

Secondary Publication



Zyberaj, Jetmir

Not one, two, or three, it takes several supervisory feedback characteristics for effective feedback : a latent profile analysis and experimental vignette

Date of secondary publication: 10.07.2024

Version of Record (Published Version), Article

Persistent identifier: urn:nbn:de:bvb:473-irb-956941

Primary publication

Zyberaj, Jetmir (2024): „Not one, two, or three, it takes several supervisory feedback characteristics for effective feedback : a latent profile analysis and experimental vignette“. In: Cogent Business & Management, Vol. 11, Nr. 1, pp. 1-18, London: Taylor & Francis, doi: 10.1080/23311975.2024.2357366.

Legal Notice

This work is protected by copyright and/or the indication of a licence. You are free to use this work in any way permitted by the copyright and/or the licence that applies to your usage. For other uses, you must obtain permission from the rights-holders.

This document is made available under a Creative Commons license.



The license information is available online:

<https://creativecommons.org/licenses/by/4.0/legalcode>

Not one, two, or three, it takes several supervisory feedback characteristics for effective feedback: a latent profile analysis and experimental vignette

Jetmir Zyberaj 

Work and Organizational Psychology Group, University of Bamberg, Bamberg, Germany

ABSTRACT

This study examined the impact of supervisory feedback and employee characteristics on feedback effectiveness. First, utilizing a person-centered approach, I conducted latent profile analysis to check for the number of supervisory feedback latent profiles within the sample. Second, I used a within-subjects experimental vignette to check for the effects of supervisory feedback profiles on employee feedback processing. I also employed feedback sign as a moderator and employee task processes and meta-processes as mediating variables. These relationships were investigated in a mixed-population sample ($N=452$; $M_{\text{age}} = 34.75$ years, $SD_{\text{age}} = 10.35$). For instance, the relative indirect effects of medium-quality SF (compared to low-quality SF) on perceived accuracy through task processes and meta-processes were significant ($ab=0.50$, $SE = 0.13$, and 95% CI [.23, .36] and $ab=0.44$, $SE = 0.14$, and 95% CI [0.21, 0.47], respectively). No moderating effect was found for the feedback sign. Findings suggest supervisors and employees can benefit from training focused on improving feedback quality and processing.

ARTICLE HISTORY

Received 13 January 2024
Revised 3 March 2024
Accepted 11 May 2024

KEYWORDS

Supervisory feedback;
feedback processing;
feedback sign; latent
profile analysis;
experimental vignette

REVIEWING EDITOR

Maria Garcia-Haro,
University of Castilla-La
Mancha: Universidad de
Castilla-La Mancha, Spain

SUBJECTS


Human Resource
Management; Human
Resource Development;
Human Performance
Modeling

1. Introduction

After almost one hundred years since the early claims of Thorndike (1931) on feedback effects being dependent upon feedback sign (i.e. positive and negative), findings on boundary conditions regarding feedback effectiveness are still inconclusive. In 1996, Kluger and DeNisi investigated over 600 effect sizes and demonstrated that feedback interventions are not only positive but end up with detrimental effects up to one third of the time. Recently, two studies investigated negative feedback and showed contradictory results. Eskreis-Winkler and Fishbach (2019) found that negative feedback undermines learning by driving recipients toward self and ego concerns. However, a replication study by Keith et al. (2022) revealed that framing format (e.g. in terms of losses rather than gains) and corrective feedback (e.g. introducing correct solutions) mitigated the effects of negative feedback.

I contribute to this line of research by suggesting that the effectiveness of feedback interventions depends on the characteristics of the feedback provider (i.e. supervisor). In addition, similar to the studies of Eskreis-Winkler and Fishbach (2019) as well as Keith et al. (2022), I proposed that recipients' focus (e.g. ego concerns or solutions) would mediate the provider's effects via the task processes and meta-processes (Kluger & DeNisi, 1996). Finally, I used negative feedback (vs. neutral) and investigated its moderating role in these relationships. Unlike the studies mentioned, I focus in the present study on feedback processing (e.g. feedback acceptance) as an outcome, not direct performance. Kluger and DeNisi (1996) criticized the direct-performance approaches, stating the need for more research on

CONTACT Jetmir Zyberaj  jetmir.zyberaj@uni-bamberg.de  Work and Organizational Psychology Group, University of Bamberg, Markusplatz 3, 96047 Bamberg, Germany.

 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/23311975.2024.2357366>.

