

## The Effect of Upward Feedback on Managerial Behavior

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Un feed-back de gratification a été donné par des subordonnés aux managers australiens d'une firme internationale de prestation de services. Dans cette recherche quasi-expérimentale, la performance au travail de ces managers, a pu être observée six mois plus tard par les subordonnés comme s'étant accrue par rapport à la performance initiale et à ceux obtenus par un groupe de comparaison. L'efficacité personnelle modère la portée de ces résultats suggérant qu'elle joue un rôle clé en déterminant des réactions comportementales au feed-back de gratification. L'orientation vers un but d'apprentissage fut corrélée de manière significative à leur performance subséquente.

Upward feedback from subordinates was provided to Australian managers in an international professional services firm. The job performance of the managers in this quasi-experimental study was observed by subordinates to be significantly higher six months later, compared to both initial performance and subordinate ratings of a comparison group. Self-efficacy moderated this finding, suggesting that it plays a key role in determining behavioral reactions to upward feedback. The managers' learning goal orientation correlated significantly with their subsequent performance.

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## INTRODUCTION

A primary purpose of performance management is to instill in people the motivation to improve their performance. Traditionally, the person to whom an individual reports has been the source of feedback regarding what that individual is doing well, in addition to what they should start doing, stop doing, or consider doing differently (Latham & Wexley, 1994). With increasing organisational responsibilities, many supervisors are no longer able to provide this feedback, especially with regard to the extent to which the person is developing team members and fostering a positive work environment (Atwater, Roush, & Fischthal, 1995). They simply lack the opportunity to frequently observe their employees on the job (Komaki, 1998). Consequently, there has been a growing reliance over the last two decades on subordinates to provide their managers with feedback (Moses, Hollenbeck, & Sorcher, 1993; DeNisi & Kluger, 2000).

Despite the proliferation of upward feedback programs for developing managers, there is a paucity of longitudinal evidence to support the presumption that they bring about a positive change in behavior within organisations (Wood, Allen, Pillinger, & Kohn, 1999). In reviewing the literature, Dunnette (1993) observed, "... a hodgepodge of techniques, testimonials, cautions, methodological difficulties, some axes being ground, and a rather confusing lack of cohesion" (p. 374). This criticism has been reinforced in subsequent reviews of the literature (e.g. DeNisi & Kluger, 2000).

Despite these criticisms, extant studies suggest that upward feedback improves subsequent behavior. Tuckman and Oliver (1968) reported that student assessments of vocational school teachers' ability increased significantly over a 12-week period, compared to teachers who did not receive feedback from their students. In a study conducted in a university, Hegarty (1974) reported that the experimental group of first line supervisors who received feedback from their direct reports had a modestly higher rating on all 15 items of the appraisal instrument, 10 weeks after the feedback intervention. A limitation of these studies is the brief time span between when the feedback was provided and when performance was subsequently assessed.

Hazucha, Hezlett, and Scheinder (1993) reported a marginally significant increase in behavioral ratings provided to managers over a 2-year period. However, the feedback from subordinates was combined into a composite score that included feedback from peers and the supervisor. Thus, the specific effect of subordinates' feedback could not be determined.

Smither, London, Vasilopoulos, Reilly, Millsap, and Salvemini (1995a), using a 33-item behavioral appraisal scale, observed a small improvement ( $d = .16$ ) in mean subordinate ratings over a 6-month period that was sustained over a period of 2 years (Reilly, Smither, & Vasilopoulos, 1996). In a study involving student leaders, Atwater et al. (1995) observed a positive

change in behavior after 32 weeks that was not augmented by supervised practice. Further, Walker and Smither (1999) gave five annual administrations of upward feedback to managers. Despite no mean improvement over the first year, they found that managers who initially received poor or moderate ratings showed significant initial improvements beyond the amount attributable to regression to the mean that were sustained over the following 4 years. A limitation of each of these studies is the absence of a comparison group.

Atwater, Waldman, Atwater, and Cartier (2000) randomly assigned supervisors to either a feedback condition in which subordinates provided upward feedback at time 1 and time 2, approximately 10 months later, or to a survey-only condition where feedback was provided to the supervisors at time 2 only. No significant improvement in performance was observed in either condition. Similarly, Bernardin, Hagan, and Kane (1995) found no effect on retail store sales or turnover following the introduction of a 360-degree appraisal system for assistant store managers.

