

I Do Not Need Feedback! Or Do I? Self-Efficacy, Perspective Taking, and Downward Feedback Seeking

Managers have an important role in their organizations. A significant part of this role involves managing and facilitating the achievement of collective goals through employees (Yukl, 2012). It is therefore important for managers to understand how their actions are viewed by employees, as such understanding enables them to alter their behaviors and to carry out their roles in ways that are appropriate and well-received (e.g., Sosik & Megerian, 1999; Van Velsor, Taylor, & Leslie, 1993). Yet, gaining such understanding is not a simple undertaking. Employees' views are subjective, nuanced, and multi-faceted; hence, it is difficult for managers to form accurate understanding of how well they are doing without obtaining feedback directly from employees (Ashford, 1989). However, employees usually do not voluntarily provide feedback to managers (Ashford, Blatt, & VandeWalle, 2003) and as managers rise in the hierarchy, informal feedback from below becomes especially scarce (Anderson & Brown, 2010).

Consequently, to obtain relevant information about their performance, managers may need to proactively seek it from employees. *Feedback seeking* is defined as the deliberate devotion of effort towards determining the adequacy of one's actions (Ashford & Cummings, 1983). Actively seeking feedback provides diagnostic information that allows seekers to improve their effectiveness (Anseel, Beatty, Shen, Lievens, & Sackett, 2015; Ashford, De Stobbeleir, & Nujella, 2016). Although feedback seeking can be directed at a supervisor, a peer, or a subordinate, most research has focused on *upward* seeking—employees seeking feedback from supervisors. In contrast, as Ashford et al. (2016) highlight in their review of the feedback seeking literature, *downward feedback seeking*—managers seeking feedback from their subordinates—has received scant attention. The few studies that do exist suggest that managers who seek downward feedback are more effective, but at the same time, that managers are generally reluctant to seek feedback from employees (Ashford & Tsui, 1991; Kouzes & Posner, 2014; Zenger & Folkman, 2013). Thus, identifying psychological factors that drive or prevent downward feedback seeking has important theoretical and practical implications (Ashford, Sutcliffe, & Christianson, 2009).

Research points to three related but independent motives that determine whether or not people seek feedback (Tuckey, Brewer, & Williamson, 2002). First and foremost, feedback seeking is driven by an *instrumental motive*; people seek feedback because they believe that the information obtained will be useful or instrumental to their efforts to achieve their goals or to improve their performance (Ashford, 1989; Ashford et al., 2003). However, feedback can highlight one's shortcomings, and seeking it can be interpreted as a sign of incompetence or weakness. Thus, motives to protect one's ego and one's image in the eyes of others also play a role, and can lead people to avoid seeking performance feedback—particularly if it might be negative (Ashford, 1986, 1989; Ashford et al., 2003). Therefore, scholars have devoted attention to identifying individual differences that may affect the strength of the underlying motives affecting the

likelihood of feedback seeking behavior (Anseel et al., 2015). One such individual factor is *self-efficacy*, or confidence in one's ability (Bandura, 1997). Scholars have theorized that self-efficacy increases feedback seeking (Anseel et al., 2015; Ashford et al., 2003). This is because heightened self-efficacy reduces fears related to hearing negative information about the self or appearing weak in the eyes of others. Removing such barriers makes it more likely that people will act on their instrumental desire to obtain useful performance information (Ashford, 1986; Brown, Ganesan, & Challagalla, 2001).

Yet, research from other domains suggests that, when it comes to managers, high self-efficacy can sometimes reduce feedback seeking. This is because heightened sense of self-efficacy may lead to *positively biased* perceptions of one's performance, and thus reduce the felt need to obtain feedback or additional information (Schmidt & DeShon, 2010; Vancouver & Purl, 2017). This puts into question two implicit assumptions underlying current feedback seeking theorizing: (a) that people recognize the instrumental value of feedback and (b) that self-efficacy does not affect the instrumental motive to seek feedback. If high self-efficacy reduces beliefs about the usefulness of obtaining employees' feedback, it is unlikely to result in more feedback seeking and might even lead to less of this behavior.

Given this theoretical backdrop, the question becomes: *under what conditions* is self-efficacy likely to enhance versus reduce downward feedback seeking? We propose that the answer lies in whether managers engage in *perspective taking*, or the active process of imagining the world from others' viewpoint (Ku, Wang, & Galinsky, 2015). This is because perspective taking can reduce self-serving biases that result from high self-efficacy. In fact, the most established effect of perspective taking is reduction of biases and enhancement of the drive to seek information from others (Galinsky, Magee, Rus, Rothman, & Todd, 2014). We argue that managers who tend to take the perspective of employees are less likely to succumb to the biasing effects of high self-efficacy and are thus more likely to recognize feedback from employees as instrumental. Hence, we predict that managers with high self-efficacy and high perspective taking are more likely to seek downward feedback than those with high self-efficacy and low perspective taking.