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

'processes induced by FIs [feedback interventions] and not on the general question of whether FIs improve performance' (p. 278). Hence, I aim to add to the significance of feedback processing.

Building on these inconsistent findings, I aimed to provide further insights into the role of various supervisory feedback characteristics in feedback processing. I suggest that supervisory feedback characteristics (defined in terms of attributes or qualities, such as trust and feedback quality) might best predict employee feedback processing. Feedback effectiveness often depends upon the characteristics of the feedback sources, such as their credibility or power (Ilgen et al., 1979; Kinicki et al., 2004; Lechermeier & Fassnacht, 2018). For instance, feedback from credible sources is perceived and accepted better (Ilgen et al., 1979).

In addition, I investigate the effects of supervisor feedback sign (i.e. positive or negative), noted as a critical feedback feature (Audia & Locke, 2003; Ilgen et al., 1979; Kim & Kim, 2020). While positive feedback denotes good performance, negative feedback implies a gap in performance and a need for improvements (Belschak & Den Hartog, 2009). Generally, people tend to accept positive feedback more easily than negative feedback because it aligns with their self-views (Swann, 1987). Hence, explaining why and when negative feedback works remains a crucial question for researchers.

Furthermore, whether feedback fails or succeeds often depends on the recipients' attributes. Hence, I employ feedback recipients' task processes and meta-processes as mediators between supervisory feedback and employee feedback processing (Kim & Kim, 2020; Kluger & DeNisi, 1996). Task processes imply recipients' focus on the task and generation of better strategies for work, while meta-processes signify recipients' psychological state in which they feel threatened by negative feedback and focus on the self (Kim & Kim, 2020; Kluger & DeNisi, 1996). According to the feedback intervention theory (FIT; Kluger & DeNisi, 1996), feedback drives recipients toward task processes or meta-processes. In turn, they determine recipients' subsequent performance.

Finally, I propose that employees benefit from supervisory feedback when they are willing to *accept* feedback and *use* it for their tasks (Anseel & Lievens, 2009; Ilgen et al., 1979). I refer to these mechanisms as *feedback processing*. According to one of the first theoretical models of feedback, the feedback process model (FPM; Ilgen et al., 1979), feedback processing is a derivation of both cognitive (i.e. perceptions and acceptance) and motivational and behavioral (i.e. desire and intentions to respond to feedback) processes. Therefore, for supervisory feedback to work, employees must express positive perceptions and acceptance of feedback and their desire and intentions to respond to it (Anseel & Lievens, 2009; Christensen-Salem et al., 2018; Fulham et al., 2022; Ilgen et al., 1979).

I employed a two-step approach to investigate relationships between supervisory feedback characteristics and employee feedback processing through feedback sign and task processes and meta-processes. In the first step, I used a person-centered approach, namely the latent profile analysis (LPA), and designed supervisory feedback profiles based on several supervisory feedback characteristics. For this purpose, I employed the results of a meta-analytic study by Zyberaj (2022). In the second step, I ran an experimental vignette. In this step, I examined the effects of the supervisory feedback profiles on employee feedback processing through employee task processes and meta-processes and introduced feedback sign as a moderator in these relationships.

With this study, I contribute to research on feedback in two important ways. First, I am one of the few researchers to employ a person-centered methodology to study the implications of supervisory feedback (Dahling et al., 2017; Qian et al., 2016). This approach differs from variable-centered approaches, which focus on variables and how they influence outcomes separately. Person-centered approaches allow for constructs to be studied jointly and within individuals (Dai et al., 2013; Spurk et al., 2020). Dahling et al.'s (2017) study investigated supervisory feedback environment profiles using a person-centered approach. However, Dahling et al. (2017) (a) used a different scale of feedback environment and (b) focused on direct outcomes such as motivation. Following the FPM (Ilgen et al., 1979), I use a scale that accounts only for supervisory feedback characteristics relevant to feedback processing. Through LPA, I employ a pattern and multivariate analysis and add to the literature on supervisory feedback by investigating their significance for employee feedback processing jointly. This approach enables examining whether some characteristics are more important than others. Leadership skills can be complementary, such as one skill influencing or compensating for the other (Dai et al., 2013; Kaiser, 2011). Second, I provide further empirical insights concerning the role that both supervisory feedback and recipients'

characteristics play in employee feedback processing. Traditionally, research has focused on direct performance, such as job performance. By studying employee reactions to supervisory feedback, I provide insights into the intermediate psychological processes between supervisory feedback and subsequent employee performance (Anseel & Lievens, 2009). The theory of planned behavior (Ajzen, 1985) notes employee reactions (i.e. intentions) as the best predictor of recipients' actual response to feedback.

