

The Effect of Interpersonal Affect on Performance Ratings: Is It Real or Spurious?

Heejoon Park*

Seoul National University

Seoul, Korea

Abstract

Despite the growing recognition among researchers of the potentially important role that interpersonal affect plays in performance appraisals, it is not clear whether the effect of interpersonal affect is real or attributable to unobserved ratee characteristics. Using a fixed effects model, I find that the effect of interpersonal affect on ratings is significant and independent of unobserved ratee characteristics. These results suggest that interpersonal affect should be treated as a separate and important factor in performance appraisals.

Keywords: performance appraisal, interpersonal affect, unobserved ratee characteristics

INTRODUCTION

A growing number of researchers have recognized interpersonal affect as a potentially important influence on ratings (e.g., DeCotiis and Petit 1978; Dipboye 1985; Lefkowitz 2000; Park, Sims, and Motowidlo 1986). Interpersonal affect can be defined as an individual's emotional reaction to a specific person. According to Zajonc (1980), affect is "the major currency in which social intercourse is transacted" (p. 153). Affective judgments and reactions are primary, basic, inescapable,

* Assistant Professor, College of Business Administration, Seoul National University (hjpark@snu.ac.kr).

irrevocable, and need not depend on cognition (Zajonc 1980). Murphy and Cleveland (1991) have maintained that the influence of affect on ratings can be as strong as or even stronger than the influence of cognitive variables.

However, interpersonal affect has not received the attention it deserves in performance appraisal literature. Recent research on ratings tends to emphasize cognitive processes and ignore the role of interpersonal affect (Robbins and DeNisi 1994). This can be partially accounted for by the fact that it is not clear whether the observed relationship between interpersonal affect and ratings is real or attributable to unobserved ratee characteristics. Although previous field studies have consistently found that interpersonal affect is associated with ratings (Ferris et al. 1994; Judge and Ferris 1993; Tsui and Barry 1986; Varma, Pichler, and Srinvas 2005; Verma, DeNisi, and Peters 1996; Wayne and Ferris 1990), some scholars have argued that the relationship between interpersonal affect and ratings may be spurious (Robbins and DeNisi 1994; Verma et al. 1996). That is, previous studies have failed to control for potentially important ratee characteristics, thus running the risk of attributing a spurious effect to interpersonal affect.

One example of the potentially important variables omitted in previous studies is the past performance of ratees (Robbins and DeNisi 1994; Verma, DeNisi, and Peters 1996). Newcomb (1956) has suggested that interpersonal affect is a function of the rewards and punishments that one receives through interactions with a specific person. In work relationships, an individual's performance may serve as a reward or a punishment to others who work with him or her. Working with others who perform well may simply be a more pleasant experience than working with others who perform poorly. More importantly, an individual's performance may influence how others perform their jobs to the extent that their work is interdependent. A person may develop a positive affect toward others who perform well because of the high-performers' contribution to his or her own work performance. Previous research has demonstrated that members' performance is an important determinant of the quality of their relationships with their leaders (Bauer and Green 1996; Heneman, Greenberger, and Announyuo 1989; Liden, Wayne, and Stilwell 1993).

Ratees' past performance may also be related to ratings in two ways. First, an individual's performance level may be a stable individual characteristic. The ratee who performed well in the past is likely to perform well during the current round of evaluations. Secondly, the ratee's past performance may influence the cognitive process underlying ratings (Robbins and DeNisi 1994). Ratings are an outcome of complex social cognitive operations (DeNisi, Cafferty, and Meglino 1984; Feldman 1981; Ilgen and Feldman 1983). To complete ratings, a rater first acquires information relevant to ratings. This information is then encoded into mental representations. Since ratings are normally conducted periodically, such information is remembered and retrieved at the time of evaluations. Ratees' past performance may influence this process in any or all of these stages. A rater may seek information that confirms his or her previous impressions of the ratee (DeNisi, Cafferty, and Meglino 1984). Or, during the encoding process, new information regarding present performance may be integrated into or anchored to past performance (Anderson 1970, 1971). In addition, cognitive categories used to encode ratees' past performance are most likely used repeatedly to interpret new behaviors (Higgins, Rholes, and Johnes 1977; Wyer and Srull 1980).