Such findings contradict the common assumption that upward feedback will have a positive effect on motivation and behavior (Wood et al., 1999). A meta-analysis by Kluger and DeNisi (1996) reported that feedback interventions resulted in: (a) a decline in performance in 38 per cent of the studies reviewed, and (b) no observable change in approximately another third. Thus in some situations, upward feedback may have no effect or even be detrimental to a person's performance (Kaplan, 1993; Wood et al., 1999). Kluger and DeNisi (1996) provided evidence that feedback is most likely to result in performance improvements when it directs attention to required behavioral changes, rather than triggering concerns with one's self-concept.

Receptiveness to upward feedback is likely to be a moderator of how managers respond to it (Atwater et al., 2000; Walker & Smither, 1999). Two factors that have been shown empirically to influence responses to feedback are self-efficacy (Bandura, 1977, 1997) and learning goal orientation (Dweck & Leggett, 1988; Brett & VandeWalle, 1999).

Self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Self-efficacy stimulates processes likely to be required to respond constructively to upward feedback. For instance, studies have found that high self-efficacy facilitates cognitive engagement (Stevens & Gist, 1997), idea generation (Locke, Frederick, Lee, & Bobko, 1984), information search (Wood, George-Falvy, & Debowski, 2001), and analytical thinking (Cervone, Jiwani, & Wood, 1991). It is also an antecedent of goal setting and commitment (Latham, Locke, & Fassina, 2000), planning (Earley, Connolly, & Lee, 1989), hypothesis testing (Wood & Bandura, 1989), translating strategic knowledge into improved performance (Cervone, 1993), and persistence in the face of setbacks (Schaefers, Epperson, & Nauta, 1997). Although these

findings suggest that performance following upward feedback is likely to be higher for managers who have high self-efficacy to respond constructively to the feedback they receive, this hypothesis has not been empirically tested.

In a study of salespeople, Brown, Ganesan, and Challagalla (2001) hypothesised that self-efficacy moderates the effectiveness of information-seeking from supervisors and co-workers regarding role expectations and performance. Their hypothesis was based on social cognitive theory (Bandura, 1986, 1997), which states that highly self-efficacious people are less distracted by performance anxiety and off-task cognitions. Greater task focus allows them to interpret information accurately. Conversely, people with low self-efficacy often doubt their ability to interpret feedback accurately; they tend to be distracted by thoughts regarding their perceived inadequacies that in turn consume limited cognitive resources that are needed to interpret information effectively (Bandura, 1991). The data supported their hypothesis. Consistent with Brown et al. (2001), self-efficacy was treated as a moderator variable in the present study.

Learning goal orientation refers to the extent to which people focus on learning strategies that will enhance their personal competence after receiving feedback (Dweck & Leggett, 1988). A longitudinal study by VandeWalle, Brown, Cron, and Slocum (1999) reported that learning goal orientation was a relatively stable individual difference variable that is positively related to subsequent sales performance, and is fully mediated by goal setting, planning and effort; all of which are necessary to respond constructively to feedback (London, 1997). A learning goal orientation also enhances performance as a result of people viewing negative feedback as a signal to learn or change their task strategies (Taberner & Wood, 1999), question their assumptions (Bandura & Wood, 1989), seek additional feedback (VandeWalle & Cummings, 1997), generate improvement strategies (Winters & Latham, 1996), and perform better in training (Brett & VandeWalle, 1999). In short, these studies suggest that having a learning goal orientation leads managers to focus their attention and effort on initiatives that enable them to improve their performance in response to the feedback they receive.

The hypotheses of this study were that (a) self-efficacy and (b) learning goal orientation moderate the effect of upward feedback on managerial performance.

## METHOD

### Participants

The participants were 70 managers in the Australian taxation division of an international professional services firm. Their ages ranged from 28 to 49 years; 44 of the participants were males and 26 were female. Each manager

was responsible for guiding, monitoring, and reviewing the work of 3–9 professionals.

The treatment sample of 35 managers received upward feedback at time 1. The comparison group ( $n = 35$ ) consisted of a random selection of the managers from the same taxation division who were given upward feedback for the first time 6 months later (time 3). Reasons for the non-participation of these managers at time 1 included being absent (i.e. vacation, secondments or working off-site) when request for feedback forms were distributed, and a failure to either (b) nominate feedback providers, or (c) have at least three staff provide feedback within the required timeframe. Chi-square tests revealed no significant differences in the age, gender, or tenure of the managers in the two groups.