2. Theoretical background and hypotheses development

To explain the role of supervisory feedback characteristics, I draw on FIT (Kluger & DeNisi, 1996) and the FPM (Ilgen et al., 1979) as theoretical frameworks. FIT states that feedback might influence recipients through 'the salience of the feedback provider' (Kluger & DeNisi, 1996, p. 271) and by driving their attention toward task processes or meta-processes. Feedback works if recipients are kept within task processes and fail when driven to meta-processes. Similarly, the FPM (Ilgen et al., 1979) alludes that sources must be viewed as credible and powerful. In addition, the model stipulates the critical role of feedback processing, noting four main variables (known as the elements of the feedback process): (1) *perceived feedback* (the extent to which the recipient accurately perceives the feedback from the sources); (2) *acceptance of feedback* (recipient's belief about the accuracy of the feedback), (3) the *desire to respond to feedback* (increasing intentions), and (4) the *intended response* (or goals), representing intentions of the recipients to respond to feedback. According to FPM (Ilgen et al., 1979), all these feedback processes should be present for supervisory feedback to work. While perceptions and acceptance denote feedback acceptance, desire and intentions reveal recipients' willingness to use the feedback.

2.1. Supervisory feedback characteristics: derivation of supervisory feedback profiles

Traditionally, feedback research uses variable-centered approaches to predict how different variables affect outcomes of interest separately and across people (Wang & Hanges, 2011). Although helpful, this approach can be complex since each variable has to be tested for main effects and eventually for multiple interactions across variables and outcomes. However, one can avoid these complexities by using a person-centered approach. Person-centered approaches enable researchers to combine variables of interest within one individual and derive unique profiles (Spurk et al., 2020; Wang & Hanges, 2011). One renowned method is the LPA, a statistical method that identifies latent profiles within a specific population based on various variables (Spurk et al., 2020). Each profile can then be scrutinized for its constellations based on the variables used. In this study, I employed LPA and used the supervisory feedback categories that Zyberaj (2022) derived to design supervisory feedback profiles.

Zyberaj (2022) derived eight categories of supervisory feedback characteristics (Table 1). The author used a systematic review and analyzed over 600 papers to extract these categories. As a result, the author found 26 supervisory feedback characteristics and classified them into eight categories. The author notes that they employed a subject-matter expert methodology for the categorization. I used these categories and aimed to design supervisory feedback profiles using LPA as a person-centered approach. Because there is a relatively large number of categories, I expected several profiles with different constellations (e.g. high and low) and aimed to answer the following research question:

Research question 1: Will there be qualitatively and quantitatively distinct latent profiles of supervisory feedback characteristics?

2.2. Supervisory feedback profiles as predictors of feedback processing

A large body of research has reported the many effects feedback sources and their characteristics yield on the effectiveness of feedback. Kinicki et al. (2004) stated that sources and their characteristics could determine the effectiveness of feedback, claiming that 'source credibility has both direct and indirect effects on employees' desire to respond to feedback' (p. 1067). Ilgen et al. (1979) stated that the power and credibility of a source (which they define in terms of expertise and trust) are among the essential source characteristics that can determine feedback effectiveness. Similarly, Gregory and Levy (2015) noted that feedback is more likely to be effective (i.e. to result in behavior change) if the feedback

Table 1. Predictors and their frequencies from the studies on supervisory feedback.

Number of characteristics	Predictor	Frequency*		
		Number of studies	SMEs categorization	Total of predictors**
1	Trust	5	Credibility	1 (Credibility)
2	Credibility	4	Credibility	
3	Expertise	2	Credibility	
4	Feedback valence	4	FI valence	2 (FI Valence)
5	Just treatment	2	Fairness	3 (FI Fairness)
6	Feedback specificity	2	FI quality	4 (FI Quality)
7	Empathy	2	Support	5 (Support)
8	Feedback quality	9	FI quality	
9	Goodwill	1	Support	
10	Supervisor developmental feedback	1	FI quality	
11	Positive affect	1	Support	
12	Gender	1	Similarity	6 (Similarity)
13	Race	1	Similarity	
14	Ambivalence	1	FI quality	
15	Impression management	1	Fairness	
16	Feedback-rich environment	1	FI quality	
17	Similarity	1	Similarity	
18	Constructive feedback	1	FI quality	
19	Learning-goal orientation	1	Learning-goal orientation	7 (Learning-goal orientation)
20	Consideration	1	Fairness	
21	Adequacy of account	1	Fairness	
22	Sincerity of account	1	Credibility	
23	Charisma	1	Charisma	8 (Charisma)
24	Procedural justice	1	Fairness	
25	Supervisors' cultural orientation***	1	Similarity	
26	Perceived supervisory intentions	1	Fairness	

Note.