In their experimental study, Robbins and DeNisi (1994) examined the nature of the relationship between interpersonal affect and other constructs, especially past performance. In their study, raters' *perceptions* of ratees' past performance influenced ratings in a way similar to interpersonal affect. Based on their findings, they recommended that researchers focus on factors other than interpersonal affect because "in field settings, much of the variance that can be attributed to affect can be explained just as well by examining past performance" and "in the field, it may be impossible to separate completely the effects of affect from the effects of past performance" (p. 351). In addition, they argued, past performance is "easier and more direct to measure, and less value laden, than affect" (p. 351).

However, there are theoretical reasons to believe that interpersonal affect plays an important role in ratings independent of other ratee characteristics, such as past performance. Many theorists have argued that interpersonal affect may influence ratings directly or by influencing cognitive

processes (DeCotiis and Petit 1978; Dipboye 1985; Ferris et al. 1994; Judge and Ferris 1993; Robbins and DeNisi 1994; Tsui and Barry 1986; Verma, DeNisi, and Peters 1996; Wayne and Ferris 1990). Raters may base their ratings simply on their positive or negative affect toward the ratee (DeCotiis and Petit 1978; Dipboye 1985). That is, affective bias in ratings may occur during the final evaluation stage and be independent of objective information and cognitive processes (Dipboye 1985). This may occur if a rater is less concerned about producing accurate ratings than about preserving a prior relationship with the ratee or repaying personal favors (Kingstrom and Mainstone 1985).

Interpersonal affect may also influence ratings indirectly by influencing cognitive processes (Robbins and DeNisi 1994; Verma, DeNisi, and Peters 1996). As with past performance, raters' acquisition, encoding, memory, and retrieval processes may be biased in favor of information that is consistent with their affect toward to ratee. First, interpersonal affect can influence what a rater observes. As mentioned above, a rater's impression on the ratee is one determinant of the types of information sought by a rater (DeNisi et al. 1984). Moreover, a rater may have a desire to preserve his or her own affect toward the ratee (Robbins and DeNisi 1994). This desire for consistency may lead a rater to actively seek information consistent with his or her affect toward the ratee rather than neutral and affect-inconsistent information (Snyder and Cantor 1979).

The encoding and retrieval processes may be even more susceptible than the observation process to affect congruency effects. DeNisi and his colleagues have suggested that interpersonal affect may serve as a framework for interpreting information. A rater may regard affect-consistent information as more meaningful than affect-inconsistent information (DeNisi et al. 1984; Robbins and DeNisi 1994). In a similar vein, Feldman (1981) has suggested that interpersonal affect may bias the causal attribution process. For example, if a rater likes the ratee, good performance may be attributed to internal factors, such as ability, and poor performance may be attributed to external factors, such as bad luck; this process might work in reverse if a rater dislikes the ratee (Regan, Straus, and Fazio 1974).

Social cognition literature has also demonstrated that interpersonal affect may serve as a cue to retrieve specific

information. Previous studies have found that affect-consistent information is more easily recalled than affect-inconsistent information. Isen et al. (1978) induced positive affect by giving people a free gift, and they found that subjects who had received the gift were better able to recall positive events. Similarly, Teasdale and Fogarty (1979) measured the speed at which people recalled facts and found that people tended to recall affect-consistent information more rapidly than affect-inconsistent information. These experiments on information retrieval are especially important in light of Tversky and Kahneman's (1973, 1974) suggestion that human judgment is heavily influenced by the particular information available at the time of judgment.

Some empirical evidence consistent with the argument that interpersonal affect influences ratings independent of ratee characteristics exists. Cardy and Dobbins (1986) found that rating accuracy was higher when interpersonal affect was constant than when interpersonal affect varied orthogonally to performance level, which suggests that interpersonal affect is an integral dimension in ratings. Robbins and DeNisi (1994) also found that interpersonal affect influenced ratings both directly and by influencing cognitive processes.

The purpose of this study is to investigate the extent to which the effect of interpersonal affect on ratings is significant and independent of unobserved ratee characteristics, such as past performance in field settings. The best way to address the problem of spurious relationships is usually to conduct an experimental study. However, several scholars have criticized experimental studies for their inability to capture the nature and strength of interpersonal affect in the real world (Dipboye 1985; Robbins and DeNisi 1994; Verma, DeNisi, and Peters 1996). In most experimental studies, hypothetical ratees are presented and their traits are manipulated to engender different kinds of interpersonal affect in subjects. Face-to-face interactions over a long period of time in field settings are likely to evoke much stronger interpersonal affect than passive-observer procedures (Dipboye 1985).

