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Manager-Subordinate Agreement in the Performance Appraisal Meeting

**CEO Publication
T 88-6 (119)**

J. Bruce Prince
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May 1994

Partial financial support was provided by the General Electric Corporation and by the Organizational Effectiveness Research Programs, Office of Naval Research (code under 452) contract N0014-81-K-0048; NR 170-928.

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Abstract

Patterns of agreement on the appraisal meeting characteristics and broader contextual factors are analyzed using two independent samples of matched manager-subordinate pairs. The results indicate that managers and their subordinates systematically diverge in perceptions of key attributes of the appraisal discussion (e.g., learning achieved, goal setting, participation opportunity, etc.) and the larger organizational context (e.g., performance level, clarity of job duties, etc.). Patterns are interpreted using social cognition, attributional and social information processing frameworks. Implications for further research and practice are discussed.

Manager-Subordinate Agreement in the Performance Appraisal Meeting

Most of the research, theory and prescriptions concerning the performance appraisal meeting (PA) is based on perceptual data gathered from subordinates who are appraised (e.g., Burke, Weitzel & Weir, 1978; Greller, 1978). While subordinate perceptions are important, the practice of relying on them ignores the fact that PA is an inherently interpersonal event involving two people taking different roles. As such it is likely to produce, and be influenced by, actors who have differing perceptions. The pattern and conceptual basis for converging versus diverging perceptions between appraisers and appraisees has been the subject of little research despite its importance in understanding the dynamics of this much-researched practice. Looking at only one party's perceptions of the interaction between two people in different roles produces an incomplete and biased picture which provides an inadequate basis for advancing theory or improving practice.

There are two main reasons why most PA studies have not collected data from manager and subordinate pairs who have experienced a common appraisal interview. The first is methodological convenience. The second is the narrow ontological and epistemological assumptions researchers have generally used to study the appraisal process.

Obtaining dyadic data is inconvenient in a number of ways. They are difficult to obtain and complicated to manage and analyze. For example, they generally require obviating the anonymity typically promised to respondents.

Analysis is more complex; because of the increased number of scales (i.e., subordinate plus manager scales) available, one has twice the individual-level of analyses to conduct, plus potentially unusual or less familiar analytical strategies as one moves to the dyadic-level of analysis. The relative convenience inherent in gathering only the subordinates' perceptions and not

moving to the dyadic-level, however, "...may be an other case of getting exactly what you pay for" (Pfeffer, 1982, 272).

Using only the subordinates' view of PA is consistent with the traditional physical science model of research and reflects a historical subscription to an ontology of realism and an epistemology of positivism (Burrell & Morgan, 1979). If one implicitly assumes that a well-selected subject using a valid measurement technology can be an adequate eye witness, then why go to the trouble of gathering data from two sources? With these philosophical assumptions, divergent perceptions can only suggest methodological weaknesses which are solely "due to individual distortions of the unique, objective, and 'true' reality" (Smircich & Chesser, 1984, p. 199). In short, divergent manager and subordinate perceptions suggests unreliable, invalid and unpublishable data, and as such, are hardly worth the troubles inherent in their collection.

The alternative ontological and epistemological perspective seen in phenomenological (Shutz, 1967), symbolic interactionist (Blumer, 1969) and ethnomethodological (Garfinkel, 1967) approaches are now well established areas which provide a strong basis for the use of dyadic data. The social information processing perspective (Salancik & Pfeffer, 1978) and cognitive approaches to organizing processes (Weick, 1979) have much in common with these areas. They also employ more nominalistic ontological assumptions and infer a more inter-subjective or social constructionist view of reality. For example, Salancik and Pfeffer argue that: "The social information processing approach begins by arguing that characteristics of the job or task, style of supervision or conditions of the workplace, are not given but constructed" (1979, p.227). With these methodological assumptions, manager and subordinate divergence is

not simply evidence of measurement error, but a real and potentially important phenomenon which is likely to impact, and be impacted by, the unfolding stream of interpersonal dynamics and perceptual processes inherent in the PA meeting.

Recently, the cognitive process approach to PA (Feldman, 1981; Ilgen & Feldman, 1983) has become a dominant perspective. This approach, and the social cognition literature in general (Sims & Gioia, 1986; Lord, 1985), also dictate the need to consider more than one party's view of the appraisal process. This line of research has documented that the attention, categorization, recall and information integration processes involved in creating and recollecting perceptual data are typically automated rather than consciously controlled (Feldman, 1981; Lord, 1985). As such, it is particularly subject to numerous biases. For example, the initial attention and categorization processes which occur in the appraisal meeting, and later recall process are easily biased by person schemas called prototypes (Cantor & Mischel, 1979; Lord, Forti, & Vader, 1984) or event schemas called scripts (Gioia & Poole, 1984; Schank & Abelson, 1977). These cognitive frameworks create a tendency to (a) not notice script/prototype inconsistent actions which actually occur, and (b) unconsciously fabricate or "fill-in" one's recollection with script/prototype consistent observations which, in fact, did not occur (Lord, 1985; Phillips, 1984). Additional information processing constraints, such as attributional tendencies (Green & Mitchell, 1979), availability heuristics (Tversky & Kahneman, 1974), halo error (Cooper, 1981), etc., also suggest that using data from only one party, to build theories and generate prescriptive advice is a poor research strategy. Research agreement between supervisors and subordinates has focused on differences in PA descriptions and attitudes (Ilgen, Peterson, Martin & Boeschen, 1981; Meyer, Kay & French,

1965), as well as other issues (e.g., Graen & Schienmann, 1978; Johns, 1981). The most frequent focus has been on differing evaluations of the subordinate's performance level (Baird, 1977; Henemann, 1974; Lawler, 1966; Smircich & Chesser, 1981; Thornton, 1968) rather than perceptions of the PA discussion (e.g., participation, etc.). However, a general understanding of the pattern and extent of convergence versus divergence of managers and their subordinates is lacking.

Disagreement, and the subordinate's dysfunctional defensive reaction to it, was central to the conclusions of the early General Electric studies of PA (Meyer, Kay & French, 1965; Kay & Meyer, 1965). They argue that evaluation of the subordinate's performance should be split from the developmental discussion because subordinates will generally disagree and react defensively. While Prince and Lawler (1986) find contradictory evidence for this thesis, they too observe a lack of strong agreement on the content of the PA discussion. Similarly, Ilgen, et al. (1981) found "little agreement" within dyads on pre-appraisal conditions, but "moderate agreement on the affective orientation of the interview, objective qualities of it, and the nature of subordinate performance" (1981, p. 311).

The potential for widespread disagreement is suggested by role theory and socialization research. Research has consistently shown that people's attitudes and views change considerably as they cross organizational boundaries and enter new role sets (Berlow & Hall, 1966; Katz & Kahn, 1979; Schein, 1968; Van Maanen & Schein, 1979). For example, the classic work by Lieberman (1956) demonstrates that workers' views shift after they get promoted into management and then shift back when they return to non-managerial jobs. Since PA participants are generally from different organizational strata with differing

role demands and expectations, one could argue that they are socialized to have differing views and cognitive frameworks (e.g., schema) which will lead to divergent perceptions.