*Number of studies represents the number of single studies that studied the respective characteristic (i.e. one or more studies per paper; two or more variables were studied by a single study).

**For categorization, the numbering was done according to the frequency level.

***Collectivist vs. individualist orientation, FI=Feedback, SME=Subject-matter experts; Used with permission from Zyberaj (2022).

recipient believes that the feedback provider is trustworthy and a topic expert. Credibility is shown to positively affect recipients' feedback-seeking behaviors (Donald, Rensvold, & Adams, 1992), as well as satisfaction (Bannister, 1986) and creativity (Son & Kim, 2016). Moreover, sources' status and expertise (i.e. executing power, such as bonuses) are also essential characteristics (Gregory & Levy, 2015), positively affecting acceptance of feedback (Collins & Stukas, 2006) as well as intrinsic motivation of the recipient (Cusella, 1982).

In their meta-analytical study, Zyberaj (2022) found charisma (i.e. charismatic leadership) to be the best predictor of feedback processing ($\rho = .65$). Similarly, credibility and feedback valence ($\rho = .43$), feedback quality, and support ($\rho = .40$) were also good predictors. However, they found that learning-goal orientation ($\rho = .12$) and similarity ($\rho = .005$) were the least effective predictors for feedback processing (*n.s.*). Following these findings, I excluded learning-goal orientation and similarity characteristics. In addition, because similarity is measured based on gender and race, retrieving supervisory profiles would be difficult. Based on these findings, I hypothesized the following:

Hypothesis 1 (H1): The effects of the supervisory feedback profiles on employee processing will depend on supervisory feedback characteristics. Thus, supervisory profiles scoring high on supervisory feedback characteristics will yield better employee feedback processing, such as better feedback acceptance, than those scoring low.

2.3. The mediating role of task processes and meta-processes

FIT notes that 'FIs effects on performance are attenuated by cues [e.g. feedback that provides specific information about the task and goals to be achieved] that direct attention to meta-task processes' (Kluger & DeNisi, 1996, p. 267). Thus, feedback affects recipients primarily through their attention in two ways. First, feedback affects performance by diverting the recipients' attention towards lower-order processes, namely task-learning processes. Secondly, feedback can affect recipients through higher-order processes, namely meta-processes. According to FIT, meta-task processes can potentially control the focal task processes, which might hinder one's performance by diverting their attention away from the task and to the

self. Thus, while meta-processes hinder the effectiveness of feedback, task processes facilitate it by keeping the recipient focused on the task (Atwater & Brett, 2006; Kim & Kim, 2020; Kluger & DeNisi, 1996). For instance, a study by Kim and Kim (2020) found that negative feedback heightened recipients' task processes, increasing their strategy usage and focus and positively affecting their creativity. However, a study by Eskreis-Winkler and Fishbach (2019) found that, because of its ego-threatening features, negative feedback undermined learning and made recipients 'tuned out', which aligns with the FIT (Kluger & DeNisi, 1996) assumptions on meta-processes. Hence, I proposed the following:

Hypothesis 2 (H2): Task processes and meta-processes will mediate the relationship between supervisory profiles and employee feedback processing.