The problem of spurious relationships due to unobserved heterogeneity is ubiquitous in nonexperimental studies (Mastekaasa and Olsen 1998). A common strategy used in field studies to eliminate spurious relationships is to measure and

control for the factors that may cause spurious relationships. However, some factors may be difficult to measure. For example, it may not be always easy to measure past performance. In fact, one reason that organizations use subjective ratings is that performance is difficult to measure objectively. More importantly, in a field study one can never be sure that all relevant factors are measured and controlled for.

In the present study, a fixed effects approach was used to control for unobserved ratee characteristics. Fixed effects models have been widely used to analyze panel data. In panel data, a sample of individuals is observed over time, thus there are multiple observations for each individual. Generally, fixed effects models include $n-1$ dummy variables representing n individuals. The dummy variables remove all between-individual variance and only within-individual variance is used to estimate the parameters of interest (Hsiao 1986; Liker, Augustyniak, and Duncan 1985; Mundlak 1978). Conceptually, fixed effects models are equivalent to running separate regressions for each individual with a constraint that the parameters of interest are the same for all subjects (Kennedy 1998). Since between-individual variance is removed, any unobserved individual characteristics that do not vary across observations are effectively controlled for.

Although fixed effects models have been used largely in the context of panel data, they can be used to control for unobserved heterogeneity whenever observations have an appropriate group structure (Chamberlain 1980). In peer ratings, a ratee receives ratings from more than one rater. This provides multiple observations for each ratee, which makes it possible to control for unobserved ratee characteristics by using fixed effects models.

H: Interpersonal affect will influence ratings after controlling for unobserved ratee characteristics.

METHODS

Participants

The present study is part of a large study on 360-degree feedback conducted at a midsize insurance company in the Midwest region. Three hundred ninety employees who represented all levels and departments of the company participated in the large study. Participants worked in four major areas: programming, claims, payment processing, and product management. The job descriptions for each area specified that individuals were responsible for working independently and interdependently with work associates. Since their jobs required cooperation among employees, all job description listed strong communication, problem solving, and decision-making skills as qualifications.

The sample consisted of 1638 peer ratings. Ideally, similar analyses could have done on upward ratings. However, in the present study, the number of upward ratings was much smaller than the number of peer ratings, which made it difficult to perform similar analyses on upward ratings. Another advantage of using peer ratings was that we could control not only for unobserved ratee characteristics but also for unobserved rater characteristics because in peer ratings a rater evaluates more than one ratee.

Among 1638 peer ratings, 509 dyads were eliminated due to incomplete data on interpersonal affect. An additional 96 dyads were eliminated because the ratees had only one rater. Thus, subsequent analyses were based on 1033 dyads. The numbers of ratees and raters were 278 and 210, respectively. On average, each ratee had 3.7 raters and each rater rated 4.9 ratees. Twenty eight percent of the ratees and raters were male. The average age and job tenure of the ratees and raters were 38 and slightly less than 3 years, respectively.

Measures

Interpersonal Affect. An attractive relationship scale developed

by Tsui and Barry (1986) was used to measure interpersonal affect. This scale is composed of three items that measure the extent to which a rater likes a ratee. Raters responded to statements such as "I like this person" using a seven-point response scale ranging from strongly disagree (1) to strongly agree (7). Cronbach's coefficient alpha for the interpersonal affect scale was .90.

Dependent variable. The dependent variable used in the present study was the peer ratings of contextual work behaviors. Unlike task performance, contextual work behaviors do not directly contribute to the technical core, but they do support the organizational, social, and psychological environment in which the technical core must function (Borman and Motowidlo 1993). Many scholars have argued that contextual work behaviors are vital for efficient organizational performance (e.g., George and Brief 1992). Motowidlo and Van Scotter (1994) found that task performance and contextual work behaviors contributed independently to overall performance.

Since the types of required contextual work behaviors may vary across organizations, Organ (1988) recommended the use of site-specific measures to capture organizational conditions. In the present study, contextual work behaviors were evaluated by 20 items that measured work behaviors that were desired by the company. The desired work behaviors were linked to the vision and values of the company as well as to the nature of jobs. A five-point scale ranging from strongly disagree (1) to strongly agree (5) was used.

A principal component factor analysis with varimax rotation extracted three factors from the 20 items. The first factor had nine items and was labeled "consideration of others." This factor focused on the extent to which a ratee respected individual differences, treated others as equals, encouraged others to lead, and trusted others to make good decisions. The second factor had four items and was labeled "interpersonal communication" and captured the extent to which a ratee communicated in an open and honest manner. The third factor consisted of four items and was labeled "self-management responsibility." This factor captured the degree to which a ratee had a strong work ethic, took responsibility for his or her job, and learned new skills to

improve his or her productivity. Three items that cross-loaded on more than one factor were discarded. Cronbach's coefficient alphas for the three factors were .88, .80, and .76, respectively. The results of the factor analysis are reported in the Appendix.