Based upon the moderate mean effect size of  $d = .51$  obtained by Walker and Smither (1999), a 0.05 significance level and the number of participants in the treatment condition, the power to detect a significant main effect of upward feedback was 0.68 (Cohen, 1988).

## Procedure

A literature review was conducted on upward feedback instruments (e.g. Atwater et al., 1995; Smither et al., 1995a). Consistent with the recommendation of Wood et al. (1999), the resulting instrument was reviewed by 12 managers who modified it to fit with the firm's HR strategy. These 12 managers were subsequently excluded from this study.

The outcome was a 32-item behavioral observation scale (Latham & Wexley, 1977, 1994) that enabled subordinates to anonymously evaluate their respective managers on the extent to which they had 1 (*Almost never*) to 5 (*Almost always*) observed their manager exhibit each behavior. Sample items include: "Helps develop my knowledge and skills on the job", "Encourages firm wide networking and cooperation", "Establishes clear and realistic goals", "Seeks my opinion on decisions that affect me". The feedback reports received by each manager included the mean rating from subordinates for each item, as well as the overall mean rating of the 32 behavioral items.

Pilot testing with 14 managers, who played no further part in this study, verified the relevance of the behavioral items to guiding, mentoring, and reviewing the work of subordinates. In addition, an upward feedback manual was written that included suggestions for developing and implementing a behaviorally oriented development plan based on the feedback they received. This manual emphasised the importance of goal setting (Locke & Latham, 1990), as feedback without goals has little or no effect on behavior (Latham, Mitchell, & Dossett, 1978).

Participants were not given formal training. Although they were offered confidential coaching from the HR Director in how to respond positively to

their feedback, none of the participants took advantage of this opportunity. The study was explained to the comparison group as a new system that would be implemented more widely if found to be useful.

Managers in the treatment group received feedback at time 1. To allow them time to assess and reflect upon this feedback, learning goal orientation and self-efficacy to improve performance based upon this feedback was assessed one month later (time 2). Self-efficacy was not assessed before the feedback was provided as "judgment of self-efficacy requires knowledge of task demands" (Bandura, 1997, p. 64). Cervone and Wood (1995) found that self-efficacy correlated more highly with performance after, rather than before it had been calibrated by experience with a task. Consistent with Bandura's (1997) recommendations, participants indicated "Yes" or "No" as to whether they could improve their subsequent upward feedback "slightly", "somewhat", "substantially", or "greatly", before providing a confidence rating out of 10 for each of the levels of improvement for which they indicated "Yes" (Bandura, 1997). The strength of self-efficacy was the sum of the confidence scores for the four levels of potential improvement.

Learning goal orientation in relation to upward feedback was assessed using four items derived from VandeWalle (1997) (e.g. "I use my upward feedback to identify areas where I can develop new knowledge and skills"; "My upward feedback enables me to identify ways I can develop my managerial effectiveness"). Anchors on the 7-point Likert scale ranged from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Six months after receiving their initial upward feedback, managers in the treatment group were again evaluated by their subordinates (time 3). The managers in the comparison group also received feedback from their respective subordinates at this point in time.

## RESULTS

Upward feedback ratings provided by subordinates were averaged into a single mean score for each respective manager. To determine the appropriateness of this averaging procedure, the inter-rater reliability of the feedback instrument was assessed using a one-way ANOVA to compare the variance between and within raters, consistent with the recommendations of Hays (1993) and Smither et al. (1995a). The  $F$  tests were significant for both the treatment group,  $F(34, 151) = 3.70$   $p < .01$ , and the comparison group,  $F(34, 135) = 2.78$   $p < .01$ , indicating that there were greater differences in subordinates' perceptions of behavior between managers than within managers. Consistent with both Smither et al. (1995a) and Atwater et al. (2000), the inter-rater agreement was calculated as  $1 - (MS_{within}/MS_{between})$ , based on the assumption that the best estimate of error variance is the pooled within-ratee variance and that the best estimate of total score variance is the

TABLE 1  
Descriptive Statistics and Correlation Coefficients

Variable	M	SD	1	2	3
1. UF_time 3	3.76	.42	—		
2. UF_time 1	3.56	.50	.62**	—	
3. Self-efficacy (SE)	3.47	.36	.63**	.59**	—
4. Learning goal orientation (LGO)	3.57	.44	.56**	.33	.33

Note:  $N = 35$ . \*\*  $p < .01$ .