Our decision to focus on downward feedback seeking also enables us to explore the consequences of feedback seeking for the feedback *target*, or in other words, the manager's employees (see Figure 1). Research has mostly focused on consequences for the seeker, with little attention given to how feedback seeking targets may be affected (Ashford et al., 2016). Yet, it is possible for feedback seeking to affect the person who has been asked to provide feedback. We propose that such effects are especially likely in the context of downward feedback seeking, when the feedback target is in a subordinate position, and the feedback seeker in a position of influence. Specifically, we hypothesize that feedback targets may be more likely to subsequently assist feedback seekers, and may be more likely to seek feedback themselves.

We conducted two experimental studies and one field study to test our hypotheses. Although we

intend to present all of three studies in the conference, due to space limitations, here we shortly describe the results of the field study (Study 3). For our field study, we relied on the snowball recruiting technique, and recruited 385 manager-employee dyads working full-time from a diverse set of organizations and occupations. Managers reported their *self-efficacy* on the 3-item competence dimension from Spreitzer's (1995) empowerment scale ($\alpha = .85$) and their tendency to *perspective take* using a 4-item measure adapted from Grant and Berry (2011) ($\alpha = .86$). Employees reported their managers' *downward feedback seeking* using an adapted Ashford and Tusi's (1991) 4-item feedback seeking measure ($\alpha = .86$). We measured *employee helping* from both the employee and manager perspectives using a 3-item scale adapted from Rupp and Cropanzano (2002) helping measure ($\alpha = .81$ & $.80$); Finally, we measured employee *upward feedback seeking* by asking the employees to rate their own feedback seeking from their manager using a 4-item scale adapted from Ashford and Tsui's (1991) feedback inquiry measure ($\alpha = .86$). Table 1 provides the means, SDs, and bivariate correlation of our measures. Self-efficacy and perspective taking interacted to predict downward feedback seeking ($B = .36, p = .006$; Table 2, Model 2). We plotted this interaction (Figure 2) and conducted simple slopes analysis which indicated that self-efficacy was negatively related to downward feedback seeking when perspective taking was low ($-1SD, B = -.30, p = .029$), but was marginally positively related to downward feedback seeking when perspective taking was high ($B = .21, p = .094$). As for outcomes, managers' downward feedback seeking was positively related to employee helping as rated by their manager ($B = .09, p = .044$; Table 2, Model 4) and to employee helping as rated by employees ($B = .21, p < .000$; Table 2, Model 6). Finally, downward feedback seeking was positively related to employee's upward feedback seeking ($B = .47, p < .000$).

Our main contribution lies in identifying factors affecting downward feedback seeking as little research has focused on downward feedback seeking (Ashford et al., 2016). This is unfortunate. Although managers often avoid seeking downward feedback, when they do engage in this behavior, they tend to exhibit improved effectiveness (Ashford & Tsui, 1991; Kouzes & Posner, 2014; Zenger & Folkman, 2013). Thus, understanding factors that enhance downward feedback seeking is of practical and theoretical importance (cf., Ashford et al., 2009; Morrison, 2014). Our theory and results point to self-efficacy and perspective taking as two such factors. Our findings might also help shed light on some discrepancies in the feedback seeking literature. For instance, when it comes to self-efficacy, some studies show a significant positive correlation between self-efficacy and upward feedback seeking (i.e., Renn & Fedor, 2001: $r = .38^{**}$), whereas others have found the correlation to be close to zero (i.e., Ashford, 1986: $r = .04$; Brown et al., 2001: $r = .04$). It could be valuable for future research to ascertain whether perspective taking also moderates the effects of self-efficacy on upward or lateral feedback seeking. This aligns with Ashford et al.'s (2016) call for research exploring whether and how feedback seeking dynamics differ depending on directionality.

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The Role of Mental Construal in Buffering Aggression

Queues are an inevitable and unpleasant part of everyday life (Fottler & Ford, 2002). Waiting in queues blocks the achievement of the goal of receiving service (Rafaeli, Barron, & Haber, 2002), and therefore is a stressor that causes frustration (Berkowitz, 1989; Lazarus & Folkman, 1984) and fuels aggression (Anderson & Dill, 2000; Sprague, Verona, Kalkhoff, & Kilmer, 2011). The stress waiting evokes is transactional (Lazarus & Folkman, 1984), meaning that it depends on the appraisal of the wait by people in the situation (Lazarus & R.S., 1966). There is an objective length of time that people have actually waited at any point in a queue (Fottler & Ford, 2002, p.47). A separate construct is perceived wait (Rafaeli, Barron, & Haber, 2002). In most cases, perceived wait guides behavior, such as aggressive behavior, rather than the actual amount of time that has passed (Antonides, Verhoef, & van Aalst, 2002). We therefore predict perceived wait to explain the relationship between wait duration and aggression (H1). The challenge, therefore, is to decrease perceived wait, even if wait duration stays the same.