Procedure

The research was done in cooperation with a midsize insurance company that was commencing a 360-degree feedback process for developmental purposes. First, all participants received two hours of training regarding the 360-degree feedback process. In the training, the purpose of the appraisal was explained and employees were told how the 360-degree feedback process provided the company with data to assess changes in valued work behaviors. Other topics covered included a review of the rating instrument, procedures for preventing rating errors, ways to spread the ratings of individuals, methods for selecting peer raters, time frames for summary feedback reports, and strategies for setting improvement goals and action plans. In addition, participants were informed that the company was conducting a study with a university on 360-degree feedback and that taking part in the study was voluntary. They were told that questionnaires would have code numbers on them to link various questionnaires together and that all of their individual responses would remain strictly confidential.

Participants were then asked to select at least three peers to evaluate them. This self-selection process might have limited variation in interpersonal affect. However, the subjects were required to select others whose work was interdependent with their own. In addition, the lists of peer raters had to be approved by their supervisors. This not only reduced potential tendency for participants to select peers who had positive affect toward them, but also ensured that participants selected peers who knew their work behaviors and could evaluate them.

Performance and interpersonal affect were measured at different times to reduce common method variance. Such separation in time might not eliminate common method variance entirely, but this procedure does reduce it by reducing the effects of the consistency motif and the impact of subtle cues in specific times and settings (Podsakoff and Organ 1986). The performance

evaluation was administered first, and participants mailed their completed questionnaires to a data-entry company. One month later, the affect questionnaire was administered. Each participant received one questionnaire for each peer he or she had rated. Completed questionnaires were mailed to a university address.

Analysis

In the present study, both ordinary least squares (OLS) and fixed effects models were estimated. OLS models provide a baseline for the more elaborate fixed effects models. In the present study, the model for peer ratings was specified as follows:

$$Y_{ij} = \beta_0 + \beta_1 A_{ij} + u_i + v_j + \varepsilon_{ij}$$

where Y_{ij} was the peer rating that ratee i received from rater j , A_{ij} was the interpersonal affect that rater j had toward ratee i . The terms u_i and v_j were ratee- and rater-specific errors, which represented all of the unobserved ratee and rater characteristics that influenced the ratings, and ε_{ij} was a random error term.

The existence of unobserved ratee- and rater-specific errors (u_i and v_j) causes two problems in statistical inference. First, if u_i and/or v_j are correlated to A_{ij} , the results of an OLS estimation that ignores u_i and v_j will be biased. Second, even if both u_i and v_j are not correlated to A_{ij} , the multiple ratings for ratee i will be unlikely to be independent from each other since they have a common component (u_i) in their error terms. For the same reason, the multiple ratings obtained from rater j will be unlikely to be independent from each other due to a common component (v_j) in their error terms. Glass, Peckham, and Sanders (1972) have pointed out that the violation of the independence assumption is far more serious than the violation of other assumptions that conventional statistical analyses are based on. In regression analyses, this violation is likely to result in downward biases in standard errors, which leads to excessive type 1 errors, although it does not bias the OLS estimates themselves (Kennedy 1998). In the present study, the ratee- and rater-specific errors were controlled for by including 277 dummy

variables for 278 ratees and 209 dummy variables for 210 raters.

A Hausman test was used to determine whether adding the ratee and rater dummy variables reduced the estimated effects of interpersonal affect significantly. To construct this test, interpersonal affect was regressed on the ratee and rater dummies and the residuals were computed. Then, the peer ratings were regressed on the residuals and interpersonal affect. Testing whether the coefficient on the residuals from this "artificial" regression is zero is equivalent to a test of the null hypothesis that the coefficient of interpersonal affect does not change when the ratee and rater dummies are added to the model (Davidson and MacKinnon 1990; Johnston and DiNardo 1997).

RESULTS

Table 1 summarizes the descriptive statistics and correlations for each variable. Overall, raters tended to have positive affect toward the ratees ($M=5.7$). Interpersonal affect was positively associated with peer ratings of consideration of others ($r = .44, p < .001$), interpersonal communication ($r = .34, p < .001$), and self-management responsibility ($r = .37, p < .001$).