MSbetween rates. The resulting reliability estimates of .73 and .64 for the treatment and comparison groups, respectively, are comparable to the values of .69 and .67 obtained by Smither et al. (1995a). In sum, these results: (a) justify averaging across raters within managers; and (b) provide evidence of the inter-rater reliability of the upward feedback instrument.

Analyses of the mean upward feedback scores revealed no differences based upon age, gender, or seniority at either time 1 or 3. The internal consistency estimates for self-efficacy and goal orientation calculated using the Spearman Brown prophecy formula as it is the most suitable for four item scales (Anastasi, 1976), were .78 and .67 respectively.

Table 1 presents the descriptive statistics and the correlations among the variables. A paired two-tailed  $t$ -test, as used by Atwater et al. (1995), indicated a significant increase in observed performance,  $t(34) = 2.82$ ,  $p < .01$ , between time 1 ( $M = 3.56$ ,  $SD = .50$ ) and time 3 ( $M = 3.76$ ,  $SD = .42$ ) 6 months later, with an effect size of  $d = .43$ . An independent two-tailed  $t$ -test at time 3 indicated that the observed performance of the treatment group ( $M = 3.76$ ,  $SD = .42$ ) was significantly higher,  $t(68) = 2.15$ ,  $p < .05$ , than that of the comparison group ( $M = 3.56$ ,  $SD = .36$ ,  $d = .50$ ). Thus there was a positive main effect of upward feedback upon subsequent performance.

As shown in Table 1, the correlation between self-efficacy and learning goal orientation ( $r = .33$ ) was not significant ( $p > .05$ ). The correlations between the managers' self-efficacy and their performance at both time 1 (.59) and time 3 (.63) were significant.

A moderator analysis was conducted in accordance with the hierarchical regression procedures advocated by Baron and Kenny (1986) as well as Stone-Romero and Anderson (1994). The results are shown in Table 2. When subordinate feedback to the treatment group at time 1 was regressed on the evaluations at time 3, the coefficient ( $R^2 = .38$ ) was significant ( $p < .01$ ). When self-efficacy was then entered into the equation, the change in  $R^2$  was also significant ( $p < .01$ ). Thus self-efficacy was positively related to subsequent performance even when the initial level of observed performance was held constant. When the interaction term (subordinate ratings at

TABLE 2  
Regression Analysis: Initial Upward Feedback (UF), Self-Efficacy (SE),  
and UF  $\times$  SE

		<i>DV: Subordinate ratings at time 3</i>	
		$R^2$	$\Delta R^2$
Step 1	UF	.38**	
Step 2	SE	.49**	.11**
Step 3	UF $\times$ SE	.66**	.16**

\*\*  $p < .01$ .

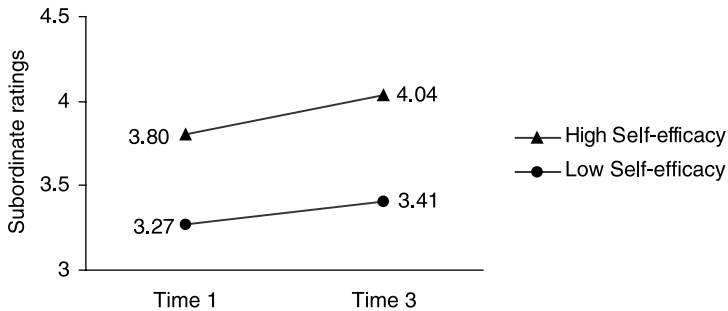


FIGURE 1. Mean subordinate ratings at time 1 and time 3 as a function of self-efficacy.

time 1  $\times$  self-efficacy) was entered into the equation, the resulting coefficient ( $R^2 = .61$ ) reflected a significant change in  $R^2$  ( $p < .01$ ). The significant interaction term when the effect of initial feedback and self-efficacy were held constant indicates that self-efficacy moderated the relationship between upward feedback and improvement in subsequent performance. In order to explore the nature of the moderating effect of self-efficacy, changes in subordinate ratings between time 1 and time 3 were plotted as a function of whether managers had high (above average) or low (below average) self-efficacy (see Figure 1). The hypothesis that there is a greater increase in performance following upward feedback for those with high self-efficacy was supported.

