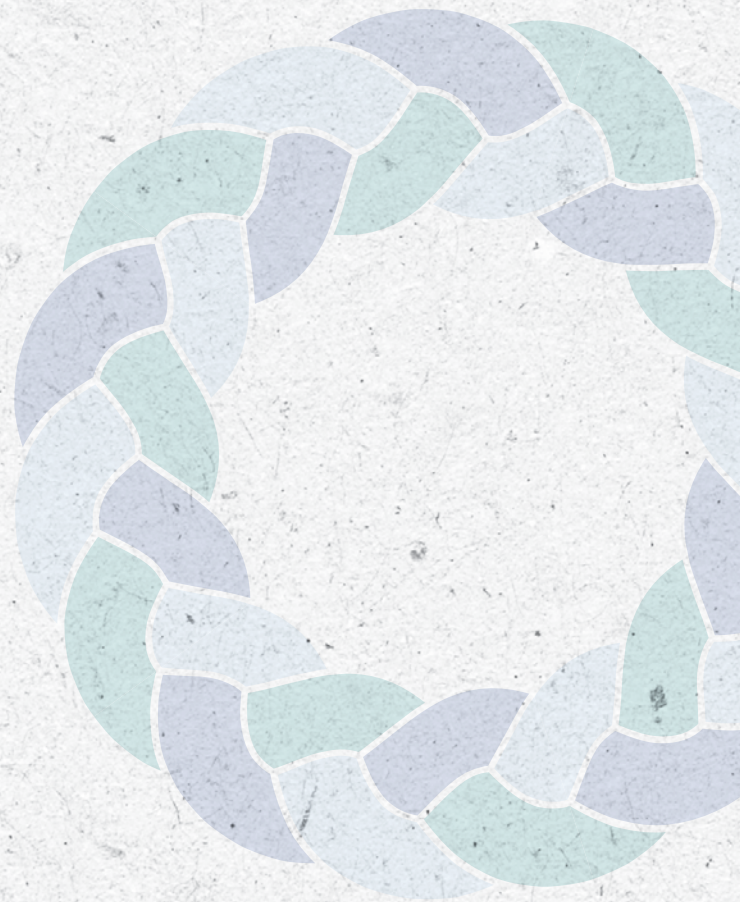**Rapid Evidence Assessment (REA)**

EFFECT OF FEEDBACK ON WORKPLACE PERFORMANCE

a summary of research literature

July 2019

Culture Review **Implementation**

our journey of positive change

ACT Government

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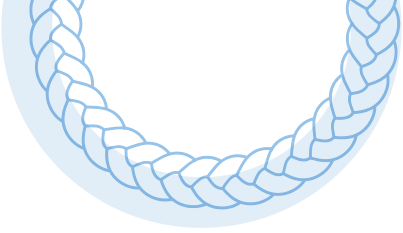
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What is a Rapid Evidence Assessment (REA)?

Rapid Evidence Assessments (REAs) use a specific research methodology to comprehensively identify the most relevant studies on a given topic, and select appropriate studies based on explicit criteria. In addition, two independent reviewers assess the methodological quality of the studies. In contrast to a conventional literature review, REAs are transparent, verifiable, and reproducible, and as a result, the likelihood of bias is considerably smaller.

Background

Novartis, a global pharmaceutical company commissioned the Center for Evidence Based Management (CEBMa) to undertake a Rapid Evidence Assessment (REA) to understand what is known in scientific literature about the link between culture and performance. Specifically, this REA was conducted to help Novartis replace their current performance appraisal practices with a performance management system based on whether the following three hypotheses of worker performance were supported by scientific evidence:

1. When employees know that their contribution matters, their performance will increase

2. When employees receive frequent and quality feedback, their performance will increase

3. When employees are recognised and rewarded for their contributions, their performance will increase.

What this REA assesses

This REA assesses research literature about the link between an employee's or team's performance and receiving feedback. In answering the three hypotheses above, the REA also considers the following questions:

1. **What is feedback?**

2. **What is the assumed logic model – how is it supposed to enhance performance?**

3. **What is the overall effect of feedback on workplace performance?**

4. **What is known about the positive or negative effects of possible moderators or mediators?**

Main findings

1. What is feedback?

In general terms 'feedback' is defined as information about a person's performance which is used as a basis for improvement. In the domain of management, feedback is referred to as 'feedback intervention' or 'performance feedback' and is often defined as 'actions taken by (an) external agent(s) to provide information regarding some aspect(s) of one's task performance.' (Kluger & Denisi, 1996).