This research attempts to identify the PA issues on which managers and their subordinates tend to agree, and then offers a theoretical framework for understanding the patterns of agreement. It is exploratory and attempts to suggest, rather than test, hypotheses. The first area considered is the nature of the meeting and its outcomes. A second area concerns the context of that dyadic exchange and includes such factors as the subordinate's performance and satisfaction levels going into the meeting, the nature of the subordinate's job, the broader organizational environment, and general beliefs concerning the PA system. The first area represents perceptions of a specific, joint interpersonal experience and, as such, some convergence may be expected. The second area is much more diffuse and, accordingly, may reveal more divergence.

Knowledge of the pattern and extent of convergence versus divergence is needed for further research and conceptual development. First, knowing what issues managers and subordinates tend to agree about will aid the interpretation of past and future results which use data from only one participant. For example, evidence that there is strong agreement or strong disagreement on a particular focus (e.g., participation) should influence the way in which correlations with that variable using subordinate-only data are interpreted (e.g., Burke, et al, 1978; Greller, 1978). Second, identifying patterns of agreement in an on-going organizational event like PA provides a means for better understanding and extending concepts on cognitive processes which have generally been developed and tested solely in laboratory settings using students. Ilgen & Favero (1985) have noted the potential hazards of

generalizing laboratory tested social psychological theories to organizational practices such as PA. Third, a map of agreement patterns will provide an informed basis for conducting further research on the causes and consequences of agreement on selected foci. For example, the extent and consequences of performance-level disagreement has been considered by a number of researchers (Baird, 1977; Henemann, 1974; Lawler, 1966; Smircich & Chesser, 1981; Thornton, 1968). However, at this point we do not have any basis for concluding that this, compared to other foci, is even an area of high divergence.

Methodology

Sample

Data were gathered from nine strategic business units (SBUs) of the General Electric Corporation. These SBUs are dispersed across the continental U.S. and represent industries ranging from consumer products to medical technology. The company places a high emphasis on PA and generally encourages such practices as goal setting, future performance planning, participation, and separating pay and development discussions. Within this broad philosophy, substantial local autonomy is given. Interviews with PA administrators, line managers and subordinates confirmed that there is a wide range of PA practices and philosophies across units.¹

Questionnaire responses were gathered from two independent samples. In each sample, manager and subordinate pairs scheduled to conduct a PA interview were selected on a stratified (by hierarchical level and functional area) and random basis. Each provided independent questionnaire data.

The Before-After (BA) sample consists of matched manager and subordinate pairs scheduled to conduct an appraisal interview at year end. Questionnaire data were gathered in September prior to the PA session (Before Questionnaire)

and in December or January subsequent to the interview (After Questionnaire). Each was administered in sessions held during regular work hours. Six hundred pairs were initially identified. Approximately 500 managers and/or subordinates provided responses to the Before questionnaire, while around 325 managers and/or subordinates provided After data. In a number of cases, missing data were due to scheduling conflicts and staffing changes (e.g., rescheduling of the interview, promotions, transfers, etc.) during the six-month period between sample selection and the final questionnaire administration.

The After Only (AO) sample consists of 600 matched manager and subordinate pairs who had completed PA interviews during the previous year. These pairs completed questionnaires in September one to twelve months ($x = 6.44$) after their PA meeting in a setting similar to the BA sample and were drawn from the same organizational units as the BA sample. Data were obtained from approximately 500 managers and/or subordinates. This sample provided both a replication group and a check on the reactive influences of the Before questionnaire in the BA sample.

In terms of basic demographic characteristics, the samples are very similar. Around 30% are in engineering, while just under 30% are in a manufacturing function. In both samples, the managers are slightly older (mean age: 45) than their subordinates (mean age: 41) and have slightly higher education levels. Forty-eight percent of the managers have Bachelors degrees and 30% have graduate degrees. Approximately 40% of the subordinates have Bachelors degrees and around 20% have graduate degrees. Both are primarily caucasian (approximate 90%) and male (95%). On the average, managers have been in the company for around 20 years and in their current position for four to

five years. Subordinates have slightly less organizational tenure (17 years) and just over five years in their current position. Almost all of the appraisers have formal supervisory responsibilities, while about one-third of the appraisees do. The managers in both samples each supervise approximately six subordinates and conducted that many PAs during the preceding year.

Measures

In developing scales, conceptually related clusters of items were identified and their intercorrelation patterns were evaluated. Items were the same in both manager and subordinate questionnaire versions. Only the item referent was different, e.g., "I made suggestions..." (in the subordinate questionnaires) versus "My subordinate made suggestions..." (in the manager questionnaires). The resulting scales are discussed in the various categories presented below. (See Prince and Lawler [1986] for a discussion of the factor analysis of several of the scales included in this study.)

PA Meeting Characteristics. Six scales concerned with the process and content characteristics of the PA interview were developed. The (a) Work Planning and Goal Setting (WP & GS) scale assesses the extent to which the PA involved "setting future performance goals" and identifying "ways to improve performance." The (b) Contribution of the Subordinate scale (from Greller's [1978] "contribution" scale) focuses on the subordinate's behavior and impact on decisions made in the meeting (e.g., "made suggestions," "had an impact," etc.) The (c) Opportunity to Participate scale (from Greller's [1978] "ownership" scale) assesses the extent to which the subordinate's participation was invited. (d) Supportive Climate describes the extent to which the meeting was viewed as relaxed, constructive, and trusting (versus tense, destructive, and distrusting). The (e) Career Development Focus scale indicates the extent

to which the subordinate's future career was considered. Finally, (f) Salary Change Discussion assesses the degree that the session incorporated a discussion of salary change decisions.

Outcomes of PA. Three scales focus on the outcomes of the appraisal interview. The (a) Subordinate's PA Utility indicates the extent to which the subordinate learned a lot and experienced improved role clarity due to the PA meeting (from Greller, 1978). The (b) Subordinate's PA Satisfaction is measured with an item from Greller's (1978) satisfaction scale. (c) Subordinate's Performance Improvement resulting from the PA session is measured with a single-item, anchored by phrases ranging from (7) "Improved Very Much" to (4) "Stayed About the Same" and (1) "Fallen Off Considerably."

PA System Perceptions. Four scales concern beliefs about the PA system. The (a) PA System Satisfaction scale captures the extent to which employees are satisfied with the PA system. (b) PA is Useful-Helpful focuses on the general belief that appraisal meetings lead to better role understanding, motivation, and productive changes in the subordinate's behavior. (c) PA System is Used addresses the belief that promotion and salary decisions are based on PA results. Finally, (d) PA Should Be Used assesses the general belief that salary and promotion decisions should be based on PA results.

Broader Organizational Context. Three scales consider the organizational context. The (a) Instrumentality-Punishments scale measures the extent to which various punishments (e.g., being the first to be fired or laid off, smaller than normal salary increases, not being promoted, etc.) are a direct consequence of poor performance. (b) Instrumentality-Rewards assesses the extent to which good performance is seen as leading to rewards (e.g., larger salary increases, job security, promotions). Finally, (c) the Communication

Openness scale measures a broad construct measuring levels of communication openness, trust and participative management.

Performance and Satisfaction Levels. Two scales considered the subordinate's performance and satisfaction level. (a) Subordinate's Performance measures the manager's assessment and the subordinate's self-evaluation prior to the PA meeting. This scale was anchored in phrases widely used in the company (e.g., [1] "Was below minimum standards," [4] "Met normal standards," [7] "Far exceeded normal standards"). The (b) Subordinate's General Satisfaction assesses the extent to which the subordinate was satisfied with various components of the work situation (i.e., job, supervisor, peers, promotion opportunities, and pay) prior to the interview.

