-item attitude questionnaire using a 7-point scale. The degree of similarity of a fictitious resume was manipulated by creating scores on these 53 items. Similar scores were created by marking answers that were on the same side of the neutral point and within one point of the subject's response, or at the neutral point if that is what the subject marked. Dissimilar scores were created by marking answers that were on the opposite side of the neutral point and 4 points from the subject's response, or if the subjects marked the neutral point an extreme anchor of the scale was chosen randomly as the manipulated response. Using resumes, the experimenter manipulated both competency (3 levels) and attitude similarity (20% or 80% similar). Results, from a 3 X 2 ANOVA, indicated that attitude similarity did not influence the final job recommendation ( $p < .10$ ) but did influence the salary recommendation in a positive direction. Competency affected positively

both the job recommendation and salary. Thus, in this study, perceived competency seemed more important than similarity.

All of the foregoing studies manipulated the perceived similarity of attitudes between a subject and an applicant. However two studies manipulated the perceived similarity of biographical background between a subject and a job applicant. The first study analyzed the effects of racial prejudice, race of applicant, and biographical similarity on an interviewer's evaluation of the applicant (Wexley & Nemeroff, 1974). Subjects (120 white undergraduate students) read a constructed resume that included six job-related items plus six White or Black stereotypic statements about the wife's education, number of children, father's occupation, mother's occupation, number of brothers and sisters, and the former military rank. The dependent variable was a 25-point Hiring Recommendation Scale. Results from ANOVA indicated that greater perceived similarity of biographical background resulted in a more positive evaluation of the job applicant regardless of the prejudice level of the interviewer or the race of the applicant.

Rand and Wexley (1975) used a similar methodology with 160 white undergraduate students, although the

subjects saw a videotaped interview instead of reading a resume. The same six Black and White stereotypic statements manipulated perceived biographical similarity. ANOVA and eta squared indicated that biographical similarity accounted for a significant amount of variance in the Hiring Recommendation Scale and in five of the six subscales of the Interpersonal Judgment Scale. This effect was consistent regardless of the applicant's race or the subject's racial prejudice and affiliation need.

Although the previous two studies did not find any variables that moderated the similar-to-me effect, Leonard (1975, 1976) reported that the rater's self-concept and cognitive complexity moderated the effects of similarity on attraction and evaluation in simulated interviews. Similarity was manipulated by having psychology students interview candidates (confederates) who were either similar or dissimilar in attitudes and demographics. Leonard (1975) used a 2 X 2 ANOVA design (similar or dissimilar and favorable or unfavorable self-concept) and found that persons with unfavorable self-concepts did not prefer similar others whereas persons with favorable self-concepts preferred similar others and rejected dissimilar others. Leonard (1976) also used a 2 X 2 ANOVA design (similar or



dissimilar and high or low cognitive complexity) and found that cognitively complex judges perceived similarity/dissimilarity in others and evaluated the dissimilar candidate the most negatively, whereas the cognitively simple judges did not distinguish between low or high similarity and evaluated the candidates the same.

All the above studies used students as subjects and manipulated similarity between the subject and the person who was evaluated. Although slightly different experimental procedures were used (job applications, resumes, loan applications, videotaped interviews, actual performance) the results were relatively consistent. The greater the similarity between the subject and the ratee, the more positive the rating. Attitude similarity was related to attraction and attraction affected the evaluating (Baskett, 1973; Griffitt & Jackson, 1970; Golightly et al., 1972; Smith et al., 1970).

The studies that looked at moderating effects of the perceived similarity relationship found that the relationship held regardless of race of applicant, or the racial prejudice or affiliation needs of the subject (Wexley & Nemeroff, 1974; Rand & Wexley, 1975). The rater's self-concept and cognitive

complexity moderated the relationship, however (Leonard, 1975, 1976). There were inconsistent results concerning the effect of attitude similarity on salary recommendations. Baskett (1973) found a relationship between attitude similarity and salary recommendation. Griffitt and Jackson (1970) found no relationship between attitude similarity and salary, but attraction influenced the salary recommendation. Peters and Terborg (1975) found that attitude similarity affected the salary recommendation in the first experiment, but not in the second experiment when more accurate information about the job requirements was provided. Although there may be moderating variables, it appears that experimentally manipulated attitude similarity affects ratings of another person, whereas the effect on salary recommendations is unclear.

#### Correlational Evidence

The studies discussed so far used college students and manipulated perceived similarity between the subject and another person. At least four studies measured similarity between the subject and another person in a field setting. For example, Sydiaha (1962) used eight Canadian Army Regular Force Personnel as interviewers and analyzed the effect of three sets of

difference scores on the accept-reject decision given to each applicant. Each interviewer conducted between 14 and 50 interviews for a total of 254 interviews. The three sets of difference scores were created from the applicant's and interviewer's responses to an Introversion-Extraversion questionnaire (44 items) and a 140-item Semantic Differential questionnaire that consisted of 10 scales each applied to 14 concepts. After each interview, the applicant completed both questionnaires. At the same time the interviewer predicted the applicant's responses to the questionnaires. Upon completion of all the interviews, the eight interviewers themselves completed both questionnaires. Three sets of difference scores were created to reflect: (1) Accuracy--the difference between the applicant's responses and the interviewer's predictions; (2) Assumed Similarity--the difference between the interviewer's predictions and the interviewer's self-description; and (3) Similarity--the difference between the applicant's and interviewer's actual responses. Correlational analyses indicated that although the difference scores accounted for some of the decision variance, results were inconsistent across interviewers. The differences scores that were related to the decision criterion differed across

interviewers. For some of the interviewers Accuracy was significantly related to the decision criterion, for other interviewers Similarity, for other interviewers Assumed Similarity, and for still other interviewers none of the difference scores accounted for any of the decision variance. These results suggest that individual differences moderate the relationship between the measures of similarity and the accept-reject decision.

Frank and Hackman (1975) also found that individual differences moderated the relationship between similarity and the evaluation of another person. These authors examined the effect of interviewer-interviewee similarity on liking for the applicant and bias for or against the applicant. Subjects were three college admission officers who each interviewed 29 applicants. Similarity between the interviewer and the applicant was based on 10 characteristics: sex, socioeconomic level of home environment, urban vs. rural vs. suburban home environment, type of secondary school, interest in intellectual pursuits, interest in working hard, and involvement in artistic activities, athletic activities, in-school organizations, and outside-school service activities. The applicant's standing on these

10 characteristics was assessed by examining the admissions application and by subjective judgments of the researcher. Researchers interviewed the admissions officers and then assigned them scores on the same 10 characteristics. These characteristics were standardized to ensure that all would be weighted equally as components of a summary measure. Similarity was operationalized as a D-score which reflected the overall similarity between the applicant and the admission officer. For one interviewer correlational analyses indicated a positive relationship between similarity and both dependent measures. For another interviewer the only significant positive relationship was with similarity and bias toward the applicant. The third interviewer did not yield a significant relationship between similarity and either dependent variable. Frank and Hackman (1975) suggested that the strength of personal needs may explain the individual differences in the relationship between similarity and the dependent variables.

A third study that found individual differences investigated the relative effect of perceived similarity of the applicant to (a) the ideal employee or (b) to the interviewer (Dalessio & Imada, 1984). This study involved five interviewers employed by a

university sponsored information service. The five interviewers interviewed thirty-seven job applicants in a structured board interview. After each interview, the interviewers rated the applicant on seven college majors, ten personality traits, eleven interests, and six preferences. The ratings were made using a nine-point scale ranging from "very unlikely this person would like this or is like this" to "very likely this person would like this or is like this". Three weeks after completion of the interviews, the interviewers rated themselves and the "ideal" incumbent using the same instrument. Similarity was operationalized in the form of correlations between (1) the applicant's ratings and the ideal employee's ratings (ideal-applicant match) and (2) the applicant's rating and the self ratings (self-applicant match). The correlations (ideal and self) were transformed to Z-scores which were then correlated with the final desirability rating of the person for the job. These analyses indicated a significant relationship between the ideal-applicant match and the final decision for all five of the interviewers, and a significant relationship between the self-applicant match and the final decision for three of the five interviewers. T-tests indicated that the correlation of the

ideal-applicant match with the final decision was higher than the correlation of the self-applicant match with the final decision for four of the five interviewers. Because there was a non-significant relationship between the final decision and the self-applicant match for the supervisor, Dalessio and Imada suggested that the "similar-to-me" effect is more effective in predicting job decisions by peers than by supervisors. They concluded that further research should investigate whether organizational level moderates the effects of similarity on evaluations.