Wait duration can be perceived to pass very quickly or very slowly, depending on attention to distractors (Hansen & Trope, 2012). When attention is distracted from the time passing, the wait is perceived as shorter (Block & Zakay, 1997). Construal Level Theory (CLT) explains that personal construal level determines how much attention people give to distractions (Hansen & Trope, 2012), such that overall, people are more distracted when in low construal compare to high construal, because in low construal people pay more attention to concrete objects in the environment, that distract from the time passing. Therefore we predict construal level to moderate the influence of wait time on perceived wait, such that the lower one's construal level, the shorter the perceived wait (H2).

Given a certain perceived wait, the question remains open whether a person in a high or low mental construal will be more or less aggressive. Greater temporal distance, associated with high construal, leads to people expressing their true sense of self (Kivetz & Tyler, 2007). This implies that those who think about themselves in abstract ways are more likely to act authentically, in line with their immediate thoughts. Thus, high construal people tend to suppress their true emotions less, are more direct, and "let it all out". This behaviour is likely because such authentic emotional responding is in line with their true self. Following this logic, we predict people in high construal to suppress their emotions less, and in turn, be more aggressive than people in low construal (H3). Moreover, we predict construal level to moderate the indirect influence of wait duration on aggression via perceived wait, such that the construal level will moderate both the relationship between wait duration and perceived wait, and between perceived wait and aggression (H4).

To explain why mental construal moderates the relationship between perceived wait and aggression, we suggest examining the role of emotional suppression. Emotional suppression is "the process of

consciously inhibiting emotional expressions while emotionally aroused” (Butler et al., 2003, p.48). Emotional suppression creates in the individual a sense of incongruence, or discrepancy, between inner experience and outer expression (Rogers, 1951). It creates a sense of not being true to oneself, of being inauthentic rather than honest with others (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). As high construal people are known to be more authentic, we would predict that they use less emotional suppression. Emotional suppression provides an effective means of controlling powerful negative emotions following an anger provocation (Mauss, Cook, Cheng, & Gross, 2007). Therefore, we would expect that the more emotional suppression is used, the less aggressive people will tend to be, following a provocation such as a wait. Thus, emotional suppression can buffer the harmful effects of the wait, and reduce the aggressive reactions to it. However, as we showed earlier, it is not the wait per se that is predicted to effect aggression, rather the perception of the wait duration. Hence, mental construal is predicted to moderate the relationship between perceived wait and aggression (H5).

In Study 1, we examine the moderating role of trait mental construal in the relationship between wait duration and perceived wait, and between perceived wait and aggression, and test hypotheses 1-4. In Study 2 we prime mental construal to show how it can be altered in an organizational context, and examine emotional suppression as the mechanism that explains why high mental construal leads to less aggression following a perceived wait, testing hypothesis 5. For full research model see Appendix A.

Methods

Study 1: Upon their arrival, subjects ($N=74$, 58% female, $M_{age} = 22.4$) were informed that they would be paired with another subject for a task in pairs. Then they completed a survey to assess their construal level. At this point, each subject was notified that their assigned partner arrived late. Subjects were randomly assigned to one of two wait conditions (5/10 minutes). After waiting for their partner to arrive, they completed validated measures of aggression, perceived wait and demographics.

Study 2: resembled Study 1, with an addition of a construal prime and a measure of emotional suppression ($N=65$, 65.8% female, $M_{age} = 23.11$).

Results

Study 1: To test whether the relationship between wait duration and aggression is mediated by perceived wait, we used PROCESS (Hayes, 2015) (Model 4, boot=1000). The influence of wait duration on aggression was mediated by perceived wait (H1). Wait duration influenced perceived wait ($\beta=0.02$, $p<0.01$), which in turn, influenced aggression ($\beta=0.08$, $p<0.01$). Wait time had an indirect influence on aggression via perceived wait ($\beta = 0.01$, 95% CI = [.0001, .001]). To test the prediction that mental construal moderates both the relationship between wait duration and perceived wait, and perceived wait and aggression, we used a moderated-mediation procedure (Model 58, boot = 1,000). As predicted, mental construal moderated the

influence of wait duration on perceived wait, such that the lower the construal level the lower the perceived wait ($\beta=0.001$, $p < 0.05$), confirming H2. Mental construal also moderated the influence of perceived wait on aggression, such that the lower the construal level the lower the aggression ($\beta=0.11$, $p < 0.05$), confirming H3. Perceived wait mediated the relationship between wait duration and aggression at high ($\beta = 0.0006$, 95% CI [0.0001,0.001]), medium ($\beta = 0.0002$, 95% CI [0.0001,0.0006]) but not low ($\beta = 0.000$, n.s) levels of mental construal, supporting H4.