Subordinate's Job and Personal Characteristics. Three scales focus on the subordinate's job and personal characteristics. The (a) Agreement on Duties scale assesses the extent to which subordinates and managers independently perceive that they agree on the subordinate's responsibilities and what represents good performance. (b) Role Clarity is the degree to which the subordinate's duties are well specified and a clear set of priorities has been established. Finally, the (c) Subordinate's Upward Mobility Aspirations scale assesses the degree to which the subordinate desires to move to higher positions in the organization.

Summary. All of the above concepts (except the two instrumentality scales which were unavailable in the AO sample) are assessed from both the subordinate's and manager's perspective in each of the two samples. All AO sample scales were gathered after the focal PA interview. The BA sample data came from two points in time. The interview characteristics and outcomes were necessarily gathered after the PA event in the After questionnaire. The other

measures in the BA sample, which assess the context of that interview (including the subordinate's performance level) are from the Before questionnaire administered prior to the appraisal session.

As can be seen in Table 1, the scale characteristics for both samples are generally good. The scales from the BA sample sometimes have slightly better psychometric properties (e.g., variance and reliability). This is primarily because in the AO sample there are fewer items on some scales and a longer time lag between the meeting and questionnaire administration ($\bar{x} = 6.44$) versus a range of one to two months in the BA sample). The AO sample, however, does provide a useful replication test of the of the BA sample results. Additionally, it provides a group who were not primed by a questionnaire prior to the PA.

Insert Table 1 Here

Analysis

Two separate dimensions of divergence-convergence are utilized. The first concerns the extent to which managers and their subordinates agree on the extent something happened (e.g., participation). This dimension will be referred to as calibration agreement and is measured by the difference in mean response level (i.e., T-tests). The second dimension considers the covariance pattern and is measured by correlational statistics. Lack of covariance suggests that more than simply semantic and affect divergence exists and that there is a fundamental discrepancy in the way each party subjectively punctuates and interprets their common interpersonal experience (Weick, 1979). Multiple regression is used to control for covariance among foci and make a multivariate determination of divergence.

Results

Calibration Agreement

Analysis of the two dimensions of agreement are presented in Table 2. The left-half of the table compares subordinates' and managers' mean ratings on the various PA interview and contextual factors. The data indicate that managers and subordinates appear to differ considerably in how they calibrate the levels of the various aspects of their joint PA experience and the context of that exchange. Some of the more extreme calibration or mean level differences include perceptions of the subordinate's utility, perceived agreement on duties, and instrumentality-rewards.

The calibration differences exceed a full scale point at times and all but a few were significant at the $p \leq .001$ level. Managers generally rate these factors higher. Key exceptions to that pattern are: (a) subordinate's upward mobility aspirations and (b) subordinate's performance level prior to the PA. The factors on which there were not significant calibration differences include: (a) the subordinate's general satisfaction, (b) the amount of performance improvement resulting from PA, and (c) the extent salary change was discussed during the meeting. Overall, there is not a clear case of perceptions of meeting characteristics being more convergent than assessments of contextual factors.

Insert Table 2 here

Covariance Pattern Agreement

The second dimension concerns covariance patterns as measured by zero-order correlation coefficients on the right side of Table 2. The meeting

characteristics with the highest covariance convergence were: (a) salary change discussion, (b) subordinate's PA satisfaction, and (c) career development. These significantly correlated foci had coefficients ranging from .22 to .38. Contextual factors with the highest convergence in both samples include: (a) subordinate's upward mobility aspirations ($r = .56$ and $.48$ in the BA and AO sample, respectively), (b) subordinate's general satisfaction ($r = .37$ and $.33$), and (c) subordinate's performance rating ($.21$ and $.31$). Contextual factors with the highest divergence include: (a) the belief that PA should be used for promotion and salary change decisions ($r = .02$ and $.05$), and (b) level of communications openness in the organization ($r = .06$ and $.08$). The most divergent PA meeting and outcome foci are: (a) subordinate's performance improvement resulting from the PA ($.09$ and $.06$), (b) work planning and goal setting ($.04$ and $.11$), and (c) amount of utility achieved by the subordinate from the event ($.06$ and $.12$).

Bivariate Analysis Summary

Figure 1 is presented as a heuristic device which allows comparisons between foci of interest on both dimensions of agreement. The correlations and t-values from the BA sample analyses are used in graphing the variables into a two dimensional plot. Confirmation with analyses in the AO sample is indicated in the parentheses next to each variable. Results confirmed with both analyses are underlined. While far from a precise (given the lack of a uniform sample size on all variables and the unequal intervals across coordinates), the figure does facilitate the identification of divergence patterns. The variables in the lower right corner (notably subordinate's PA utility, work planning and goal setting, and perceptions of the performance rewards linkage) are foci on which managers and their subordinates tend to diverge strongly on both

dimensions. The upper left corner contains the variables which achieved some level of convergence on both dimensions. Only perceptions of subordinate's general satisfaction and salary change discussion are convergent on both dimensions. The largest cluster of variables is in the upper right corner. Subordinate and manager perceptions of these foci (e.g., supportive climate, feedback specificity, subordinate's performance improvement resulting from the PA, etc.) are minimally correlated, but relatively convergent on the calibration level dimension.

Insert Figure 1 here

Multivariate Analyses of Agreement

One limitation of the above analyses is that covariation among the different factors is ignored. Multiple regression addresses this limitation and determines which variables have a uniquely divergent pattern of perceptions. To perform this analysis, a new data set was created which placed manager and subordinate responses into separate cases. The scale values for all variables were written to the new data set in such a way that manager and subordinate values on common scales were placed in the same field (i.e., column and record) in separate cases. For example, the participation opportunity variable took on the subordinates' scale scores for half of the cases and the managers' assessments of the subordinate's participation opportunity for the other half. Only cases with complete manager and subordinate data are included. Cases are identified with a dummy-coded variable in which managers are coded "1" and the subordinates are coded "0."

Meeting Characteristics and Outcomes. The regression of the dummy-coded, manager-subordinate designation on the meeting characteristics and outcome variables to identify uniquely divergent factors is presented in Table 3. This analysis identifies the strength of systematic manager-subordinate divergence on each foci when other correlated factors are controlled. In the BA sample, all foci except salary change discussion are significantly positive, indicating that manager and subordinate perceptions on remaining foci are systematically divergent with the manager tending to make the higher rating. Overall, the magnitude and sign of the coefficients are consistent with the previous analysis. Indices, such as PA utility and work planning and goal setting, which are highly divergent on both agreement dimensions, have the highest correlations with the manager-subordinate designation. The least divergent focus in the previous analyses, salary change discussion, is not correlated with that designation. This indicates that managers and their subordinates are not divergent on this PA characteristic.

Insert Table 3 here

The coefficients in the second column are from the simple regression of all meeting and outcome characteristics on the manager-subordinate designation in the BA sample. Thus, the sometimes high colinearity between these predictors is partialled out. A number of variables which are significantly correlated with the manager-subordinate designation, are non-significant in the multivariate test. By far the most significant predictor is the rating of the subordinate's PA utility. This corresponds directly to the Figure 1 plot which identified it as the most divergent foci. This result indicates that managers

and their subordinates strongly and systematically differ in how they evaluate the amount of learning achieved by the subordinate even when other PA characteristics are jointly considered. The positive sign indicates that managers subjectively saw more learning than their subordinates.