The foregoing studies measured similarity between interviewers and interviewees. Pulakos and Wexley (1983) investigated the effects of perceived similarity between a supervisor and a subordinate on performance appraisal ratings. Both supervisors and subordinates responded to a single item that asked whether the subordinate/supervisor "and I are similar kinds of people." The item was embedded within a larger questionnaire. Supervisors assessed subordinate's performance with the Minnesota Satisfactoriness Scales (MSS) and subordinates evaluated their supervisor's performance with Behavioral Observation Scales (BOS). Subordinates and supervisors were trichotomized into perceived similar, perceived dissimilar, or unsure

groups. The unsure group was dropped from the analysis. Results from MANOVA indicated significant main effects on the BOS for both manager perceived similarity to the subordinate and subordinate perceived similarity to the manager. Managers who were perceived by subordinates as being similar to themselves were given a higher performance rating. Managers who perceived subordinates as being similar to themselves were also given higher performance ratings. Results for the MSS indicated a significant effect for the manager's perceived similarity to the subordinate. Managers who perceived subordinates as being similar to themselves gave those subordinates higher performance ratings.

In sum, the results from the field studies that measured similarity suggest the "similar-to-me" effect might not be as robust as suggested by the laboratory experiments and may be more subject to individual differences among evaluators. Although the studies by Sydiaha (1962), Frank and Hackman (1975), and Dalessio and Imada (1984) had a small number of evaluators (eight, three and five respectively), these studies found that perceived similarity influenced some evaluators but not others. No empirical evidence was provided, but it was suggested that organizational



level (Dalessio & Imada, 1984) and evaluator needs (Frank & Hackman, 1975) moderate the similar-to-me effect. Only Pulakos and Wexley (1983) asked directly how similar the other person was to the evaluator. However, this direct measure of similarity significantly affected the performance ratings given.

One explanation for why the results from the laboratory experiments are so robust is that not only was similarity manipulated, but social acceptability was also manipulated. Subjects probably responded to the attitude items with socially acceptable responses. Thus, when attitude similarity was manipulated, the experimenter also manipulated information about the applicant. Specifically, information was manipulated about how socially acceptable the applicant's attitudes were. Thus, there are two possible explanations for the results: (1) the perceived similarity of the candidate affected the ratings; or (2) the information presented about the candidate's attitudes differs in the degree of desirability for a job candidate and thus affected the ratings.

The field studies that measured similarity or asked directly how similar the other person was did not manipulate social acceptability of the evaluatee. The studies that measured similarity found that similarity

did not affect the evaluators the same. The one study that directly asked how similar the other person was found that this measure of similarity affected the ratings. However, these results did not provide information about whether the effect was consistent across the evaluators. Thus, although it appears that perceived similarity affects evaluations of another person, there remain some areas of uncertainty. Specifically, it is unclear whether the similar-to-me relationship is equally important for all evaluators or whether individual differences moderate this relationship. It is also unclear whether such results can be replicated with actual supervisor-subordinate dyads who have interacted over an extended time period. Research is needed to verify that the similar-to-me effect occurs in performance ratings of employees who have interacted over an extended period of time and to investigate further the individual factors that alter the similar-to-me effect.

#### Similarity of Perceptions--Perceptual Congruence Model

The second model of similarity was named the perceptual congruence model because it addresses the similarity of the perceptions held by a supervisor and subordinate. Generally the studies reviewed for this

model were correlational field studies. Measures of similarity included work-related attitudes, communication behaviors, and the requirements of the subordinate's role. Dependent variables included subordinate job satisfaction and the supervisor's evaluation of the subordinate's performance.

As an example of such research, Wexley, Alexander, Greenwalt, and Couch (1980) investigated the effects of perceptions about another person's attitudes on satisfaction and performance evaluation. The subjects (194 students who worked part-time and their managers) responded to semantic differential scales describing themselves and their manager/subordinate by checking the appropriate rating position. Subordinates also filled out the Minnesota Satisfaction Questionnaires-Short Form and the Job Description Index. Managers evaluated subordinates' performance with the Minnesota Satisfactoriness Scale. These four semantic differential scales created three measures of similarity using the generalized euclidean distance measure: (1) subordinate perceptual congruence (SPC)--the difference between the subordinate's description of the manager and the manager's self-description; (2) manager perceptual congruence (MPC)--the difference between the manager's description

of the subordinate and the subordinate's self-description; and (3) actual similarity--the difference between the self-descriptions of the manager and the subordinate. Correlational analyses indicated SPC was positively related to subordinate job satisfaction and MPC was positively related to the manager's evaluation of the subordinate's performance. Actual similarity was not related to either dependent variable.

In a similar study, Wexley and Pulakos (1983) analyzed the effects of sexual composition of the dyad and subordinate perceptual congruence (the extent to which subordinates accurately perceived their manager's work-related attitudes) on subordinates' appraisals of their manager's performance. Subjects were 572 managers and subordinates who comprised 286 dyads. Work-related attitudes were measured with semantic differential scales that tapped the concepts of responsibility and loyalty. Subordinate perceptual congruence was operationalized as the generalized euclidean distance measure based on absolute difference scores between the manager's self-description and the subordinate's description of the manager. This measure was positively correlated with the subordinate's performance appraisal of their managers. The sex of

the manager and/or the subordinate was not related to either SPC or the performance appraisal measure.

The above studies measured perceptual congruence about attitudes. Hatfield and Huseman (1982) measured perceptual congruence about communication behaviors. Subjects were 1,059 subordinates and 181 supervisors who responded to a 14-item questionnaire concerning the frequency of communication behaviors in the dyad. Perceptual congruence was calculated as the square root of the sum of the squared absolute differences for each item and was positively correlated with the subordinate's job satisfaction.

Other studies investigated the effects of perceptual congruence about the demands of the subordinate's role. For example, Bernardin (1979) asked patrol officers and their sergeants to rate the effectiveness of 45 critical incidents on an 11-point graphic rating scale. Similarity was operationalized as the sum of the squared differences between the patrol officer's and the sergeant's rating for each of the 45 critical incidents. Correlational analyses indicated that the resulting similarity score was positively related to the sergeant's rating of the patrol officer's performance, positively related to the patrol officer's satisfaction with work and

supervision, and negatively related to role ambiguity.

Greene (1972) studied the relationship between perceptual congruence of the subordinate's role and the supervisor's performance rating of the subordinate and the subordinate's satisfaction. Subordinates and managers ( $N = 142$  dyads) responded to a questionnaire addressing 34 work activities. Subordinates indicated, on a 5-point scale, how frequently their manager expected them to perform each activity and how frequently they did, in fact, perform the activity. Managers indicated how frequently they expected the subordinate to perform each activity and also evaluated the subordinate's performance, on a 7-point scale, for each activity. Role accuracy was operationalized as the sum of differences between the supervisor's and subordinate's responses to how frequently each activity was to be performed. Role compliance was the sum of the differences between the subordinate's responses of how frequently s/he actually performed each activity and how frequently the manager expected each activity to be performed. (Because these measures are difference scores, lower scores reflect greater accuracy and compliance, respectively.) These difference score measures of compliance and accuracy were negatively correlated with the subordinate's job

satisfaction and the rating of the subordinate's performance thus indicating the existence of a positive relationship. Compliance yielded significantly stronger relationships than accuracy with both dependent measures. Greene and Organ (1973) evaluated different causal models that could explain the relationships among these variables. The model with the best fit suggested that role accuracy was a prerequisite for role compliance. Compliance led directly to both performance evaluation and satisfaction and performance evaluation led to satisfaction. Although they had no data to test this model, they suggested that satisfaction was not brought about directly by compliance and performance evaluation, but instead that rewards mediated between both compliance and satisfaction and between performance evaluation and satisfaction.

In general, the foregoing studies suggest that the more congruent a supervisor's and subordinate's perceptions of the work environment, the greater the subordinate's satisfaction and the greater the performance rating given by the supervisor to the subordinate. Aspects of the work environment analyzed for congruency included the subordinate's role in terms of how frequently an activity should be performed

(Greene, 1972) and how effective an incident was (Bernardin, 1979), the frequency of communication behaviors occurring in the dyad (Hatfield and Huseman, 1982), and the perceptions of another person's work-related attitudes (Wexley et al., 1980; Wexley and Pulakos, 1983).