Study 2: We followed Grant and Wrzesniewski (2010) to test H5. As predicted, construal prime was negatively related to emotional suppression, such that people with low mental construal use more emotional suppression ($r = -0.34$, $p < 0.05$), than people with high mental construal. Construal prime had a marginal moderating effect on the influence of perceived wait on influence aggression ($\beta = 0.33$, $p = 0.08$). In addition, emotional suppression interacted with perceived wait, such that the more emotional suppression people use following a wait, the less they tend to react with aggression ($\beta = -0.17$, $p < 0.05$). To test the mediating role of emotional suppression in the moderation of construal level on the relationship between perceived wait and aggression, we used hierarchical regression analysis. First, we regressed the standardized scores of construal prime, perceived wait, the interaction between emotional suppression and perceived wait, as well as the control of internet usage, on aggression. Second, we added to the liner regression emotional suppression and the interaction between perceived wait and emotional suppression. We demonstrated that when accounting for emotional suppression and the interaction between emotional suppression and perceived wait, the interaction term of construal prime with perceived wait became insignificant ($\beta = 0.11$, $p = 0.21$), while the interaction between emotional suppression and perceived wait remained significant $\beta = -0.17$, $p < 0.05$). Results fully supported the mediated moderation (H5).

Discussion

Our findings make three contributions. First, we demonstrate that the perception of the wait duration, and not the wait duration per se, is what matters in determining aggressive reactions to waiting. This distinction is important, as sometimes altering perceptions of wait is more feasible than altering the wait duration itself. Therefore it can be used to buffer aggression that stems from a wait. Second, we illustrate how the perceptions of wait duration can be altered to reduce aggression - by reducing mental construal. The connection of CLT with the literatures on wait and aggression is novel, and closes an existing gap in the literature. Last, we demonstrate why mental construal reduces aggressive reactions to waiting: by reducing the attention to distraction, and therefore the perceived wait, and by reducing emotional suppression following wait, and in turn, aggression. Hence, we reveal the mechanism by which CLT moderates aggressive reactions to waiting.

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Appendix A: research model

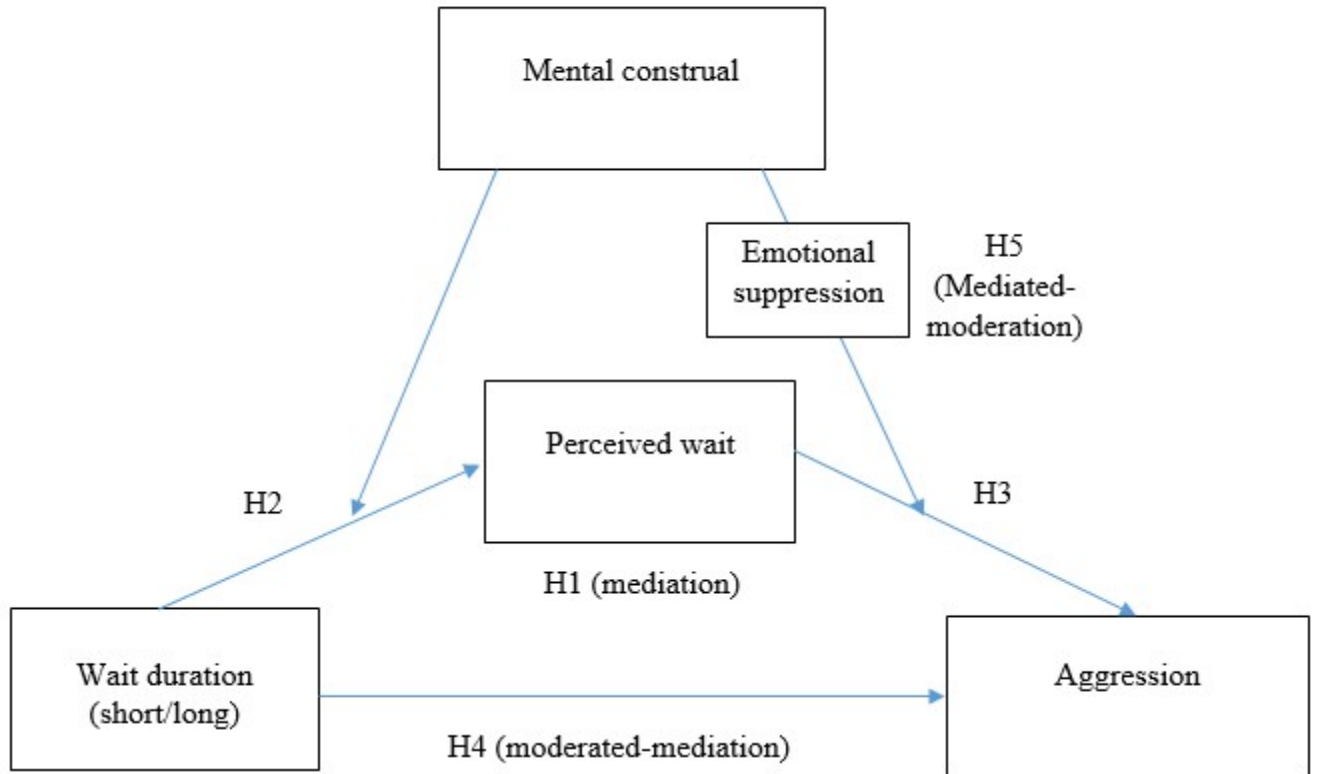


TABLE 1

Means, standard deviations, and correlations of variables (Study 3)