Work planning and goal setting and the subordinate's opportunity to participate are the only two meeting characteristics that are sources of unique divergence. In both cases, the managers tend to see more of each of these in the PA event.

One unusual result concerns the negative sign of the subordinate's performance improvement term. The relationship changes from positive to negative when the covariation between predictors is controlled. Further analysis using stepwise regression indicates that this is due to the relationship between the subordinate's PA utility rating and performance improvement. Their zero-order correlation is .46 in the BA sample. When the common variance between terms is partialled out, the remaining residual variation in performance improvement is negatively related to the manager-subordinate designation. Stated differently, when perceptions of PA utility (which is generally rated higher by the manager) are controlled, it becomes clear that higher performance improvement ratings tend to be made by subordinates. This suggests that the positive zero-order correlation (.10) is misleading. The strong positive relationship between the subordinate's PA utility and performance improvement is masking the tendency for managers to make less lofty assessments of performance improvement. In Figure 1, the performance improvement variable is one of the less divergent foci. It is only in the multivariate test that the pattern of disagreement on performance improvement (with the higher rating being the subordinate's) matches the usual direction of

divergence on the subordinate's performance rating entering the PA meeting (Meyer, et al., 1965).

The fact that so many of the meeting characteristics terms failed to reach significance is striking. The widespread divergence indicated at the bivariate level of analysis is partly a function of the intercorrelation of the meeting characteristics and outcomes. That is, the bivariate correlation between many of the characteristics and the manager-subordinate designation is carrying variance that is more directly associated with PA outcomes (utility and performance improvement) and the dummy-coded manager-subordinate term. However, the intercorrelation between the meeting characteristics and outcomes is not simply measurement imprecision, but, as a number of studies have suggested, could reflect a causal connection. Including all variables in the equation can control variance that reveals further information on the nature of agreement in the PA. To address this prospect, meeting characteristic and outcome variables were included in separate simple regressions.

The analysis of the meeting characteristics in the BA sample, presented in the second β column of Table 3, indicates that both work planning and goal setting and the opportunity to participate are areas of strong divergence with the subordinates systematically seeing less of each occurring. Other PA characteristics (e.g., the behavioral contribution of the subordinate) are again identified as foci on which managers and their subordinates do not disagree. The evidence of divergence on most of the PA characteristic variables found at the bivariate level is a function of their correlation with participation opportunity and work planning and goal setting.

The results of the analysis with the outcome measures in the BA sample are consistent with the first regression. Both utility and performance improvement

are clearly divergent foci. The subordinate's satisfaction with the PA is not something one party systematically over- or under-rated when its intercorrelation with other outcome measures is controlled.

The AO sample is used as a replication check of the regressions in the BA sample. These results are presented on the right side of Table 3. Many of the findings noted above (e.g., the marked divergence on PA utility) were confirmed. Four differences are apparent. First, divergence on work planning and goal setting is more marked and highly significant in all regressions in which it is entered. Second, career development discussion is a consistent divergent foci in both regressions in which it entered. Managers perceived more of this type of discussion occurring. These two differences resulted in more overall variance being explained by the meeting characteristics (Adjusted $R^2 = .25$ versus $.19$). Third, the PA satisfaction term in the third regression (with only the outcomes) is significant. Fourth, there is a negative regression weight of the participation-contribution term. However, this was marginally significant in the first regression and did not achieve even trend level ($p \leq .10$) significance in the regression with only the PA characteristics. Since these last two differences are quite weak, they should probably be discounted.²

In summary, the meeting and outcome characteristics which are the most divergent are: (a) subordinate's PA utility, (b) subordinate's performance improvement resulting from PA, (c) work planning and goal setting, (d) opportunity to participate and, possibly, (e) career development focus. With the exception of the career development discussion, these results were confirmed in regressions in independent samples which exhibited minimal shrinkage.

Contextual Factors. The regression analyses presented in Table 4 considered divergence on the contextual factors surrounding the PA interview. In the BA sample, all of the bivariate correlations are statistically significant, but range from .06 to .31 in magnitude. Two of these correlations were negative, subordinate's performance level and upward mobility aspirations level, indicating that subordinates tend to rate themselves higher on these dimensions than their managers. This is consistent with the t-test analyses as are the other correlations. Foci which appeared most divergent on the Figure 1 plot, have the highest coefficients (e.g., agreement on the subordinate's job duties, PA system used). The subordinate's general satisfaction which has the highest convergence in that plot has the lowest correlation, .06.

Insert Table 4 here

The second column presents the results of the regression in which all contextual factors are simultaneously entered. While a number of foci are not significant, there are five areas with clear evidence of divergence. These are: subordinate's performance level, agreement on job duties, belief that PA results are used, subordinate's general satisfaction, and subordinate's upward mobility aspirations.

The finding that performance level perceptions are systematically divergent is consistent with past research (e.g., Thornton, 1968; Smircich & Chesser, 1981). This analysis confirms those previous findings and extends them by documenting that the tendency for appraisees to rate their performance higher than their appraiser (indicated by the negative Beta weight) is apparent even when various other factors (e.g., agreement on duties, general satisfaction, etc.) are controlled.

One unusual result is the negative Beta weight on the subordinate's general satisfaction. The bivariate correlation between this variable and the dummy-coded manager-subordinate designation is low, but positive. Further analysis reveals that the change of sign is due to its high correlation with agreement on job duties ($r = .45$ in the BA sample). When the relationship with the agreement scale is statistically controlled in supplemental stepwise regression analysis, the sign on the subordinate's general satisfaction term becomes negative. This suggests that the positive bivariate correlation, which indicates that managers rate their subordinate's satisfaction higher, is deceptive. It is present only because the subordinate's generally lower agreement on duties perceptions tends to pull down their general satisfaction rating. When the confounding effects of this factor are controlled, it is the manager's evaluation of the subordinate's satisfaction which tends to be the lower of the two.

The AO sample is again used as an independent replication check of the BA sample results. Those results are presented on the right side of Table 4. With only two exceptions, each of the findings in the BA sample were confirmed. Beta weights which are the highest in the BA sample regressions (i.e., agreement and performance level) were also the highest in the AO sample. The first difference is that the manager's belief that PA should be used to make promotion and salary decisions is significantly stronger than their subordinates. The second exception is that the negative regression weight for the subordinate's general satisfaction was not as strong in the replication sample.

Instrumentality perceptions were areas of divergence evident in the bivariate analyses. These scales were excluded from the BA regressions

presented in Table 4 because they were not available for the replication analysis in AO sample. However, supplemental regression analysis in the BA sample indicates that managers have significantly stronger beliefs that rewards are linked to good performance.

Discussion

The findings consistently underscore that managers descriptions of the nature and consequences of the appraisal session diverge considerably from the perceptions of their subordinates. Similarly, perceptions of the larger context, such as the characteristics of the subordinate and the uses of PA results, are systematically divergent.

At the bivariate level of analysis nearly all meeting characteristic and contextual factors are areas of disagreement. Foci which are relatively less divergent (e.g., supportiveness of meeting climate, PA system satisfaction, subordinates' performance improvement, etc.) are minimally, and often nonsignificantly, correlated. The subordinate's general satisfaction and salary change discussion are the only issues where there is a tendency to agree. Indices which are perhaps most indicative of a successful meeting, such as the amount of learning achieved by the subordinate and the extent of work planning and goal setting, are areas of extreme divergence.