Table 2 reports the results of the OLS and the fixed effects models. The first two columns report the results of these models for peer ratings of consideration of others. The next two columns report the results for interpersonal communication and the final two columns report the results for self-management responsibility.

The results of the OLS estimations show that interpersonal affect was positively associated with all three peer ratings. The regression coefficients were .235 ($p < .001$) for consideration of others, .228 ($p < .001$) for interpersonal communication, and .204 ($p < .001$) for self-management responsibility. The results also show that the effect of interpersonal affect remained significant even after controlling for ratee- and rater-specific errors. The estimates of the fixed effects models are .194 ($p < .001$) for consideration of others, .216 ($p < .001$) for interpersonal communication, and .175 ($p < .001$) for self-management responsibility.

Table 1. Descriptive Statistics and Correlations

	Mean	S.D.	Correlations		
			(1)	(2)	(3)
(1) Interpersonal Affect	5.66	1.12			
(2) Consideration of Others	3.95	.59	.44***		
(3) Interpersonal Communication	3.90	.76	.34***	.46***	
(4) Self-Management Responsibility	4.11	.62	.37***	.62***	.51***

*** $p < .001$

Table 2. Results of the OLS and the Fixed Effects Models¹

	Consideration of Others		Interpersonal Communication		Self-Management Responsibility	
	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects
Interpersonal Affect	.235*** (.015)	.194*** (.023)	.228*** (.020)	.216*** (.031)	.204*** (.016)	.175*** (.026)
Constant	2.622*** (.085)	2.700*** (.321)	2.611*** (.115)	2.793*** (.425)	2.952*** (.092)	2.875*** (.354)
Ratee and Rater Dummies	No	Yes	No	Yes	No	Yes
R ²	.198***	.765***	.112***	.750***	.137***	.737***
Adjust R ²	.197	.554	.111	.527	.136	.502

*** $p < .001$

¹Standard errors are in the parentheses.

In addition, although adding ratee and rater dummies did reduce the estimated effects of interpersonal affect, the Hausman tests could not reject the null hypothesis that the *change* in the estimated effects of interpersonal affect was zero in all three peer ratings. Thus, controlling for unobserved ratee and rater characteristics did not reduce the estimated effect of interpersonal affect significantly. These findings suggest that the effect of interpersonal affect cannot be accounted for by unobserved ratee and rater characteristics.

DISCUSSION

Murphy and Cleveland (1991) have maintained that the

influence of affect on ratings can be as strong as or even stronger than the influence of cognitive variables. The present study found that interpersonal affect influences ratings independent of unobserved ratee and rater characteristics, supporting the argument that interpersonal affect should be treated as a separate and important factor in ratings.

However, recent research on ratings tends to emphasize the cognitive processes involved in ratings. In most cases, such cognitive processes are regarded as “cold” processes in which the role of interpersonal affect is negligible. In this respect, the performance evaluation literature lags behind general social cognition literature, where interpersonal affect has been established as an important construct (Robbins and DeNisi 1994). More holistic models of performance appraisals should include interpersonal affect and its interactions with cognitive variables (Dipboye 1985; Park, Sims, and Motowidlo 1986).

Despite the potential importance in performance appraisals, researchers do not currently understand enough about its role to construct an encompassing model. Although previous studies have demonstrated the importance of interpersonal affect in ratings (Cardy and Dobbins 1986; Ferris et al. 1994; Judge and Ferris 1993; Tsui and Barry 1986; Verma, DeNisi, and Peters 1996; Wayne and Ferris 1990), few have empirically examined how interpersonal affect influences ratings. In one study, Robbins and DeNisi (1994) found that interpersonal affect influenced ratings both directly and by influencing the cognitive processes involved in ratings; they concluded that among the cognitive processes potentially affected, the processes that require judgment are most susceptible to interpersonal affect. Future research should replicate and extend these findings.