	M	SD	1	2	3	4	5	6	7	8
1. Span of control	11.39	16.36	-							
2. Manager position tenure	6.31	6.44	-.06	-						
3. Manager self-efficacy	4.50	.56	.07	.13*	-					
4. Manager perspective taking	4.02	.69	.02	-.08	.05	-				
5. Manager feedback seeking	2.77	1.02	-.14**	.02	-.02	.05	-			
6. Employee helping (manager rated)	3.89	.89	-.05	.02	.04	.20**	.11*	-		
7. Employee helping (employee rated)	3.54	.86	-.09	-.03	.04	.12*	.25**	.31**	-	
8. Employee feedback seeking (employee rated)	2.74	.95	-.12*	-.04	.06	.08	.51**	.15**	.38**	-

Note. N = 385. * $p < .05$, ** $p < .01$.

TABLE 2
Moderated regression analysis (Study 3)

	Manager feedback seeking		Employee helping (manager rated)		Employee helping (employee rated)		Employee feedback seeking	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	2.77 (.05)**	2.76 (.05)**	3.89 (.05)**	3.90 (.04)**	3.54 (.04)**	3.54 (.04)**	2.74 (.05)**	2.74 (.04)**
Span of control	-.01 (.00)**	-.01 (.00)**	-.00(.00)	-.00(.00)	-.00(.00)	-.00(.00)	-.01(.00)*	.00(.00)
Manager position tenure	.00 (.00)	.01 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Manager self-efficacy (MSE)	-.02 (.09)	-.05 (.09)						
Manager perspective taking (MPT)	.09 (.08)	.07 (.08)						
MSE * MPT		.37 (.13)**						
Manager feedback seeking				.09 (.05)*		.21 (.04)**		.47 (.04)**
R ²	.02	.04**	.00	.01	.01	.07**	.02*	.27**
ΔR ²		.02**		.01*		.06**		.25**

Note. N = 385. Table entries represent unstandardized parameter estimates with standard errors in parentheses. All variables (except dependent variable) were mean centered.

* $p < .05$, ** $p < .01$.

FIGURE 1

Conceptual model

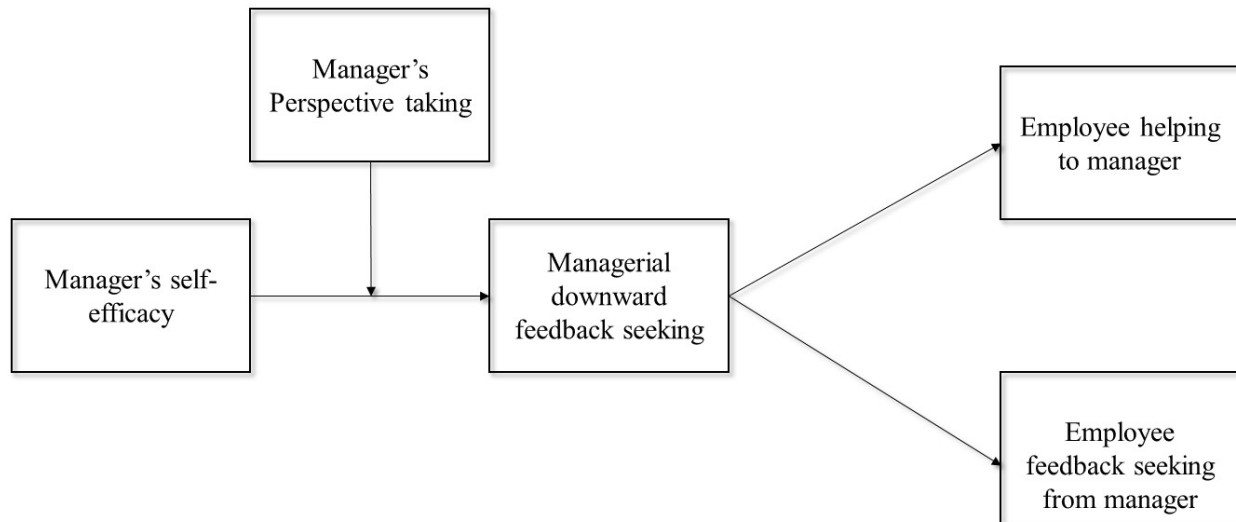
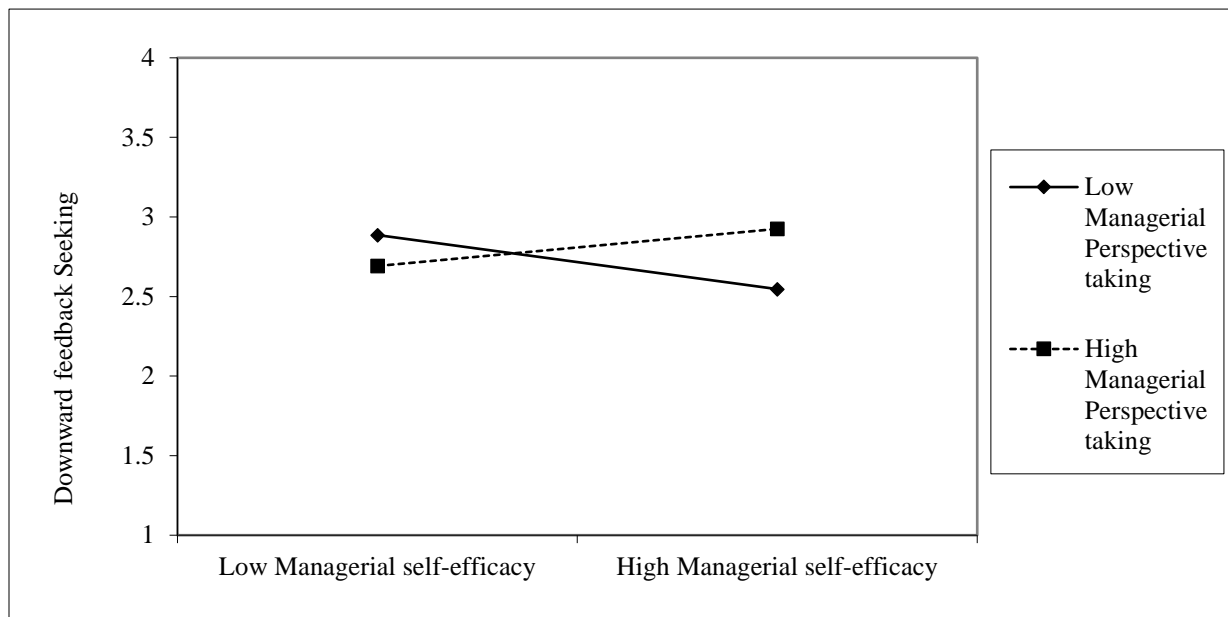