Divergence on contextual factors is similarly evident. There is, however, no obvious argument as to why there should be high agreement on some of these. Each party's perception of the organization's communications quality, reward system and general beliefs concerning PA practices are potentially derived from different experiences or social attachments. In spite of this, there is only somewhat less divergence on these factors in the bivariate analysis, than those

where the focus is less diffuse and directed on a common event (the PA interview), person (the subordinate), or situation (the subordinate's job).

The multivariate analysis reveals that divergence can be explained by a subset of factors. Much of the divergence on meeting characteristics observed in the bivariate analysis is explained by the lack of agreement on the presumed outcomes of those meeting processes, particularly, the level of learning and improved role clarity (utility) resulting from the meeting. This does not mean that there is actually agreement on the meeting characteristics. Rather, it suggests that meeting character divergence can be attributed to disagreements on the outcomes of those meeting attributes. Work planning and goal setting, opportunity to participate and, to a lesser extent, career planning discussion are areas of unique divergence.

There appear to be many sources of unique divergence with respect to the meeting context. While many of the disagreement areas present in the bivariate analysis are not evident in the regression analysis, there are several factors which represent areas of divergence. Areas in which the manager perceives systematically lower level, are focused on characteristics of the subordinate (i.e., performance level, upward mobility aspirations and general satisfaction. Areas which managers systematically rate higher are (a) the level of agreement on the subordinate's job requirements, (b) the extent PA results are, and should be, used to make salary and promotion decisions, and (c) the contingent link between good performance and rewards.

In the multivariate analysis, there is a tendency for the variables with more of a common focus for both parties to be significantly divergent. These included characteristics of the subordinate (i.e., performance, satisfaction and aspiration level) and the perceived shared understanding on job duties.

Other more diffuse foci (e.g., general PA system perceptions, communications openness) are perhaps not so much areas of agreement as they are issues where manager and subordinate perceptions have a somewhat random relationship to each other. While nonsignificance in the regression equation indicates the lack of systematic divergence, the lack of agreement on the covariance and calibration dimensions weakens the case for convergence considerably.

Implications

Interpreting Subordinate-Only Data

Much of the previous research on PA has been based solely on the subordinate's perceptions. For example, research on the subordinate's participation (Greller, 1978) has concluded that it is the opportunity to participate, or "psychological participation" (Bernardian & Beatty, 1982, p.281), rather than the actual amount of participation that is key. This study raises some questions about that conclusion. Would the same conclusion have been found had managers' perceptions been included? Given the strong divergence between what the subordinate and manager see as an opportunity to participate, it is unlikely. Preliminary analysis of this issue suggests that managers weight more heavily what they can actually see (i.e., the level of behavioral participation) in drawing conclusions about the effectiveness of the appraisal meeting. Discounting actual participation and elevating simply the opportunity to participate appears premature. This flags how problematic it is to define something like opportunity to participate. What appears to be evidence to one party is discounted, dismissed or interpreted differently by the other. Since there is no basis for giving either party's perception primacy over the other, drawing implications for practice from one party's view is unfounded until this lack of consensus is further evaluated.

This is also true of the work on goal setting and work planning. Past laboratory research research has provided a solid theoretical basis for this practice (Locke, Shaw, Saari, & Latham, 1981). However, the key field investigation of this practice in the PA setting employed subordinate-only perceptions (Burke, et al., 1978). They found that solving job problems and setting specific goals correlated with PA satisfaction and performance improvement. Relying on these data to conclude that goal setting and action planning in the PA is key element in an effective meeting, as have Schneier and Beatty (1979) and Latham and Wexley (1982), is problematic given the extreme divergence evident here. The behavioral cues which add up to work planning and goal setting for one party seem to add up to something else for the other. Without further dyadic-level analysis, ubiquitous halo error (Cooper, 1981) or the correlational or construct bias (Kane & Lawler, 1979) resulting from people's spurious assumptions about meeting characteristics and outcome covariance remain credible competing hypotheses.

Cognitive Processes in PA

Why do managers and subordinates consistently disagree about key aspects of an interpersonal event in which they jointly participated and, in fact, created? A number of possible answers can be derived from the growing literature on attribution theory and cognitive perspectives on PA. This literature has often focused on performance rating validity, but is also relevant to the appraisal meeting. The roots of much of this work can be traced to Heider's statement that "attribution and cognitions are influenced by the mere subjective forces of needs and wishes as well as by the more objective evidence presented in the raw material" (1958, 120-121).

Attributional biases. A number of authors have argued that people in uncertain situations tend to construct explanations which enhance their "feelings of effectance (White, 1959) and sense of being in control (Kelley, 1972)" (Green & Mitchell, 1979, 430-431). Applied to PA, this reasoning suggests that divergent perceptions are partially a result of ego or effectance enhancement for one party and ego defensiveness for the other. Characteristics like work planning, participation, opportunity to participate and the subordinate's utility derived from the PA have a distinct social desirability element. As a result, the person in charge of the PA event, typically the manager, can derive ego enhancement by unconsciously inflating his or her perceived performance in orchestrating these elements in the meeting. Of all the meeting characteristics, salary change discussion has the least obvious connection to what is generally considered a "good" developmental PA interview and, therefore, the least social desirability. It is clearly the most convergent on both the calibration level and covariance pattern dimensions in the bivariate analyses as well as the regression analyses. Subordinates, on the other hand, are less likely to be seen as responsible for the event and, thus, have little ego enhancement incentive to inflate. In fact, they may be motivated to engage in unconscious self-protective ego enhancement and depreciate their boss's performance by rating socially desirable meeting elements lower.

The pattern of results with the contextual factors is also consistent with this interpretation. Managers are more likely to see themselves as responsible for insuring agreement on the subordinate's job duties and performance criteria or rationalizing pay and promotion decisions with PA results. Thus, they would have the observed tendency to perceptually inflate these assessments.

Subordinates have a similar ego enhancement push to be generous in their own performance and mobility aspiration assessments. These are two factors on which the subordinate's rating are generally higher.

Other related cognitive explanations (e.g., Ilgin & Feldman, 1983; Wood & Mitchell, 1981) are useful in explaining divergence. When things go well in the PA interview, managers are more likely to make internal attributions and see themselves as causing success through the way they managed it (e.g., establishing specific goals, inviting participation, etc.). Subordinates in the successful PA situation are likely to also make internal attributions and focus on their own attributes and behavior rather than the boss'. Conversely, when things go poorly, subordinates are more likely to make external attributions and depreciate the boss's performance by seeing fewer goals established and participation opportunities, and relatively less improved role clarity. The manager is likely to attribute the cause of problems to subordinate controlled factors (e.g., stubbornness, etc.) rather than low levels of opportunity to participate, work planning, etc. Thus, whether the PA meeting was successful or problematic, cognitive forces operate which push up manager ratings and/or pull down subordinate ratings on many key interview attributes. In fact, the data suggest that the more a factor is seen as an important (and, thus, socially desirable) element of an effective PA meeting, then the more this bias tends to happen (e.g., goal setting and opportunity to participate versus salary change discussion).

