

Improvement at Work: Examining the Influence of Employee Perceptions and Reactions to Constructive Feedback

by

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ABSTRACT

IMPROVEMENT AT WORK: EXAMINING THE INFLUENCE OF EMPLOYEE PERCEPTIONS AND REACTIONS TO CONSTRUCTIVE FEEDBACK

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This research focused on employee reactions to constructive feedback at work. Research has established that individual differences and interpersonal dynamics with supervisors play an important role in employee reactions to feedback. Two studies (cross sectional and time-separated) examined the mediated relationships between feedback orientation, feedback perceptions (quality and constructiveness), and improvement effort. A novel moderation was also examined to investigate if felt trust strengthened employee improvement effort. In both studies, feedback orientation had a positive relationship with feedback perceptions and improvement effort. The mediation pathways were only supported in Study 2. Although the interaction between felt trust and feedback constructiveness was significant in Study 1, it was in the opposite direction than was hypothesized. Based on these results, potential extensions of this research as well as theoretical and practical implications were discussed.

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Improvement at Work: Examining the Influence of Employee Perceptions and Reactions to Constructive Feedback

Performance feedback is considered to be essential for employee improvement (DeNisi & Kluger, 2000). However, the ways in which performance feedback is delivered, received, and implemented, differ greatly and thus, can impact the resulting outcomes of this feedback process. Performance feedback can be delivered in formal ways (i.e., performance appraisals) and informal ways (i.e., day-to-day feedback), which both can be effective if implemented properly (Mulder & Ellinger, 2013). Although less research is devoted to informal feedback, scholars are bringing attention to its value and impact on employee performance (e.g., Schleicher et al., 2018). In contrast to the infrequent timing of formal performance appraisals, a strength of informal performance feedback is that it can occur at any time, and thus, the feedback can be given at a time when it is most impactful. This may be especially helpful in performance management processes, given that specific and timely informal feedback from supervisors has been shown to result in positive performance outcomes (e.g., Northcraft et al., 2011). Another strength of informal feedback is that it can be more development-focused, considering that there are no formal external incentives structured around this feedback. For example, this type of feedback can highlight voluntary improvements that can be made. Given the developmental, informal nature of this feedback, employees may differ in their likelihood to consider this feedback as constructive or use it towards their improvement. Without formal external incentives, employees may be driven to implement feedback through their own internal motivation or social pressures. For these reasons, it is important to understand the factors that influence how employees react to feedback and ultimately choose to implement it.

One key factor that influences how employees react to feedback is the nature of the feedback and whether it is positive or negative. Positive feedback generally focuses on success

and praises employees for good performance. Given this positive focus, research shows that individuals tend to perceive positive feedback as highly accurate and tend to show greater satisfaction with it when compared to negative feedback (Westerman et al., 2014). Contrastingly, employee reactions to negative feedback are more varied. Some employees will respond well to negative feedback and view it as an opportunity to learn and improve. Others, however, may not respond as well since the focus of negative feedback is on performance improvements rather than successes. Given that positive feedback is generally easier for employees to receive, it may be more valuable to focus on ways in which employees can value and use negative feedback because it provides a strong guide for employee improvement.

To understand why employees may react differently to negative feedback, it is first important to reflect on employee biases in receiving this type of feedback. Due to the focus on potential developmental areas or performance gaps, employees can perceive negative feedback as threatening which can result in negative emotional reactions and defensive beliefs. For example, some individuals discount the negative aspects of feedback due to self-serving biases; causing them to focus only on the positive aspects of the feedback (Cannon & Witherspoon, 2005). Furthermore, due to self-protective biases, individuals may perceive negative feedback as less accurate than positive feedback (Fedor et al., 1989; Snyder & Newburg, 1981). For these reasons, it is important for supervisors to have an understanding of how to harness the value of negative feedback in a manner that leads to positive employee perceptions. One of the ways supervisors can foster effective feedback experiences without sacrificing the informative aspect of negative feedback is by using constructive feedback.

Constructive feedback serves as an effective method to deliver negative performance feedback in a respectful and useful way. Although it can still be considered a type of negative

feedback, constructive feedback avoids personal attributions for poor performance and therefore may lessen the negative impact of the message (Baron, 1988). Constructive performance feedback has a strong developmental focus and encourages employees to strive to improve by using the feedback as a guide. For example, constructive feedback could consist of objective examples and information to help employees develop their job-related knowledge and skills (Gilley et al., 2011). Importantly, constructive feedback holds great value for employees by not only highlighting areas for improvement, but also providing specific guidance on *how* these improvements can be achieved (Goodman & Wood, 2004; Sommer & Kulkarni, 2012). This is beneficial considering that research has shown that employees are more likely to accept performance feedback from their supervisor if the feedback consists of task-related and future-oriented improvements (Christensen-Salem et al., 2018). However, as with any type of feedback, researchers have shown that feedback reactions are influenced by individual differences (e.g., Corwin et al., 2019) and contextual factors within the workplace (e.g., Lechermeier & Fassnacht, 2018). For supervisors to get the most out of delivering constructive feedback, it may be worthwhile to understand how employees differ in their perceptions of constructive feedback. For example, some employees may perceive constructive feedback as threatening because it focuses on developmental areas, or what some employees may perceive as weaknesses. Conversely, other employees may feel less threatened by constructive feedback because they see the value of it towards their personal development. For these reasons, a better understanding of the factors that influence employees to interpret and implement constructive feedback is needed.

There were several objectives of the present research aiming to examine various influences in employee reactions to constructive feedback. The first objective was to examine how perceptions of constructive feedback may be influenced by an employee's overall

receptivity to feedback, known as their feedback orientation (London & Smither, 2002). The second objective aimed to examine how these perceptions of feedback may influence employee improvement. The third objective was to examine how felt trust, described as the degree to which employees feel trusted by their supervisor (Salamon & Robinson, 2008), may work alongside one's perceptions of feedback to influence their resulting performance improvement effort in a novel way.

In addition to these objectives, the current research aimed to inform three gaps within feedback literature. First, this research focused on employee experiences with informal, constructive feedback. Past research examining this research's key constructs (i.e., feedback orientation, perceptions of feedback, and improvement effort) has focused mainly on formal performance appraisal processes rather than informal feedback, or has focused on experiences with feedback in general, rather than specifying a specific type (i.e., constructive feedback). Second, little research has empirically examined perceptions of constructiveness, specifically. This research aimed to contribute findings that could add to our knowledge of how employees interpret and utilize constructive feedback. Lastly, this research aimed to understand the potential influence of felt trust on feedback processes. Although the influence of trust has been empirically examined within the feedback literature, the area of felt trust has not yet been examined alongside feedback orientation or as a contributing factor towards employee improvement. In summary, this study sought to examine individual differences and contextual factors that may be important to further understand employee perceptions and reactions to constructive feedback at work.

Theoretical Background

Following in the footsteps of Linderbaum and Levy (2010), the current study's theoretical background relies upon attitudinal work by Fishbein and Ajzen (1975), and Vroom's Expectancy theory (1964) to support the foundation of London and Smither's theoretical model of the performance management cycle (2002). Fishbein, Ajzen (1975; 1977) and Vroom (1964) emphasized the importance of contextual influences on employee intentions and attitudes at work. Fishbein and Ajzen suggested that attitudes and norms influence employee intentions, which can drive employee behaviour at work. In their theory of reasoned action, Fishbein and Ajzen (1975) emphasized that an individual's intentions to perform certain behaviours can be influenced by both personal attitudes and the attitudes of those around them (i.e., subjective norms). Personal attitudes may be prioritized when an individual will only perform a certain behaviour if they believe it is instrumental in gaining a desired outcome. For example, employees may only implement feedback if they hold positive attitudes toward feedback and believe that feedback will lead to a desired organizational outcome (e.g., better performance). Conversely, subjective norms may be prioritized when an individual acts in a certain way because of the opinions of others. For example, employees may choose to implement feedback if they believe that their supervisor trusts them to do their job correctly and expects that they are capable and willing of making these improvements. Overall, Fishbein and Ajzen's theory help provide a theoretical understanding of how personal attitudes and social norms can shape workplace attitudes and subsequent behaviours.

Vroom's expectancy theory (VIE theory; 1964) also supports the belief that employee attitudes and expectations about rewarding outcomes can influence subsequent motivation and behaviour. Vroom's expectancy theory (1964) suggests that individuals act in ways to minimize

discomfort and maximize pleasure or positive experiences. This theory can be helpful in the context of negative feedback given that it can be uncomfortable to receive feedback surrounding developmental areas. It is possible that employees who receive negative feedback are motivated to reduce that discomfort and strive towards the positive outcome of improvement. Specifically, Vroom (1964) suggests that motivation can be strengthened through employee beliefs of instrumentality and expectancy of positively valenced outcomes (i.e., outcomes that are highly desirable). Within this theory, both instrumentality and expectancy are necessary components to motivate individuals to demonstrate certain behaviours. Expectancy refers to the belief that effort or implementing a specific behaviour will lead to a positive outcome that is necessary for a reward. Within this step, individuals must believe they have the abilities and resources to put in the effort in order to obtain the desired outcome (Vroom, 1964). Instrumentality refers to the belief that an individual will be able to obtain the desired reward after they perform a certain behaviour or implement effort (Vroom, 1964). For example, they must believe that they'll receive a reward after putting effort toward a specific behaviour. Given the explanatory value behind individual motivation, this study utilizes Vroom's expectancy theory (1964) to further understand the feedback process after receiving negative performance feedback.

Within the context of performance feedback, employees may choose to implement feedback towards their improvement if it is likely to result in a reward. While the valence or value of the reward may differ according to workplace or employee, all rewards are similar in the way that they reward employees for improved effort or performance. Some examples of rewards for successful performance could include: a raise, a promotion, more leadership opportunities, or praise from one's supervisor. Vroom (1964) suggested that both views of expectancy and instrumentality are necessary to strengthen one's motivation to perform certain behaviours. In

the performance feedback context, expectancy can refer to employee beliefs that putting in effort to implement feedback will lead to positive outcomes, such as increased performance or increased self-evaluative beliefs. Instrumentality can refer to employee beliefs that these positive outcomes, such as improved performance, can lead to rewards (i.e., promotion, praise, etc.). Putting this together, employees may be more motivated to implement feedback if they believe that this increased effort will lead to improvements in their performance and future rewards at work. Overall, Vroom's theory sheds light on the individual and contextual factors that can play an important role in one's expectations surrounding feedback.

Linderbaum and Levy (2010) connected these motivational theories to extend the theoretical foundation for the performance management cycle by London and Smither (2002). London and Smither (2002) describe the performance management cycle as the ongoing experience of receiving, interpreting, and using feedback. This cycle is organized into three stages that represent this feedback process (see Appendix A). First, a critical event occurs when an individual receives feedback that holds important consequences, leading to initial emotions and thoughts surrounding the feedback (London & Smither, 2002). Second, the individual undergoes a more thorough process in which they confront these emotions and thoughts to make judgements about the feedback (London & Smither, 2002). Third, depending on whether the individual judges the feedback as valuable or not, they can then decide to implement the feedback or disregard it (London & Smither, 2002). In an ideal performance management cycle, an individual will use all types of feedback to their advantage and show improvements in their performance or development. However, London and Smither (2002) noted that some employees may not experience a positive cycle due to a combination of individual factors and contextual influences, which disrupt the developmental process of improvement after receiving feedback.

Since feedback is considered a critical component of employee learning and improvement (McCarthy & Garavan, 2006), it is essential that organizations understand how different types of employees may react to feedback. With a greater understanding of employee predispositions to feedback, organizations can further identify attributes of effective feedback processes and aim to increase these through future training or recruitment procedures. For these reasons, this study examined the influence of these predispositions to feedback by looking at an individual's feedback orientation.

Feedback Orientation

London and Smither (2002) defined feedback orientation as one's receptivity to feedback, which influences how they interpret and react to feedback. Although it is considered to be a relatively stable trait, an individual's feedback orientation may develop over a longer period (i.e., 6-12 months) through experiences with consistent feedback (London & Smither, 2002). Linderbaum and Levy (2010) further refined London and Smither's work leading to the development of the construct of feedback orientation (i.e., the Feedback Orientation Scale [FOS]). In their validation study, they found evidence to support that feedback orientation consists of the following four key components: social awareness, feedback utility, accountability to use feedback, and self-efficacy about implementing feedback. *Social awareness* refers to the degree to which the individual is open to and understanding of others' input about their performance. *Utility* refers to the degree to which the individual perceives feedback to be instrumental to their improvement. *Accountability* refers to the individual's sense of obligation to act on feedback, and *feedback self-efficacy* refers to the degree to which they feel capable and confident in implementing feedback.

As depicted through London and Smither's performance management cycle (2002), a high feedback orientation is expected to help individuals receive, process, and use feedback by enabling them to overcome negative emotional reactions and biases. Due to this, a high feedback orientation can be especially beneficial when experiencing negative feedback. Since negative feedback focuses on developmental areas, it can be uncomfortable to experience and result in self-serving biases about the message (Leung et al., 2001) and even rejection of the feedback (Kluger & DeNisi, 1996). However, developing a high feedback orientation can buffer these adverse effects. For example, individuals with high feedback orientation are less likely to experience ego or image defense motives when dealing with unfavorable feedback, contributing to a less threatening experience (Nakai & O'Malley, 2015). These results suggest that a high feedback orientation can be especially beneficial for employees when processing unfavorable or negative feedback.