2. What is the assumed logic model – how is it supposed to enhance performance?

The assumed logic model is based on two theories:

» Social comparison theory (Festinger, 1954)

» Feedback intervention theory (Kluger & Denisi, 1996).

Social comparison theory suggests that people compare themselves to others to make judgements on their individual performance. They are concerned with not only their own performance, but also how they compare to their peers. This theory also notes that individuals are likely to have a strong desire to improve their own performance when faced with unfavourable comparative information from their peers.

Feedback intervention theory suggests that when individuals are given feedback that varies from what they believed they achieved; individuals are strongly motivated to get a higher level of performance. The practice of performance feedback, therefore, assumes that informing an employee about discrepancies between what they achieved and what the organisation expected – implying that what they achieved was less than other colleagues – will motivate the employee to get a higher level of performance in future.

3. What is the overall effect of feedback on workplace performance?

A couple of findings were discovered in answering this question:

» There is strong evidence that feedback can have a large effect on people's learning and performance. For example, the seminal work of John Hattie that is based on a review of 23 meta-analyses demonstrates large effect sizes (d=.73) In the realm of management, this finding is confirmed by the meta-analysis by Kluger and Denisi (1996). This meta-analysis included 131 controlled studies and was based on 12,652 participants with an average effect size of d=.41.

» The effect sizes reported show considerable variability, indicating that the effect of feedback is contingent upon various moderating factors Several researchers found that feedback may not always be effective. With some studies showing that feedback interventions have highly variable effects on performance – in some situations feedback improves performance, whilst in other it has no effect or may even harm it (Kluger & Denisi, 1996; Smither et al., 2005).

4. What is known about the positive or negative effect of possible moderators or mediators?

Several findings were discovered in answering this question:

» **Reactions to feedback, rather than the feedback itself, influence performance.** While the research found that although feedback generally improves performance, in more than one-third of studies, feedback lowered performance. People have several behavioural options when confronted with a discrepancy in what they wish to achieve, and the actual performance feedback received. They can choose to accept the feedback and put in more effort to improve their performance, but they can also reject the feedback, feel angry or disappointed and shift their attention away from their tasks. The last option is likely when the feedback threatens a worker's self-esteem (Kluger & Denisi, 1996). Further, employees who express positive emotions directly after receiving feedback show higher performance ratings, but those who express negative emotions show lower performance ratings (Smither et al., 2005).

» **Personality variables moderate an individual's reaction to feedback and they impact reactions to feedback which likely determine the extent to which they will use it to improve performance.** Some variables that impact feedback include: self-esteem and locus of control; tendency for cognitive interference; competitiveness; altruism, and: openness to feedback.

» **The effect of feedback is moderated by task type.** A randomised, controlled study that noted promotion tasks (tasks requiring creativity) and prevention tasks (tasks requiring vigilance and attention to detail) revealed that positive feedback on promotion tasks increased motivation and actual performance for people working on those tasks, whereas positive feedback on prevention tasks, decreased motivation and performance for people working on those tasks (Van Dijk, 2011).

» **The effect of feedback is moderated by the type of goal.** Several research studies show that goal setting has a positive effect on performance when combined with performance feedback or progress reporting, especially when the outcomes are reported or made public (Harkin, 2016). However, the reverse is also true: the effect of feedback is influenced by the type of goal. Feedback is more effective when goals are clear, specific and challenging (but realistic as what the workers can cope with). In addition, when employees need to acquire knowledge or skills in order to perform a task, or when the task involved is complex, then learning goals tend to have a more positive effect on performance than outcome goals (Winters & Latham, 1996; Brown & Latham, 2002; Latham & Brown, 2006; Porter & Latham, 2013). Consequently, in those situations, feedback should focus on the learning process rather than the performance outcome.

» **The perceived fairness of the feedback has a medium to large moderating effect on performance.** A fair process is a pre-requisite for the effectiveness of performance feedback. This reflects 'the perceived fairness of decision-making processes and the degree to which they are consistent, accurate, unbiased, and open to voice and input' (Colquitt et al., 2013).