Attentional differences. Other information processing factors such as selective attention (Ilgin & Feldman, 1983) can lead to divergence. For example, the discussion of future plans may be attended to more closely by the manager if he or she spent time prior to the interview preparing for that

discussion. The subordinate's attention can wane during this discussion in anticipation of an issue that he/she wants to raise later. A similar scenario in which the manager's attention wanes can also be envisioned. In either event, different patterns of attentiveness will lead each to a focus on a somewhat different set of events and, as a result, see divergent realities. The "rational man" assumption that both parties are alert and diligently attending to all elements of situation is unrealistic.

Cognitive structures. Emerging research on social cognition (Feldman, 1981; Lord, 1985) suggests that much of the cognitive work in an event like the annual appraisal session is automated rather than consciously controlled. As such, cognitive structures (i.e., self, person, event or person-in-situation schemas) will unconsciously guide the information organization and storage processes during the meeting as well as the recall and judgement processes required to draw conclusions and make inferences (and complete a questionnaire).

Schema theory argues that social information about people and events is stored in abstract categories. Essentially, observations are compared to category prototypes (or exemplars) and classed or coded into categories with prototype attributes most similar to the perceived event or person (Taylor & Crocker, 1981; Lord & Foti, 1986; Tversky, 1977). Once an event is categorized and short-term memory is cleared, social judgments involve accessing schemas which only partially capture the original experience. This has the benefit of allowing efficient information processing, but leads to loss of information and the tendency to recall prototype consistent data which, in fact, never occurred (Phillips, 1984). Also, there is a point-of-view effect (Anderson & Pichert, 1978) which will also impact the recall and interpretation of events. For

example, subordinates receiving good performance feedback will recall different processes than if they had received negative feedback (Binning & Lord, 1980).

Since role-related experiences, training and social information influences direct schema development, it is probable that managers and subordinates will approach the PA with different schemas. A question posed by the manager may be interpreted with a participative meeting script leading to the recall of providing opportunities to participate. The subordinate operating with different schemas may ignore that behavior or code it using a person schema which could lead to the assessment that the manager is a democratic leader or, possibly, confrontational and non-supportive. Additionally, even if they used the same type of schema, there can be schema-based disagreement as to the level of a given attribute which a given behavior suggests.

Covariance pattern convergence may indicate schema agreement. It would appear that there is some convergence on the events and behaviors that relate to the level of participation and career development discussion since manager and subordinate perceptions of each of these are significantly correlated (i.e., managers and subordinates tend to have similar schemas for these meeting attributes). Similarly, there appears to be relative convergence on the cues which form the bases for each party's perception of the subordinate's performance and role clarity. The commonality between person schemas which relate to mobility aspirations attributes appear quite high. There is 25% common variance between subordinate and manager measures of that construct. However, given the high divergence in calibration levels on these foci, it appears that managers and subordinates tend to add up those cues (e.g. behaviors and events) quite differently. Only in the case of salary change was there evidence of schema and calibration agreement.

The foci on which there is uncorrelated perceptions may identify fundamental role-based schema differences between managers and subordinates. In these cases, the same behaviors and events are interpreted with contrasting schemas. Utility or learning level resulting from the PA is a prime example of a fundamentally divergent focus. Cues which get categorized as evidence of learning by one party tend to be either ignored or categorized differently by the other. Whether or not the group means of such variables are equivalent is somewhat irrelevant. Other variables which fit this category in varying degrees include: (a) work planning and goal setting, (b) subordinate's performance improvement resulting from PA, (c) instrumentality-punishment, and (d) communication openness.

Consequences and Causes of Agreement

The third area in which these results have implications concern the consequences and causes of agreement on specific foci. These results have provided a broad map of factors on which managers and subordinates tend to diverge versus converge. Areas where there is a demonstrated tendency to diverge is the logical starting point for further research. This research should focus on (a) the cognitive and interpersonal processes which lead to agreement versus disagreement, (b) the consequences of disagreement, and (c) the broader organizational context. While questionnaire data from matched manager-subordinate samples can be useful, cognitive and interpersonal processes can probably be best addressed with observational research designs which track particular behavioral events and their interpretation. Identification of cognitive maps (Bougon, Weick, & Binhurst, 1977) should also facilitate the understanding of cognition-behavior linkages.

Concerning the second issue, the consequences of disagreement may be functional in some ways, but dysfunctional in others. Often it is assumed to only be the latter (Meyer, et al., 1965). However, this is an under-researched assumption. Divergence on some issues probably has little or no impact on the meeting or its outcomes. Disagreement on the qualities of the PA meeting and its outcomes may have more direct implications on the functioning of the PA system as well as manager-subordinate interactions, in general. Disagreements are social information which can help shape others' expectations and schemas. These issues have not been investigated in any depth. In spite of the methodological difficulties this task presents (Johns, 1981), divergence is a fact of life in organizations and we need to better understand its consequences.

Concerning the third issue, understanding disagreement and its consequences does necessitate that we appreciate how the broader context of the appraisal event influences divergence on particular issues (Morgan & DeVries, 1979). Contextual factors such as personal relationships, nature of the subordinate's job, and the broader organization can facilitate or inhibit the extent of convergence, or alter or moderate the relationship between divergence and some outcome.

Research on divergence has been primarily focused on the performance level of the subordinate. The map provided by this research indicates that while this is an important contextual factor on which managers and subordinates tend to disagree, it is by no means the only factor, or even the most extreme. Other contextual factors such as the extent of agreement on job requirements and beliefs about the purpose and use of PA system data, are also highly divergent factors which deserve consideration. The past focus on performance

level disagreement is a simple extension of the field's historical subscription to the ontology of realism and its attendant concern with criterion validity. It is not particularly data or theory directed and may not be as important as other areas of divergence.

Future Research and Implications for Practice

The implications of this research for organizational practice are quite direct. First, interventions which have the effect of telling managers to be more "objective" in the appraisal process are not likely to be very effective. Much of the PA advice the field currently gives managers implicitly tells them to suppress automated cognitive activity and rely only on controlled processes. This simply is not realistic; it is contrary to much of what we know about human social cognition. Managers will always use person schemas in evaluating individuals and will enter the appraisal meeting with, perhaps, a few conscious plans and objectives, but many cognitive structures, notably scripts, which will inevitably be evoked and be a major director of action and perception.

Future research should consider what types of cognitive structures lead to better evaluations and a more coordinated interaction or meeting of minds during the appraisal event. This necessitates that we use measures of initial cognitive structures as a starting point in training managers and subordinates to conduct PAs. Knowing these will guide the process of developing and changing cognitive structures to those which facilitate PA effectiveness.

Second, subordinates should stop being ignored. In spite of the fact that empirical studies have tended to use subordinate-only data, most of the PA advice and training is directed at managers. The reality which subordinates construct during the PA meeting has as much to do with the expectations and interpretive structures they bring to the meeting as the things which are done

to them by their managers. The subordinate's cognitive processes and action tendencies will continue to get in the way of well-laid managerial plans, and evoke scripted reactions in both parties. Focusing on only the managerial side of an interpersonal event will continue to deliver less than half the picture.