In general, the explanation for the results from the perceived similarity studies was that a similar-to-me bias positively influenced the evaluation. However, the results from the perceptual congruence studies were explained by assuming that either a bias influenced the evaluation or that subordinates exhibited different behaviors as a result of congruent perceptions of the environment. For example, Wexley and his associates explained the results from their studies by stating that congruently perceiving an aspect of the environment is a rewarding experience (Wexley et al., 1980; Wexley & Pulakos, 1983). This explanation seems to be the same as is given for the perceived similarity studies. In addition, they suggested that perceiving a supervisor's attitudes congruently allows a subordinate to reduce uncertainty and ambiguity and thus better anticipate the supervisor's future behaviors (Wexley et al., 1980). This explanation suggests a behavioral



mechanism whereby knowledge of how another person perceives the environment allows the subordinate to anticipate what will be appreciated and rewarded by the supervisor and then behave accordingly.

The studies by Greene (1972) and Bernardin (1979) also supported a behavioral explanation of the influences of similarity of perceptions on performance evaluations. Both studies analyzed the perceptual congruence of subordinate role behaviors. Bernardin (1979) found that similarity was negatively related to a measure of subordinate role ambiguity and positively related to subordinate performance. Greene and Organ (1973) found that similarity of perceptions of how frequently a subordinate should perform an activity led to role compliance and then directly to an evaluation of performance. Such results suggest that knowledge of the supervisor's perceptions about the subordinate's job leads to reduced role ambiguity and an opportunity to focus energy on the behaviors and activities that the supervisor perceives as important. Thus, accurate perceptions of how a supervisor perceives the environment allows a subordinate to be a better performer.

Several authors suggested that these accurate perceptions of the environment may develop in a manner

similar to that postulated by Katz and Kahn's (1978) Role Episode Model (Greene, 1972; Wexley et al., 1980; Wexley and Pulakos, 1983). In the Role Episode Model a role sender communicates information to a role receiver about expectations held for that role. The role receiver takes in the information and then exhibits certain behaviors which are perceived by the role sender. The role sender's perceptions of these behaviors influences future communication towards the role receiver and so on. Supervisors and subordinates may develop similar perceptions of the work environment through a similar process.

The evidence suggests that perceptual congruence in such areas as work-related attitudes, the subordinate's role expectations, and communication behaviors is related to the subordinate's performance rating and job satisfaction. What is less clear is how such perceptual congruence develops and what are the important aspects of the work environment that should be perceived congruently. Although it was suggested that perceptual congruence may develop in a manner similar to that described in Katz and Kahn's Role Episode Model (1978), it is also possible that perceptual congruence can develop from dyad members who have similar demographic backgrounds, or from cognitive

similarity in perceiving the environment (see Triandis, 1959, 1960). Concerning the second issue, if one assumes that a supervisor and subordinate do not have to congruently perceive all aspects of the work environment, the question becomes what are the important aspects of the environment. For example, is it important to congruently perceive the reward system, the workgroup's norms, the organizational climate, etc.? It is suggested that future research determine (1) the underlying mechanism(s) that cause the development of perceptual congruence, and (2) the important aspects of the work environment to congruently perceive.

#### ACTUAL SIMILARITY MODEL

A third model, labeled actual similarity, investigates the relationship between the actual similarity of members of a dyad and organizational outcomes such as communication effectiveness and subordinate performance ratings. This model, unlike the previous models, is not interested in perceptions but instead investigates whether actual similarity of attributes or of characteristics of dyad members is related to the organizational outcome of interest. The evidence for this model includes experimental and

correlational studies, but because a distinguishing aspect of this model is the attribute investigated for similarity, the evidence is presented in terms of cognitive similarity, attitudes, and values.

For example, the effect of cognitive similarity on communication effectiveness and liking of the other person was investigated in a field setting by Triandis (1959). Two types of cognitive similarity variables were analyzed: categoric similarity compared the categorizations used for categorizing jobs and people; syndetic similarity compared the way concepts were associated with other concepts for jobs and people. The dependent variables, communication effectiveness and liking for the other person, were scales constructed for this study. These data were analyzed with analysis of variance and correlational analyses. Communication effectiveness and liking for the supervisor were positively correlated with both categoric and syndetic similarity. Further analyses revealed that categoric similarity about people was related to both dependent measures but relationships for categoric similarity about jobs were nonsignificant. Syndetic similarity about jobs was related to the dependent measures but syndetic similarity about people was not. Overall, syndetic

similarity was more important than categoric similarity in explaining variance for both dependent measures.

In a similar study, Triandis (1960) conducted an experiment with 40 male undergraduate students to investigate the effects of cognitive similarity on communication effectiveness within a dyad. The measures of cognitive similarity were (1) attribute similarity--the similarity in dimensions used in examining events in the environment, and (2) communication similarity--the similarity in the dimensions used while communicating. Results indicated that attribute similarity and communication similarity were not related and that each accounted for a significant amount of variance in the communication effectiveness within the dyad.

The relationship between the similarity of attitudes of a supervisor and subordinate and the supervisor's evaluation of the subordinate's performance was analyzed by Miles (1964) in a field study with 95 managers and their 27 supervisors. This study did not investigate perceptions of another person's attitudes, but only the actual similarity of attitudes. The independent variable was the difference between the subordinate's and supervisor's responses to a 45-item questionnaire about attitudes towards

management concepts and theories. The dependent variables were the rankings given to the subordinate by the supervisor on (1) the over-all judgment of each subordinate; (2) the quality of suggestions made by each subordinate; and (3) the number of suggestions made by each subordinate within a given time period. The subordinate managers were trichotomized into high, middle, or low groups on the basis of the rankings received on the dependent measures. High-ranked managers had significantly lower mean difference scores than middle or low ranked managers.

One study analyzed the relationship between similarity of supervisor and subordinate values and the performance evaluation given by the supervisor to the subordinate (Senger, 1971). Values were measured with 40 words judged on the basis of 12 semantic differential scales. Managers ( $N = 28$ ) and their subordinates ( $N = 151$ ) completed the same measure. A D-statistic, which provides a comparison of profiles, measured the similarity of responses. The dependent variable was the ranking of subordinates on the basis of their all-around competence. In 20 of the 28 cases, the difference score between the subordinate and manager was smaller for the high ranked than low ranked subordinates. Further analyses revealed that this

relationship was stronger for executives with general management responsibility (10 out of 11 had value structures more similar to high ranked than low ranked subordinates) than for executives with functional specialties (only 10 out of 17 had value structures more similar to high ranked than low ranked subordinates). The results from the total sample were statistically significant using a chi-square test and thus supported the hypothesis that high ranked subordinates have value structures more similar to their supervisors than low ranked subordinates.

In sum, studies that looked at the cognitive similarity between a supervisor and subordinate concluded that the more similarly a supervisor and subordinate describe and categorize environmental stimuli, the greater the communication effectiveness within the dyad (Triandis, 1959, 1960). Miles (1964) found that similarity of attitudes between a supervisor and subordinate was related to the supervisor's evaluation of the subordinate's performance. However, Wexley et al. (1980) found no relationship between these variables. Senger (1971) found that similar value structures of a supervisor and subordinate influence the performance evaluations given by the supervisor to the subordinate. Although it is

difficult to draw definite conclusions about the relationship between actual similarity of a supervisor and subordinate and the performance evaluation of the subordinate, the evidence suggests that such similarity is related to subordinate performance evaluations. More research is needed to confirm or refute this statement.

The mechanism by which actual similarity affects performance evaluations remains unclear. The studies that analyzed the relationship between actual similarity and performance evaluations did not provide evidence to suggest a mechanism that explains the results. For example, Miles (1964) and Senger (1971) found that actual similarity in attitudes and values, respectively, were positively correlated with the supervisor's evaluation of the subordinate, but neither study suggested a mechanism that explained these results.

Actual similarity between a supervisor and subordinate may effect performance ratings through biasing the evaluation, by allowing the subordinate to be a better performer, or through both mechanisms. If actual similarity leads to perceived similarity, then as discussed earlier, it is assumed that a similar-to-me bias affects the evaluation. On the



other hand, actual similarity may lead to similar perceptions of the work environment. Similar perceptions of the work environment allow the subordinate to reduce uncertainty and role ambiguity and to focus energy on the important activities. Focusing energy on work activities that the supervisor perceives as important make the subordinate a better performer.