2.4. Does feedback sign moderate the effects of supervisory feedback profiles via task processes and meta-processes?

Concerning the feedback sign (i.e. positive vs. neutral feedback), I was interested in investigating whether the effects of the supervisory feedback profiles on employee feedback processing through task processes and meta-processes would depend upon the valence of the feedback. Previous research has shown that feedback sign (e.g. negative feedback) can have major implications on the effects of supervisory feedback (Audia & Locke, 2003; Ilgen et al., 1979; Kim & Kim, 2020). Thus, I investigated whether negative feedback would differ from the neutral condition (Belschak & Den Hartog, 2009). Generally, people tend to accept positive feedback more easily than negative because it aligns with and reaffirms their personal views (Swann, 1987). The self-enhancement theory (Shrauger, 1975) claims that individuals prefer favorable feedback more than negative. Negative feedback is often viewed as less accurate and, therefore, less accepted by employees than positive feedback (Ilgen et al., 1979; London, 2003). Similarly, recipients are less willing to accept negative feedback because it evokes feelings of defensiveness and dissatisfaction (Ilgen et al., 1981; London, 2003; London & Smither, 2002), which could lead to self-concerns and might distract one's attention away from the task processes (Kluger & DeNisi, 1996). Hence, in line with these findings, feedback sign could mitigate the relationship between the supervisory feedback and the subsequent employee reactions (i.e. task processes and meta-processes). While employees might be willing to accept positive feedback, negative feedback might be perceived as a threat and evoke negative feelings, resulting in rejection. Thus, I posed the following research question and hypothesis:

Research question 2: Does the indirect effect of supervisory feedback profiles on employee feedback processing through task processes and meta-processes depend upon feedback sign?

Hypothesis 3 (H3): The indirect effect of SF Profiles on feedback processing through task processes and meta-processes will depend on the feedback sign. Specifically, these indirect effects will be significant and stronger for negative than neutral feedback.

3. Method

3.1. Research design and procedure

I employed a two-step approach (see Figure 1). First, I conducted LPA to design supervisory feedback profiles. Second, in a between-subject design, I tested the profiles derived from the first step in a vignette experiment for their effects on employee feedback processing. In this step, I used employee task processes and meta-processes as mediators between supervisory feedback profiles and employee feedback processing. Furthermore, I tested whether feedback sign would moderate the effects of supervisory feedback characteristics on employee task processes and meta-processes. Research and experimental materials followed criteria stated in the Declaration of Helsinki 1964 and its later addendum. Vignettes and study procedures used in this study were approved by the ethics committee of the University of Bamberg in the original research by Zyberaj (2022; dossier number: 2021-04/17). In addition, because the experiment was conducted online, online informed consent was obtained from all study participants before commencing the experiment.

Step 1: Latent profile analysis



Step 2: Experimental vignette

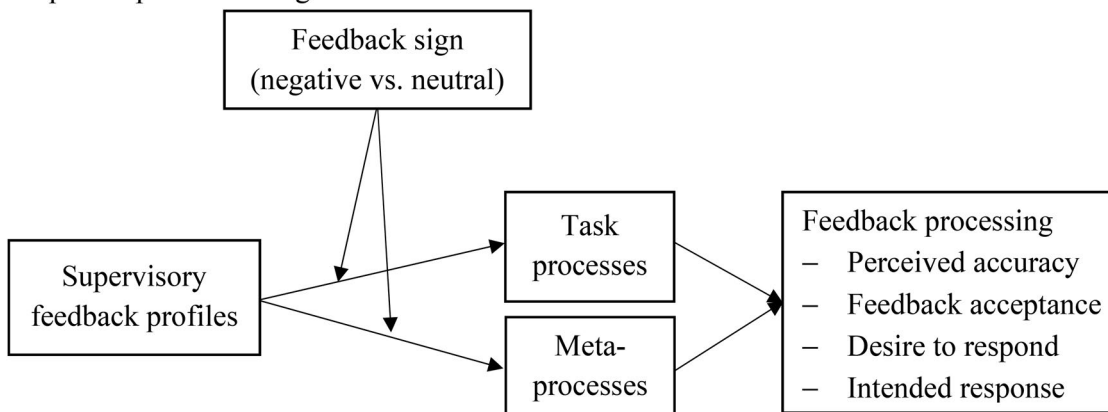


Figure 1. Research steps and the hypothesized moderated-mediation model.