In addition to reducing negative self-evaluations after receiving unfavorable feedback, feedback orientation can also buffer one's perceptions of the feedback itself. Dahling and colleagues (2017) found a moderate correlation ($r = 0.40$) between feedback orientation and perceived quality of feedback, suggesting that receptivity to feedback can contribute to positive perceptions of the feedback quality. Considering these findings, I expect that employees with higher feedback orientation are more likely to perceive feedback as high quality and highly constructive given that they are expected to find more value and utility within feedback. Since constructive feedback specifically outlines the ways in which employees should improve, I expect that a higher feedback orientation would enable employees to identify the specific and targetable improvements from the feedback. For example, those with high feedback orientation may view the feedback message as more instrumental to their improvement since it contains

information about key developmental areas that would be necessary for improvement. In contrast, I expect that employees with lower feedback orientation would be less receptive and accepting of feedback, and thus, less likely to see the constructive elements of the feedback.

H1: Feedback orientation will be positively related to perceptions of feedback quality (H1a) and feedback constructiveness (H1b).

In addition to better equipping individuals to interpret feedback (Linderbaum & Levy, 2010), feedback orientation has been shown to positively relate to workplace outcomes. For example, a high feedback orientation has been shown to positively relate to positive reactions to 360-feedback from colleagues (Braddy et al., 2013), feedback-seeking behaviour (Dahling et al., 2012), and openness to coaching (Gregory & Levy, 2012). It is possible that feedback orientation can also influence one's motivation to use feedback, otherwise known as their improvement effort. Since those with a high feedback orientation view feedback as more instrumental to their performance (Linderbaum & Levy, 2010), I expect that they will therefore demonstrate a greater motivation to use feedback towards their improvement. According to Vroom's expectancy theory (1964), motivation can be enhanced if individuals believe they have the resources and skills to demonstrate an appropriate amount of effort in order to receive a reward. In accordance with these theories, employees with higher feedback orientation may be able to interpret constructive performance feedback more thoroughly, allowing them to identify necessary steps towards improvement as well as feel more confident and capable in improving. Additionally, Fishbein and Ajzen (1975) suggest that positive attitudes about instrumentality are important for motivation. Supporting this notion, employees with higher feedback orientation are suggested to be more open to all kinds of feedback due to their perceptions of feedback holding high value and utility towards their performance (London & Smither, 2002). In accordance with these

theoretical perspectives, I expect that a high feedback orientation, will result in higher performance improvement effort given their general openness toward feedback and the expected benefits associated with implementing feedback.

H2: Feedback orientation will be positively related to improvement effort.

Perceptions of Feedback and Improvement Effort

Employee perceptions of feedback are important components in guiding their willingness to utilize feedback (Ilgen et al., 1979). A variety of perceptions of feedback have been shown to enhance employee motivation and effort to improve. For example, perceptions of feedback adequacy (i.e., fairness, usefulness, and acceptance) have been shown to positively relate to individuals' motivation to use the feedback towards improvement (Brett & Atwater, 2001; Strijbos et al., 2010). Additionally, procedural fairness of feedback has been shown to mediate the relationship between feedback accuracy and improvement (Roberson & Stewart, 2006). In the context of performance management and informal feedback, investigating employee perceptions of the quality or value of feedback may be especially important. Without specific direction about what their performance improvements should be and how to obtain them, employees may struggle to handle negative feedback effectively. Given the empirical support for the relationship between feedback perceptions and improvement, the present research examined feedback perceptions (i.e., perceived quality and constructiveness) as a mediating mechanism between one's feedback orientation and their resulting improvement effort.

This study focused specifically on perceptions of feedback quality and constructiveness, given that the informational value embedded in feedback can be helpful elements to guide improvement. There is empirical support within the performance feedback literature to

demonstrate that positive perceptions of the value of feedback can lead to favourable workplace outcomes, such as improvement. For example, Northcraft and colleagues (2011) found that employees who received higher quality feedback surrounding specific tasks were more likely to allocate greater time and effort to complete those tasks. Additionally, Nae and colleagues (2015) found that feedback quality was an important moderator in the relationship between feedback-seeking and performance. Specifically, they found that employee performance did not improve after seeking feedback unless the feedback content was perceived as high-quality. In addition to the importance of perceiving feedback to be high-quality, there may be value in perceiving feedback to be highly constructive. While most of the performance feedback literature focuses on perceptions of feedback quality, the present study focuses on perceptions of feedback constructiveness. In the context of performance feedback, the most valuable or high-quality feedback for employees to receive is feedback that highlights specific, manageable actions that can lead to improvement. This type of constructive feedback enables employees to identify concrete developmental areas to guide their performance. Due to this, when considering employee reactions to performance feedback, perceiving feedback as highly constructive may be an important step in employee improvement.

Research has shown that receiving constructive feedback can lead to positive workplace outcomes, and therefore, may be beneficial in enhancing employee improvement (Sommer & Kulkarni, 2012). Sommer and Kulkarni (2012) define constructive feedback as feedback that gives reference to specific developmental areas, clear standards for performance, and highlights steps towards improvement. Notably, constructive feedback does not focus on personal attributions or weakness, but rather behavioural deficits that can be improved with effort. Research has shown that when elements of constructiveness are lacking in feedback, employee

perceptions can be negatively impacted. For example, Baron (1988) found that when performance feedback was nonspecific and oriented towards the personal attributes of employees rather than their task performance, employees reacted with anger and avoidance. Contrastingly, Sommer and Kulkarni (2012) demonstrated the advantages of using constructive feedback in their findings that constructive feedback predicted employees' organizational citizenship behaviour and job satisfaction due to enhanced perceptions of advancement opportunities and respect. In summary, the feedback literature supports the notion that feedback involving specific, objective steps towards improvement (i.e., highly constructive feedback) can be beneficial for employee performance.

When considering Vroom's expectancy theory (1964), if employees view feedback as unhelpful or do not consider their skills and work-related resources conducive to using the feedback, they may not implement the feedback towards improvement. For these reasons, perceptions of feedback quality and feedback constructiveness may be especially important to enhance these views of expectancy and instrumentality. It may be that through high quality and highly constructive feedback employees can understand specifically what is needed to obtain their desired outcome of improvement and lead to further rewards. Therefore, I predict that those who perceive feedback to be high quality and highly constructive will show greater motivation to improve since they perceive feedback to be more instrumental to their goals of improvement and expect that improvement will lead to greater rewards. Given past literature showing a positive relationship between perceptions of feedback usefulness and quality with motivation to improve (Brett & Atwater, 2001; Steelman & Rutkowski, 2004), I predict that one's perceptions of the quality and constructiveness of feedback will be directly related to their resulting improvement effort.

H3: Perceptions of feedback quality (H3a) and feedback constructiveness (H3b) will be positively related to improvement effort.

Putting this all together, I expect both feedback orientation and feedback perceptions (quality and constructiveness) to be helpful in the feedback process. Supporting the three-step performance management cycle by London & Smither (2002), I expect that feedback perceptions (quality and constructiveness) will act as a mediating mechanism between one's feedback orientation and improvement effort. Since those with a high feedback orientation are expected to process feedback more mindfully and interpret the value of feedback without being inhibited by their emotional reactions towards it (London & Smither, 2002), I expect that those with a higher feedback orientation will perceive negative feedback as higher quality and more constructive than those with low feedback orientation. By discerning the quality and guidance from feedback, I expect that these individuals will show a greater effort to improve since they have a greater tendency to see how this feedback can be constructive for their improvement. Conversely, I expect that those with a lower feedback orientation will perceive negative feedback as lower quality and less constructive, and therefore show less effort to improve. Findings by Rasheed and colleagues (2015) support a similar mediating relationship to the performance management cycle, showing that employees with high feedback orientation demonstrate greater satisfaction with performance appraisal feedback resulting in greater performance. These findings suggest that feedback orientation can influence one's perceptions of feedback and may result in changes in outcome behaviours such as improvement effort. With the support of these findings, I hypothesize that perceptions of feedback (quality and constructiveness) will be mechanisms through which one's feedback orientation can influence their perceptions of feedback, thus resulting in a change in effort to improve.

H4: Perceptions of feedback quality (H4a) and feedback constructiveness (H4b) will mediate the relationship between feedback orientation and improvement effort.

The Influence of Feeling Trusted

In addition to individual differences, contextual differences can make a difference in employee experiences with negative feedback. Beyond an individual's perceptions of feedback, their dynamic with the person giving them feedback also plays an important role in their reactions to it. When considering workplace feedback, examining the trusting dynamic between supervisors and subordinates is important. Extensive research has examined how trust impacts feedback processes, but minimal research considers how *feeling trusted* can influence one's reactions to feedback. For these reasons, the present study focuses on the influence of feeling trusted by one's supervisor.

Felt trust refers to how much an individual feels relied upon and trusted by someone else (Salamon & Robinson, 2008). Felt trust encompasses the *perceptions* that someone else places trust in you and therefore, the positive influence of felt trust extends beyond just transactional actions and into deeper beliefs about oneself. For example, felt trust has been related to beneficial beliefs about oneself such as, perceptions of self-efficacy (Lau et al., 2014), autonomy (Skiba & Wildman, 2019) and empowerment (Gill et al., 2019). This research demonstrates empirical support for the ways in which felt trust can enhance one's self-perceptions of their value at work and may contribute to their motivation. For these reasons, felt trust may be incredibly important in informal, negative feedback processes due to the vulnerable nature of negative feedback. For example, Song and colleagues (2020) found that feelings of felt trust were positively related to feelings of psychological safety at work. Since negative feedback has

the potential to result in self-doubt, felt trust may act as a helpful tool in enhancing employee self-evaluations as well. As well, without formal incentives (e.g., pay increases) for implementing informal feedback, felt trust may act as an additional motivator to help employees strive towards improvement. These predictions can be further connected to motivational theories by Fishbein and Ajzen (1975; 1977) to suggest that felt trust may play a role in enhancing improvement after receiving negative performance feedback.

Drawing on the theory of reasoned action by Fishbein and Ajzen (1975; 1977), I suggest that individuals may feel a stronger drive to improve by implementing feedback if they feel that the feedback is necessary for their success, as well as if the subjective norms support the use of feedback. Given the research demonstrating how felt trust can influence self-evaluative perceptions, it may be that employees who experience high felt trust perceive that their supervisor is more confident in their abilities and as a result, these employees may feel more confident in improving after receiving feedback. Similar notions were supported by Lau and colleagues (2018) when they found that felt trust positively influenced task performance through the mediator of organization-based self-esteem. In other ways, employees who feel highly trusted by their supervisors may perceive there to be a social-relational norm that their supervisor expects them to implement the feedback. These expectations may cause an increase in employee motivation. For example, research has found that employees who perceived higher felt trust from their supervisor were more likely to feel stronger obligation to their supervisor (Li & Lau, 2014; Skiba & Wildman, 2019). Similarly, Salamon and Robinson (2008) found that experiencing high felt trust enhanced employee performance through feelings of responsibility (Salamon & Robinson, 2008). In a work context, employees feel a sense of responsibility to act in ways to maintain the trusting relationship they have with their supervisor. Therefore, these feelings of

obligation and responsibility may extend into further actions that will maintain this trust. For example, prior research shows that felt trust has been shown to positively relate to job performance (Lester et al., 2003) and task performance (Lau et al., 2014) and both in-role and extra-role performance (Zheng et al., 2019). I hypothesize a similar process to occur within feedback processes, such that, that I expect that felt trust would serve as a critical moderator of the relationship between one's feedback perceptions and their resulting improvement effort. Specifically, I expect that employees will show greater improvement if they perceive the feedback they receive to be high quality and highly constructive, as well as if they feel trusted by their supervisor.

H5: Felt trust will moderate the relationship between one's perceptions of feedback quality (H5a) and feedback constructiveness (H5b), and their improvement effort, such that the positive relationship will be stronger when participants report high felt trust and weaker when participants report low felt trust.

Overview of Present Study

Taken together, I expect that feedback orientation will positively influence employee perceptions of feedback quality and constructiveness. Further, I expect that employee perceptions of feedback quality and constructiveness will positively influence their improvement effort, especially when employees feel trusted. The entire proposed moderated mediation model is shown in Figure 1.

H6: The mediated relationship between feedback orientation and improvement effort via the perceived feedback quality (H6a) and perceived feedback constructiveness (H6b) is moderated by subordinates' level of felt trust, such that the indirect (i.e., mediated) effect of

feedback orientation on subordinates' improvement effort is greater for subordinates experiencing high felt trust than for subordinates experiencing low felt trust.

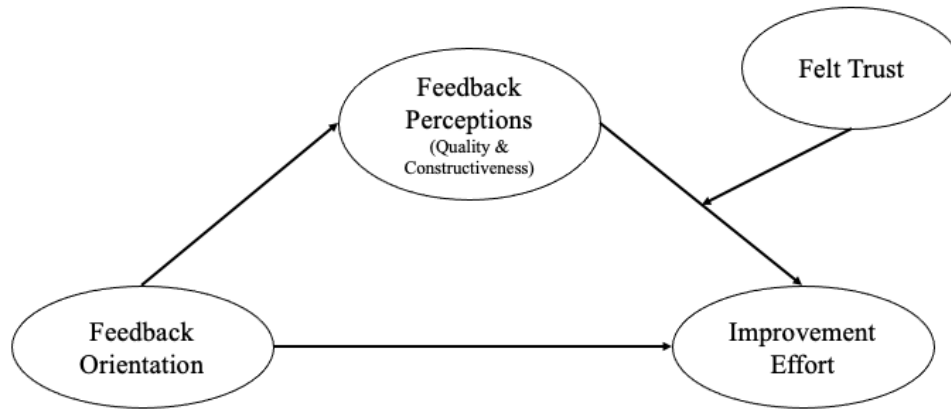


Figure 1. Conceptual model

Study 1 Method

Power Analysis

Prior to collecting and analyzing data, the hypotheses were archived on the Open Science Framework to support greater transparency in the research process (<https://osf.io/nhxxk6>). To determine the recommended sample size for this study, an a priori power analysis was conducted. Based on prior research that examined the influence of feedback quality and motivation to improve (Steelman & Rutkowski, 2004), an effect size of Cohen's $f^2 = .19$ was used for this analysis. All other path correlations between the variables within the hypothesized model have not yet been examined. Based on the power analysis, a recommended sample size of 382 participants is required to obtain a power of .80 with $\alpha = 0.05$ in the hypothesized model with 4 latent variables (i.e., feedback orientation, perceptions of feedback, felt trust &

improvement effort). Due to methodological constraints in achieving the desired sample size, I followed recommendations by Preacher et al. (2007) and used a bootstrapping technique with resampling at 5,000 and a bias-corrected confidence interval at 95% confidence level for the analyses. The bias-corrected bootstrapping works to correct the skew of data caused by the central tendency of the estimates (Fritz & Mackinnon, 2007).