As shown in Table 1, the correlation between learning goal orientation and managerial performance at time 3 was also significant ( $p < .05$ ). The results of the moderator analysis regarding learning goal orientation are shown in Table 3. When learning goal orientation was entered into the equation and initial upward feedback was held constant, the  $R^2$  change of .13 was significant ( $p < .01$ ). When the interaction term (subordinate-observations



TABLE 3  
Regression Analysis: Initial Upward Feedback (UF), Learning Goal Orientation (LGO), and UF  $\times$  LGO

<i>DV: Subordinate ratings at time 3</i>			
		R <sup>2</sup>	$\Delta$ R <sup>2</sup>
Step 1	UF	.38**	
Step 2	LGO	.51**	.13**
Step 3	UF $\times$ LGO	.54**	.03

\*\*  $p < .01$ .

at time 1  $\times$  learning goal orientation) was then entered into the equation, the  $R^2$  change was not significant ( $p > .05$ ). Managers with a high learning goal orientation exhibited higher post-feedback performance than those who had a low learning goal orientation. Nevertheless, learning goal orientation did not moderate the change in behavior between initial feedback and subsequent performance.

## DISCUSSION

Erez (1997, 2000) has argued repeatedly that we cannot presume that HR practices will necessarily have the same effect in different countries. This is the first longitudinal study, to the authors' knowledge, to examine the effect of upward feedback on managers in Australia. Kabanoff and Daly (2000) found that compared to US organisations, Australian organisations more often espouse the value of authority, while those in the US place relatively more emphasis on leadership. The present findings support the cross-cultural generalisability of previous studies that were conducted in North America, namely, that upward feedback can have a positive effect on the subsequent behavior of managers in organisations. Most importantly, the results support the hypothesis that the self-efficacy of the recipient moderates the beneficial effect of upward feedback.

Consistent with the findings of Brown et al. (2001) with salespeople, the results suggest that managers who are high performers and have high self-efficacy will continue to increase their performance over time by interpreting feedback effectively, whereas managers with low self-efficacy ineffectively use this information. Specifically, the present findings suggest that managers who are rated high in performance initially have high self-efficacy; they believe that subsequent improvement in their performance is possible. The correlation of .59 ( $p < .01$ ) between initial feedback and self-efficacy suggests that people who receive high initial evaluations have high confidence in their ability to achieve even higher ratings in the future.

This confidence results in improvements of greater magnitude than those exhibited by those with low initial performance and self-efficacy.

That upward feedback was effective in changing the behavior of managers is likely due to the fact that the feedback procedure adhered to best practices recommended in the literature. Consistent with the admonition of Dunnette (1993), the appraisal instrument focused on behaviors rather than traits. Following Bernardin, Dahmus, and Redmon (1993), the inclusion of behavioral items was restricted to those for which subordinates are considered subject matter experts. Items tapping technical expertise were excluded. Only behavioral items that were consistent with the organisation's strategy were used (Wood et al., 1999). As per the recommendation of Wherry and Bartlett (1982), the appraisal scale focused on the frequency with which behaviors were observed. The suggestion of Fleenor (1997) to wait at least 6 months before assessing post-feedback performance was also followed. Finally, consistent with Antonioni (1994), the subordinate respondents were guaranteed anonymity.

One limitation of this study, that is inherent in most field experiments, is that organisational constraints made it impossible to randomly assign participants to conditions. Hence, a quasi-experimental design was used. However, this limitation was offset by the fact that the mean performance of the treatment group at time 1, namely 3.56, was identical to the mean performance ratings of the comparison group at time 3. Moreover, there was no significant difference in the demographic variables of the two groups in terms of age, sex, or tenure in the organisation. A second limitation is that the use of change scores is problematic in that they may reflect changes in item definition, the structure of behavioral dimensions, as well as rater expectations. Although it would have been preferable to examine (a) whether the performance of the comparison group increased by a comparable amount after another 6 months, and (b) whether those with high self-efficacy continued to improve as they had done so in the time period examined, limitations of access to the data prohibited these analyses. Such analyses should be undertaken in future research. Despite these limitations, when this study is viewed in conjunction with those that preceded it, such as Hazucha et al. (1993), Reilly et al. (1996), and Walker and Smither (1999), the evidence supports the finding that managers change their behavior in a positive direction in response to upward feedback, especially when they have high self-efficacy to do so.