3.1.1. First step: Latent profile analyses

In the first step, I conducted LPA to derive supervisory feedback profiles. LPA is a probabilistic or model-based technique superior to traditional cluster analyses for detecting latent taxonomy (Tein et al., 2013, p. 2). The primary aim is to identify types or groups of people based on specific profiles of attributes, such as personal attributes. Another essential feature of the LPA is distinguishing profiles quantitatively and qualitatively (Bakaç et al., 2023;; Spurk et al., 2020; Wang & Hanges, 2011; Woo et al., 2018). Quantitatively distinct profiles vary in the absolute *level* of the profile indicators, such as being high or low on constructs (Spurk et al., 2020). Qualitatively distinct profiles vary in *shape* because of differences in relative standing on the profile indicators (Bennett et al., 2016). To design these distinct profiles, LPA uses some patterns of variables, where profiles that share similar patterns are combined and compared with other profiles (Bouckenooghe et al., 2019; Spurk et al., 2020; Woo et al., 2018). Then, specific fit indices are used to derive the profiles sharing similar patterns (i.e. the best-fitting profile solution; Nylund-Gibson & Choi, 2018; Peugh & Fan, 2013; Spurk et al., 2020). Some of these fit indices include the Bayesian Information Criterion (BIC), Akaike Information Criterion (AIC), consistent AIC (CAIC), the Bootstrapped Likelihood Ratio Test or BLRT (Bouckenooghe et al., 2019; Nylund et al., 2007; Spurk et al., 2020; Wang & Hanges, 2011). Model fit is usually based on lower BIC and AIC values, a higher BLRT, and other criteria, such as the elbow plot (Nylund-Gibson & Choi, 2018; Zyberaj et al., 2022).

3.1.2. Second step: Experimental vignette

In the second step, I conducted an Experimental Vignette (EV). The EV methodology contains ‘carefully constructed and realistic scenarios to assess dependent variables including intentions, attitudes, and behaviors’ (Aguinis & Bradley, 2014, p. 352). Vignettes are well-suited because they do not require in-depth knowledge about the topic and can be easily used to elicit meaning from participants (Hughes & Huby, 2002). They are also good if one needs to exercise control of independent variables and draw causation (Aguinis & Bradley, 2014, p. 258). Vignettes can be displayed via images, videos, or written format (Hughes & Huby, 2002). Organizational research mainly uses written vignettes, also called paper people studies (Burt et al., 2016; Murphy et al., 1986; Woehr & Lance, 1991). The paper people studies

are especially appropriate when the research aims to assess explicit processes and outcomes (Aguinis & Bradley, 2014; Heim et al., 2018).

In this study, I used two written vignettes developed by Zyberaj and Volmer (2021). I conducted a between-subject design experiment and used one vignette for each condition. Participants were randomly assigned to the conditions. Feedback in these vignettes was provided as a numerical evaluation (e.g. 'you scored below average and worse than 70% of your peers') and in a written format (e.g. 'your current answers do not describe the product optimally and accurately'). This feedback format has previously been widely used in similar research (Belschak & Den Hartog, 2009; Burt et al., 2016; Kim & Kim, 2020). In addition, vignettes developed by Zyberaj and Volmer (2021) contain text and images that align with previous recommendations. Each vignette contains one text, one figure about the text, and five questions that recipients must answer. To contextualize the intervention, I told participants that they were working in 'a Science and Technology company called 'TOYA' and asked them to envision it as if they were working in this company. In addition, I told them that they are part of the 'Research and Development Department', currently assigned to learn about some new products. Finally, they were told they would be monitored by their supervisor, who would provide their performance results at the end of their learning process (see [supplementary material](#) for vignette details).

An overview of research steps, study variables, and their relationships are shown in [Figure 1](#).

3.2. Sample

I decided on the sample size based on the recommendations for robust LPA (Nylund-Gibson & Choi, 2018; Spurk et al., 2020). According to Spurk et al. (2020), 'a sample size of about 500 should lead to enough accuracy in identifying a correct number of latent profiles' (p. 6). However, because of the exclusion criteria (i.e. excluding participants who performed well) and for an assurance of possible participant attrition or outliers, I aimed for 50 more participants. Thus, I targeted a sample size of around 550 participants.

I designed the experiment using the SoSci Survey (<https://www.soscisurvey.de/>) and recruited the participants via Amazon Mechanical Turk (MTurk). Respondents were invited to participate in a leadership study in exchange for €0.60 and were asked to consent to participate before commencing the experiment. To be eligible, participants had to be employees and proficient in English. I further followed the best-practice recommendations by Aguinis et al. (2021) for robust data from MTurk. For example, I used CAPTCHA for approving valid users and invited only experienced users of MTurk (known as 'Master Workers') and those with Human Intelligence Task (HIT) approval rates of < 95. Finally, I set a code of conduct to exclude those who did not follow the criteria (e.g. wrong answers to the attention check questions).