Participants

Two samples were collected for Study 1. Participants were only eligible to participate if they had recent work experience in which they had regular interactions with a direct supervisor. The first sample consisted of undergraduate students enrolled in an undergraduate Psychology course. In the first sample consisting of undergraduate students, participants' ages ranged from 18 to 29 years old ($M = 19.48$, $SD = 3.52$). On average, participants had been employed with their current organization for 1.96 years ($SD = 1.78$) and worked with their current supervisor for 1.73 years ($SD = 1.66$). For the second sample, a student-referral method was used to recruit experience and currently employed participants. In the second sample consisting of working adults, participants' ages ranged from 24 to 62 years old ($M = 48.16$, $SD = 10.82$). On average, participants had been employed with their current organization for 12.32 years ($SD = 9.43$) and worked with their current supervisor for 4.75 years ($SD = 5.43$). Following data cleaning and merging, the final dataset for Study 1 consisted of 73 students and 61 working adults resulting in a total sample $N = 134$. In the merged sample, participants' ages ranged from 18 to 62 years old ($M = 32.79$, $SD = 16.14$). 73.13% of participants identified as women, 26.11% identified as men, and 0.76% chose to not disclose their gender identity. Most participants identified as White/European (88.06%) and 2.2% identified as Southeast Asian, 1.49% identified as Arab,

1.49% identified as South Asian, 1.49% identified as Latin American, 0.74% identified as Indigenous, 0.74% identified as Black/African/Caribbean, 0.74% identified as West Asian, and 3.05% chose not to identify their ethnic background.

Measures

Demographics

Participants provided demographic information including their age, gender, and ethnic identity. Participants also indicated how long they had worked with their current supervisor and for their current organization. In addition, participants provided information about how often they received and sought feedback at work. The demographic questionnaires for the undergraduate sample and working sample are provided in Appendix B and Appendix C.

Feedback Orientation

To assess participant feedback orientation, Linderbaum and Levy's (2010) 20-item Feedback Orientation Scale (FOS) was used (see Appendix D). FOS assesses four subscales of feedback orientation including Social Awareness (e.g., "Using feedback, I am more aware of what people think of me"), Self-efficacy (e.g., "I believe that I have the ability to deal with feedback effectively"), Utility (e.g., "Feedback contributes to my success at work"), and Accountability (e.g., "I hold myself accountable to respond to feedback appropriately"). Each subscale was rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha estimates were acceptable for the overall scale ($\alpha = .92$) and each dimension (Social awareness, $\alpha = .87$; Self-efficacy, $\alpha = .88$; Utility, $\alpha = .91$; & Accountability, $\alpha = .78$).

Feedback Perceptions (Quality & Constructiveness)

Feedback perceptions were measured utilizing two previously validated scales (see Appendix E). The items from both scales were adapted to fit the context of negative feedback (i.e., feedback focused on performance improvements) given the nature of the present study. Participants were prompted to think about non-destructive, negative feedback that they receive on an informal, day-to-day basis. This feedback was described as performance feedback that was not required to be given and did not include any intentionally hurtful or personalized negative comments. First, feedback quality was assessed using the 5-item Perceived Quality of Feedback subscale from Steelman and colleagues' Feedback Environment Scale (2004). An example of an adapted item is, "The negative feedback I receive from my supervisor helps me do my job." The Cronbach's alpha estimate for the perceived feedback quality subscale was .89. Second, perceptions of feedback constructiveness were assessed using the 7-item Constructive Feedback Scale from Sommer & Kulkarni (2012). One of the adapted items includes, "The negative feedback that I typically receive from my supervisor focuses on identifiable problems and behaviours upon which I can take action." The Cronbach's alpha estimate for the perceived feedback constructiveness subscale was .84. Items from both scales were rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Felt Trust

To assess one's felt trust by their supervisor, Gillespie's 10-item Behavioural Trust Inventory (2003) was modified to fit the perspective of the supervisor's willingness to trust the employee (i.e., felt trust). The felt trust scale (see Appendix F) included two dimensions: Reliance (e.g., "How willing is your supervisor to rely on your task-related skills and abilities"),

and Disclosure (e.g., “How willing is your supervisor to share their personal feelings with you”). Each subscale included five items, each rated on a 7-point Likert scale from 1 (not at all willing) to 7 (completely willing). The Cronbach’s alpha estimate for the overall scale was acceptable (.89) as well as the dimensions (Reliance: .84 and Disclosure: .93).

Performance Improvement Effort

To assess one’s performance improvement efforts after receiving feedback, Fedor and Ramsay’s six-item scale (2007) was used (see Appendix G). Since the original scale focused on reactions after receiving performance reviews from a supervisor, it was modified in the present study to focus on reactions after receiving constructive, negative feedback from a supervisor. An example item includes, “After receiving constructive, negative feedback from my supervisor, I try to put more effort into my work.” Each item was rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The second item on the original scale (i.e., “I usually behave in the same way.”) was deleted to its poor factor loading and negative impact on the alpha of the overall scale. This item was the only negatively worded item on the scale. After removing the second item, the Cronbach’s alpha estimate was .71.

Procedure

Study 1 included two samples of participants: undergraduate students with recent work experience and working adults. In the first sample, undergraduate students in a first-year Psychology course were invited to participate in the study for course credit through the Sona Participant pool. A pre-screening questionnaire was used to determine eligibility for the study. Only students with experience working regularly with a direct supervisor within the previous

year were eligible to participate in the study. Upon confirming eligibility and providing consent to participate, participants were directed to an online Qualtrics survey which included demographic questions, measures of feedback orientation, felt trust, feedback perceptions (quality and constructiveness), and performance improvement effort. To assess attentive responding, three attention checks were distributed throughout the measures, and they instructed participants to select a specific choice (e.g., “Select ‘strongly agree’ for this item”). The online study advertisement described the purpose of the study and the focus on participant experiences with negative feedback and improvement at work (see Appendix H).

In the second sample, working adults were recruited through referrals by undergraduate students who participated for course credit. Undergraduate students were asked to provide the contact information of three working individuals with at least five years of full-time work experience. Based on the referrals, working adults were contacted via email with the study description (i.e., purpose and requirements of the study) and consent form. The study description noted that eligibility requirements included currently working in a position where they interact regularly with a direct supervisor and having at least five years of full-time work experience. Upon confirming eligibility and consent, these participants were given a unique, non-identifying participant number as well as a link to the online survey that included demographic questions and self-report questionnaires measuring feedback orientation, felt trust, general feedback perceptions (quality and constructiveness), and improvement effort. Participants were entered into a draw for a \$50.00 Amazon gift card (odds were 1 in 100) as a token of appreciation for their participation.

Study 1 Results

Data Cleaning

Prior to conducting analyses for Study 1, the sub-samples of student participants and working adult participants were first inspected to assess assumptions of normality, identify missing data, and remove careless responding. Prior to cleaning measures, the raw downloaded data from the student sub-sample included 82 participants and the raw downloaded data from the working sub-sample included 69 participants. Given that the data were collected through an online survey platform, there were a variety of instances of missing data (e.g., participants not being eligible and routed to end of survey, participants not inputting any information, etc.). Five student participants were removed due to ineligibility or missing substantial data (i.e., only provided their name with no other data). For the remaining participants in the student sub-sample, data from two participants were removed due to missing data on more than two scales (over 50% of the survey). Additionally, based on criteria set by Meade and Craig (2012), data from two more participants were removed due to failing at least two out of the three attention checks and showing insufficient responding through their response time (i.e., responding faster than two seconds per item, as recommended by Huang et al., 2012). Following these data removals, the student sub-sample reduced to 73 participants. The same cleaning procedures were conducted for the working adult sample. First, six participants were removed due to ineligibility or missing substantial data (i.e., only provided their email with no other data). Furthermore, two participants were removed due to failing at least two out of the three attention checks and showing insufficient responding through their response time (i.e., less than two seconds per

item). Following these data removals, the adult working sub-sample was reduced to 61 participants.

Justification for Merging Samples

After the cleaning procedures were conducted for the two sub-samples, they were assessed to determine if they could merge into one sample for Study 1. The Brown-Forsythe's test for homogeneity of variance was first conducted to assess if the variances of both samples were equal before merging. A median-centered Levene's test was utilized due to its robustness against normality assumption violations and its ability to determine the absolute deviation score from the group medians (Brown & Forsythe, 1974). A significant result on this test would suggest that the group variances were different due to their group membership (i.e., belonging to the student sample or working sample), and therefore it wouldn't be appropriate to merge the data. The results from these tests showed no statistically significant differences between the variances of the study's main variables (i.e., felt trust, feedback orientation, feedback perceptions, and improvement effort) between both groups (student sample vs. working adult sample). Thus, providing justification to merge their data together into the final Study 1 dataset ($N = 134$) consisting of 73 students and 61 working adults.

Assessment of Common Method Bias

Given that Study 1 included self-report measures as well as mediator and criterion variables assessed cross-sectionally, there may be concerns surrounding common method bias (Podsakoff et al., 2003). Outlined below are the various precautions and analyses that were conducted to minimize the risk of common method bias.

First, I varied scale properties (i.e., scale type and anchor points) across the different measures to increase the response variability. For example, some scales were rated on a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree) while the felt trust scale was rated on a Likert-type scale from 1 (not at all willing) to 7 (completely willing). Additionally, the question blocks containing each variable were randomly ordered for each participant to reduce order effects from the survey itself.

Additionally, to address the concern of common method bias, a common latent factor technique was conducted to identify if one factor accounted for the majority of the covariance among the measures (Podsakoff et al., 2003). The technique involved conducting a confirmatory factor analysis (CFA) in R in which the items were allowed to load onto their respective latent constructs (i.e., feedback orientation, perceived feedback quality and constructiveness, felt trust, and improvement effort) as well as an overarching single factor. This analysis assumes that if one single factor accounts for more than 50% of the variance in the items, it would indicate that common method bias is a concern within the study. The CFA analysis revealed that the overarching factor accounted for 43% of the variance in the data (after considering the variance accounted for by the other latent variables). These results therefore reduced the plausibility of method biases explaining majority of the variance within our specified model.

Factor Structure of Feedback Perceptions

Given that the present study's measures of the mediating variable, feedback perceptions, consisted of two validated scales, we conducted several analyses to examine if it was appropriate to combine the items from the Perceived Constructiveness of Feedback Scale (Sommer & Kulkarni, 2012) and the items from the Perceived Quality of Feedback Scale (Steelman et al.,

2004) into one mediator variable. First, we ran an unconstrained exploratory factor analysis and a parallel analysis to determine the appropriate number of factors emerging from the items within our measure of Feedback Perceptions. Next, we tested two constrained exploratory models to understand which factors the items loaded onto and compared model fit and loadings. Lastly, we ran two confirmatory factor analyses, (1) with all measure-specific items loading onto feedback perceptions, and (2) with the scale-specific items loading onto their corresponding scales (i.e., Perceived Constructiveness of Feedback Scale, Sommer & Kulkarni, 2012; and Perceived Quality of Feedback Scale, Steelman et al., 2004). Model fit and loadings were compared again to determine if the combined scale was acceptable to use.

First, we ran an unconstrained principal components analysis (PCA) in R to determine how many factors emerged for the items from these two scales. No rotation was used for this analysis. The cut-off value for factor meaningfulness was set at an Eigenvalue of 1.00 or greater (following recommendations by Kaiser, 1960). The results from the initial unconstrained PCA yielded two factors that exceeded the cut-off Eigenvalue of 1.00 (6.17 for Factor 1 and 1.10 for Factor 2). To further assess the number of appropriate factors, a parallel analysis and scree plot were conducted. The scree plot with actual and simulated data suggested that one factor accounts for most of the variance, with the possibility of one other factor (if using method of inflection point). The parallel analysis output yielded that including 2 factors was acceptable. To further examine whether one or two factors were recommended, we conducted two confirmatory factor analyses to determine which model fit better.

Next, all the items from the two scales were forced into constrained one-factor and two-factor models using an exploratory factor analysis (EFA), and the fit of these solutions was then tested using confirmatory factor analysis (CFA). Given the theoretical similarities of feedback

quality and feedback constructiveness, an oblique rotation (i.e., “oblimin” rotation in R) was utilized to allow for correlated factors. As well, maximum likelihood estimation was utilized to maximize the loadings onto one factor while minimizing the loading onto the other. Comparisons of the fit indices of the constrained, exploratory one-factor and two-factor models yielded similar model fit between both models. Notably, within the two-factor model, the two factors were highly correlated (.71). To further compare the fit of these solutions, we conducted two confirmatory factor analyses. The first model consisted of each item loading onto their corresponding scale (i.e., Perceived Constructiveness of Feedback Scale, Sommer & Kulkarni, 2012; and the Perceived Quality of Feedback Scale, Steelman et al., 2004) and the second model consisted of each item loading on a general factor (i.e., feedback perceptions). Through comparisons of the confirmatory fit indices across these two models, the model with the distinct feedback quality and constructiveness scales showed statistically significantly better fit, $\Delta\chi^2(54) = 59.73, p < .000$. Notably, in the confirmatory factor analyses, the covariance between the two factors of Feedback Quality and Feedback Constructiveness was 0.80.