Although it appears that actual similarity between a supervisor and subordinate affects the subordinate's performance rating there is a need for further research to determine (1) the underlying mechanism by which actual similarity affects evaluations, and (2) the different attributes, or characteristics, of supervisors and subordinates that are important for similarity. It was suggested that actual similarity may affect performance evaluations because of clearer perceptions of the important activities of the task, or because of a bias, or a combination of these mechanisms. Empirical evidence is needed to investigate such possibilities. Concerning the second issue, evidence suggests that actual similarity of attitudes and values is related to a higher performance evaluation. Future research should extend these findings by investigating, for example, the effects of

similarity of demographic backgrounds, individual needs, and other personal characteristics on the subordinate's performance ratings. Such investigation will help to define boundaries for the actual similarity phenomena.

### Research Issues

Although the three models of similarity identified in the literature review are conceptually distinct, no study was found that analyzed possible relationships among these models. The present study thus sought to explore whether the variables used to measure each model account for overlapping variance in the dependent variables, and if not, which model accounts for the greatest amount of variance in the dependent variables.

Second, the evidence from the perceived similarity field studies suggested there are individual differences in susceptibility to the similar-to-me effect. These studies were done with interviewers. The question of whether there are similar individual differences among supervisors in evaluating their subordinate's performance has not been investigated. The present study investigated whether some or all of the supervisors evidenced the similar-to-me effect.

This is an important question because if only some supervisors are affected, further investigations should determine what distinguishes those who are from those who are not affected. Areas to investigate might include personal characteristics of supervisors and subordinates and the organizational characteristics in which the dyad is located.

A final issue concerns mechanisms that cause the relationship between similarity and an evaluation. The underlying assumption of the perceived similarity model is that bias is the cause of the similar-to-me effect. On the other hand, the studies that analyzed the effect of similar perceptions of the work environment on performance evaluations suggest that similarity may lead to better performance through clearer task perceptions. Because the present study was part of a larger investigation, measures were available to allow insight into the mechanisms that lead to the relationship between similarity and performance evaluations. It was hypothesized that similarity might be related to subordinate perceptions of the environment and/or subordinate personality characteristics which in turn would affect subordinate behavior and ultimately the performance rating. Thus, the measures of similarity were correlated with

personality characteristics of subordinates, with subordinate perceptions of the reward and organizational work climate, with subordinate perceptions of role clarity, and with subordinate perceptions of the relationship with the supervisor.

Based on the above research questions, several hypotheses were investigated.

- H1: Perceived similarity is positively related to the performance rating the supervisor gives to the subordinate.
- H2: Perceived similarity is positively related to the merit pay raise the supervisor gives to the subordinate.
- H3: Perceived similarity is positively related to the subordinate's job satisfaction.
- H4: Similarity of perceptions of the importance of behaviors instrumental in receiving a high merit pay raise is positively related to the subordinate's performance rating.
- H5: Similarity of perceptions of the importance of behaviors instrumental in receiving a high merit pay raise is positively related to the subordinate's merit pay raise.
- H6: Similarity of perceptions of the importance of behaviors instrumental in receiving a high merit pay raise is positively related to the subordinate's job satisfaction.
- H7: Actual similarity of demographics is positively related to the subordinate's performance rating.

H3: Actual similarity of demographics is positively related to the subordinate's merit pay raise.

H9: Actual similarity of demographics is positively related to the subordinate's job satisfaction.

## CHAPTER II

### Method

The questionnaire measures used in this study were imbedded within a larger questionnaire that was completed voluntarily by employees in a group setting. Employees reported to a designated room during their work shift. After answering the items at their own rate, the subjects returned the questionnaires to a member of the research team as they left the room. Unless otherwise indicated, items used a 5-point scale with a higher score indicating a greater amount of the variable.

### Subjects

The sample consisted of health care support personnel of a rehabilitation center located in a large southwestern city. A total of 155 subordinates and 25 supervisors provided a 155 dyads. Most were employed as nurses (subordinates  $\underline{N}$  = 81, 52%; supervisors  $\underline{N}$  = 10, 40%), with the remainder in clinical services, such as physical and occupational therapy (subordinates  $\underline{N}$  = 52, 34%; supervisors  $\underline{N}$  = 13, 52%), or clerical services (subordinates  $\underline{N}$  = 22, 14%; supervisors  $\underline{N}$  = 2, 8%). The

median age was 33.5 for subordinates, 34.5 for supervisors. The median tenure was 41 months for subordinates, 90 months for supervisors. The median education level was a high school degree for subordinates, a college degree for supervisors. Subordinates were 53% black ( $N = 82$ ), 36% white ( $N = 56$ ), 6% Hispanic ( $N = 10$ ), and 5% other ( $N = 7$ ), whereas the supervisors were 12% black ( $N = 3$ ), 76% white ( $N = 19$ ), and 12% Hispanic ( $N = 3$ ).

#### Independent Measures

Perceived Similarity. One item (How much like you in outlook, perspective, values, and work habits is this subordinate) assessed the supervisor's perceived similarity to the subordinate. Two items ( $\alpha = .81$ ) that asked the extent to which "My supervisor and I see things in much the same way" and "are alike in a number of areas" measured the subordinate's perceived similarity to the supervisor. Because these items asked directly how similar the other person was, the measure appeared less confounded with social acceptability than the measures that manipulate similarity.

Actual Similarity. Actual similarity between a supervisor and subordinate was measured in terms of

similarity on demographic items--race, education level, and department tenure. Because race was coded as a categorical variable, the similarity in the dyad was assigned either a 2 (same race) or a 0 (different races). Education level was measured by responses of (1) No degree, (2) High school diploma, (3) Associate degree, (4) Bachelor degree, or (5) Masters degree or higher. If the supervisor and subordinate had the same education level, the similarity score was 2; if there was a difference of 1 between the responses of the supervisor and subordinate, the similarity score was 1; if the difference was greater than 1, the similarity score was 0. Organization tenure was classified into six categories: (1) 6 months or less, (2) 7 to 12 months, (3) 13 to 24 months, (4) 25 to 60 months, (5) 61 to 120 months, or (6) 121 months or greater. As with education level, if the members of the dyad had the same response, the similarity score was 2; if there was a difference of 1 between the members, the similarity score was 1; and if the difference between the responses of the supervisor and subordinate was greater than 1, the similarity score was 0. The higher the score the greater the similarity.

Similarity of Perceptions. Perceptions about behaviors that were instrumental in receiving a high



merit pay raise were used to measure the degree of similarity of perceptions between a supervisor and subordinate. Both supervisors and subordinates responded to ten items that asked the importance of several behaviors for receiving the highest possible merit pay raise (see Appendix). Similarity was operationalized as the square root of the sum of squared differences between the supervisor's and subordinate's responses. (For the correlational analyses, the sign of the correlations was reversed to indicate the relationship between similarity and other variables.) This D-score assesses the similarity of profiles (Cronbach, 1955).

There are problems associated with the use of difference score measures, namely (1) the reliability of difference scores tends to be less than the reliability of the component parts (Johns, 1981), (2) difference scores tend to be correlated with their component parts and thus may have systematic and spurious relationships with other variables that are related to the component parts (Johns, 1981), and (3) difference score measures based on heterogeneous items may be difficult to interpret (Cronbach & Gleser, 1953; Cronbach, 1955).

Because of the above problems, studies that use

difference scores to create a measure of similarity need to investigate the relationship of the component parts with the dependent variables. Because a difference score consists of two component scores (ie. the supervisor's and subordinate's scores) the relationship of the difference score to the dependent variable may not add any explanatory variance over and above the component parts. For example, if one of the component score does not vary, but the other component score does, then the relationship between the difference score and the dependent variables is totally due to the variance in the second component. In this case to suggest that similarity (the lack of differences) is related to the dependent variable would be misleading.

Of the research cited that used difference scores only Hatfield and Huseman (1982), Wexley et al. (1980) and Wexley and Pulakos (1983) used techniques that addressed the effects of the component parts. Thus in the other studies it is unclear whether the results are because similarity was related to the dependent variable, or because one or both of the component scores was related to the dependent variable and similarity actually added nothing. The present study analyzed the relationship of similarity to the

dependent variables after taking into account the relationship of the component parts to the dependent variables.