FIGURE 2

Interaction between managerial self-efficacy and managerial perspective taking on downward feedback seeking (Study 3)



The value of Sacrifice - Relative Evaluation of Prosocial Behavior

Consider a case in which two individuals, Alice and Bob, donate money for a noble cause: while Alice donates \$50, Bob donates \$100, twice as much as Alice does. Naturally, we may expect that Bob will receive a higher social evaluation¹ for his prosocial act. However, what if it is also known that Alice earns a weekly wage of \$500, while Bob earns \$1,500 a week. Would society then evaluate these acts differently? In this paper, we argue and show that besides evaluating the economic value of a contribution, society also values the sacrifice per se involved in the prosocial behavior even though the benefactor's sacrifice does not help the respective beneficiary.

Evaluation of prosocial behavior and the sacrifice one has to make when the acts are costly has been explored in the literature in several ways. The sacrifice itself is commonly imposed to justify the selfless intentions of the benefactor (Ariely et al., 2009; Berman et al., 2015; A. Gneezy et al., 2012; Olivola & Shafir, 2013). Moreover, while the sacrifice effect also known as the “martyrdom effect” (Olivola & Shafir, 2013) has been studied in the context of prosocial behavior, it has never been compared with the resultant economic value of the prosocial act to the beneficiary at hand. To the best of our knowledge, we are the first to investigate how the trade-off between the economic values conveyed to the beneficiary and the sacrifice of the benefactor affect the social evaluation of prosocial activities. In particular, we are the first to measure this trade-off as it appears in different forms of a contribution (i.e. financial donations and volunteer work). We find that society's evaluation of the benefactor's sacrifice Accounts for Approximately 50 percent of the evaluation of the economic value of the contribution for the beneficiary.

In order to measure how prosocial behavior is evaluated by others in the context of self-sacrifice, we conducted an online choice-based conjoint experiment (using Sawtouth software). Each respondent (N=1200) was asked to choose the most prosocial scenario out of three scenarios characterized by a benefactor's prosocial behavior: monetary donation and volunteer work and information regarding the benefactor's resources: available time and monetary resources. The resources were introduced as a signal for the benefactor's sacrifice.

¹ In this research we refer to social evaluation as the evaluation of a benefactor's prosocial identity as it been reflected by her behavior.

Prosocial behavior was represented by either one of four monetary donation levels (money given): no donation, low donation – 20 NIS/month, medium -100 NIS/month or high – 400 NIS/month and one of four volunteer work levels (time spent): no volunteering, low - 1 hour/week, medium - 3 hours/week or high – 8 hours/week. The benefactor's resources were represented by either one of four income levels (signal of wealth): low income – 5,000 NIS/month, medium - 8,000 NIS/month, high – 14,000 NIS/month or very high – 35,000 NIS/month and one of four signals of available time: low – 60 work hours/week, medium – 40 work hours/week, high – 20 work hours/week or very high – not working. Each respondent saw 14 different combinations of three scenarios and selected what they believed to be the most prosocial one.