The results from the factor analyses demonstrated that although the scales of Feedback Quality and Feedback Constructiveness are theoretically similar constructs, the recommended analysis was to examine both scales separately rather than aggregating their items into one construct. For the purposes of hypothesis testing, we then tested the hypotheses including feedback quality as a mediator and feedback constructiveness as a mediator.

Hypothesis Testing

In Study 1, structural equation modelling in R was utilized to test the hypothesized relationships between feedback orientation, perceptions of feedback (quality and

constructiveness), improvement effort and felt trust. All predictors were mean-centered, and the interaction term was calculated using the mean-centered variables. Descriptive statistics and correlations for all study variables can be found in Table 1.

Direct Effects

Hypothesis 1 was supported, such that, feedback orientation was positively and significantly related to participants' perceived quality of feedback, $\beta = 0.43$, 95% CI [0.57, 1.28], and perceived constructiveness of feedback, $\beta = 0.21$, 95% CI [0.06, 0.75]. Hypothesis 2 predicted that feedback orientation would be positively related to feedback improvement. In support of hypothesis 2, feedback orientation was positively and significantly related to participants' reported improvement effort after past experiences with feedback, $\beta = 0.41$, 95% CI [0.22, 0.62]. Hypothesis 3 predicted that perceptions of feedback quality and constructiveness would be positively related to improvement effort. Perceived feedback quality positively and significantly related to participants' improvement effort, $\beta = 0.14$, 95% CI [0.01, 0.12]. In contrast, perceived feedback constructiveness did not significantly relate to participants' improvement effort, $\beta = 0.03$, 95% CI [-0.04, 0.05]. Therefore, hypothesis 3 was partially supported.

Mediation Analysis

Hypothesis 4 predicted that participants' perceptions of feedback (quality and constructiveness) would mediate the relationship between feedback orientation and their improvement effort following feedback. A bootstrapping technique with resampling at 5,000 and a bias-corrected confidence interval at 95% confidence level was utilized to examine the

mediating roles of feedback quality and constructiveness on improvement effort. Contrary to hypothesis 4, the indirect effect of feedback orientation on improvement effort through the mediator of feedback quality was not significant, $\beta = 0.06$, 95% CI [0.003, 0.128]. As well, the indirect effect of feedback orientation on improvement effort through the mediator of feedback constructiveness was also not significant, $\beta = 0.001$, 95% CI [-0.02, 0.03]. Therefore Hypothesis 4 was not supported.

Moderation Analysis

Hypothesis 5 predicted that felt trust would moderate the relationship between perceptions of feedback (quality and constructiveness) and improvement effort, such that the positive relationship will be stronger as participants report higher felt trust and weaker as they report lower felt trust in their supervisor. Contrary to hypothesis 5, the interaction between perceived quality and felt trust was not significant, $\beta = -0.11$, 95% CI [-0.11, 0.01]. In contrast, the interaction between perceived constructiveness and felt trust significantly, yet negatively related to participants' reported improvement effort after past experiences with feedback, $\beta = -0.19$, 95% CI [-0.17, -0.03], thus supporting an opposite relationship than was predicted in Hypothesis 5. To gather further insights into this relationship, the simple slopes were calculated at low (-1 SD), moderate (mean), and high (+1 SD) levels of felt trust (see Table 2 and Figure 2). The simple slope representing the effect of perceived constructiveness on improvement effort at low felt trust (-1 SD) was significant, $\beta = 0.13$, $p < 0.05$. The simple slopes representing the effect of perceived constructiveness on improvement effort at moderate and high felt trust were not significant. Based on the one significant conditional effect, the results indicate that the

relationship between perceived constructiveness of feedback and improvement effort was weaker as one's level of felt trust increased. Thus, hypothesis 5 was not supported.

Moderated Mediation Analysis

Finally, hypothesis 6 predicted that the mediated relationship between feedback orientation and improvement effort via perceived feedback perceptions (quality and constructiveness) would be moderated by felt trust, such that the indirect effect of feedback orientation on improvement effort would be stronger for participants experiencing high felt trust and weaker for participants experiencing low felt trust. However, the index of moderated mediation was not significant when examining feedback quality as a mediator, $\beta = -0.05$, 95% *CI* [-0.10, 0.004], or feedback constructiveness as a mediator, $\beta = -0.04$, 95% *CI* [-0.09, -0.006]. Thus, hypothesis 6 was not supported. Given that this was non-significant, there was no further investigation into the conditional indirect effects at varying levels of felt trust.

Overview of Study 1

In summary, Study 1 provides support for the relationship between feedback orientation with perceptions of feedback quality and constructiveness (Hypothesis 1) and improvement effort (Hypothesis 2). Specifically, employees with a greater receptivity and openness to feedback (i.e., higher feedback orientation) were more likely to perceive feedback to be higher quality, highly constructive, and show a greater effort to utilize feedback towards their improvement. These findings are consistent with Fishbein and Ajzen's work (1975), given that employees with a higher feedback orientation held more positive attitudes towards feedback and the positive outcomes associated with implementing feedback, and therefore, showed a greater

motivation to implement the feedback. Considering hypothesis 3, perceptions of feedback quality was significantly related to improvement effort, suggesting that employees who saw feedback as higher quality were more likely to demonstrate higher improvement effort post-feedback.

Contrary to hypothesis 3, perceptions of feedback constructiveness did not significantly relate to improvement effort. Through further examination of the mediating mechanism of feedback perceptions, there was no evidence to provide support for feedback quality or feedback constructiveness as a mediating mechanism in the relationship between feedback orientation and improvement effort (Hypothesis 4). These results suggest that within this sample, perceptions of feedback quality may be more strongly tied to improvement effort than perceptions of feedback constructiveness. Considering Fishbein and Ajzen's theory of reasoned action (1975), it may have been possible that employees were motivated to implement varying levels of constructive feedback due to positive attitudes toward high quality feedback in general or subjective norms pushing them to use feedback towards improvement (regardless of the levels of constructiveness). Since motives behind employee improvement effort were not measured, this rationale is theoretical in nature.

When examining the moderation hypotheses, the interaction between feedback quality and felt trust on improvement effort was non-significant. Interestingly, once the moderating influence of felt trust was introduced in the model with feedback constructiveness as the mediator, perceptions of feedback constructiveness were shown to significantly relate to improvement effort at low to moderate levels of felt trust, supporting an opposite relationship than expected in Hypothesis 5. These results demonstrated that perceiving feedback to be highly constructive was more influential on improvement effort when felt trust was low and less influential on improvement effort when felt trust was high. These results suggest that felt trust

and feedback constructiveness may interact in a compensatory way rather than additive way as expected. Further examination of the simple slopes in Figure 2 suggested that those who experienced low felt trust may have required highly constructive feedback to show significant changes in their improvement effort. In contrast, as employees experienced more felt trust, perceptions of constructiveness seemed to have less of an impact on their improvement, seeing as the slopes were weaker in comparison as felt trust increased. Considering Fishbein and Ajzen's theory of reasoned action (1975), it may have been possible that when employees felt less trust from their supervisors, their motivation to improve was driven by their personal attitudes and beliefs of instrumentality, thus making it more important for feedback to be highly constructive for their improvement. In contrast, it may have been possible that when employees felt more trust from their supervisors, their motivation was driven by the social norms or pressures to implement feedback. For example, it may be that the employees felt a sense of pressure to reciprocate the offer of feedback by implementing the feedback or acting on their supervisor's request in order to foster their trusting relationship. Notably, this is just one potential theoretical interpretation of the results. Interestingly, given that the interaction between feedback quality and felt trust was non-significant, these results may suggest that perceiving feedback to be high quality may not compensate for low felt trust as much as constructiveness would. Furthermore, this moderating effect of felt trust on the relationship between feedback constructiveness and improvement effort was not statistically supported in the moderated mediation model, thus not supporting hypothesis 6.

Due to the cross-sectional design of Study 1, there may be concerns surrounding common method bias influencing the results. For example, since all variables were measured using scales within an online survey given at one time-point, there may be concerns that their variance was

due to the cross-sectional measurement method rather than the constructs measured within each scale (Podsakoff et al., 2003). As noted above, various precautions were taken to attempt to reduce and test for this bias. For example, I varied scale properties between variables (i.e., using different scale endpoints) and assessed common latent factor variance which resulted in no statistically significant concerns of common method variance. However, as a method to strengthen the measurement method, reduce concerns of common method bias, and determine if the results replicate in an additional sample, I conducted a second study to test the same hypotheses using a time-separated design.

Study 2

A second study was conducted to address the limitation of the cross-sectional design of Study 1 and determine if the same hypotheses would replicate with a different sample using a time-separated design. The objective of Study 2 was to determine if feedback orientation would relate to feedback perceptions (quality and constructiveness) and improvement effort and to determine if the unexpected nature of the moderation of felt trust would replicate. Also, in Study 2, to address concerns about the cross-sectional design, the measurement of the independent variable, the mediator, and the dependent variables were time-separated (each measured two weeks apart). As recommended by Podsakoff and colleagues (2003), a temporal separation of these variables can help reduce bias caused from contextual cues or order effects due to the delivery of the scales at one time-point.

Study 2 Method

Participants

The sample of participants for Study 2 were recruited through the online research crowdsourcing platform, Prolific. The prolific advertisement described eligibility criteria requiring participants to have at least 5 years of full-time work experience, and current work experience which they had regular interactions with a direct supervisor. After matching and cleaning data across the three surveys, the final dataset for Study 2 consisted of 115 participants.

Participants' ages ranged from 22 to 67 years old ($M = 36.75$, $SD = 9.69$). 57.4% identified as men and 42.6% of participants identified as women. Most participants identified as White/European (70.43%) and 10.43% identified as Southeast Asian, 6.09% identified as Latin American, 4.35% identified as South Asian, 2.60% identified as Black/African/Caribbean, and 0.89% identified as Arab. On average, participants had been employed with their current organization for 6.68 years ($SD = 7.44$) and worked with their current supervisor for 3.69 years ($SD = 3.49$).

Measures

The same scoring methods and adaptations to the measures from Study 1 were replicated in Study 2. However, in Study 2, the measures were time-separated (Feedback Orientation at time 1; Perceived Quality and Constructiveness and Felt Trust at time 2; & Improvement Effort and demographics at time 3). Due to the time separation in Study 2, the items of each scale were reworded in past tense to encourage the participants to recall their most recent experience. For

example, the item from the improvement effort scale, “I am *usually* more careful about how I do my job” was adjusted to “I *was* more careful about how I did my job” in Study 2.

Demographics

Prolific participants provided demographic information including their age, gender, and ethnic identity (see Appendix I). Further, they were asked to indicate the duration of their experience working with their current supervisor and working in their current organization.

Feedback Orientation

To assess feedback orientation, Linderbaum and Levy’s Feedback Orientation scale (2010) was used (see Appendix D). Cronbach’s alpha estimate was acceptable for the overall scale (.92), as well as each dimension (Social awareness: .86; Self-efficacy: .84; Utility: .88; and Accountability: .77).

Feedback Perceptions (Quality & Constructiveness)

Feedback perceptions were measured utilizing Steelman and colleagues’ 5-item Perceived Quality of Feedback scale and Sommer and Kulkarni’s 7-item Constructive Feedback Scale (see Appendix E). The Cronbach’s alpha estimate for the perceptions of feedback quality scale was .94 and perceptions of feedback constructiveness scale was .85. Items from both scales were rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Felt Trust

Similar to Study 1, Gillespie's Behavioural Trust Inventory (2003) was adapted to measure felt trust (see Appendix F). The overall scale had an acceptable Cronbach's alpha estimate (.88) and .87 for the Reliance dimension and .91 for the Disclosure dimension.

Performance Improvement Effort

To assess one's performance improvement efforts after receiving constructive feedback, Fedor and Ramsay's scale (2007) was used (see Appendix G). Similar to Study 1, the second item on the original scale was removed from analyses due to the poor factor loading and its negative impact on the alpha of the overall scale. After removing the second item, Cronbach's alpha for the overall scale was .74.

Procedure

Participants on the online research crowd-sourcing platform, Prolific, were invited to participate if they met the study's eligibility criteria: currently working under a direct supervisor and have at least 5 years of full-time work experience. See Appendix J for the Prolific study advertisement. The participants were informed that the study involved three online Qualtrics surveys over the course of six weeks (each survey delivered two weeks apart). The eligible participants who consented to participating were then given a unique participant number as well as a link to the first online survey that included demographic questions and self-report questionnaires measuring feedback orientation. Participants were automatically invited through prolific to participate in the subsequent surveys at time 2 and 3. Participants had two weeks to complete each survey. The survey at Time 2 was automatically sent two weeks after the first

survey was completed and included a self-report questionnaire asking about participant perceptions of feedback (quality and constructiveness) and felt trust. The final survey was sent two weeks after completion of the second survey and included a self-report questionnaire asking about their performance improvement effort. Participants were compensated after each survey they completed. Based on the minimum Prolific compensation standards, participants were eligible to receive £1.00 per survey they completed. Compensation was granted to participants who completed the survey(s) fully and correctly responded to 2/3 of the attention check items. Although no identifying information was collected from Prolific participants, their unique identifiers were deleted from the dataset after compensation was assigned.