### Dependent Measures

The three dependent measures were the subordinate's job satisfaction, and the subordinate's performance rating and merit pay raise given by the supervisor. Job satisfaction was measured with two items ( $\alpha = .74$ ) that asked how satisfied the subordinate was with the job and the organization. The supervisor assigned an overall performance rating to each subordinate on a 7-point scale ranging from 1-"Performance is very low, well below my expectations for someone on that job" to 7-"Performance substantially exceeds my expectations for someone in that job." The supervisor also indicated a recommended merit pay raise for each subordinate on a scale that ranged from 0% to 5%. Both of these measures were collected for research purposes only, although they reflected formal personnel actions that had just occurred.

## CHAPTER III

### Results

Table 1 presents correlations among the similarity measures, the component scores of the similarity measures, and the dependent variables. These correlations provided partial support for the nine hypotheses which postulated a positive relationship between the similarity measures and subordinate job satisfaction, performance and pay ratings.

Hypotheses one through three predicted that perceived similarity would be positively correlated with the dependent variables. Table 1 indicates that total perceived similarity (sum of subordinate and supervisor perceived similarity) was related to job satisfaction, performance and pay ratings at the .001 level of significance. Subordinate perceived similarity was significantly related to all the dependent variables, although supervisor perceived similarity was related to performance and pay ratings but not to subordinate job satisfaction. Hierarchical regression analyses indicated that the majority of the variance in the performance and pay ratings was accounted for by supervisor perceived similarity ( $R =$

Table 1

Correlation Matrix of Similarity Measures, Component Scores and Dependent Variables

MEASURES	CORRELATIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Subordinate Perceptions of Instrumentalities	(72) <sup>a</sup>															
2. Supervisor Perceptions or Instrumentalities	14	(37)														
3. Similarity of Perception	65***	-07	(44)													
4. Subordinate Perceived Similarity	09	-03	23**	--												
5. Supervisor Perceived Similarity	08	-09	12	34***	--											
6. Total Perceived Similarity	11	-06	23**	90***	71***	--										
7. Subordinate Race	07	-04	05	27**	03	22**	--									
8. Subordinate Education	11	-06	20*	28***	24**	32***	48***	--								
9. Subordinate Tenure	-05	-13	02	-14	-16*	-18*	-12	-17*	--							
10. Supervisor Race	-02	-27***	05	25**	21**	29***	22**	18*	08	--						
11. Supervisor Education	00	-16*	03	04	20*	13	22**	24**	06	44***	--					
12. Supervisor Tenure	15	16*	-11	-12	-08	-13	-06	-03	-09	10	02	--				
13. Actual Similarity	00	08	13	07	-03	04	32***	48***	10	-25**	-11	-02	--			
14. Job Satisfaction	20*	06	18*	30***	15	29***	-07	-08	11	11	08	-02	-19*	(.74)		
15. Performance Rating	-01	-20*	16*	19*	37***	31***	11	16*	06	05	19*	-04	19*	06	--	
16. Pay Rating	05	-14	10	19*	31***	28***	09	11	06	03	11	-05	12	10	67***	--
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Note: Decimals have been omitted.

a. Numbers in the diagonals are Cronbach's alpha.

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

.14 and .10, respectively). Subordinate perceived similarity did not add any significant variance to these dependent variables after supervisor perceived similarity was entered into the equation. It is concluded that total perceived similarity was related to job satisfaction, performance and pay ratings, but the underlying mechanism was different for the dependent variables.

Hypotheses four through six predicted that the similarity of supervisor and subordinate perceptions of the importance of behaviors instrumental in receiving a high merit pay raise would be positively related to subordinate job satisfaction, performance and pay ratings. Because only job satisfaction and performance ratings were significantly related to similarity of perceptions ( $r = .18$  and  $.16$ , respectively), hierarchical regression analyses were done only with these dependent variables. Results indicated that the difference score (the reverse of the similarity score) added significant explanatory variance after the supervisor and subordinate responses were entered into the equation only for the performance rating (see Table 2). For job satisfaction, the difference scores did not add any explanatory variance after the supervisor and subordinate responses were entered into the equation.

TABLE 2

Hierarchical Regression Analyses of Similarity of  
Percetions and Component Scores with Job Satisfaction and  
Performance Ratings

Variables	Dependent Variable			
	Job Satisfaction		Performance Rating	
	R <sup>2</sup>	R <sup>2</sup> change	R <sup>2</sup>	R <sup>2</sup> change
Subordinate	.0389*	---	.0002	---
Subordinate & Supervisor	.0397*	.0008	.0400*	.0389*
Subordinate & Supervisor & Differences	.0456	.0059	.0755**	.0355*

\* p < .05

\*\*p < .01

Thus, similarity of perceptions was related to the performance rating but not to the pay rating or job satisfaction.

The results from the relationship between actual similarity and the dependent variables were surprising. Actual similarity was negatively related to job satisfaction ( $r = -.19$ ), positively related to the performance rating ( $r = .19$ ), and was unrelated to the pay rating.

The negative correlation between actual similarity and job satisfaction was not expected. Further analyses revealed that this relationship may have reflected a negative relationship between job satisfaction and race similarity. Hierarchical regression analyses revealed that actual similarity added explanatory variance in the performance ratings after the supervisor and subordinate demographics were entered into the equation, but did not add any explanatory variance to job satisfaction (see Table 3). It is concluded that hypothesis 7, which postulated that actual similarity was positively related to the performance rating, was supported, but hypotheses 8 and 9, which postulated positive relationships between actual similarity and the pay rating and job satisfaction, respectively, were not supported.



TABLE 3

Hierarchical Regression Analyses of Actual Similarity  
and Component Scores with Job Satisfaction and  
Performance Ratings

Variables	Dependent Variable			
	Job Satisfaction		Performance Rating	
	R <sup>2</sup>	R <sup>2</sup> change	R <sup>2</sup>	R <sup>2</sup> change
Subordinate	.0954*	---	.0582	---
Subordinate & Supervisor	.1236*	.0282	.0852*	.0433
Subordinate & Supervisor & Differences	.1266*	.0030	.1153	.0303*

Note: For this model the subordinate and supervisor scores consisted of race (3 vectors dummy coded), education and tenure. Because more degrees of freedom were used up, a higher R-squared and R-squared change was needed for statistical significance.

\*  $p < .05$

In regard to the question of whether the three models of similarity are empirically distinct, the only significant correlation was between total perceived similarity and similarity of perceptions ( $\underline{r} = .23$ ). Actual similarity was not significantly related to either of the other measures. Similar evidence was provided by the hierarchical regression analyses (see Table 4). Both the actual similarity and the total perceived similarity measure added explanatory variance in the performance ratings after the other two measures were entered into the equation. For the pay ratings, only perceived similarity added explanatory variance after the other two measures were in the equation. For job satisfaction both actual similarity and total perceived similarity added explanatory variance after the other two measures were entered into the equation. Although similarity of perceptions did not add any explanatory variance to any of the dependent variables after the other measures were entered into the equation, these results seem to support the conclusion that these three measures of similarity are both conceptually and empirically distinct.

The question of whether the similarity effect was consistent across supervisors was investigated by comparing correlations of supervisor perceived

Table 4

Hierarchical Regression Analyses of the Similarity  
Measures with the Dependent Variables

Predictor Set	$R^2$		
	Performance	Pay	Satisfaction
A. Perceived & Actual Similarity	.1286**	.0921**	.1268**
B. Perceived Similarity & Accuracy	.1069 <sup>a</sup> **	.0828**	.0976 <sup>a</sup> **
C. Actual Similarity & Accuracy	.0555 <sup>a</sup> **	.0216 <sup>a</sup> **	.0807 <sup>a</sup> **
D. Actual Similarity & Accuracy & Perceived Similarity	.1341**	.0929**	.1474**

\*  $p < .05$

\*  $p < .01$

<sup>a</sup>The full model (D) adds significantly over the variables in this subset.

similarity with performance and pay ratings across supervisors. The correlations of supervisor perceived similarity with performance and pay ratings were used to determine differences among supervisors for two reasons. One, this similarity measure was used in previous research with interviewers and interviewees that looked at differences across interviewers. Two, this similarity measure had the highest correlation with the dependent variables. Thus Table 5 presents the number of subordinates evaluated by each supervisor and the correlation between supervisor perceived similarity and the performance and pay ratings for each of the thirteen supervisors who assigned pay and performance ratings to four or more subordinates.