The concept that interpersonal affect influences ratings may raise questions about the legitimacy of performance ratings. However, if interpersonal affect does influence ratings, an explicit acknowledgement of its role will help researchers and practitioners better understand the nature of performance ratings. Furthermore, although it may be true that interpersonal affect is difficult to change, its effect on ratings may be reduced by various interventions. Previous research on rater training has demonstrated that rating errors can be reduced by familiarizing raters with common rating errors and encouraging them to avoid

these pitfalls (Woehr and Huffcutt 1994). Another possible strategy for reducing the effect of interpersonal affect is to provide raters with incentives for accuracy. Murphy and Cleveland (1991) have maintained that inaccuracy in ratings is more likely to be a result of the rater's unwillingness to provide accurate ratings than of his or her ability to do so. Salvemini, Reilly, and Smither's (1993) study provides empirical evidence of the importance of incentives in promoting rating accuracy: a rater who is motivated to be accurate in ratings is less susceptible to interpersonal affect than others would be. Finally, Verma et al's study, which found that the effect of interpersonal affect was stronger when a rater was asked to evaluate ambiguous aspects of performance, suggests that clearer definitions of good performance may reduce the impact of interpersonal affect.

The present study does have some limitations. Interpersonal affect and performance evaluations were obtained from the same sources. Thus, the findings reported in this study were subject to a common method variance bias. Considering the nature of the variables, however, it is very difficult, if not impossible, to obtain measurements from different sources. Furthermore, there are reasons to believe that the problem of common method variance was not very serious in the present study. First, fixed effects models used in the present study effectively controlled for any common method variance that did not vary across the multiple ratings obtained from a single rater. Second, interpersonal affect and ratings were measured at different times, which reduces the effects of the consistency motif and the impact of subtle cues that occur at specific times and in particular settings (Podsakoff and Organ 1986). However, the fact that affect was measured after ratings were obtained makes it difficult to draw a causal inference.

Other limitations come from the nature of the ratings examined in the present study. This study investigated the effect of interpersonal affect on peer ratings of contextual work behaviors for developmental purposes. Previous research suggests the effect of affect may be stronger in peer ratings than in traditional supervisory ratings (Antonioni and Park 2001). It is also possible that interpersonal affect may have a stronger effect on how people rate contextual work behaviors than it does on

ratings of task performance, because the former may be more ambiguous than the latter. Thus, the generalizability of the present study's findings to downward appraisals and evaluation of task performance remains to be seen. Finally, previous studies have suggested that performance appraisals for developmental purposes tend to be less susceptible to rating biases than those obtained for administrative purposes (Jawahar and Williams 1997). Thus, the effect of interpersonal affect may be stronger in administrative performance appraisals than in developmental performance appraisals examined in the present study.

Appendix.

Principal-Components Analysis with Varimax Rotation of Contextual Work Behaviors

Item	Consideration of Others	Interpersonal Communication	Self-management Responsibility
Trust others to make good decisions.	<u>.77</u>	.10	.15
Respects individual difference.	<u>.76</u>	.12	.21
Treats others as equals.	<u>.75</u>	.07	.24
Seriously considers information and ideas from others.	<u>.73</u>	.12	.25
Allows room for others to make mistakes.	<u>.73</u>	.11	.10
Gives credit where credit is due.	<u>.67</u>	.23	.20
Encourages others to take the lead when appropriate.	<u>.51</u>	.32	.26
Admits and acknowledges own biases.	<u>.50</u>	.36	.25
Encourage others to make decisions that are aligned with business objectives.	<u>.41</u>	.37	.37
Produces results while treating others with worth and dignity.	<u>.60</u>	.12	<u>.49</u>
Confronts conflict directly.	.06	<u>.83</u>	.15
Takes a stand on his/her own when necessary.	-.07	<u>.81</u>	.21
Tells the truth, even when it's risky.	.22	<u>.70</u>	.16
Communicates openly and effectively.	.37	<u>.62</u>	.18
Provides honest and constructive feedback.	<u>.42</u>	<u>.54</u>	.27
Demonstrates strong work ethic.	.23	.12	<u>.78</u>
Takes responsibility for his/her job.	.19	.20	<u>.73</u>
Obtains new knowledge and skills to improve his/her productivity.	.20	.25	<u>.66</u>
Accepts changes as an opportunity.	.29	.28	<u>.55</u>
Maintains broad perspective ("big picture") when making decisions.	.33	<u>.42</u>	<u>.43</u>
Initial Eigen Values	8.25	1.99	1.09
% of Variance Explained	24.85	16.78	15.04