Study 2 Results

Data Cleaning

Prior to conducting analyses for Study 2, the data were first inspected to assess assumptions of normality, identify missing data, and remove careless responding. First, data from 119 participants from the three time points were downloaded and matched based on unique participant identifying numbers. Prior to cleaning measures, the raw downloaded data that matched across the three surveys included 115 participants. Given that the online Prolific platform allows researchers to set eligibility criteria for compensation, data removal criteria was addressed during data collection. For example, in instances where an individual did not complete the minimum number of questions or failed more than one attention check, they were rejected compensation and another participant was recruited in their place automatically. For this reason, after data collection was finalized, no additional data were removed due to missing data or failed

attention checks. Thus, the final sample consisted of 115 participants, with data from three time-separated surveys.

Hypothesis Testing

In Study 2, structural equation modelling in R Studio (2022) was used to test the hypothesized relationships between feedback orientation, feedback perceptions (quality and constructiveness), improvement effort and felt trust. To mirror the analysis from Study 1, perceptions of feedback quality and constructiveness were examined individually rather than in aggregate. A list of the R packages used to examine these hypotheses are included in Appendix K. All predictors were mean-centered, and the interaction term used these mean-centered variables. Descriptive statistics and correlations for all study variables can be found in Table 3. For ease of comparison, the results from Study 1 and 2 are provided in Table 4.

Direct Effects

Hypothesis 1 predicted that feedback orientation would be positively related to perceptions of feedback (quality and constructiveness). Supporting hypothesis 1, feedback orientation was positively and significantly related to participants' perceptions of feedback quality, $\beta = 0.29$, 95% CI [0.35, 1.12], and perceptions of feedback constructiveness, $\beta = 0.25$, 95% CI [0.18, 0.84]. Hypothesis 2 predicted that feedback orientation would be positively related to improvement effort. This was supported, such that, feedback orientation was positively and significantly related to participants' reported improvement effort, $\beta = 0.35$, 95% CI [0.23, 0.58]. Hypothesis 3 predicted that feedback perceptions (quality and constructiveness) would be positively related to improvement effort. In support of hypothesis 3, perceived quality was

significantly related to improvement effort, $\beta = 0.37$, 95% *CI* [0.12, 0.26]. In contrast to Study 1, perceived constructiveness did significantly relate to improvement effort, $\beta = 0.22$, 95% *CI* [0.07, 0.20], therefore supporting Hypothesis 3.

Mediation Analysis

A bootstrapping technique with resampling at 5,000 and a bias-corrected confidence interval at 95% confidence level was utilized to examine the mediating role of feedback perceptions on improvement effort. Hypothesis 4 predicted that participants' perceptions of feedback (quality and constructiveness) will mediate the relationship between feedback orientation and their improvement effort following feedback. In contrast to Study 1, the indirect effect of feedback orientation on improvement effort through the mediator of feedback quality was significant, $\beta = 0.11$, 95% *CI* [0.07, 0.23]. As well, the indirect effect of feedback orientation on improvement effort through the mediator of feedback constructiveness was significant, $\beta = 0.07$, 95% *CI* [0.02, 0.13], therefore supporting Hypothesis 4.

Moderation Analysis

Hypothesis 5 predicted that felt trust would moderate the relationship between one's perceptions of feedback (quality and constructiveness) and their improvement effort, such that the positive relationship would be stronger as participants report higher felt trust and weaker as they report lower felt trust in their supervisor. However, the interaction between perceived feedback quality and felt trust was not significantly related to participants' reported improvement effort, $\beta = 0.17$, 95% *CI* [-0.01, 0.18]. As well, the interaction between perceived constructiveness and felt trust was not significantly related to participants' reported improvement

effort, $\beta = -0.01$, 95% CI [-0.08, 0.13], therefore not supporting Hypothesis 5. No further investigations of the conditional effects were conducted due to the non-significant results from these interactions.

Moderated Mediation Analysis

Hypothesis 6 predicted that the mediated relationship between feedback orientation and improvement effort via perceptions of feedback (quality and constructiveness) would be moderated by felt trust, such that the indirect effect of feedback orientation on improvement effort would be stronger for participants experiencing high felt trust and weaker for participants experiencing low felt trust. However, the index of moderated mediation was not significant for the mediator of perceived quality, $\beta = 0.05$, 95% CI [-0.003, 0.15], and the mediator of perceived constructiveness, $\beta = -0.002$, 95% CI [-0.05, 0.06]. Therefore, the results found no support for the hypothesized moderated mediation.

Overview of Study 2

In summary, Study 2 provides support for the relationship between feedback orientation with perceptions of feedback quality and constructiveness (Hypothesis 1) and improvement effort (Hypothesis 2). Contrary to Study 1, both perceptions of feedback quality and constructiveness positively and significantly related to improvement effort (Hypothesis 3), therefore providing support as a mediating mechanism in the relationship between feedback orientation and improvement effort (Hypothesis 4). These results support the hypothesized model and similar notions to the performance management cycle (London & Smither, 2002), suggesting that a high feedback orientation is related to positive views of feedback and subsequent use and

implementation of feedback. Specifically, the results demonstrated that individuals with higher feedback orientation were more likely to perceive feedback as high quality and highly constructive, suggesting that these individuals were more likely to identify steps towards developmental improvements than those with lower feedback orientation. Furthermore, individuals who had high perceptions of feedback quality and constructiveness were more likely to use feedback to their improvement. These findings are consistent with Vroom's expectancy theory (1964), suggesting that motivation can be enhanced if individuals feel that they're capable of putting in effort towards a positive outcome, and that the effort will lead to a reward. In this study's context, the positive relationship between feedback perceptions (quality and constructiveness) and improvement effort demonstrated a similar notion, suggesting that when feedback is perceived to include useful, specific, and manageable developmental areas, employees are more likely to use it toward their improvement. These findings support past literature on the performance management cycle (London & Smither, 2002) and highlight the usefulness of perceptions of feedback quality and constructiveness.

In contrast to Study 1, the interactions between feedback perceptions (quality and constructiveness) and felt trust were not significantly related to participants' reported improvement effort, therefore not supporting hypothesis 5 or hypothesis 6. In total, the results from Study 2 demonstrated empirical support for the mediation model, suggesting that employee improvement effort was significantly influenced by both feedback orientation and perceptions of feedback quality and constructiveness. Contrary to the hypotheses, there was no empirical support for the influence of felt trust, suggesting that the trust felt by employees was not a critical factor in their improvement effort.

General Discussion

As research has examined, employee feedback reactions can be influenced by individual differences as well as contextual influences. The goal of both studies was to examine how the individual difference of feedback orientation may influence employee perceptions of feedback (quality and constructiveness) and improvement effort, especially when considering their experiences with felt trust. Specifically, this study empirically examined the hypothesized moderated mediation model involving the positive relationship between employee feedback orientation and improvement through the hypothesized mechanisms of perceived quality and constructiveness. As well, the model included a novel moderator of felt trust within this process which was hypothesized to influence the relationship between feedback perceptions (quality and constructiveness) and improvement effort. The two studies (one cross-sectional and one time-separated) provided support for past literature focused on the benefits of feedback orientation and provided a novel contribution to feedback literature investigating the influence of felt trust on feedback reactions. Some of the findings are consistent with London and Smither's performance management cycle (2002), as well as their model's foundational motivation theories (Fishbein & Ajzen, 1975; Vroom, 1964). For the unexpected findings involving felt trust, additional theoretical perspectives and avenues for future research are discussed.

In Studies 1 and 2, feedback orientation was found to positively relate to perceptions of feedback quality and constructiveness, thus, supporting similar research (Dahling et al., 2017) and theoretical background by feedback orientation theorists (e.g., London & Smither, 2002; Linderbaum & Levy, 2010). While these findings are consistent with past literature demonstrating a positive relationship between feedback orientation and positive perceptions of feedback (see Dahling et al., 2017), these findings also extend the literature by demonstrating

that employees with higher feedback orientation were more likely to interpret greater constructiveness of feedback. The results demonstrated that employees with high feedback orientation were more likely to perceive that the negative feedback they received focused on specific, clear developmental areas that can be remedied. These results suggest that employees with high feedback orientation may be able to interpret greater constructiveness and quality out of constructive feedback than those with low feedback orientation. Since perceived constructiveness has not yet been examined in this context, this study adds novel empirical support for the benefits of feedback orientation. Additionally, these findings support the notions that feedback orientation can contribute to positive interpretations of feedback (London & Smither, 2002). Since perceived constructiveness focuses on how useful the feedback was towards improvement, these findings empirically support a similar notion to Linderbaum and Levy (2010) suggesting that having a high feedback orientation can enhance one's perceptions of the utility of feedback.

Additionally, in Studies 1 and 2, feedback orientation was found to positively relate to improvement effort, supporting this study's hypotheses. The results demonstrated that employees with higher feedback orientation (characterized by high feedback utility, self-efficacy, social awareness, and accountability) showed a greater improvement effort after receiving negative feedback. These results are consistent with findings from Linderbaum & Levy's validation study of the Feedback Orientation Scale (2010), showing that two dimensions of feedback orientation (i.e., feedback accountability and social awareness) were positively related to one's intentions to improve. The positive relationship between feedback orientation and improvement effort is also consistent with Vroom's expectancy theory (1964), suggesting that employee motivation and behaviour can be enhanced if the positive outcome is desirable (i.e., holds a positive valence) and

if employees feel that their effort is expected to lead to that positive outcome. Within this study, the results show that employees who were more receptive towards feedback perceived constructive feedback as more constructive and were more likely to put effort towards improvement using that feedback than those with lower feedback orientation. These results are consistent with Vroom's expectancy theory (1964), such that employees with higher feedback orientation tend to perceive feedback as being more instrumental or useful for their improvement and show a greater effort towards improvement. When considering Vroom's expectancy theory (1964), these results suggest that if implementing feedback is seen as helpful towards improvement, and improvement will lead to desired rewards (e.g., reduced discomfort, positive praise), then employees will likely show greater motivation to implement feedback. In total, both studies 1 and 2 demonstrate empirical support for the benefits of feedback orientation, and its influence on employee perceptions and improvement.

Furthermore, both studies demonstrated the importance of perceptions of feedback quality. In Study 1 and 2, perceptions of feedback quality was positively and significantly related to improvement effort. These results suggest that employee improvement can be enhanced as employees perceive feedback to be higher quality and more helpful towards their work. These findings are consistent with past research by Steelman and Rutkowski (2004) showing that perceptions of feedback quality moderated the relationship between unfavourable feedback and one's motivation to use feedback to improve. Furthermore, Study 2 found support for feedback quality as a mediating mechanism between feedback orientation and improvement effort. In summary, the findings from Study 1 and Study 2 supported the hypotheses that perceptions of feedback quality are positively associated with improvement.

Despite these similarities across Study 1 and 2, there were several contrasting findings as well. While both studies found support for the positive influence of perceptions of feedback quality, they differed in their findings surrounding perceptions of feedback constructiveness. In Study 1, the results showed a non-significant relationship between perceived feedback constructiveness and improvement effort, suggesting that perceptions of feedback constructiveness were not an explanatory mechanism in the relationship between feedback orientation and improvement effort for that sample. However, in Study 2, the results showed that perceived feedback constructiveness and quality were significant mediators between feedback orientation and improvement effort. Specifically, when employees had high feedback orientation, they were more likely to perceive the feedback to be highly constructive, and more likely to report higher improvement effort. These findings support similar past literature (i.e., Brett & Atwater, 2001; Strijbos et al., 2010) showing that perceptions of usefulness, along with other perceptions of feedback, can be positively related to one's willingness to use feedback to improve. Taken together, these results suggest that the influence of feedback constructiveness on employee improvement differed between the two samples. Considering Fishbein and Ajzen's theoretical perspective (1975), it may be possible that the attitudes and social norms towards implementing feedback differed between the samples in Study 1 and Study 2. Furthermore, there may be contextual or individual differences between the samples that could have influenced the participants in Study 1 to value high quality feedback at a higher level than constructive feedback. For example, the findings showed that there was only a significant relationship between feedback quality and improvement, which potentially suggests that the Study 1 sample was more likely to improve with great quality feedback, but not necessarily feedback that was delivered with greater objectiveness or constructiveness. This rationale is only hypothetical in

nature, and future research would need to examine similar processes and samples to determine why these differences may have occurred. Given the demographic differences between the samples of the two studies, it may be worthwhile for future research to hypothesize and investigate how attitudes about feedback, contextual factors (i.e., supervisor expectations, rewards, etc.), or demographic differences may influence these feedback processes.

Additionally, contrasting results were found in Study 1 and 2 regarding the hypothesized moderator of felt trust. In both studies, felt trust did not positively moderate the relationship between perceptions of feedback (quality and constructiveness) and improvement effort as hypothesized. However, in Study 1, the interaction between perceptions of feedback constructiveness and felt trust significantly, yet *negatively*, related to employee improvement effort. These results demonstrated that at low levels of felt trust, the perceived constructiveness of feedback was more important in influencing one's improvement effort than at high levels of felt trust. These results yield interesting findings regarding the ways in which felt trust may influence feedback reactions. Opposite to what was expected, it may be that in Study 1, felt trust and feedback perceptions worked as compensatory mechanisms for each other, rather than an additive mechanism. For example, in Study 1, felt trust and feedback perceptions were not significantly related to improvement effort on their own, but their interaction was significant. This suggests that perceiving feedback to be highly constructive was most critical for improvement when felt trust was low and that it could potentially compensate for experiences of low felt trust. Notably, this same negative interaction was not present when considering feedback quality as a mediator. This is an interesting finding as it may suggest that felt trust and feedback quality cannot compensate for each other as the findings suggest for feedback constructiveness. It may be that the elements that contribute to highly constructive feedback (i.e., objective content

and clear guidance towards improvement) may be the reason that highly constructive feedback can compensate when felt trust is low. Importantly, future research would need to examine if this claim is empirically supported. Further discussion and future directions are suggested below.