After a screening process for non-valid or incomplete questionnaires, we analyzed 896 surveys. We employed hierarchical Bayes analysis on our individual-level dataset. Specifically, we used the average evaluation given by all the respondents for each one of the levels as a proxy for the reward given by the society for these prosocial behavior scenarios. The estimation yielded 0.80 RLH (i.e., root likelihood as model fit), which is significantly above a baseline level (0.33 for a random choice of 1 out of 3 concepts). Results show that the weight of the economic value of the prosocial acts sums up to 65% of the total evaluation compared to 35% of the resources or sacrifice. Furthermore, we calculated the social reward for the interaction between the prosocial behavior and resource at each level (e.g., donation of 20 NIS while the income is 5,000 NIS). Our results suggest that the higher the level of contribution (i.e., the greater the monetary donation or time spent for volunteer work), the higher the social evaluation associated with the prosocial activity. However, we also found that for the same level of contribution, the scarcer the benefactor's available resources, the greater the reward. Namely, a wealthy benefactor has to donate more than a non-wealthy one in order to gain an equivalent social reward, and similarly, the scarcer the available time of the volunteer, the more praise for the voluntary activity. These trends are found to be significant (all $p < 0.05$), and therefore, we conclude that indeed people do appreciate both the economic value as well as the sacrifice involved in the prosocial behavior.

Our study reveals that prosocial behavior is evaluated by society in a relative manner. That is, not only is the economic value for the beneficiary considered, but also the amount of self-sacrifice involved in the prosocial activity itself. Where the greater self-sacrifice is involved, the greater the reward is given by the society. Notably this reward scheme may eventually lead to

ineffective prosocial activities. As benefactors may care about the social reward they gain, they may also increase their sacrifice even if it is found to be unnecessary as far as the beneficiary is concerned. These findings might explain ineffective behaviors such as wealthy people who volunteer their time to do simple tasks (e.g., washing dishes at a shelter) or less affluent people who chose to make significant monetary donations. The benefactor's choice to contribute with the scarcer resource will increase that sacrifice, and therefore the social reward. However, the contribution's value might decrease as far as the beneficiary is concerned, considering the alternative options for contribution.

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MINDING EMPLOYEES' MIND-WANDERING: INTRODUCING A NOVEL FRAMEWORK AND PROPOSING WORK TASK PERFORMANCE OUTCOMES

Mind-wandering (MW) refers to a common situation in which our thoughts drift from a primary task, inwards, towards self-generated thoughts (Klinger, 2013; Smallwood & Schooler, 2006, 2015). MW is a ubiquitous phenomenon (e.g., Mason et al., 2007; Schooler et al., 2014): Individuals' minds have been shown to wander during 20%–50% of the time, while they perform various tasks (McVay & Kane, 2009; Smallwood, Nind, & O'Connor, 2009; Stawarczyk, Majerus, Maj, Van der Linden, & D'Argembeau, 2011; Szpunar, Khan, & Schacter, 2013).

These findings suggest that MW probably occurs frequently in work settings. However, MW should be of particular interest to organizational researchers not only because of its frequency but also because it has been linked to both positive and negative outcomes that are likely to have meaningful effects in work-related settings. For example, studies have associated MW with negative mood ((Killingsworth & Gilbert, 2010; Ruby, Smallwood, Engen, & Singer, 2013; Smallwood et al., 2009), enhanced creativity (Baird, Smallwood, & Schooler, 2011), memory consolidation (Ellenbogen, Hu, Payne, Titone, & Walker, 2007), and future planning (Baird et al., 2011). A recent meta-analysis indicates that MW is associated with impaired task performance in non-work settings (Randall, Oswald, & Beier, 2014).

It is therefore surprising that MW has barely been studied in work contexts: To our knowledge, MW has been investigated thus far in only three work-related studies, and specifically only among pilots participating in a flight simulation (Casner, Geven, Recker, & Schooler, 2014; Casner & Schooler, 2013, 2015). Given this paucity of empirical research on MW in work settings, it is still unclear how prevalent MW is during the workday, what its characteristics are in that context, and how it affects work-related outcomes.

In this conceptual paper, we seek to begin to fill these gaps by proposing an overarching theoretical framework that can serve to guide research on MW in organizational settings. Specifically, we develop a novel comprehensive typology of MW, which we refer to as the Mind-Wandering Map (MW Map). The typology is based on three key analytical levels of MW classification:

- (i) **Quantity** - the extent to which individuals engage in MW;
- (ii) **Meta-cognition** - individuals' cognitions about their MW thoughts, such as their awareness of their engagement in MW or their capacity to recall its content;
- (iii) **Content** - what individuals think about when their minds wander. This level includes dimensions such as valence and temporal focus. In developing propositions regarding this level of analysis we draw not only from theoretical and empirical studies that directly address MW, but also from works that incorporate related constructs such as mindfulness, worry, nostalgia and rumination.