REFERENCES

- Anderson, N. (1970), "Functional Measurement and Psychological Judgment," *Psychological Review*, 77, 153-170.
- (1971), "Integration Theory and Attitude Change," *Psychological Review*, 78, 171-206.
- Antonioni, D. and H. Park (2001), "The Relationship between Rater Affect and Three Sources of 360-degree Feedback Ratings," *Journal of Management*, 27, 479-495.
- Bauer, T. N. and S. G. Grean (1996), "Development of Leader-member Exchange: A Longitudinal Test," *Academy of Management Journal*, 39, 1538-1567.
- Borman, W. C. and S. J. Motowidlo (1993), "Expanding the Criterion Domain to Include Elements of Contextual Performance," in *Personnel Selection in Organizations*, Neal Schmitt and Walter C. Borman eds. San Francisco: Jossey-Bass, 71-98.
- Cardy, R. L. and G. H. Dobbins (1986), "Affect and Appraisal Accuracy: Liking as an Integral Dimension in Evaluating Performance," *Journal of Applied Psychology*, 71, 672-678.
- Chamberlain, G. (1980), "Analysis of Covariance with Qualitative Data," *Review of Economic Studies*, 47, 225-238.
- Davidson, R. and J. G. MacKinnon (1990), "Specification Tests Based on Artificial Regressions," *Journal of the American Statistical Association*, 85, 220-227.
- DeCotiis, T. and A. Petit (1978), "The Performance Appraisal Process: A Model and Some Testable Propositions," *Academy of Management Review*, 3, 635-646.
- DeNisi, A. S., T. P. Cafferty, and B. M. Meglino (1984), "A Cognitive View of the Performance Appraisal Process: A Model and Research Propositions," *Organizational Behavior and Human Performance*, 6, 109-155.
- Dipboye, R. L. (1985), "Some Neglected Variables in Research on Discrimination in Appraisals," *Academy of Management Review*, 10, 116-127.
- Feldman, J. M. (1981), "Beyond Attributional Theory: Cognitive Processes in Performance Appraisal," *Journal of Applied Psychology*, 66, 127-148.
- Ferris, G. R., T. A. Judge, K. M. Rowland, and D. E. Fitzgibbons (1994), "Subordinate Influence and the Performance Evaluation Process: Test of a Model," *Organizational Behavior and Human Decision Processes*, 58, 101-135.

- Glass, G. V., P. D. Peckham, and J. R. Sanders (1972), "Consequences of Failure to Meet Assumptions Underlying Fixed Effects Analyses of Variance and Covariance," *Review of Educational Research*, 42, 237-288.
- George, J. M. and A. P. Brief (1992), "Feeling Good-Doing Good: A Conceptual Analysis of the Mood at Work-organizational Spontaneity Relationship," *Psychological Bulletin*, 112, 310-329.
- Heneman, R. L., D. B. Greenberger, and C. Annonnyuo (1989), "Attributions and Exchanges: The Effects of Interpersonal Factors on the Diagnosis of Employee Performance," *Academy of Management Journal*, 32, 466-476.
- Higgins, E. T., W. S. Rholes, and C. R. Johns (1977), "Category Accessibility and Impression Formation," *Journal of Experimental Social Psychology*, 13, 141-154.
- Hsiao, C. (1986), *Analysis of Panel Data*, Cambridge, UK: Cambridge University Press.
- Ilggen, D. R. and J. M. Feldman (1983), "Performance Appraisal: A Process Focus," in *Research in Organizational Behavior*, 5, Barry M. Staw and L. L. Cummings eds, Greenwich, CT: JAI Press, 141-197.
- Isen, A. M., T. E. Shalke, M. Clark., and L. Karp (1978), "Affect, Accessibility of Material in Memory, and Behavior: A Cognitive Loop?," *Journal of Personality and Social Psychology*, 36, 1-12.
- Jawahar, I. M. and C. R. Williams (1997), "When All the Children Are above Average: The Performance Appraisal Purpose Effect," *Personnel Psychology*, 40, 905-926.
- Johnston, J. and J. DiNardo (1997), *Econometric methods (4th Ed.)*, New York: McGraw-Hill.
- Judge, T. A. and G. R. Ferris (1993), "Social Context of Performance Evaluation Decisions," *Academy of Management Journal*, 36, 80-105.
- Kingstrom, P. O. and L. E. Mainstone (1985), "An Investigation of the Rater-Ratee Acquaintance and Rater Bias," *Academy of Management Journal*, 28, 641-653.
- Kennedy, P. (1998), *A Guide to Econometrics*, Cambridge, Mass: The MIT Press.
- Lefkowitz, J. (2000), "The Role of Interpersonal Affective Regard in Supervisory Performance Ratings: A Literature Review and Proposed Causal Model," *Journal of Occupational and Organizational Psychology*, 73, 67-85.
- Liden, R. C., S. J. Wayne, and D. Stilwell (1993), "A Longitudinal Study of the Early Development of Leader-Member Exchanges," *Journal of Applied Psychology*, 78, 662-674.
- Liker, J. K., S. Augustyniak, and G. J. Duncan (1985), "Panel Data and