Theoretical Implications

Expanding Literature Surrounding the Importance of Feedback Orientation. In both Study 1 and 2, feedback orientation was positively related to perceptions of feedback (quality and constructiveness) and improvement effort. These findings add to feedback orientation literature that has shown strong empirical support for a variety of positive outcomes of feedback orientation. For example, feedback orientation has been shown to be positively related to perceived quality of feedback (Dahling et al., 2017) and supervisor ratings of task performance (Dahling et al., 2012; Rasheed et al., 2015). As well, the present study is the first to examine how feedback orientation influences perceptions of feedback constructiveness. This study's findings show that having a high feedback orientation may allow individuals to be better equipped to identify the benefits and developmental components of feedback than those who have lower feedback orientation. These insights may have important implications for future research as well as practical contributions to organizations. Future research is encouraged to examine perceived constructiveness further within the context of feedback processes.

Empirically Supporting the Performance Management Cycle. In addition to this study's support of past findings in the literature, results from Study 2 empirically supported the theoretical background of the performance management cycle by London and Smither (2002). London and Smither proposed the three-stage process in which an individual receives feedback, interprets the value of the feedback, then chooses to implement the feedback (2002). In Study 2,

the significant mediating relationships between feedback orientation and improvement effort through perceptions of feedback (quality and constructiveness) empirically supported a similar three-stage process after receiving negative feedback. As well, this study's results supported these relationships across a time-separated design. To my knowledge, limited research has empirically supported a similar three-stage process, especially utilizing a time-separated methodology. One similar study by Rasheed and colleagues (2015) found that employees with high feedback orientation demonstrated greater satisfaction with performance appraisal feedback and therefore showed greater in-role performance. Future research is encouraged to examine other notable components of the performance management cycle that were not captured within this study, especially employee self-evaluative mechanisms and emotional reactions after receiving constructive feedback.

Broadening our Understanding of the Influence of Felt Trust. Based on previous research and theory, I hypothesized that felt trust would have a positive moderating effect on the relationship between feedback perceptions and improvement effort, such that those perceiving feedback as high quality and highly constructive would likely demonstrate greater improvement effort, especially when experiencing high felt trust. This study's hypotheses were guided by past research suggesting that feeling trusted by one's supervisor can foster feelings of competence (Skiba & Wildman, 2019), empowerment (Gill et al., 2019), and lead to greater organization-based self-esteem which can positively influence task performance (Lau et al., 2018). However, in both studies, the findings did not support our expectations. In both studies, there was no evidence to support the moderating effect of felt trust and feedback quality on improvement effort. As well, in Study 1, the nature of the moderating role of felt trust was not as expected. The relationship between perceptions of feedback constructiveness and improvement effort was

strongest at lower levels of felt trust. An implication of the findings of Study 1 is that when employees did not feel trusted by their supervisors, the constructiveness of the feedback was a stronger determining factor in whether they demonstrated effort to improve based on their supervisor's feedback. Although the interaction between perceived constructiveness and felt trust was not significant in Study 2, potential explanations for the significant finding from Study 1 are discussed below.

One possible explanation for the moderating role of felt trust in Study 1 may be that felt trust can compensate when feedback is perceived to be less constructive. On the other hand, when employees perceive feedback to be highly constructive, feeling trusted by their supervisor may be less necessary to enhance their improvement. For example, the concrete and actionable developmental steps that are outlined within highly constructive feedback may be useful enough for employees to feel just as equipped and confident in using the feedback, despite feeling less trusted by their supervisor. These results from Study 1 suggest that delivering high quality and constructive feedback may be especially helpful in circumstances when supervisors have few opportunities to demonstrate trust in their subordinates. For example, this may be beneficial for supervisors who work with newer subordinates or who are distanced from their subordinates (e.g., work-from-home organizations or high power-distance). Future research is encouraged to explore this possibility further and potentially include qualitative analyses to capture the nuances behind the influence of felt trust on feedback processes.

Another possible line of reasoning aligns with theoretical perspectives from Fishbein and Ajzen (1975) and relies on the social norms and attitudes associated with the feedback process between the supervisor and subordinate. Fishbein and Ajzen (1975) described how motivation can be enhanced through beliefs that behaviours will lead to desired outcomes or if social norms

support or encourage the demonstration of those behaviours. It is possible that in instances when employees do not feel trusted by their supervisor, they still experience norms or attitudes that drive them to enhance their improvement effort. Drawing upon the social exchange theory (Blau, 1964), it may be possible that employees increase their improvement effort in an effort to build their supervisor's trust in them and demonstrate they could be relied upon in the future. Given that felt trust has been shown to relate to perceptions of self-efficacy (Lau et al., 2014) and empowerment (Gill et al., 2019), it may be possible that employees who feel a lack of felt trust from their supervisor are negatively impacted on these factors, thus, leading to self-doubt. Drawing upon self-determination theory (Ryan & Deci, 2000), it may be possible that employees who experience low felt trust feel motivated to reduce this self-doubt and strive towards the need for competence and autonomy. In order to meet these needs, these employees may implement the constructive feedback in an effort to prove to themselves or their supervisor, that they're capable of improving in the developmental areas discussed. In summary, the results from Study 1 provide a unique view of the interaction between feedback perceptions and felt trust. Future research is necessary to draw further conclusions and potential future directions are discussed below.

Practical Implications

The Importance of Informal Feedback. With more organizations valuing ongoing and developmental feedback, it is essential for employers to foster environments in which constructive feedback can be perceived well and utilized without the need for formal incentives. This study's focus on informal feedback provides further empirical evidence to key relationships in feedback literature involving individual factors of employees (i.e., feedback orientation) as well as social or contextual factors (i.e., felt trust), in influencing reactions to feedback. The

findings suggest that employees can demonstrate enhanced improvement effort towards informal, constructive feedback if they are receptive towards feedback and perceive the feedback to be highly constructive and high quality. This is an important consideration for supervisors if they want to utilize informal feedback at work. Leaders should also be encouraged to consider additional factors that may influence employee implementation of informal feedback.

The Benefit of Feedback Orientation. The current study demonstrates the importance of high feedback orientation when considering employee improvement effort after receiving constructive feedback. The findings support past literature demonstrating the positive workplace outcomes associated with high feedback orientation. Specifically, high feedback orientation was shown to positively relate to feedback perceptions and improvement effort after receiving constructive feedback. For these reasons, organizations may find it worthwhile to hire employees with high feedback orientation or foster environments in which employees can develop a strong feedback orientation. For example, organizations could implement a measure of feedback orientation within their recruitment procedures to select highly receptive candidates or use the measurement to determine the starting baseline of feedback orientation within new employees. Fortunately, scholars suggest that organizations can help employees develop or strengthen feedback orientation in a variety of ways which may be applicable for new employees with limited exposure to feedback or experienced employees with low feedback orientation. Given that feedback orientation is suggested to be a quasi-trait that is malleable (Dahling et al., 2012), it is assumed to be capable of developing over moderate periods of time (e.g., 6-12 months). Some methods to facilitate the development of one's feedback orientation include developing training programs to teach leaders on how to deliver high-quality performance feedback (Chawla et al., 2016) and fostering a supportive feedback environment between leaders and subordinates

(Steelman & Wolfeld, 2018). Both methods have the potential to foster effective feedback processes and help employees gain long-term exposure to constructive feedback, thus contributing to them developing a greater receptivity to feedback. In total, the results from this study demonstrate the benefit of feedback orientation within the workplace. Thus, organizations are encouraged to understand and develop this trait within employees to facilitate employee improvement and reactions to feedback.

Exploring Contextual Factors as Tools for Improvement. This study also demonstrated how employee perceptions of feedback and felt trust can shape the way employees use feedback to improve. The results from both studies suggested that perceptions of feedback quality positively influence employee improvement effort. The results from Study 1 suggested that perceptions of feedback constructiveness may be especially important in driving improvement when felt trust is low. Additionally, the results from Study 2 highlighted the importance of perceiving feedback as highly constructive in order to enhance employee improvement effort. From these results, organizations can gain insight into the benefit of using constructive feedback, or helping their employees perceive feedback to be constructive. In addition to seeking out and developing employees with high feedback orientation, organizations can also implement strategies to enhance the constructiveness of the informal feedback they use. Specifically, in order to encourage implementation of feedback and employee improvement, leaders should focus on delivering constructive feedback that highlights actionable, relevant, and realistic steps towards improvement. Furthermore, leaders should consider the social-relational factors that may enhance employee motivation. Since Study 1 showed a potentially compensatory effect with perceptions of feedback constructiveness and felt trust, there may be value in leaders considering the trusting dynamic they have with their employees alongside the feedback content they deliver.

Specifically, supervisors should aim to utilize highly constructive feedback whenever they can, but especially when they may have fewer opportunities to demonstrate trust in their employees.

Limitations

Despite the present study including a cross-sectional study and a time-separated study to measure the same hypotheses across different samples, it is not without limitations. There are several limitations consisting of the samples used and study methodology used. Details are discussed below and future directions are suggested to improve these limitations.

Participants. Given the recruitment method of Study 1, data was collected from both undergraduate students and student-referred working adults. To justify merging the data from the students and working adults, the variance across the study's key variables was assessed. Although there were no statistical differences across the main variables for both samples, the demographic differences between the students and referred working adults could potentially influence the results for Study 1. For example, it is possible that the samples' variability in employee work experience, organizational tenure and length of time working with their supervisor could have influenced the key variables. However, given the low sample size between the student sample and working adult sample, no conclusions were drawn surrounding the impact of these demographic variables. Further research would be needed to determine their influence on the key hypotheses. Additionally, the sample from Study 1 may not generalize to other groups due to most of the sample identifying as White women. Lastly, both studies were statistically underpowered in comparison to the recommended sample size from the a-priori power analysis.

Methodology. First, both studies consisted of only self-report measures which can increase the likelihood of common method bias (Podsakoff et al., 2003). Although various precautions

were taken to minimize the risk of common method bias, utilizing multiple sources (i.e., supervisor or colleague reports) would have improved the strength of this study's findings. Second, although Study 2's time-separated design was utilized to reduce the limitations of cross-sectional results, the two-week period between surveys was not rooted in theory. Instead, the time points were chosen based on feasibility of data collection and consideration of realistic time frames for receiving feedback. It is possible that the timeframe of the most recent feedback experience varied based on employee circumstances (i.e., nature of work, industry, occupation). For example, a participant might have experienced feedback within a week of completing the survey and another participant might have had to recall an experience from several weeks in the past. Although I attempted to control for this and asked participants to consider their most recent feedback experience, the influence of recall biases is still possible.

Future Directions

Although the results from this study provide support for previous research and theoretical backgrounds of employee motivation surrounding feedback, many questions still remain. Several areas of future research can aim to improve this study and investigate some of the non-significant findings. Some interesting potential extensions may include expanding this study's methodology and examining additional influences on feedback processes, such as demographic differences, emotional responses to feedback, and motives behind improvement.

Several extensions to this study's methodology and measures would be beneficial for future research. One area that future research is encouraged to further examine is perceptions of feedback constructiveness, as this measure can assess if employees are interpreting the value and developmental steps that are present within performance feedback. To expand on this study,

future research could utilize experimental manipulations of feedback scenarios (e.g., vignettes) and examine subsequent employee perceptions and improvement (see Drouvelis & Paiardini, 2021). To support the claim that those with higher feedback orientation may be better equipped to identify developmental steps in negative feedback, researchers can examine employee perceptions of feedback after receiving different types of feedback and potentially use a qualitative design to examine how their perceptions may differ based on their feedback orientation. Another interesting area for future research to examine are the nuances and boundary conditions in which felt trust can be beneficial to feedback processes. Some of this study's findings demonstrated a moderating relationship that was opposite to what was hypothesized, suggesting that employees who experienced less felt trust were more likely to improve if they perceived feedback to highly constructive. On the other hand, when employees felt more trusted by their supervisor, the constructiveness of feedback was less necessary for their improvement effort. Future research is encouraged to examine the ways in which felt trust may influence self-perceptions or motivation within the feedback process.

Additional extensions of this study could focus on examining other influences in feedback processes. First, future researchers are encouraged to assess demographic differences that may influence differential effects of feedback orientation, feedback perceptions or felt trust. For example, Wang and colleagues (2015) found age differences in employee feedback orientation and subsequent reactions to feedback, such that older employees were more likely to use feedback to understand how others perceive them, whereas younger workers were more likely to use feedback towards their performance and development. Similar future research would benefit from exploring more demographic differences and how they may play a role in feedback experiences. Second, researchers could provide further empirical support for the performance

management cycle (London & Smither, 2002) by investigating emotional reactions to feedback. To support London and Smither's notions that the first-stage of the cycle involves confronting emotional reactions, it would be interesting to determine if emotional responses to negative feedback are reduced for those with high feedback orientation. Lastly, since minimal research is focused on employee improvement effort or motivation to improve, it would be interesting for future research to examine the employee-specific motives driving intrinsic motivation in informal feedback processes. For example, future researchers are encouraged to explicitly measure the motives behind feedback implementation either through self-report measures or thematic analyses using open-ended, qualitative data. Although this study relied on motivational theory to predict hypotheses, there was no explicit measure of the motives behind improvement effort. Therefore, future researchers are encouraged to empirically examine self-evaluative or reciprocity mechanisms which may drive one's improvement after receiving negative feedback (see Wang & Huang, 2018).