» **Feedback which provides detailed information leads to a higher improvement in performance.** Feedback that provides elaborate, detailed and specific information leads to a higher improvement in performance (Raemdonck, 2013; Casas-Arke, 2017). Therefore, task-related feedback is more effective than general feedback (Johnson, 2015).

» **The effect of feedback, particularly negative feedback, is moderated by the feedback source.** Employees are more motivated to rely on negative feedback when the supervisor's credibility is high (Steelman & Rutkowski, 2004).

» **Negative feedback adversely affects perceived fairness, whereas feedback that focuses only on positive aspects has a medium positive effect on both perceived fairness and overall job performance.** Feedback is more effective when it provides information on correct rather than incorrect responses (Hattie, 2009).

» **Feedback is less effective when it is perceived as threatening one's self esteem.** This finding confirms a large number of research studies in the domain of education where low threat conditions allow students to pay better attention to and follow up on feedback (Hattie, 2009).

» **In general, managers overestimate how accurately their feedback is perceived by their employees, especially when the feedback is negative.**

» **Employees' reactions to feedback are influenced by the language managers use in their explanations.** For example, when performance is low, the high use of causal language (eg "your performance is under average because …") leads to a greater improvement in subsequent performance, compared to low use of causal language.

» **Additional and more frequent feedback does not always help improve performance.** Research revealed that employees achieve the best results when they receive detailed but more intermittent (monthly) feedback (Casas-Arke, 2017).

Conclusion

The evidence concludes that performance feedback can have large positive effects on work performance, but the effects are highly dependant upon a wide range of moderating factors, many of which can be managed by effective feedback processes.

More information

You can access more information in the *Rapid Evidence Assessment (REA) – The Effect of Feedback on Workplace Performance, a summary of research literature, July 2019.*
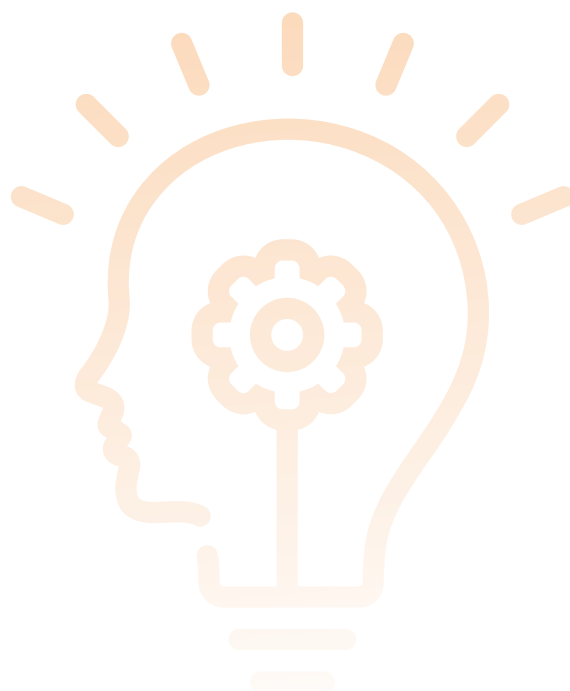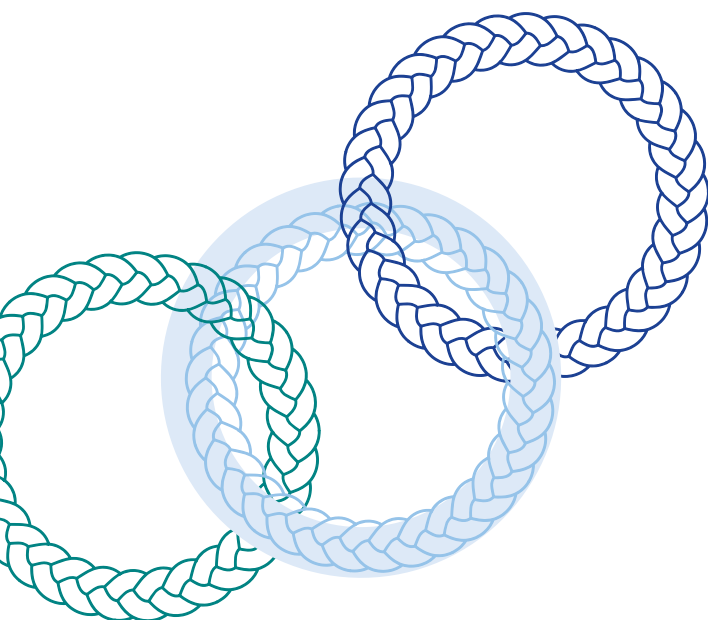
References

Akın, Z., & Karagözoğlu, E. (2017). The Role of Goals and Feedback in Incentivizing Performance. *Managerial & Decision Economics, 38*(2), 193-211.