Third, the broader social context must be considered more fully. Organizational level and role-based differences are quite evident in the results presented here. These reflect systematic differences in the experiences, training and social information of actors from different organizational strata. Other contextual factors such as technology and job characteristics, socialization practices and culture, career orientation and human resource practices, and so forth will help fill in the picture. Research should also more fully consider Feldman's (1981, 142) assertion that the totality of contextual factors can create a somewhat ideographic quality of PA processes in a given organizational setting. What occurs and works in one setting may not be as generalizable as most field and, particularly, laboratory studies suggests.

Fourth, a continued heavy reliance on laboratory studies is a problem. Much of the basic development of theory relevant to the conduct of PA has occurred in the controlled confines of the laboratory. As Ilgen and Favero (1985) have argued, the lab setting may provide a rather dubious basis for organizational practices such as PA. Cognitive structures which guide college sophomores in a short-term laboratory exercise tell us precious little about the cognitive structures, reality construction and enactment processes of real managers and subordinates groping with mixed agenda, contradictory attributional tendencies, divergent schemas and incompatible scripts. While good, realistically complex,

lab experiments can continue to be useful, well designed field research is necessary.

Fifth, the use of training should be more broadly conceived. Training is typically used as a vehicle for delivering knowledge and techniques. Since much of what happens in an appraisal meeting occurs through the use of automated cognitive processes using cognitive structures, we should also address how training can impact the various scripts and schemas evoked during the meeting.

Sixth, the forms and instrumentation should also be more broadly considered. Objective circumstances such as formally imposed goal setting procedures and even the length of the appraisal cycle can help elicit certain cognitive structures. These design choices should be researched from the perspective of their power to evoke critical complementary expectations and cognitive schemas. For example, the positive impact of subordinate self-appraisals which parallel the manager's PA forms may derive their chief benefit from establishing consistent expectations and cueing compatible cognitive schema.

Finally, the most direct implication for future research, however, is that simple solutions to the continuous search for better appraisal systems are just not possible. Effectiveness of PA must be considered not only with multiple criteria, but also from the viewpoint of multiple constituencies. PA system design considerations are made inherently complex when the key parties to that event diverge so sharply in the way they subjectively punctuate emergent streams of interpersonal action and construct the reality they each face.

End Notes

1. See Prince and Lawler (1986) for a description of the sample and setting along with different analyses with this data set.
2. As an additional test of the validity of the pattern of divergence indicated above, a double cross-validation procedure was employed (Kerlinger & Pedhazur, 1973, p. 284). First, each of the regression equations produced in the BA sample is used to generate a predicted manager-subordinate designation value in the AO sample. This value was then correlated with the actual manager-subordinate designations in that sample. A parallel procedure was used to produce a validation R^2 for the BA sample. These coefficients are presented at the bottom of Table 3. All of the validation correlations are highly significant and reveal very little shrinkage. The minimal shrinkage is partially a consequence of using a dichotomous dependent variable.

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Table 1
Descriptive Statistics

Scales:	BEFORE-AFTER SAMPLE (BA):				AFTER ONLY SAMPLE (AO):			
	\bar{X}	S.D.	Alpha	# Items	\bar{X}	S.D.	Alpha	# Items
I. Manager Perceptions:								
1. Work Planning and Goal Setting (WP & GS)	3.09	.80	.55	2	3.37	.73	.53	2
2. Sub's Contribution	4.43	1.21	.72	3	4.65	1.16	.77	3
3. Sub's Opportunity	5.54	.83	.60	3	5.64	.75	.50	3
4. Supportive Climate	5.66	1.07	.84	5	5.79	.89	.82	5
5. Career Development Focus	3.09	.82	.82	2	3.38	.74	.80	2
6. Salary Change Discussion	2.18	1.14	--	1	2.25	1.17	-	1
7. Subordinate's PA Utility	4.96	.92	.73	3	5.09	.83	.72	3
8. Subordinate's PA Satisfaction	5.34	1.21	--	1	5.32	1.71	--	1
9. Subordinate's Performance Improvement	4.63	.81	--	1	4.76	.84	--	1
10. PA System Satisfaction	4.08	1.40	.84	2	4.16	1.35	.80	2
11. PA is Useful-Helpful	4.95	1.04	.76	4	4.91	1.06	.77	4
12. PA System Used	4.84	1.46	.72	2	4.81	1.48	.69	2
13. PA Should be Useful	5.94	.97	.79	2	5.90	.96	.76	2
14. Subordinate's Performance	4.97	1.27	--	1	5.05	1.18	--	1
15. Instrumentality-Rewards	5.04	.97	.75	6	N/A	--	--	--
16. Instrumentality-Punishment	5.35	1.08	.65	4	N/A	--	--	--
17. Communication Openness	4.97	1.08	.75	5	4.83	1.09	.74	5
18. Agreement on Duties	5.48	.86	.68	2	5.68	.78	.70	2
19. Role Clarity	5.01	.85	.72	6	5.05	.87	.72	6
20. Subordinate's Upward Mobility Aspirations	4.61	2.00	.95	2	4.96	1.95	.94	2
21. Subordinate's General Satisfaction	4.97	.80	.73	6	4.93	.86	.77	6
II. Subordinate Perceptions:								
1. Work Planning and Goal Setting	2.39	.91	.65	2	2.50	.88	.68	2
2. Sub's Contribution	3.80	1.43	.78	3	4.11	1.33	.73	3
3. Sub's Opportunity	4.69	1.39	.79	3	4.78	1.34	.79	3
4. Supportive Climate	5.27	1.34	.90	5	5.29	1.14	.85	5
5. Career Development Focus	2.53	.94	.85	2	2.62	.94	.85	2
6. Salary Change Discussion	2.06	1.14	--	1	2.12	1.12	--	1
7. Subordinate's PA Utility	3.73	1.33	.82	3	3.99	1.27	.78	3
8. Subordinate's PA Satisfaction	4.46	1.81	--	1	3.90	2.27	--	1
9. Subordinate's Performance Improvement	4.40	.91	--	1	4.50	.92	--	1
10. PA System Satisfaction	3.78	1.29	.86	2	3.89	1.22	.68	2
11. PA is Useful-Helpful	4.54	1.27	.80	4	4.59	1.23	.80	4
12. PA System Used	4.05	1.64	.72	2	4.05	1.64	.67	2
13. PA Should be Used	5.68	1.30	.90	2	5.60	1.41	.88	2
14. Subordinate's Performance	5.70	.88	--	1	5.65	1.00	--	1
15. Instrumentality-Rewards	4.25	1.14	.77	6	N/A	--	--	--
16. Instrumentality-Punishment	4.92	1.28	.71	4	N/A	--	--	--
17. Communication Openness	4.48	1.20	.75	5	4.36	1.17	.74	5
18. Agreement on Duties	4.76	1.33	.82	2	5.07	1.21	.75	2
19. Role clarity	4.54	1.09	.76	5	4.49	1.06	.76	5
20. Subordinate's Upward Mobility Aspirations	5.42	1.77	.95	2	5.60	1.67	.94	2
21. Subordinate's General Satisfaction	4.87	.95	.78	6	4.83	.97	.71	6

Note: " \bar{X} " refers to the scale mean; "SD" refers to the standard deviation; "Alpha" refers to the standardized Cronbach Alpha coefficient; and "# Items" indicates the number of items used to compose the scale. "N/A" indicates that the instrumentality scales were not available in the AO sample. The n in the BA sample was 317 to 339 for the PA characteristics and outcomes and 493-505 for the PA contextual factors; the n in the AO sample is 448 to 523.