Conclusion

This research study examined informal feedback processes amongst employees in two studies. By investigating key variables of feedback orientation, perceptions of feedback quality and constructiveness, felt trust, and improvement effort, further understanding can be gathered about the performance management cycle (London & Smither, 2002) and contribute to the feedback literature. Specifically, this study contributed empirical findings to three areas within the feedback literature. First, this study empirically supported the importance of using informal, constructive feedback to facilitate employee performance improvement. Study 2 found support for the mediating roles of perceived feedback quality and constructiveness on the relationship

between feedback orientation and improvement effort. This study's findings provide support of past literature and show consistencies with motivation theories surrounding the importance of employee perceptions in influencing motivation to improve after receiving negative feedback. Second, this study empirically supported a new positive outcome associated with feedback orientation, perceived feedback constructiveness. Further, both studies demonstrated the importance of feedback orientation in their findings that feedback orientation was an important predictor of perceived feedback quality, feedback constructiveness, and improvement effort. Lastly, this study investigated a less common avenue within the feedback literature surrounding feeling trusted, and thus, demonstrated the importance for further inquiry into the influence of felt trust on feedback reactions. Study 1 found an unexpected, yet interesting finding relating to felt trust; suggesting that felt trust and perceptions of feedback constructiveness may be able to substitute for each other when predicting improvement effort after receiving negative feedback. In summary, the present research highlights various areas of contribution as well as future exploration to enhance our understanding of feedback processing and improvement at work.

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Table 1.***Study 1: Means, Standard Deviations, and Correlations with Confidence Intervals of all Main Variables***

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	32.79	16.14								
2. Gender	1.28	0.50	.29**							
			[.12, .44]							
3. Org. Tenure	7.32	8.61	.66**	.18						
			[.54, .75]	[-.00, .35]						
4. Dyad Tenure	3.18	4.22	.38**	.17	.47**					
			[.21, .52]	[-.00, .33]	[.32, .60]					
5. FB Orientation	4.00	0.59	-.04	-.01	-.04	.11				
			[-.22, .13]	[-.18, .16]	[-.22, .14]	[-.07, .28]				
6. FB Quality	4.95	1.25	.02	-.02	-.00	.22*	.43**			
			[-.16, .19]	[-.19, .15]	[-.18, .18]	[.05, .38]	[.28, .56]			
7. FB Construct.	5.08	1.03	.06	.10	.02	.17	.21*	.72**		
			[-.12, .23]	[-.08, .26]	[-.16, .20]	[-.01, .33]	[.04, .37]	[.63, .79]		
8. Felt Trust	5.48	1.08	.20*	-.04	.12	.30**	.26**	.25**	.16	
			[.03, .37]	[-.21, .13]	[-.06, .30]	[.13, .45]	[.10, .41]	[.08, .40]	[-.01, .32]	
9. Improve. Effort	4.05	0.60	-.15	-.16	-.04	.16	.45**	.33*	.13	.28**
			[-.31, .03]	[-.32, .01]	[-.22, .14]	[-.02, .32]	[.31, .58]	[.17, .47]	[-.04, .29]	[.11, .43]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). Gender is coded as 1 (women), 2 (men), and 3 (other). * Indicates $p < .05$. ** indicates $p < .01$.

Table 2.

Study 1: Conditional Direct Effects of Perceptions of Feedback Constructiveness on Improvement Effort at Different Levels of Felt Trust

Variable	<i>B (SE)</i>	<i>p</i>
B path @ low felt trust (- 1SD)	0.13 (0.06)	0.04 *
B path @ moderate felt trust (Mean)	0.04 (0.05)	0.36
B path @ high felt trust (+ 1SD)	-0.05 (0.07)	0.50

Note. All predictors were mean-centered. Mediation was tested using bootstrapping with bias-corrected confidence intervals (for 5000 samples).

* Indicates $p < .05$, ** Indicates $p < .01$, *** indicates $p < .001$.

Table 3.***Study 2: Means, Standard Deviations, and Correlations with Confidence Intervals of all Main Variables***

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	36.75	9.69								
2. Gender	1.57	0.50	.16							
			[-.02, .34]							
3. Org. Tenure	6.68	7.44	.55**	.16						
			[.41, .67]	[-.02, .34]						
4. Dyad Tenure	3.69	3.49	.37**	.00	.59**					
			[.20, .52]	[-.18, .19]	[.45, .70]					
5. FB Orientation	3.97	0.57	.07	-.02	.14	.00				
			[-.12, .25]	[-.20, .16]	[-.05, .31]	[-.18, .19]				
6. FB Quality	5.07	1.40	-.14	-.14	-.07	-.16	.28**			
			[-.31, .05]	[-.32, .04]	[-.25, .11]	[-.33, .03]	[.11, .44]			
7. FB Construct.	4.97	1.09	-.09	-.07	.00	-.05	.25**	.66**		
			[-.27, .09]	[-.25, .12]	[-.18, .19]	[-.23, .14]	[.07, .42]	[.54, .75]		
8. Felt Trust	5.12	1.01	-.08	-.10	.12	.14	.28*	.26**	.30**	
			[-.26, .10]	[-.28, .08]	[-.07, .30]	[-.05, .31]	[.10, .44]	[.08, .43]	[.13, .46]	
9. Improv. Effort	3.98	0.68	-.11	-.08	-.05	-.12	.41**	.45**	.32**	.20*
			[-.29, .08]	[-.26, .11]	[-.23, .13]	[-.30, .07]	[.25, .55]	[.29, .58]	[.15, .48]	[.02, .37]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). Gender is coded as 1 (women), 2 (men), and 3 (other). * Indicates $p < .05$. ** indicates $p < .01$.

Table 4.

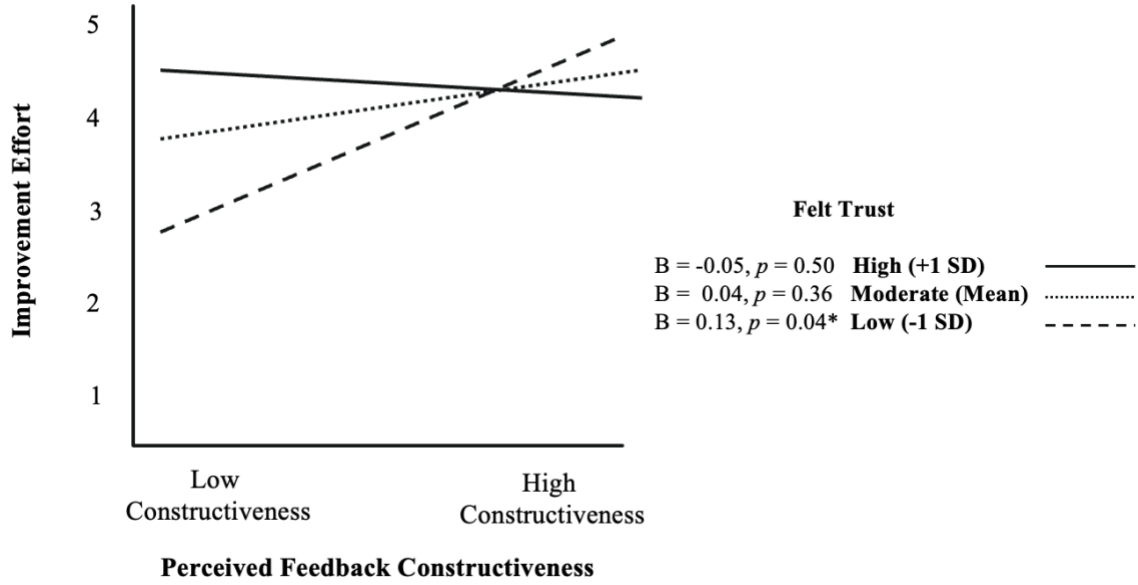
Study 1 & 2: Standardized Regression Weights, Standard Errors & Significance Tests

Variable	Study 1 – Cross-Sectional Sample		Study 2 – Time-Separated Sample	
	<i>B (SE)</i>	<i>p</i>	<i>B (SE)</i>	<i>p</i>
<i>Feedback Quality (Mediator):</i>				
H1a Feedback Orientation	0.43 (0.19)	0.000 ***	0.29 (0.19)	0.000 ***
<i>Feedback Constructiveness (Mediator):</i>				
H1b Feedback Orientation	0.21 (0.17)	0.036 *	0.25 (0.17)	0.004 **
<i>Improvement Effort (Outcome):</i>				
H2 Feedback Orientation	0.41 (0.10)	0.000 ***	0.35 (0.09)	0.000 ***
H3a Feedback Quality	0.14 (0.03)	0.020 *	0.37 (0.04)	0.000 ***
H3b Feedback Constructiveness	0.003 (0.02)	0.940	0.22 (0.04)	0.000 ***
Felt Trust	0.12 (0.05)	0.145	0.04 (0.08)	0.738
H5a Interaction (Feedback Quality X Felt Trust)	-0.11 (0.03)	0.100	0.17 (0.05)	0.165
H5b Interaction (Feedback Constructiveness X Felt Trust)	-0.19 (0.04)	0.009 **	-0.01 (0.05)	0.945
<i>Indirect Effects of Feedback Orientation on Improvement Effort:</i>				
H4a Feedback Quality	0.06 (0.03)	0.065	0.11 (0.04)	0.001 **
H4b Feedback Constructiveness	0.001 (0.01)	0.945	0.07 (0.03)	0.002 **
H6a Interaction (Feedback Quality X Felt Trust)	-0.05 (0.03)	0.110	0.05 (0.04)	0.200
H6b Interaction (Feedback Constructiveness X Felt Trust)	-0.04 (0.02)	0.078	-0.002 (0.03)	0.948

Note. All predictors were mean-centered. Mediation was tested using bootstrapping with bias-corrected confidence intervals (for 5000 samples). * Indicates $p < .05$, ** indicates $p < .01$, *** indicates $p < .001$.

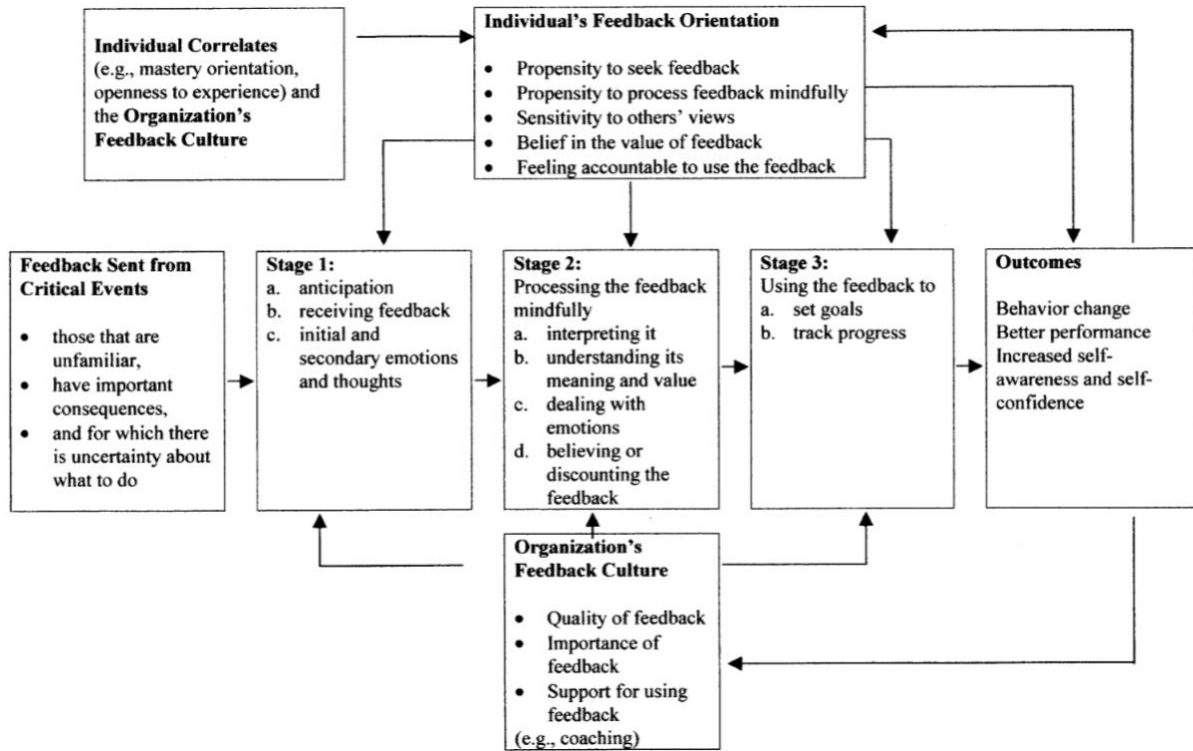
Figure 2.