Anseel, F., Beatty, A. S., Shen, W., Lievens, F., & Sackett, P. R. (2015). How Are We Doing After 30 Years? A Meta-Analytic Review of the Antecedents and Outcomes of Feedback-Seeking Behaviour. *Journal of Management, 41*(1), 318-348.

Azmat, G., & Iriberri, N. (2010). The importance of relative performance feedback information: Evidence from a natural experiment using high school students. *Journal of Public Economics, 94*(7/8), 435-452.

Bipp, T., & Kleingeld, A. (2018). Subconscious performance goals: Investigating the moderating effect of negative goal-discrepancy feedback. *Human Performance, 31*(5), 255-281.

Bos-Nehles, A., Renkema, M., & Janssen, M. (2017). HRM and innovative work behaviour: a systematic literature review. *Personnel Review, 46*(7), 1228-1253.

Boyce, M. B., & Browne, J. P. (2013). Does providing feedback on patient-reported outcomes to healthcare professionals result in better outcomes for patients? A systematic review. *Quality of Life Research, 22*(9), 2265-2278.

Brockner, J., & Wiesenfeld, B. M. (1996). An integrative framework for explaining reactions to decisions: interactive effects of outcomes and procedures. *Psychological Bulletin, 120*(2), 189.

Brown, T. C. (2005). Effectiveness of distal and proximal goals as transfer of training intervention: A field experiment. *Human Resource Development Quarterly, 16*(3), 369- 387.

Brown, T. C. and Warren, A. M. (2009). Distal goal and proximal goal transfer of training interventions in an executive education program. *Human Resource Development Quarterly, 20*(3), 265-284.

Brown, T. C., & Latham, G. P. (2002). The effects of behavioural outcome goals, learning goals, and urging people to do their best on an individual's teamwork behaviour in a group problem-solving task. *Canadian Journal of Behavioural Science/ Revue canadienne des sciences du comportement, 34*(4), 276.

Brown, S. D., Lent, R. W., Telander, K., & Tramayne, S. (2011). Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis. *Journal of Vocational Behaviour, 79*(1), 81-90.

Budworth, M. H., Latham, G. P., & Manroop, L. (2015). Looking forward to performance improvement: a field test of the feedforward interview for performance management. *Human Resource Management, 54*(1), 45-54.

Casas-Arce, P., Lourenco, S. M., & Martinez-Jerez, F. A. (2017). The Performance Effect of Feedback Frequency and Detail: Evidence from a Field Experiment in Customer Satisfaction. *Journal of Accounting Research, 55*(5), 1051-1088

Choi, E., Johnson, D. A., Moon, K., & Oah, S. (2018). Effects of Positive and Negative Feedback Sequence on Work Performance and Emotional Responses. *Journal of Organisational Behaviour Management, 38*(2/3), 97-115.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences (2nd ed.).* Hillsdale, NJ: Lawrence Earlbaum Associates.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the millennium: a meta-analytic review of 25 years of organisational justice research. *Journal of applied psychology, 86*(3), 425.

Colquitt, J. A., Scott, B. A., Rodell, J. B., Long, D. M., Zapata, C. P., Conlon, D. E., & Wesson, M. J. (2013). Justice at the millennium, a decade later: a meta-analytic test of social exchange and affect-based perspectives. *Journal of Applied Psychology, 98*(2), 199.

Donnelly, J., & Trochim, W. (2007). *The research methods knowledge base.* Ohio: Atomic Dog Publishing.

Donnon, T., Al Ansari, A., Al Alawi, S., & Violato, C. (2014). The reliability, validity, and feasibility of multisource feedback physician assessment: A systematic review. *Academic Medicine, 89*(3), 511-516.