I was able to collect data from 566 participants. I excluded 46 participants from this sample due to their inconsistent answers in three of the attention check questions. For instance, I asked participants to name the vignette they did or select the right number of answer options for that vignette. In addition, I excluded 68 participants due to their good performance in the task (i.e. scoring all five answers correct, which disqualified them from receiving negative feedback; see [supplementary material](#)). Thus, the final sample in the analyses comprised 452 participants (59.5% male; $M_{\text{age}} = 34.75$ years, $SD_{\text{age}} = 10.35$). Most participants were from the United States (90%) and India (4.9%), followed by several other countries, such as the United Kingdom, Australia, Denmark, and Italy. Furthermore, most participants had Bachelor's (52.2%) and Master's (38.8%) degrees. The majority reported having five years of work experience (23%), followed by ten (13.1%) and four years (16.4%); the rest had less than five years of work experience.

3.3. Instruments

3.3.1. Vignettes

I adopted two vignettes (experimental vs. neutral condition) from Zyberaj and Volmer (2021). The authors noted that vignettes were standardized in two pilot studies. First, they tested the vignettes for their power (e.g. whether conditions affected recipients) and included five questions with five answer options for each. Vignettes tested recipients' performance in a cognitive task. Afterward, participants would get feedback (i.e. negative and neutral). Participants were randomized for each feedback condition.

3.3.2. Supervisory feedback characteristics

I used the measures of the original studies by Zyberaj (2022) for the SF characteristics. To measure *credibility*, I used the measure of Steelman et al. (2004) with five items. A sample item was 'I can trust what my supervisor says', measured on a Likert-type scale with responses ranging from 1 (*strongly disagree*) and 7 (*strongly agree*). Cronbach's α was .84. I used the 17-item measure of charismatic leadership for *charisma* by Bycio et al. (1995). A sample item was 'I have confidence in the feedback my supervisor gives me', measured on a Likert-type scale ranging from 1 (*not at all*) and 5 (*frequently*). Cronbach's α was .85. For *feedback sign*, I asked participants about the proportion of positive to negative feedback they received, using a scale ranging from 1 (*100% positive*) to 11 (*100% negative*), which were reverse coded (Kinicki et al., 2004). For *feedback quality*, I used the five-item scale of Kinicki et al. (2004). A sample item was 'My supervisor gives me useful feedback about my job performance', measured on a Likert-type scale with responses ranging from 1 (*strongly disagree*) and 7 (*strongly agree*). Cronbach's α was .85. For *support*, I used the 20-item PANAS scale of Watson et al. (1988), representing positive and negative affect, and a six-item scale of McCroskey and Teven (1999), representing goodwill. PANAS uses a Likert-type scale ranging from 1 (*not at all*) to 5 (*extremely*), while goodwill scale ranging from 1 (*strongly disagree*) and 7 (*strongly agree*), where participants indicated impressions about their supervisors (e.g. 'My supervisor cares about me'). Cronbach's α for support was .93. Finally, I used the five-item measure by Leung et al. (2001) for fairness. A sample item was 'My supervisor is kind to me', measured on a Likert-type scale ranging from 1 (*disagree*) and 5 (*agree*). Cronbach's α was .73.

3.3.3. Task processes and meta-processes

For task processes (4 items) and meta-processes (5 items), I utilized the measure by Kim and Kim (2020). A sample item was 'This feedback helped me pay more attention to how I conduct my tasks' (task processes) or 'This feedback made me care about how I present myself to my supervisor' (meta-processes). The measure uses a Likert-type scale with responses ranging from 1 (*not at all*) to 7 (*very much*) and was introduced after participants' exposure to vignettes and feedback received. Cronbach's alpha was .86 for task processes and .91 for meta-processes.

3.3.4. Feedback processing

To measure recipients' processing of feedback, I used several measures. First, I used a five-item measure developed by Kinicki et al. (2004) for *perceived accuracy*. A sample item was 'The information discussed at the appraisal session was accurate'. Cronbach's α was .74. Second, for the *acceptance of feedback*, I used four items from Anseel and Lievens (2009). A sample item was 'The feedback I received was an accurate evaluation of my performance'. Cronbach's α was .87. Third, the *desire to respond* was measured using four items from Kinicki et al. (2004). A sample item was 'I have no intention of using the feedback to guide my performance on the next task'. Cronbach's α was .71. Finally, I used one item from Anseel and Lievens (2009) for the *intended response*. The item was: 'Because of my most recent performance appraisal session, I intend to put forth a great deal of additional effort towards doing my job'. Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) for the desire to respond, and 1 (*strongly disagree*) to 7 (*strongly agree*) for perceived accuracy and acceptance of feedback.