Study 1: Visual Conditional Direct Effects of Perceptions of Feedback Constructiveness on Improvement Effort at Different Levels of Felt Trust



Appendix A

Performance Management Cycle (London & Smither, 2002)



Appendix B

Demographic Questions – Sona Participant Pool Participants

1. How old are you?
 - _____
 - I prefer not to respond

2. What is your gender?
 - Woman
 - Man
 - My gender identity is not listed above:

 - I prefer not to respond

3. Which of the following best describes your ethnic background? Please select **all** that apply.
 - Indigenous (Inuit/First Nations/Métis)
 - White/European
 - Black/African/Caribbean
 - Southeast Asian (e.g., Chinese, Japanese, Korean, Vietnamese, Cambodian, Filipino, etc.)
 - Arab (Saudi Arabian, Palestinian, Iraqi, etc.)
 - South Asian (East Indian, Sri Lankan, etc.)
 - Latin American (Costa Rican, Guatemalan, Brazilian, Colombian, etc.)
 - West Asian (Iranian, Afghani, etc.)
 - Other (please specify): _____
 - I prefer not to respond

4. If you are currently employed, how long have you been working with your current organization?
 - _____

5. How long have you been working with your current or most recent supervisor?
 - _____

6. How often do you receive informal, constructive feedback from your supervisor?
 1. Very rarely
 2. Once a year
 3. Several times a year
 4. Several times a month

5. How often do you seek or ask for constructive feedback from your supervisor?
 1. Very rarely
 2. Once a year
 3. Several times a year
 4. Several times a month

Appendix C

Demographic Questions – Student-Referred Working Participants

5. How old are you? • _____
6. What is your gender? • I prefer not to respond
• Woman
• Man
• My gender identity is not listed: _____
• I prefer not to respond
7. Which of the following best describes your ethnic background? Please select **all** that apply. • Indigenous (Inuit/First Nations/Métis)
• White/European
• Black/African/Caribbean
• Southeast Asian (e.g., Chinese, Japanese, Korean, Vietnamese, Cambodian, Filipino, etc.)
• Arab (Saudi Arabian, Palestinian, Iraqi, etc.)
• South Asian (East Indian, Sri Lankan, etc.)
• Latin American (Costa Rican, Guatemalan, Brazilian, Colombian, etc.)
• West Asian (Iranian, Afghani, etc.)
• Other (please specify): _____
• I prefer not to respond
8. If you are currently employed, how long have you been working with your current organization? • _____
9. How long have you been working with your current or most recent supervisor? • _____
10. How often do you receive informal, constructive feedback from your supervisor?
1. Very rarely
2. Once a year
3. Several times a year
4. Several times a month
11. How often do you seek or ask for constructive feedback from your supervisor?
1. Very rarely
2. Once a year
3. Several times a year
4. Several times a month

Appendix D

Feedback Orientation Scale by Linderbaum & Levy (2010)

These items are administered using a 5-point scale from strongly disagree (1) to strongly agree (5).

Instructions: The following set of questions will focus on your experiences with feedback at work. Feedback includes any information about your performance on a job-related activity.

Please indicate how much you agree or disagree with each of the following statements.

Utility

1. Feedback contributes to my success at work.
2. To develop my skills at work, I rely on feedback.
3. Feedback is critical for improving performance.
4. Feedback from supervisors can help me advance in a company.
5. I find that feedback is critical for reaching my goals.

Accountability

1. It is my responsibility to apply feedback to improve my performance.
2. I hold myself accountable to respond to feedback appropriately.
3. I don't feel a sense of closure until I respond to feedback.
4. If my supervisor gives me feedback, it is my responsibility to respond to it.
5. I feel obligated to make changes based on feedback.

Social Awareness

1. I try to be aware of what other people think of me.
2. Using feedback, I am more aware of what people think of me.
3. Feedback helps me manage the impression I make on others.
4. Feedback lets me know how I am perceived by others.
5. I rely on feedback to help me make a good impression.

Feedback Self-Efficacy

1. I feel self-assured when dealing with feedback.
2. Compared to others, I am more competent at handling feedback.
3. I believe that I have the ability to deal with feedback effectively.
4. I feel confident when responding to both positive and negative feedback.
5. I know that I can handle the feedback that I receive.

Appendix E

Measures of Feedback Perceptions (Quality and Constructiveness)

These items are administered using a 7-point scale from strongly disagree (1) to strongly agree (7).

Instructions: The next set of statements surround your experiences with constructive, negative feedback that is informal. This kind of negative feedback outlines areas of improvement surrounding your job performance or abilities in an appropriate manner. For example, this kind of negative feedback surrounds improvements, but is not intentionally offensive, hurtful, or destructive. Additionally, is it “informal” in the sense that your supervisor was not required to give this feedback.

Please consider your recent experiences with this type of negative, informal feedback when filling out the questions below.

Perceptions of Feedback Quality Scale by Steelman et al. (2004)

1. My supervisor gives me useful negative feedback about my job performance.
2. The negative performance feedback I receive from my supervisor is helpful.
3. I value the negative feedback I receive from my supervisor.
4. The negative feedback I receive from my supervisor helps me do my job.
5. The negative performance information I receive from my supervisor is generally meaningless. * **Reverse-coded**

Constructive Feedback Scale by Sommer & Kulkarni (2012)

1. The negative feedback that I typically receive from my supervisor focuses on identifiable problems and behaviours upon which I can take action.
2. The negative feedback that I typically receive from my supervisor suggest that my weaknesses can be overcome or remedied.
3. The negative feedback that I typically receive from my supervisor makes reference to clear, legitimate standards for acceptable behaviour.
4. The negative feedback that I typically receive from my supervisor is very specific and detailed.
5. The negative feedback that I typically receive from my supervisor makes reference to specific situations or incidents that are problematic.
6. The negative feedback that I typically receive from my supervisor is so vague that I do not know what to change. * **Reverse-coded**
7. The negative feedback that I typically receive from my supervisor makes clear reference to the behaviours that I need to fix.

Appendix F

Felt Trust Measure Adapted from the Behavioural Trust Inventory by Gillespie (2003)

These items are administered using a 7-point scale from not at all willing (1) to completely willing (7).

1	2	3	4	5	6	7
Not at all Willing	Moderately unwilling	Slightly unwilling	Neutral	Slightly Willing	Moderately Willing	Completely Willing

Instructions: Please indicate how much you agree or disagree with each of the following statements based on the instructions below.

How willing is your supervisor to...

Reliance Dimension

1. Rely on your work-related judgements.
2. Rely on your task-related skills and abilities.
3. Depend on you to handle an important issue on their behalf.
4. Rely on you to represent your work accurately to others.
5. Depend on you to back you up in difficult situations.

Disclosure Dimension

1. Share their personal feelings with you.
2. Confide in you about personal issues that are affecting their work.
3. Discuss how they honestly feel about their work, even negative feelings and frustration.
4. Discuss work-related problems or difficulties that could potentially be used to disadvantage them.
5. Share their personal beliefs with you.

Appendix G

Performance Improvement Efforts Scale by Fedor & Ramsay (2007)

These items are administered using a 5-point scale from strongly disagree (1) to strongly agree (5).

Instructions: The next set of statements surround your experiences with constructive, negative feedback that is informal. This kind of negative feedback outlines areas of improvement surrounding your job performance or abilities in an appropriate manner. For example, this kind of negative feedback surrounds improvements, but is not intentionally offensive, hurtful, or destructive. Additionally, is it “informal” in the sense that your supervisor was not required to give this feedback.

Please consider your recent experiences with this type of negative, informal feedback when filling out the questions below.

After receiving constructive, negative feedback from my supervisor ...

1. I try to put more effort into my work.
2. I usually behave in the same way. * **Reverse-coded**
3. I am usually more careful about how I do my job.
4. I tend to document my work better.
5. I tend to increase my productivity.

Appendix H

Recruitment Advertisement for Sona Participants

The purpose of this study is to examine employee experiences with constructive feedback at work. Specifically, we are interested in collecting information about work-related attitudes and behaviours as well as work relationships. This study will consist of one online survey including questions surrounding work-related attitudes and experiences with feedback. The study will take no longer than 30 minutes to complete. To recruit a diverse working sample for this study, you will also be invited to provide the email addresses of three non-student, working adults (family or friends who are not in school and been working for at least 3-5 years) to participate in this study. The entire study will be conducted online. Participation in this study is voluntary and you may stop participating at any time by closing your browser window. Should you choose to stop participating by closing your browser, you will not be compensated for your participation. In appreciation of your participation in the study, you will receive 0.5 course credit through the SONA participant pool.

This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants (REB#21-09-011).

Appendix I

Demographics Questions – Prolific Sample

1. How old are you?
 - _____
 - I prefer not to respond
2. What is your gender?
 - Woman
 - Man
 - My gender identity is not listed above:

3. Which of the following best describes your ethnic background? Please select **all** that apply.
 - I prefer not to respond
 - Indigenous (Inuit/First Nations/Métis)
 - White/European
 - Black/African/Caribbean
 - Southeast Asian (e.g., Chinese, Japanese, Korean, Vietnamese, Cambodian, Filipino, etc.)
 - Arab (Saudi Arabian, Palestinian, Iraqi, etc.)
 - South Asian (East Indian, Sri Lankan, etc.)
 - Latin American (Costa Rican, Guatemalan, Brazilian, Colombian, etc.)
 - West Asian (Iranian, Afghani, etc.)
 - Other (please specify): _____
 - I prefer not to respond
4. If you are currently employed, how long have you been working with your current organization?
 - _____
5. How long have you been working with your current or most recent supervisor?
 - _____
6. How often do you receive informal, constructive feedback from your supervisor?
 5. Very rarely
 6. Once a year
 7. Several times a year
 8. Several times a month
7. How often do you seek or ask for constructive feedback from your supervisor?
 5. Very rarely
 6. Once a year
 7. Several times a year
 8. Several times a month

Appendix J

Study Advertisement (Prolific)

Survey 1 – Exploring Feedback Attitudes and Work Relationships

The purpose of this study is to examine employee experiences with feedback at work. You will be asked to answer a series of questions about your attitudes surrounding feedback and work relationships. You will only be eligible to participate if you have 5+ years of full-time work experience and currently work under a direct supervisor.

If you volunteer to participate in this study, the study procedures include completing three short online surveys over the course of six weeks. Each survey will be posted to your Prolific upon consent and full completion of the previous survey.

The estimated time commitment to complete each survey and the corresponding compensation is as follows: 1st survey: between 15-30 minutes (compensation: £3.00), 2nd survey: between 5-10 minutes (compensation: £1.00), 3rd survey: no longer than 5 minutes (compensation: £1.00).

You will be asked to enter your Prolific ID at the beginning of the survey for researchers to grant you access to the follow-up surveys. This will remain confidential and will be removed from the data upon compensation.

As you complete the questions, we ask that you are honest and thorough in the responses you provide. You may withdraw your consent at any time and discontinue participation without penalty. You may stop participating at any time by closing your browser, but you will only be eligible to receive compensation by completing or clicking through to the end of the survey and correctly responding to 2/3 of the attention check items. Therefore, your responses will be reviewed prior to the release of the funds. You cannot complete this survey and be compensated twice.

This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants (REB#21-09-011).

Survey Two – Exploring Feedback Attitudes and Work Relationships, Part 2

The purpose of this study is to examine employee experiences with feedback at work. You will be asked to answer a series of questions about your attitudes surrounding feedback and work relationships. You will only be eligible to participate if you have 5+ years of full-time work experience and currently work under a direct supervisor and you have previously completed part one to this survey.

If you completed the first survey, the study procedure includes two more short online surveys. Each survey will be posted to your Prolific upon consent and full completion of the previous survey.

The estimated time commitment to complete this survey and the last survey is as follows: this survey: between 5-10 minutes (compensation: £1.00), 3rd survey: no longer than 5 minutes (compensation: £1.00).

You will be asked to enter your Prolific ID at the beginning of the survey for researchers to grant you access to the follow-up surveys. This will remain confidential and will be removed from the data upon compensation.

As you complete the questions, we ask that you are honest and thorough in the responses you provide. You may withdraw your consent at any time and discontinue participation without penalty. You may stop participating at any time by closing your browser, but you will only be eligible to receive compensation by completing or clicking through to the end of the survey and correctly responding to 2/3 of the attention check items. Therefore, your responses will be reviewed prior to the release of the funds. You cannot complete this survey and be compensated twice.

This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants (REB#21-09-011).

Survey Three – Exploring Feedback Attitudes and Work Relationships, Part 3

The purpose of this study is to examine employee experiences with feedback at work. You will be asked to answer a series of questions about your attitudes surrounding feedback and work relationships. You will only be eligible to participate if you have 5+ years of full-time work experience and currently work under a direct supervisor and you have previously completed part one and two to this survey.

This is the last survey of the three-part study. The estimated time commitment to complete this survey is no longer than 5 minutes (compensation: £1.00).

You will be asked to enter your Prolific ID at the beginning of the survey for researchers to grant you access to the follow-up surveys. This will remain confidential and will be removed from the data upon compensation.

As you complete the questions, we ask that you are honest and thorough in the responses you provide. You may withdraw your consent at any time and discontinue participation without penalty. You may stop participating at any time by closing your browser, but you will only be eligible to receive compensation by completing or clicking through to the end of the survey and correctly responding to 2/3 of the attention check items. Therefore, your responses will be reviewed prior to the release of the funds. You cannot complete this survey and be compensated twice. (REB#21-09-011).

Appendix K

RStudio Packages used for Analyses

Package	Author	Description
‘semPlot’	(Epskamp, 2022)	Designed to create path diagrams and visual analysis of various SEM output.
‘tidyverse’	(Wickham et al., 2019)	Designed to easily install and load core packages from the tidyverse in a single command.
‘readxl’	(Wickham & Bryan, 2022)	Designed to easily import data from Excel into R.
‘writexl’	(Ooms, 2021)	Designed to export data from R into Excel ‘xlsx’ format.
‘apaTables’	(Stanley, 2021)	Designed to create Word files (.doc files) containing APA style tables for several types of analyses.
‘psych’	(Revelle, 2022)	Designed to conduct multivariate analysis and scale construction using factor analysis, principal component analysis, cluster analysis and reliability analysis, and other analyses for psychology.
‘dplyr’	(Wickham et al., 2022)	Designed to allow for data manipulation procedures.
‘plyr’	(Wickham, 2011)	Designed to improve data splitting, applying and combining.

'ggplot2'	(Wickham, 2016)	Designed to improve visualization of graphs.
'lavaan'	(Rosseel, 2012)	Designed to fit a variety of latent variable models (e.g., confirmatory factor analysis, structural equation modeling and latent growth curve models).
'jtools'	(Long, 2022)	Designed to improve graphs and plots of regression analyses.
'interactions'	(Long, 2019)	Designed to visualize interactions among continuous and/or categorical variables and calculate simple slopes.