- Models of Change: A Comparison of First Difference and Conventional Two-wave Models," *Social Science Research*, 14, 80-101.
- Mastekaasa, A. and K. M. Olsen (1998), "Gender, Absenteeism, and Job Characteristics: A Fixed Effects Approach," *Work and Occupation*, 25, 195-228.
- Motowidlo, S. J. and J. R. van Scotter (1994), "Evidence that Task Performance Should Be Distinguished from Contextual Performance," *Journal of Applied Psychology*, 79, 475-480.
- Mundlak, Y. (1978), "On the Pooling of Time Series and Cross Sectional Data," *Econometrica*, 46, 69-86.
- Murphy, K. R., and J. N. Cleveland (1991), *Performance Appraisal: An Organizational Perspective*, Boston: Allyn & Bacon.
- Newcomb, T. M. (1956), "The Prediction of Interpersonal Attraction," *American Psychologist*, 11, 575-586.
- Organ, D. (1988), *Organizational Citizenship Behavior: The Good Soldier Syndrome*, Lexington, MA: Lexington Books.
- Park, O., H. P. Sims, and S. J. Motowidlo (1986), "Affect in Organizations," in *The Thinking Organization*, Henry P. Sims and Dennis A. Gioia DA eds, San Francisco: Jossey-Bass, 215-237.
- Podsakoff, P. M., and D. W. Organ (1986), "Self-reports in Organizational Research: Problems and Prospects," *Journal of Management*, 12, 531-544.
- Regan, D. T., E. Straus, and R. Fazio (1974), "Liking and The Attribution Process," *Journal of Experimental Social Psychology*, 10, 385-397.
- Robbins, T. L. and A. S. DeNisi (1994), "A Closer Look at Interpersonal Affect as a Distinct Influence on Cognitive Processing in Performance Evaluations," *Journal of Applied Psychology*, 79, 341-353.
- Salvemini, N. J. and R. R. Reilly (1993), "The Influence of Rater Motivation on Assimilation Effects and Accuracy in Performance Ratings," *Organizational Behavior and Human Decision Processes*, 55, 41-60.
- Snyder, M. and N. Cantor (1979), "Testing Hypotheses about Other People: The Use of Historical Knowledge," *Journal of Experimental Social Psychology*, 15, 330-342.
- Teasdale, J. D. and S. J. Fogarty (1979), "Differential Effects of Induced Mood on Retrieval of Pleasant and Unpleasant Events from Episodic Memory," *Journal of Abnormal Psychology*, 88, 248-257.
- Tsui, A. S. and B. Barry (1986), "Interpersonal Affect and Rating Errors," *Academy of Management Journal*, 29, 586-599.
- Tversky, A. and D. Kahneman (1973), "Availability: A Heuristic for Judging Frequency and Probability," *Cognitive Psychology*, 5, 207-

232.

- Tversky, A. and D. Kahneman (1974). "Judgement under Uncertainty: Heuristics and Biases," *Science*, 185, 1124-1131.
- Varma, A., S. Pichler and E. S. Srinvas (2005), "The Role of Interpersonal Affect in Performance Appraisal: Evidence from Two Sample — The US and India," *International Journal of Human Resource Management*, 16, 2029-2044.
- Verma, A., A. S. DeNisi and L. H. Peters (1996), "Interpersonal Affect and Performance Appraisal: A Field Study," *Personnel Psychology*, 49, 341-360.
- Wayne, S. J. and G. R. Ferris (1990), "Influence Tactics, Affect, and Exchange Quality in Supervisor-subordinate Interactions: A Laboratory Experiment and a Field Study," *Journal of Applied Psychology*, 75, 487-499.
- Woehr, D. J. and A. I. Huffcutt (1994), "Rater Training for Performance Appraisal: A Quantitative Review," *Journal of Occupational and Organizational Psychology*, 67, 189-205.
- Wyer, R. and T. Srull (1980), "The Processing of Social Stimulus Information: A Conceptual Integration," in *Person Memory: The Cognitive Basis for Social Perception*, Reid Hasies, et al. eds., Hillsdale, NJ: Erlbaum, 227-300.
- Zajonc, R. B. (1980), "Feeling and Thinking: Preferences Need No Inferences," *American Psychologists*, 35, 151-175.