DeNisi, Angelo S, & Pritchard, Robert D. (2006). Performance appraisal, performance management and improving individual performance: A motivational framework. *Management and Organisation Review, 2*(2), 253-277.

Dimotakis, N., Mitchell, D., & Maurer, T. (2017). Positive and negative assessment center feedback in relation to development self-efficacy, feedback seeking, and promotion. *Journal of Applied Psychology, 102*(11), 1514.

Elicker, J.D., Levy, P.E., & Hall, R.J. (2006). The role of leader-member exchange in the performance appraisal process. *Journal of Management, 32*(4), 531-551.

Epton, T., Currie, S., & Armitage, C. J. (2017). Unique effects of setting goals on behaviour change: Systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology, 85*(12), 1182-1198.

Festinger, L. (1954). A theory of social comparison processes. *Human relations, 7*(2), 117-140.

Gjedrem, W. G. (2018). Relative performance feedback: Effective or dismaying? *Journal of Behavioural and Experimental Economics, 74*, 1.

Harkin, B., Webb, T. L., Chang, B. P., Prestwich, A., Conner, M., Kellar, I., ... & Sheeran, P. (2015). Does monitoring goal progress promote goal attainment? A meta-analysis of the experimental evidence. *Psychological Bulletin, Vol 142*(2), 198-229.

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge.

Holderness, D. K., Jr., Olsen, K. J., & Thornock, T. A. (2017). Who Are You to Tell Me That?! The Moderating Effect of Performance Feedback Source and Psychological Entitlement on Individual Performance. *Journal of Management Accounting Research, 29*(2), 33.

Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behaviour in organisation. *Journal of Applied Psychology, 64,* 349-371.

Ilgen, D., Barnes-Farell, J. & McKellin, D. (1993). Performance appraisal process in the 1980s: What has it contributed to appraisals in use? *Organisational Behaviour and Human Decision Processes, 54*, 321-368.

Ilies, R., Judge, T. A., & Wagner, D. T. (2010). The influence of cognitive and affective reactions to feedback on subsequent goals: Role of behavioural inhibition/activation. *European Psychologist, 15*(2), 121-131.

Jaakson, K., Reino, A., & McClenaghan, P. B. (2019). The space between – linking trust with individual and team performance in virtual teams. *Team Performance Management, 25*(1/2), 30-46.

Jawahar, I.M. (2010). The Mediating Role of Appraisal Feedback Reactions on the Relationship Between Rater Feedback-Related Behaviours and Ratee Performance. *Group and Organisation Management, 35*(4), 494-526.

Jawahar, I.M. & Williams, C. (1997). Where all the children are above average: the performance appraisal purpose effect. *Personnel Psychology, 50*.

Johnson, D. A., Rocheleau, J. M., & Tilka, R. E. (2015). Considerations in Feedback Delivery: The Role of Accuracy and Type of Evaluation. *Journal of Organisational Behaviour Management, 35*(3-4), 240.

Jones, R. J., Woods, S. A., & Guillaume, Y. R. F. (2016). The effectiveness of workplace coaching: A meta-analysis of learning and performance outcomes from coaching. *Journal of Occupational & Organisational Psychology, 89*(2), 249-277.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: a historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*(2), 254.

Kluger, A. N., & Nir, D. (2010). The feedforward interview. *Human Resource Management Review, 20*, 235–246.

Korsgaard, A., Meglino, B. M., & Lester, S. W. (1994, August). *The virtue of being altruistic: The role of the value of helping and concern in individuals' reactions to feedback from others.* Paper presented at the 1994 meeting of the Academy of Management, Dallas, TX.

Kraiger, Kurt, & Ford, J. Kevin. (1985). A meta-analysis of ratee race effects in performance ratings. *Journal of Applied Psychology, 70*(1), 56-65.

Kuhl, J. (1992). A theory of self-regulation: Actions vs. state orientation, self-discrimination, and some applications. *Applied Psychology: An International Review, 41,*97-129.

Lam, S., Yik, M. & Schaubroeck, J. (2002). Responses to formal performance appraisal feedback: The role of negative affectivity. *Journal of Applied Psychology, 87*(1), 192-201.

Latham, G. P., & Brown, T. C. (2006). The effect of learning vs. outcome goals on self-Efficacy, satisfaction and performance in an MBA program. *Applied Psychology, 55*(4), 606-623.