The number of subordinates evaluated by each supervisor ranged from 4 to 28, the mean was 9.76 and the median was 8. The correlations of supervisor perceived similarity and the performance rating ranged from .94 to  $-.87$ , the median correlation was .57. Although this was a very large range, the differences among the correlations were not significant at the .05 level (Arnold, 1981; Cohen & Cohen, 1983). The differences among these correlations were significant at the .10 level and it may be that the relationship was not significant at the .05 level because of the

Table 5

Differences in Correlations of Supervisor PerceivedSimilarity with Performance and Pay Ratings Across Supervisors

The number of subordinates evaluated by this supervisor <sup>a</sup>	Correlations of supervisor perceived similarity with performance ratings for this supervisor	Correlations of supervisor perceived similarity with pay ratings for this supervisor
12	-.07839	-.17689
11	.69278	.44070
4	.93659	.92717
8	.80867	.87844
6	.81167	.79310
4	-.86603	-.81650
6	.63719	.81009
14	-.02688	-.06143
8	.54131	.19487
12	.57307	.32929
10	-.32636	-.50000
4	.76249	.57735
28	.38605	.41415
	Chi-square for differences between correlations = 19.95 df = 12, p < .10	Chi-square for differences between correlations = 17.47 df = 12, p < .20

<sup>a</sup>Only supervisors who rated four or more subordinates were included.

small sample size. The correlations of supervisor perceived similarity ranged from .92 to  $-.81$  with a median of .41. These differences were also not significant at the .05 level. Although the large differences in the correlations between supervisor perceived similarity and the performance and pay ratings suggest that the similarity effect was not consistent across supervisors, these differences were not statistically significant, with this limited sample size, and thus leave this question unresolved.

The question of what mechanisms might cause the relationships between similarity and the dependent measures was investigated by correlating similarity measures with subordinate scales that may provide insight into possible mechanisms. Although this study was not specifically designed to answer this question, there are many subordinate measures that might allow insight into this question. This exploratory analysis thus correlated the similarity measures with measures of subordinate personality characteristics, subordinate perceptions of the reward and organizational work climate, subordinate perceptions of role clarity, and subordinate perceptions of their relationship with the supervisor.

Table 6 presents the correlations between the

Table 6

Correlations of Similarity Measures with Subordinate Scales

Subordinate Scale	Number of Items in Scale	Standardized Item Alpha	Correlations <sup>a</sup>			
			Similarity Measure			
			Subordinate Perceived Similarity	Supervisor Perceived Similarity	Similarity of Perceptions	Actual Similarity
Humanistic Ethic	4	.71			.21	.27
Self Control Rewards	1	--			.22	
Supervisor Control Rewards	1	--	.22	.25		
Luck Control Rewards	1	--				.21
Self Esteem	9	.72	.21		.32	
Professional Involve-ment	3	.73			.26	
Demotivating Incentive	10	.74	-.39		-.24	
Disincentive	17	.86	.44		.27	
Punishment handled Quietly	14	.83	-.24			
	1	--	.42	.30	.26	

(table continues)

Subordinate Scale	Number of Items in Scale	Standardized Item Alpha	Correlations <sup>a</sup>			
			Similarity Measure			
			Subordinate Perceived Similarity	Supervisor Perceived Similarity	Similarity of Perceptions	Actual Similarity
Performance to Pay Contingency	1	--			.21	
Supervisor Use of Punishment	6	.65	-.28			
Supervisor Use of Formal Rewards	6	.78	.43		.24	
Supervisor Use of Informal Rewards	5	.84	.49			
Psychological Influence of Supervisor	5	.81	.75	.35	.25	
Confidence and Trust in Supervisor	10	.86	.66	.33	.27	

(table continues)



Subordinate Scale	Number of Items in Scale	Standardized Item Alpha	Correlations <sup>a</sup>			
			Similarity Measures			
			Subordinate Perceived Similarity	Supervisor Perceived Similarity	Similarity of Perceptions	Actual Similarity
Frequency of Communication with Lower Level Superiors	2	.71	.24			
Upward In- fluence of Supervisor	4	.70	.68			
Role Ambiguity	7	.70	-.65	-.26	-.31	
Role Conflict	6	.71	-.34			
Friendly	8	.80	.31			
Espirit	8	.79	.36			
Professional Orientation	9	.77	.45		.21	

<sup>a</sup>All correlations are significant at  $p < .01$ .

similarity measures and the subordinate scales. (See the Appendix for the items in each scale.) Because actual similarity was correlated with only two of the subordinate scales, no conclusions can be drawn about mechanisms that might cause the relationship between actual similarity and the performance rating.

As might be expected, similarity of perceptions was negatively related to role ambiguity ( $r = -.31$ ). Subordinates who reported less role ambiguity had similar perceptions to their supervisor of the behaviors that are instrumental in receiving a high merit pay raise. Somewhat unexpected was the lack of a relationship between frequency of communication with lower level superiors and similarity of perceptions. Thus, it appears that the similarity of supervisor-subordinate perceptions was not bought about by increased communication. However, similarity of perceptions was positively related to the subordinate's self esteem ( $r = .32$ ), the subordinate's professional involvement ( $r = .26$ ), the subordinate's confidence and trust in the supervisor ( $r = .27$ ), the subordinate's perceived influence of the supervisor ( $r = .25$ ), the subordinate's perception of a strong relationship between the performance rating and a merit pay raise ( $r = .21$ ), and the subordinate's perceptions of the degree

the supervisor administers formal rewards ( $\underline{r} = .24$ ). In addition, subordinates who perceived the importance of instrumentalities similarly to the supervisor also felt that their own effort determined the rewards they received ( $\underline{r} = .22$ ), and that the organization rewarded the best workers (incentive,  $\underline{r} = .27$  and demotivating,  $\underline{r} = -.24$ ). These results suggest that subordinates with high self-esteem, who are professionally involved in their jobs, and who trust the supervisor and believe that hard work leads to rewards, have perceptions similar to the supervisor, of the behaviors instrumental in receiving a high merit pay raise.

Supervisor perceived similarity was negatively related to the subordinate's role ambiguity ( $\underline{r} = -.26$ ), and positively related to the subordinate's confidence and trust in the supervisor ( $\underline{r} = .33$ ), the subordinate's perceived influence of the supervisor ( $\underline{r} = .35$ ), and the subordinate's perceptions that rewards depend of the activities of the supervisor ( $\underline{r} = .25$ ). Subordinates who have confidence and trust in their supervisor, who report a good relationship with their supervisor, and who do not have much role ambiguity are seen by the supervisor as being similar. This suggests that components of supervisor perceived similarity may be clear task perceptions of the subordinate and a good

working relationship between the supervisor and subordinate.

The correlations of subordinate perceived similarity with the subordinate scales provided strong evidence that subordinates who perceive the supervisor as similar to themselves have different perceptions of the work setting than subordinates who do not see the supervisor as similar. Subordinate perceived similarity was significantly related to subordinate perceptions of the reward system (incentive,  $r = .44$ ; demotivating,  $r = -.39$ ; disincentive,  $r = -.24$ ); perceptions of the supervisor's use of punishment and rewards (punishment,  $r = -.28$ ; formal rewards,  $r = .43$ ; informal rewards,  $r = .49$ ); perceptions of the relationship with the supervisor (psychological influence,  $r = .75$ ; confidence and trust,  $r = .66$ ; upward influence,  $r = .68$ ; communication frequency,  $r = .24$ ); perceptions of role clarity (role ambiguity,  $r = -.65$ ; role conflict,  $r = -.34$ ); and perceptions of the organizational climate (friendly,  $r = .31$ ; esprit,  $r = .36$ ). These results suggest that a major component of subordinate perceived similarity might be the subordinate's clarity of role demands and the relationship with the supervisor.

## CHAPTER IV

### Discussion

The present field study investigated three models of similarity and their relationships with subordinate job satisfaction, performance and pay ratings. An attempt was also made to investigate how similarity affects performance ratings and whether the "similarity effect" is consistent across supervisors.

In general, the predictions that each model of similarity would be positively related to job satisfaction, performance and pay ratings were supported, although perceived similarity showed the strongest relationship. Consistent with Pulakos and Wexley (1983), total perceived similarity was positively related to all the dependent variables. Although previous research has analyzed the effects of total similarity in a dyad, it was deemed important to investigate whether the component aspects of the similarity score had the same pattern of relationships with the dependent variables. Analyses indicated that the measures of supervisor and subordinate perceived similarity, which comprised the total perceived similarity score, had slightly different patterns of

relationships with the dependent variables.