Table 2
Patterns of Manager-Subordinate Agreement

Variables:	Sample ¹	N	CALIBRATION DIFFERENCES ²		t-value	COVARIANCE SIMILARITY ³
			Sub's \bar{X}	Mgr's \bar{X}		
I. PA Meeting Characteristics:						
1. Work Planning and Goal Setting (WP & GS)	BA	237	2.33	3.10	10.03***	04
	AO	393	2.51	3.38	15.82***	11*
2. Contribution by Subordinate	BA	232	3.82	4.42	5.19***	14*
	AO	395	4.09	4.66	7.06***	22***
3. Opportunity to Participate	BA	236	4.66	5.56	9.08***	13 ^t
	AO	400	4.77	5.65	11.97***	11*
4. Supportive Climate	BA	232	5.29	5.70	3.81***	13 ^t
	AO	388	5.28	5.78	6.82***	02
5. Career Development Focus	BA	238	2.51	3.09	8.01***	22***
	AO	397	2.63	3.36	13.73***	23***
6. Salary Change Discussion	BA	238	2.06	2.20	1.65 ^t	38***
	AO	399	2.15	2.25	1.56	27***
II. Outcomes of PA:						
7. Subordinate's PA Utility	BA	236	3.71	4.95	11.98***	06
	AO	390	3.98	5.08	15.11***	12*
8. Subordinate's PA Satisfaction	BA	239	4.56	5.41	7.20***	31***
	AO	454	3.90	5.32	13.26***	25***
9. Subordinate's Performance Improvement	BA	234	4.44	4.63	2.56*	09
	AO	384	4.52	4.72	3.37***	06
III. PA System Perceptions:						
10. PA System Satisfaction	BA	444	3.76	4.09	3.78***	07
	AO	413	3.91	4.17	3.28***	21***
11. PA is Useful-Helpful	BA	442	4.53	4.94	5.44***	06
	AO	408	4.58	4.92	4.55***	10*
12. PA System Used	BA	449	4.01	4.82	7.92***	05
	AO	412	4.06	4.82	7.28***	08
13. PA Should be Used	BA	447	5.70	5.94	3.22***	02
	AO	408	5.60	5.92	4.04***	05
IV. Broader Organizational Context:						
14. Instrumentality-Rewards	BA	448	4.24	5.05	12.31***	15**
	AO	-	N/A	N/A	-	N/A
15. Instrumentality - Punishment	BA	449	4.91	5.32	5.61***	07
	AO	-	N/A	N/A	-	N/A
16. Communication Openness	BA	447	4.46	4.97	6.78***	06
	AO	391	4.34	4.83	6.49***	08
V. Performance & Satisfaction:						
17. Subordinate's Performance	BA	447	5.70	5.02	-10.69***	21***
	AO	397	5.64	5.05	-9.48***	33***
18. Subordinate's General Sat	BA	450	4.88	4.97	1.85 ^t	37***
	AO	397	4.81	4.94	2.42**	33***
VI. Subordinate & Job Duties:						
19. Agreement on Duties	BA	455	4.74	5.48	11.22***	21***
	AO	403	5.04	5.68	9.57***	13**
20. Role Clarity	BA	445	4.52	5.01	8.05***	18***
	AO	394	4.47	5.05	9.46***	23***
21. Subordinate's Upward Mobility Aspirations	BA	435	5.40	4.65	-8.83***	56***
	AO	398	5.63	4.93	-7.58***	48***

Notes: 1. "BA" and "AO" refer to the Before-After and After only samples, respectively.
 2. Level differences between the subordinates and their managers were evaluated with T-tests.
 3. Pattern Similarity was assessed with the Pearson moment-product correlation coefficient (r) and the significance of its departure from zero (p-value).

^t.10>p>.05 *.05>p>.001 **.01>p>.001 ***p<.001

Table 3

Regression Analysis of Divergence on PA Meeting
and Outcome Characteristics

Variables	BA Sample				AO Sample			
	<u>r</u>	<u>β</u>	<u>β</u>	<u>β</u>	<u>r</u>	<u>β</u>	<u>β</u>	<u>β</u>
1. Work Planning & Goal Setting	39***	12 ^c	27***	--	46***	23***	32***	--
2. Sub's Participation Contributions	20***	-06	-06	--	21***	-08*	-06	--
3. Sub's Participation Opportunity	36***	15*	22***	--	36***	11*	16***	--
4. Supportive Climate	17***	00	-01	--	24***	06	05	--
5. Career Development	30***	05	07	--	39***	14***	14***	--
6. Salary Change	05	00	00	--	04	00	00	--
7. Sub's P.A. Utility	46***	36***	--	49***	46***	29***	--	47***
8. Sub's P.A. Satisfaction	26***	-01	--	07	27***	-01	--	09**
9. Sub's Performance Improvement from PA	10*	-13**	--	-14**	14***	-.15***	--	-11**
Adjusted Multiple R^2 =		.24***	.19***	.23***		.29***	.25***	.22***
Validation r^2 =		.24***	.19***	.23***		.29***	.25***	.22***

- Notes:
1. The "r" column presents the bivariate Pearson correlation coefficient. The sample size is 426 in the BA sample and 698 in the AO sample.
 2. The first " β " column under each sample heading presents the standardized regression weights for the simultaneous regression of the meeting and outcome characteristics on the managers-subordinate designation; the second " β " column presents the standardized coefficients from the simple regression with only meeting characteristics; while the third " β " column presents the standardized weights for the equation produced when the outcome variables are simultaneously entered.
 3. The validation r^2 is the correlation between the actual manager-subordinate designation and the predicted designation derived from the regression equation produced in the other sample. Refer to end note number two.

^c.10 \geq p > 05

*.05 \geq p > .01

** .01 \geq p > .001

*** p \leq .001

Table 4

Regression Analysis of Divergence with PA
Contextual Factors

Contextual Factors	BA SAMPLE		AO SAMPLE	
	<u>r</u>	Simple <u>β</u>	<u>r</u>	Simple <u>β</u>
1. Subordinates Performance	-16***	-24***	-28**	-20***
2. Subordinate's General Satisfaction.	06*	-17***	06 ^t	-09*
3. Role Clarity	24***	00	28***	07
4. Agreement on Duties	31***	30***	31***	23***
5. Upward Mobility Aspirations	-21***	-14***	-22***	-16***
6. PA System Satisfaction	11***	00	12***	00
7. PA is Useful-Helpful	18***	03	14***	00
8. PA Used	25***	16***	23***	11**
9. PA Should be Used	11***	03	14***	14***
10. Communication Openness	21***	<u>05</u>	20***	<u>05</u>
	Adjusted Multiple R	= .23***		.22***
	Validation r^2	= .22***		.21***

Note: Only data with complete pair data are included. The "r" column presents the zero-order correlation coefficients. The "Simple β " column presents the standardized regression coefficients when all predictors are simultaneously entered. BA sample n is 766; the n for the AO is 688. Note that instrumentality-rewards and instrumentality-punishment scales were excluded from the AO analysis because they were not available in the BA sample. Supplemental analysis in the AO sample which included those scales found that instrumentality-rewards was an additional significant predictor. The procedure used to generate the validation r^2 coefficients is described in endnote number two.

^t.10 $\geq p > .05$

*.05 $\geq p > .01$

** .01 $\geq p > .001$

*** $p \leq .001$