A third and fourth limitation of this study was the possibility that self-efficacy may have been influenced by initial feedback, and the sample was relatively small and homogeneous. Self-efficacy, however, tends to be influenced by exposure to numerous, rather than a single instance of feedback (Nease, Mudgett, & Quinones, 1999). Moreover, the logic of field studies such as this is to assess self-efficacy regarding a specific task, in this

instance, making changes in one's behavior based on input from one's subordinates. Thus, self-efficacy was assessed subsequent to receipt of this feedback. With regard to sample size, a meta-analysis involving 114 studies and 21,616 people revealed the consistency with which self-efficacy is highly predictive of work-related performance (Stajkovic & Luthans, 1998). Nevertheless, future studies in different settings with larger samples are needed to replicate the current findings. Such studies should allow for systematic analysis within quartiles to test for possible configural relationships. For example, self-efficacy may have a low positive effect (or maybe even a negative effect) at very low and very high levels of performance, and a high positive effect at moderate levels of performance (2nd and 3rd quartiles).

Several phenomena are embedded in upward feedback, including the effects of being rated, conducting a self-assessment, receiving the feedback, and using the feedback to set goals. Thus a fifth limitation of this study is that it was not just the feedback per se that was absent in the comparison group. In future research, another comparison group of managers who are rated, but do not receive feedback, might be included to assess the effects of being evaluated. The possibility that measuring self-efficacy and learning goal orientation influenced the results could also be examined by having another comparison group in which these constructs are not assessed. Different ways of delivering feedback should be explored as well. For instance, Smither, Wohlers, and London (1995) reported that leaders receiving individualised feedback did not indicate greater intentions to change their behavior than leaders who received only normative (i.e. peer group average) feedback. By contrast, Kluger and DeNisi (1996) found that the provision of peer group norms had an adverse influence on performance following feedback. As upward feedback reports are frequently accompanied by peer group average ratings (Wood et al., 1999), research might examine whether the provision of norms interacts with self-efficacy or goal orientation in determining behavioral responses to upward feedback.

The significant correlation between the learning goal orientation of managers and their subsequent performance suggests that learning goals should be set based on one's feedback from subordinates. This conclusion is consistent with previous research. Winters and Latham (1996) found that when a task is complex for a person, performance is higher when people set a specific, difficult learning rather than a performance goal.

As is the case with self-efficacy, learning goal orientation may also have been influenced by initial feedback. However, VandeWalle et al. (1999, p. 250) found that: "There is considerable evidence of goal orientation existing as a stable individual difference." Granted that there were no discernable cues for some managers to adopt a stronger learning goal orientation than others, and initial performance was not correlated with learning goal orientation, it is unlikely that these variables were causally related.

Fleenor (1997) concluded that research on upward feedback has reached an impasse. Many studies in the 1990s investigated the performance implications of discrepancies between self-ratings and those provided by subordinates and peers (e.g. Atwater & Yammarino, 1992; Johnson & Ferstl, 1999), yet this research yielded few insights about how to foster positive behavior changes (Wood et al., 1999). The present finding regarding the role of self-efficacy as a moderator variable provides a path forward for scientists and practitioners. For instance, future studies might explore the relative and cumulative effect on self-efficacy and subsequent performance of training in verbal self-guidance (Millman & Latham, 2001), role-playing (Cole & Latham, 1997), and mental practice (Morin & Latham, 2000) in making the behavioral changes suggested by upward feedback.

## REFERENCES

- Anastasi, A. (1976). *Psychological testing* (3rd edn.). New York: Collier Macmillan.
- Antonioni, D. (1994). The effects of feedback accountability on upward appraisal ratings. *Personnel Psychology*, *47*, 349–356.
- Atwater, L.E., Roush, P., & Fischthal, A. (1995). The influence of upward feedback on self and follower ratings of leadership. *Personnel Psychology*, *48*, 35–59.
- Atwater, L.E., Waldman, D., Atwater, D., & Cartier, P. (2000). An upward feedback field experiment: Superiors' cynicism, reactions, and commitment to subordinates. *Personnel Psychology*, *53*, 275–297.
- Atwater, L.E., & Yammarino, F.J. (1992). Does self–other agreement on leadership predictions moderate the validity of leadership and performance predictions? *Personnel Psychology*, *45*, 141–164.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behaviour and Human Decision Processes*, *50*, 248–287.
- Bandura, A. (1997). *Self efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., & Wood, R.E. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision-making. *Journal of Personality and Social Psychology*, *56*, 805–814.
- Baron, R.M., & Kenny, D.A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Bernardin, J.H., Dahmus, S.A., & Redmon, G. (1993). Attitudes of first line supervisors toward staff appraisals. *Human Resource Management*, *32*, 315–324.
- Bernardin, J.H., Hagan, C., & Kane, J.S. (1995). The effects of a 360-degree appraisal system: No matter how cynical I get, I cannot keep up. In W.W. Tornow (Chair), *Upward feedback: The ups and downs of it*. Symposium, 10th Annual Conference, Society for Industrial and Organizational Psychology, Orlando, Florida.