Lefkowitz, J. (2000). The role of interpersonal affective regard in supervisory performance ratings: Aliterature review and proposed causal model. *Journal of Occupational and Organisational Psychology, 73*, 67–85.

Linna, Elovainio, M., Van den Bos, K., Kivimaki, M., Pentti, J. & Vahtera, J. (2012). Can usefulness of performance appraisal interviews change organisational justice perceptions? A 4-year longitudinal study among public sector employees. *The International Journal of Human Resource Management, 23*(7), 1360-1375.

Locke, E. A. and Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist, 57*(9), 705–717.

Locke, E. A., & Latham, G. P. (2006). New directions in goal-setting theory. *Current directions in psychological science, 15*(5), 265-268.

Loftus, S., & Tanlu, L. J. (2018). Because of "Because": Examining the Use of Causal Language in Relative Performance Feedback. *The Accounting Review, 93*(2), 277.

Mikulincer, M. (1989a). Cognitive interference and learned helplessness: The effects of off-task cognitions on performance following unsolvable problems. *Journal of Personality and Social Psychology, 57,* 129-135.

Miller, A., & Archer, J. (2010). Impact of workplace based assessment on doctors' education and performance: A systematic review. *BMJ: British Medical Journal, 341*(7775), 1-6.

Murthy, U. S., & Schafer, B. A. (2011). The Effects of Relative Performance Information and Framed Information Systems Feedback on Performance in a Production Task. *Journal of Information Systems, 25*(1), 159-184.

Palmer, M. G., Johnson, C. M., & Johnson, D. A. (2015). Objective Performance Feedback: Is Numerical Accuracy Necessary? *Journal of Organisational Behaviour Management, 35*(3-4), 206.

Petticrew, M., & Roberts, H. (2006). *How to appraise the studies: an introduction to assessing study quality.* Systematic reviews in the social sciences: A practical guide, 125-163.

Porter, R. L., & Latham, G. P. (2013). The effect of employee learning goals and goal commitment on departmental performance. *Journal of Leadership & Organisational Studies, 20*(1), 62-68.

Raver, J. L., Jensen, J. M., Lee, J., & O'Reilly, J. (2012). Destructive Criticism Revisited: Appraisals, Task Outcomes, and the Moderating Role of Competitiveness. *Applied Psychology: An International Review, 61*(2), 177-203.

Raemdonck, I., & Jan-Willem, S. (2013). Feedback perceptions and attribution by secretarial employees. *European Journal of Training and Development, 37*(1), 24-48.

Rahyuda, A., Syed, J., & Soltani, E. (2014). The role of relapse prevention and goal setting in training transfer enhancement. *Human Resource Development Review, 13*(4), 413-436.

Schaerer, M., Kern, M., Berger, G., Medvec, V., & Swaab, R. I. (2018). The illusion of transparency in performance appraisals: When and why accuracy motivation explains unintentional feedback inflation. *Organisational Behaviour & Human Decision Processes, 144,* 171-186.

Seifert, C. F., Yukl, G., & McDonald, R. A. (2003). Effects of multisource feedback and a feedback facilitator on the influence behaviour of managers toward subordinates. *Journal of Applied Psychology, 88*(3), 561.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Houghton, Mifflin and Company.

Shaughnessy, J. J., & Zechmeister, E. B. (1985). *Research methods in psychology.* Alfred A. Knopf.

Smither, London & Reilly, R. (2005). Does performance improves following multisource feedback? A theoretical model, meta-analysis and review of empirical findings. *Personnel Psychology, 58*(1), 33-66.

Smither J. Reilly, R. & Buda, R. (1988). The effects of prior performance information on ratings of present performance: Contrast versus assimilation revisited. *Journal of Applied Psychology, 73,* 487-496.

Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organisational Behaviour, 32*(8), 1084.

Winters, D., & Latham, G.P. (1996). The effect of learning versus outcome goals on a simple versus a complex task. *Group and Organisation Management, 21,* 236– 250.

Young, S. F., Richard, E. M., Moukarzel, R. G., Steelman, L. A., & Gentry, W. A. (2017). How empathic concern helps leaders in providing negative feedback: A two-study examination. *Journal of Occupational & Organisational Psychology, 90*(4), 535-558.

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