Subordinate perceived similarity was positively related to all of the dependent variables, whereas, supervisor perceived similarity was related to only the performance and pay ratings.

This pattern of correlations suggests that the underlying components of perceived similarity may represent distinct influences. The correlations of supervisor and subordinate perceived similarity with subordinate perceptions of the work environment also support such an interpretation. Subordinates who perceived the supervisor as similar perceived the work environment differently from those subordinates who were perceived by the supervisor as being similar. For example, subordinates who perceived the supervisor as similar saw the organization's reward system and the supervisor's use of punishment and rewards differently than subordinates who were perceived by the supervisor as being similar. A third distinct component of perceived similarity might be mutual perceived similarity. Seeing another person as similar, and knowing that you are seen as similar, may be another component of perceived similarity. Further research should attempt to replicate these findings and determine the direction of causality between perceived

similarity and satisfaction, pay and performance ratings; investigate possible differences between the relationships of supervisor and subordinate perceived similarity with other variables; and investigate the possible effects of mutually perceived similarity.

Both the similarity of perceptions and the actual similarity model received only moderate support. Both measures were positively related to the performance ratings and accounted for a significant amount of variance in the performance ratings after the component scores were entered into the regression equation. But neither measure was related to the pay ratings. This was surprising, especially for the similarity of perceptions model, given the magnitude of the relationship between performance and pay ratings ( $r = .67$ ), and that the items used in determining similarity of perceptions asked about behaviors important in receiving a high merit pay raise. Further, similarity of perceptions, although positively related to job satisfaction did not account for any significant variance in job satisfaction after the component scores were entered into the equation. Another surprise was that actual similarity was negatively related to job satisfaction. Closer examination suggested that this relationship reflected a negative relationship between

race similarity and job satisfaction. Further research is needed to determine whether this was a chance finding or whether race similarity is negatively related to job satisfaction in the population.

Of the nine hypotheses five were supported, one was partially supported, two were not supported, and one finding was in the opposite direction. As noted, the perceived similarity model received the strongest support for the hypotheses. The only dependent variable related to all three models of similarity was the performance rating. In retrospect this is not surprising given that previous research used performance ratings as a dependent variable and the present hypotheses were extrapolated directly from previous findings. The use of pay ratings and job satisfaction was a greater extension from previous research. Still, it was surprising that the pay rating was related only to perceived similarity. Research is needed to further investigate the relationship between similarity in a supervisor-subordinate dyad and pay ratings and job satisfaction.

The results were consistent with the idea that the three models of similarity are conceptually distinct. Hierarchical regression analyses revealed that the models accounted for different sources of variance in



each of the dependent variables. Correlations of the subordinate scales with the different measures of similarity were not consistent across the models and thus further supported this conclusion. Such findings suggest that researchers should not discuss the "similarity effect" but should instead specify the type of supervisor-subordinate similarity being investigated. Not only can similarity be conceptualized in different ways, but these conceptual differences can be empirically measured.

Previous field research with interviewers and interviewees suggested that the relationship between similarity and a dependent variable was not consistent across interviewers (Sydiaha, 1962; Frank & Hackman, 1975; Dalessio & Imada, 1984). The present study also analyzed the relationship between supervisor perceived similarity and performance and pay ratings and found similar differences. Although not significant at the  $p < .05$  level, the magnitude of the differences was substantial. Further research should explore whether there are significant differences across supervisors, and if so, determine what causes these differences. For example, supervisor self esteem may moderate the relationship between perceived similarity of a subordinate and the subordinate's performance and pay

rating.

An assumption underlying much of the similarity research is that what was called the "similarity effect" is a result of bias on the part of the evaluator. This assumption, as already noted, stems from Byrne's (1969) similarity-attraction hypothesis. The assumption is that if another person is perceived as similar, then that person is perceived as more attractive. This attraction presumably biases the evaluations in a positive direction.

The present study suggested an alternative explanation, however. Subordinates who perceived the supervisor as similar to themselves had different perceptions of the environment than did those who saw the supervisor as different. Subordinates who saw the supervisor as similar reported less role ambiguity and role conflict; reported that the supervisor used fewer punishment behaviors and more formal and informal rewarding behaviors; saw the organizational reward system as rewarding hard workers; saw the work environment as more friendly with a greater degree of esprit; and reported better relationships with the supervisor (i.e. more communication, more confidence and trust in the supervisor, and more psychological influence over the supervisor).

Similarly, subordinates that the supervisors perceived as similar reported less role ambiguity, more confidence and trust in the supervisor, and greater psychological influence with the supervisor. These correlations question the assumption that similarity affects ratings only through a biasing effect. It is possible, even likely, that subordinates who have a clearer idea of role expectations are in fact, better performers than subordinates who have greater role ambiguity. These results are consistent with the caution by Ilgen and Favero (1985) that research done with specific paradigms in laboratory settings may not be applicable to performance ratings in field settings. Further investigation is needed to follow up these exploratory analyses and determine how similarity affects ratings.

Research that analyzes the relationship between supervisors and subordinates is in agreement with propositions of the Vertical Dyad Linkage (VDL) model that the supervisor-subordinate dyad is the appropriate level of analysis in determining leadership styles (Dansereau, Graen, and Haga, 1975; Graen and Schiemann, 1978; Liden and Graen, 1980; James and White, 1983). The findings from the present study also suggest that supervisor-subordinate interactions are an important

factor in determining subordinate performance ratings (Landy and Farr, 1980; Wexley and Klimoski, 1984). This study determined that perceived similarity in a supervisor-subordinate dyad is related to the relationship between such dyad members and the performance rating and satisfaction of the subordinate.

In sum, the present study identified three conceptually distinct models of similarity and provided evidence to indicate that these models are empirically distinct and account for different sources of variance in subordinate performance and pay ratings and job satisfaction. This study also provided further evidence that supervisor-subordinate similarity is a factor in determining the subordinate's performance rating. The notion that the relationship between similarity and performance ratings was caused by bias was questioned, and in fact, exploratory analyses suggested that supervisor-subordinate similarity was related to both subordinate role clarity and the subordinate's relationship with the supervisor. Further research should continue to analyze the relationship between supervisor-subordinate similarity and performance ratings and determine whether similarity causes a biased rating, or whether

subordinates become better performers because of their similarity to the supervisor.

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## APPENDIX

## List of Items for Each Measure

Note. Unless otherwise indicated all items were answered on a 5-point Likert type scale so that higher scores indicate a greater amount of the attribute being measured.

## ACTUAL SIMILARITY

EDUCATION

What is your highest degree: (circle one)

- a) None
- b) High school diploma
- c) Associate
- d) Bachelor
- e) Master or higher

RACE

I am:

- a) Black
- b) Hispanic
- c) White
- d) Other

TENURE

How long have you worked in this department?

## PERCEIVED SIMILARITY

SUPERVISOR PERCEIVED SIMILARITY

Using the following scale, indicate in the column marked E, how much like you in outlook, perspective, values, and work habits you feel each person is.

- 1. Very different from me in most areas.
- 2. Different from me in many areas.
- 3. Like me in a few areas.
- 4. Very like me in some areas.
- 5. Very similar to me in most areas.

SUBORDINATE PERCEIVED SIMILARITY

These were answered with a five point scale from 1-Not at All to 5-To a Very Great Extent:

My supervisor and I see things in much the same way.  
My supervisor and I are alike in a number of areas.

## SIMILARITY OF PERCEPTIONS

Doing what you (they) are told.  
 Doing an excellent job.  
 A neat appearance.  
 Getting to work on time.  
 Putting on a good show.  
 Staying out of trouble.  
 Coming up with better ways to do things.  
 Technical knowledge and skill.  
 Being liked by coworkers.  
 Being liked by patients.

## JOB SATISFACTION

Generally speaking, I am very satisfied with my job.  
 Generally speaking, I am very satisfied with (the organization).

## PAY RATING

In the column to the right of each name, please indicate the amount of the merit pay raise (from 0% to 5%) that you would recommend for this person if you were making the decision today.

## PERFORMANCE RATING

In the column marked C, please indicate the overall level of performance you observe for this person. Please use the scale below and write in the number that best describes that person's performance at the present.