- Brett, J.F., & VandeWalle, D. (1999). Goal orientation and goal content as predictors of performance in a training program. *Journal of Applied Psychology, 84*, 863–873.
- Brown, S.P., Ganesan, S., & Challagalla, G. (2001). Self-efficacy as a moderator of information seeking effectiveness. *Journal of Applied Psychology, 86*, 1043–1051.
- Cervone, D. (1993). The role of self-referent cognitions in goal setting, motivation, and performance. In M. Rabinowitz (Ed.), *Applied cognition* (pp. 57–95). Hillsdale, NJ: Erlbaum.
- Cervone, D., Jiwani, N., & Wood, R. (1991). Goal-setting and the differential influence of self-regulatory processes on complex decision-making performance. *Journal of Personality and Social Psychology, 50*, 492–501.
- Cervone, D., & Wood, R.E. (1995). Goals, feedback, and the differential influence of self-regulatory processes on cognitively complex performance. *Cognitive Therapy and Research, 19*, 519–545.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn.). Hillsdale, NJ: Erlbaum.
- Cole, N., & Latham, G.P. (1997). The effects of training in procedural justice on perceptions of disciplinary fairness by unionized employees and disciplinary subject matter experts. *Journal of Applied Psychology, 82*, 699–705.
- DeNisi, A.S., & Kluger, A.N. (2000). Feedback effectiveness: Can 360-degree feedback be improved? *Academy of Management Executive, 14*(1), 129–139.
- Dunnette, M.D. (1993). My hammer or your hammer. *Human Resource Management, 32*, 373–384.
- Dweck, C.S., & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256–273.
- Earley, P.C., Connolly, T., & Lee, C. (1989). Task strategy interventions in goal setting: The importance of search in strategy development. *Journal of Management, 15*, 589–602.
- Erez, M. (1997). A culture-based model of work motivation. In C.P. Earley & M. Erez, *New perspectives on international industrial/organizational psychology* (pp. 193–242). San Francisco, CA: The New Lexington Press/Jossey-Bass.
- Erez, M. (2000). Make management practice fit national culture. In E.A. Locke (Ed.), *Handbook of principles of organizational behavior* (pp. 418–434). Oxford: Blackwell Business.
- Fleener, J.W. (1997). 360-degree feedback systems. *Personnel Psychology, 50*, 1084–1088.
- Hays, W. (1993). *Statistics*. New York: Harcourt Brace College Publishers.
- Hazucha, J.F., Hezlett, S.A., & Scheinder, R.J. (1993). The impact of 360-degree feedback on management skills development. *Human Resource Management, 32*, 325–351.
- Hegarty, H.W. (1974). Using subordinate ratings to elicit behavioral changes in supervisors. *Journal of Applied Psychology, 59*, 764–766.
- Johnson, J.W., & Ferstl, K.L. (1999). The effects of interrater and self–other agreement on performance improvement following upward feedback. *Personnel Psychology, 52*, 272–303.
- Kabanoff, B., & Daly, J.P. (2000). Values espoused by Australian and US organizations. *Applied Psychology: An International Review, 49*, 284–314.