We build on the MW Map to develop 15 practical propositions regarding the effects of MW and of specific MW characteristics on employees' performance in various types of tasks. In particular, we focus on three common categories of work-related tasks:

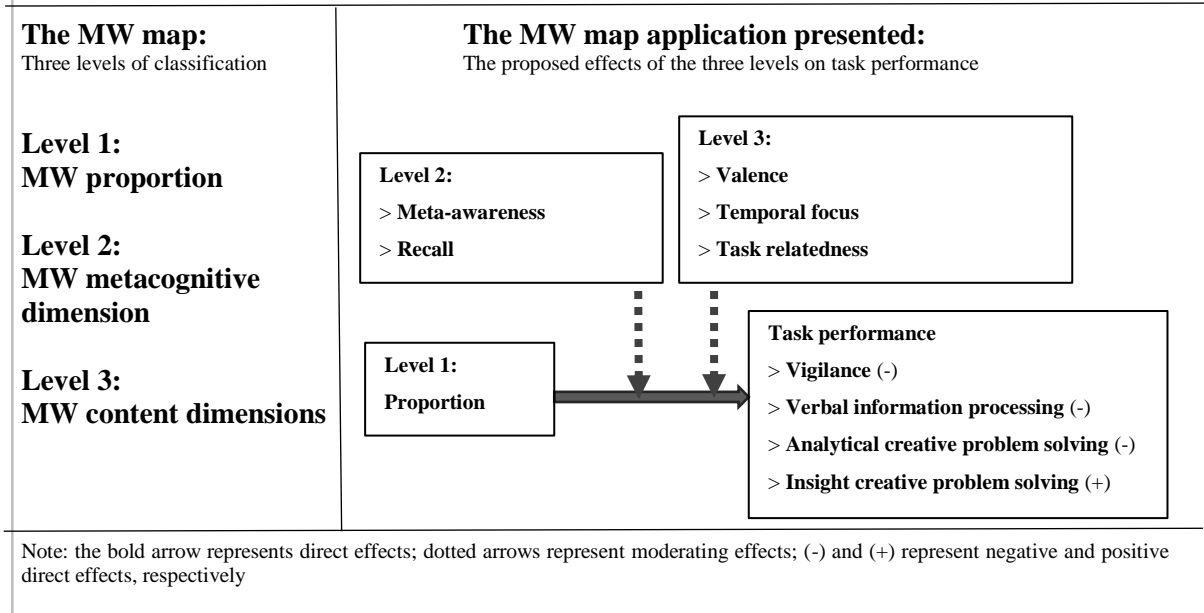
1. **Vigilance tasks** - jobs that require employees to sustain attention over long durations, for example, while monitoring the environment or a video screen.
2. **Verbal information-processing tasks** – these include both reading and listening tasks.
3. **Creative problem-solving tasks** – following previous research, we distinguish between creative problem solving approached analytically (i.e., attentively and analytically thinking about the problem and actively searching for solutions) and creative problem solving approached with an insight strategy (i.e., *not* thinking about the problem, allowing a solution to suddenly pop into one's head) (Zedelius & Schooler, 2015a, 2015b).

Figure 1 presents a diagram of the MW Map and the propositions we develop in our paper.

The MW Map offers the following main theoretical and empirical contributions to both MW research and organizational science: First, in unifying three classification levels of MW, each comprising multiple dimensions, it provides researchers with a fine-grained approach to investigating the relationships between MW and outcomes of interest, thus increasing the predictive utility of the MW construct. Moreover, by including these three levels, our model can be used to guide researchers who seek to identify the relative effects of specific MW characteristics on a wide array of potential outcomes, as well as to reveal these characteristics' antecedents. In addition, our approach enables us to integrate findings from both MW research and research of external related constructs such as worry or nostalgia, thus embedding the concept of MW in a robust theoretical foundation and in a rich body of empirical research. Finally, by offering specific propositions regarding the immediate effects of each of the MW Map's levels of classification on task performance, we open new avenues for the study of job performance antecedents.

We propose that the MW Map may serve as a practical tool for researchers, organizations, and individuals. Researchers might use the MW Map as a conceptual tool that assists them in considering and selecting from all MW characteristics of interest when developing hypotheses. For organizations, the MW Map can serve as a means of gaining insights regarding employees' MW patterns, hence allowing organizations to design jobs or work environments, and to implement interventions that take MW and its effects into account. Finally, the MW Map may be useful for inquisitive individuals wishing to learn about their own MW patterns, and to take part in interventions (e.g., mindfulness meditation) that may change their MW patterns for their own benefit.

FIGURE 1:
Proposed Effects of MW on Task Performance, Based on the MW Map



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