1. Performance is very low, well below my expectations for someone on that job.
2. Performance is somewhat lower than my expectations for someone in that job.
3. Performance is slightly lower than my expectations for someone on that job.
4. Performance is generally consistent with my expectations for someone on that job.
5. Performance is slightly above my expectations for someone in that job.
6. Performance is somewhat above my expectations for someone in that job.
7. Performance substantially exceeds my expectations for someone in that job.

## HUMANISTIC ETHIC

Work should allow for personal growth and fulfillment.

The job should be a source of new experience.  
 Work should be made satisfying to the individual.  
 Work should allow you to use your capabilities.

#### SELF CONTROL REWARDS

To what extent do the rewards you get at (the organization) depend on your own efforts?

#### SUPERVISOR CONTROL REWARDS

To what extent do the rewards you get at (the organization) depend on the activities of your superiors?

#### LUCK CONTROL REWARDS

To what extent do the rewards you get at (the organization) depend on luck or outside factors?

#### SELF-ESTEEM

On the whole, I am satisfied with myself.  
 I am able to do things as well as most other people.  
 I take a positive attitude toward myself.  
 I feel I have much to be proud of.  
 My previous experience allows me to work effectively at my job.  
 I am an expert in my job.  
 \*\*At times I think I am no good at all.  
 \*\*All in all, I am inclined to feel I am a failure.

#### PROFESSIONAL INVOLVEMENT

Please list any special professional licenses or certificates you possess.  
 Please list any national professional organizations to which you belong.  
 During the past year, how many conferences or workshops sponsored by these organizations have you attended.

#### DEMOTIVATING

At (the organization), people who work hard are looked down on by their coworkers.  
 If I do a job well, my supervisor just gives me more work to do.  
 If I work hard, I have to pick up the slack for those who do not.

Given the promotion and pay opportunities at (the organization), the smartest thing for me to do is to take it easy on the job. People at the top get all of the benefits and rewards. At (the organization), people get paid the same whether they work hard or not. Even if you complain about a coworker, nothing will be done. (The organization) is more concerned with loyalty than performance. People who do things the easy way are the smart ones.

#### INCENTIVE

The promotion system at (the organization) helps the best people to the top. My supervisor provides informal rewards for good performance. At (the organization), I am rewarded when I do something well. I am able to get what I want from working at (the organization). At (the organization), what matters is how hard you try. \*(The organization) makes you feel like your job is on the line. At (the organization), what matters is how well you do the job. At (the organization), people give me credit for the work I do. At (the organization), the people who do the work get the credit. At (the organization), merit raises are given for performance. This job gives me a chance to learn some very important skills. (The organization) emphasizes professional growth and development. If you do a good job, (the organization) offers many chances for advancement. The administration goes out of its way to recognize departments for especially good performance. (The organization) makes us feel good about what we do for patients. The maximum merit pay raise makes a clear difference in my paycheck. Policies at (the organization) helps me do my work the way it should be done.

#### DISINCENTIVE

At (the organization), you can get a raise by threatening to quit. If you gripe and complain, you can get the supervisor to give a bad job to someone else. At (the organization), the rewards you get depend on who you know. At (the organization), calling in sick is an easy way to get a day off. At (the organization), the people who do the worst work get to take it easy. The leader's favorites are the only one who get any rewards. My supervisor generally ignores poor performance unless someone outside the workgroup complains. You can get by with almost anything if you make the supervisor look good.

As long as I look busy, I won't get any new work assignments.  
 At (the organization), you can avoid the dirty jobs if you look busy  
 Nobody cares how you do the job if you know the right people.  
 My supervisor gives the hardest, dirtiest assignments to the  
 people who will do them without complaining.  
 Although (the organization) says they want good performers, they  
 really want people who don't rock the boat.  
 A good way to avoid overtime is to do a poor job.

#### PUNISHMENT HANDLED QUIETLY

Punishment is handled quietly here.

#### PERFORMANCE TO PAY CONTINGENCY

How much does your performance rating determine the amount of  
 your merit pay raise?

#### SUPERVISOR USE OF PUNISHMENT

Fire a poor employee.  
 Give someone bad work assignments as a punishment.  
 Criticize poor performance.  
 Chew someone out.  
 Put a negative letter in someone's file.  
 Ignore someone because of bad performance.

#### SUPERVISOR USE OF FORMAL REWARDS

Put a positive letter in someone's file.  
 Give people a maximum raise.  
 Recommend people for training.  
 Send people to professional meetings.  
 Recommend someone for promotion.  
 Have an employee awards lunch or ceremony.

#### SUPERVISOR USE OF INFORMAL REWARDS

Let people know how well they are doing.  
 Praise good performers in front of the group.  
 Let people know they are needed.  
 Put items on the bulletin board praising employees.  
 Do extra little things to make the job more pleasant for good  
 performers.



### PSYCHOLOGICAL INFLUENCE OF SUPERVISOR

Can you influence your supervisor's decisions?  
 Is your supervisor willing to listen to your problems?  
 Does your supervisor pay attention to what you say?  
 My supervisor is friendly and easy to approach.  
 My supervisor generally trusts my judgment.

### CONFIDENCE AND TRUST IN SUPERVISOR

My supervisor usually has good information about what is going to happen at (the organization).  
 \*\*When my supervisor is put on the spot, he/she usually blames us.  
 \*\*Most of the problems at (the organization) are caused by poor supervision.  
 \*\* (The organization) uses the tight job market to take advantage of its employees.  
 \*\*No matter how hard I work, there is just no way to please my supervisor.  
 Can you trust the statements made by the supervisors?  
 My supervisor gives me a straight answer when I ask about something.  
 The people in charge around here generally get the credit for our work.  
 The decisions my supervisor makes are generally in our best interest.  
 My supervisor can easily perform all the jobs we do.

### FREQUENCY OF COMMUNICATION WITH LOWER LEVEL SUPERIORS

During the past six months, how often have you spoken directly to:  
 Your Supervisor  
 Your Department Head

### UPWARD INFLUENCE OF SUPERVISOR

My supervisor keeps us in good standing with the administration.  
 The administration feels that my department is above average.  
 My department head is in good with the (organization's) administration.  
 My supervisor makes sure that we are treated fairly.

### ROLE AMBIGUITY

It isn't clear who has the authority to make decisions about my job.  
 I never know from day to day how my supervisor will react to my

work.

- \*\*I know exactly what I have to do to get a good performance rating.
- \*\*I can usually tell for myself how well I am doing my job.
- \*\*I generally know in advance how my performance will be evaluated.
- \*\*My supervisor is consistent in handling punishment and rewards.
- \*\*Is it possible to get accurate information about administration policies?

#### ROLE CONFLICT

There are too many people telling me what to do.  
 In my job, I have to do things that should really be done in a different way.  
 Demands by members of other departments make my job harder.  
 \*\*I have enough time to do everything I am supposed to do.  
 I am held responsible for things over which I have no control.  
 There is a lot of conflict between my workgroup and other workgroups I have to deal with.

#### FRIENDLY

Communication is good among the people in my workgroup.  
 The people in this workgroup trust each other.  
 The people in my workgroup are friendly.  
 There is a strong sense of "family" at (the organization).  
 I really feel close to most of my coworkers.  
 At (the organization), people work together as a team even if they don't like each other.  
 The best thing about this job is the people I work with.  
 When I face a difficult job, the people I work with help me out.

#### ESPRIT

The recent changes at (the organization) are generally for the better.  
 The people in this group are very loyal to (the organization).  
 Most (the organization) employees work hard.  
 I think (the organization) has a good image to outsiders.  
 Generally speaking, the future looks pretty bright for (the organization).  
 I would definitely recommend (the organization) to a possible employer.  
 \*\*Morale is low in this department.  
 \*\*I really don't care what happens to this organization.

#### PROFESSIONAL ORIENTATION

\*\*In my job, I always hear about mistakes but seldom about successes.  
 My supervisor encourages people to give their best efforts.

\*\*At (the organization), no one cares about you if you don't have a professional degree.

\*\*The (organization) administration seems more concerned with profit than with the quality of care.

The administration at (the organization) is really concerned about all of its employees.

The administration goes out of its way to stress the positive things that are happening at (the organization).

Supervisors know what is going on in their workgroup.

Most of the problems at (the organization) are caused by administration policies.

The administration stays well informed about the needs and problems of people at my level.

\*\*Item reversed scored.