- Kaplan, R.E. (1993). Feedback PLUS: Boosting the power of co-worker ratings for executives. *Human Resource Management, 32*, 299–314.
- Kluger, A.N., & DeNisi, A. (1996). The effects of feedback interventions upon performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*, 254–284.
- Komaki, J.L. (1998). *Leadership from an operant perspective*. London: Routledge.
- Latham, G.P., Locke, E.A., & Fassina, N.E. (2000). The high performance cycle: Standing the test of time. In S. Sonnentag (Ed.), *The psychological management of individual performance. A handbook in the psychology of management in organizations* (pp. 201–228). Chichester: Wiley.
- Latham, G.P., Mitchell, T.R., & Dossett, D.L. (1978). Importance of participative goal setting and anticipated rewards on goal difficulty and job performance. *Journal of Applied Psychology, 63*, 163–179.
- Latham, G.P., & Wexley, K.N. (1977). Behavioral observation scales for performance appraisal purposes. *Personnel Psychology, 30*, 255–268.
- Latham, G.P., & Wexley, K.N. (1994). *Increasing productivity through performance appraisal*. Reading, MA: Addison-Wesley.
- Locke, E.A., Frederick, E., Lee, C., & Bobko, P. (1984). Effect of self-efficacy, goals and task strategies on task performance. *Journal of Applied Psychology, 69*, 241–251.
- Locke, E.A., & Latham, G.P. (1990). *A theory of goal setting and performance*. Englewood Cliffs, NJ: Prentice Hall.
- London, M. (1997). *Job feedback: Giving, seeking, and using feedback for performance improvement*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Millman, Z., & Latham, G.P. (2001). Increasing re-employment through training in verbal guidance. In M. Erez, U. Klienbeck, & H.K. Thierry (Eds.), *Work motivation in the context of a global economy* (pp. 87–97). Hillsdale, NJ: Lawrence Erlbaum.
- Morin, L., & Latham, G.P. (2000). Effect of mental practice and goal setting as a transfer of training intervention on supervisors' self-efficacy and communication skills: An exploratory study. *Applied Psychology: An International Review, 49*, 566–578.
- Moses, J., Hollenbeck, G.P., & Sorcher, M. (1993). Other people's expectations. *Human Resource Management, 32*, 283–298.
- Nease, A.A., Mudgett, B.O., & Quinones, M.A. (1999). Relationships among feedback sign, self-efficacy, and acceptance of performance feedback. *Journal of Applied Psychology, 84*, 806–814.
- Reilly, R.R., Smither, J.W., & Vasilopoulos, N.L. (1996). A longitudinal study of upward feedback. *Personnel Psychology, 49*, 599–612.
- Schaefer, K.G., Epperson, D.L., & Nauta, M.M. (1997). Women's career development: Can theoretically derived variables predict persistence in engineering majors? *Journal of Counseling Psychology, 44*(2), 173–183.
- Smither, J.W., London, M., Vasilopoulos, N.L., Reilly, R.R., Millsap, R.E., & Salvemini, N. (1995a). An examination of the effects of upward feedback over time. *Personnel Psychology, 48*, 1–34.
- Smither, J.W., Wohlers, A.J., & London, M. (1995b). A field study of reactions to normative versus individualized upward feedback. *Group and Organization Management, 20*, 61–89.

- Stajkovic, A.D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, *124*, 240–261.
- Stevens, C.K., & Gist, M.E. (1997). Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: What are the mechanisms? *Personnel Psychology*, *50*, 955–978.
- Stone-Romero, E.F., & Anderson, L.E. (1994). Relative power of moderated multiple regression and the comparison of subgroup correlation coefficients for detecting moderating effects. *Journal of Applied Psychology*, *79*, 354–359.
- Taberner, C., & Wood, R.E. (1999). Implicit theories versus the social construal of ability in self-regulation and performance on a complex task. *Organizational Behavior and Human Decision Processes*, *79*, 104–127.
- Tuckman, B.W., & Oliver, W.F. (1968). Effectiveness of feedback to teachers as a function of source. *Journal of Educational Psychology*, *59*, 297–301.
- VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*, *57*, 995–1015.
- VandeWalle, D., Brown, S.P., Cron, W.L., & Slocum, J.W. Jr. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology*, *84*, 249–259.
- VandeWalle, D.M., & Cummings, L.L. (1997). A test of the influence of goal orientation on the feedback-seeking process. *Journal of Applied Psychology*, *82*, 390–400.
- Walker, A.G., & Smither, J.W. (1999). A five-year study of upward feedback: What managers do with their results matters. *Personnel Psychology*, *52*, 393–423.
- Wherry, R.J., & Bartlett, C.J. (1982). The control of bias in ratings: A theory of rating. *Personnel Psychology*, *35*, 521–552.
- Winters, D., & Latham, G. (1996). The effect of learning versus outcome goals on a simple versus a complex task. *Group and Organizational Management*, *21*, 236–250.
- Wood, R.E., Allen, J., Pillinger, T., & Kohn, N. (1999). 360 degree feedback: Theory, research and practice. In A. Travaglione & V. Marshall (Eds.), *Human resource strategies: An applied approach* (pp. 209–228). Sydney: Irwin/McGraw-Hill.
- Wood, R.E., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology*, *56*, 407–415.
- Wood, R.E., George-Falvy, J., & Debowksi, S. (2001). Motivation and information search on complex tasks. In M. Erez, U. Kleinbeck, & H. Thierry (Eds.), *Work motivation in the context of a globalizing economy* (pp. 27–48). Hillsdale, NJ: Lawrence Erlbaum Associates.