3.3.5. Negative vs. neutral feedback

I employed negative and neutral feedback to measure the effects of the feedback sign. I manipulated feedback sign and investigated the effects on feedback processing. For negative feedback, I used both numerical and normative (e.g. 'You scored below average and worse than 80% of your peers') and written ('Unfortunately, your current score does not meet the requirements that our experts have set for your performance'). For the neutral condition, participants were told they 'scored in a percentile between 30 and 60'. Feedback would show up after around 40seconds (i.e. while the supervisor prepares it).

3.4. Statistical analyses

For research synthesis, I employed several steps. First, for the LPA, I applied the recommended criteria, such as deciding about the number of profiles (i.e. fit indices or model fit values), types of the estimator

(i.e. Maximum Likelihood), and similar criteria (Spurk et al., 2020). Second, for the experimental results, I looked at the direct effects and mediating role of task processes and meta-processes (i.e. mediation analyses) and the moderating role of feedback sign (i.e. moderated mediation analyses). I used SPSS, R, and Mplus software to conduct analyses.

4. Results

4.1. Descriptive statistics and confirmatory factor analysis

I conducted confirmatory factor analysis (CFA) to see the fit of the different measurement models of the latent constructs within the assumed models. For the tasks processes and meta-processes (mediator), I conducted a one- and two-factor model and one and four models for the feedback processing variables (outcome). Results confirmed the theoretically assumed models for both mediators and outcome variables. Compared to the one-factor model, the two-factor model for mediators showed a better fit ($\chi^2 = 206.08$, $df = 26$, $CFI = .94$, $TLI = .91$, $RMSEA = .12$, 95% CI [.11 to .14], $SRMR = .039$). Similarly, compared to the one-factor model, the (original) four-factor model of feedback processing had a better model fit ($\chi^2 = 796.85$, $df = 72$, $CFI = .80$, $TLI = .75$, $RMSEA = .15$, 95% CI [.14 to .16], $SRMR = .095$). See Table 2 for the CFA.

Table 3 shows descriptives of the main study variables. As shown, there were medium-high positive correlations between different facets of SF characteristics and employee feedback processing. For example, a positive correlation was shown between charisma and feedback acceptance and desire to respond to feedback ($r = .72$, $p < .001$). Similarly, medium-large correlations were between different facets of predictors and outcomes with mediating variables. For instance, charisma ($r = .89$, $p < .001$) and credibility ($r = .85$, $p < .001$) positively correlated with employee task processes.

4.2. LPA analyses

For the SF profiles, I used Mplus. To calculate the best profile solution, I used the standardized mean values and the maximum likelihood estimator (MLR), freely estimating one to six profiles in terms of means and variances. To decide on a profile solution, I looked at several fit indices (Table 4), such as low values of AIC, BIC, and Sample-Size-Adjusted BIC (SABIC), as well as high Entropy and significant Lo-Mendell-Rubin Likelihood Ratio Test (LMR) and Bootstrap Likelihood Ratio Test (BLRT). In addition, I employed the elbow plot. However, fit indices (i.e. BIC and AIC) did not differ much. Hence, I based the final decision on the elbow plot (Figure 2), distinguishing three profiles with a significant LMR.

Furthermore, I looked for group memberships in each profile. I found that the four-profile solution had one group with only 16 people, which violates the LPA assumptions for a minimum of 20 individuals per profile (Spurk et al., 2020).

Moreover, I plotted profiles to check for qualitative differences, showing slight differences (Figure 3). Thus, I retained the three-profile solution, which also aligns with the study of Dahling et al. (2017). I named profiles as *high-quality SF* (Profile 1; 55.2%, the largest profile), *medium-quality SF* (Profile 2; 36.3%), and *low-quality SF* (Profile 3; 8.5%).

Table 2. Confirmatory factor analyses with different factor models for the study variables.

Model	χ^2	df	Δdf	$\Delta\chi^2$	CFI	TLI	RMSEA	SRMR	AIC	BIC
Mediators										
One-factor model	215.34	27	–	–	.94	.92	.12	.040	11141.09	11215.14
Two-factors model	206.08	26	1	9.26***	.94	.91	.12	.039	11133.83	11211.99
Outcomes										
One-factor model	980.20	77	–	–	.75	.70	.16	.090	16017.78	16132.96
Four factors model	796.85	72	5	183.35***	.80	.75	.15	.095	15844.42	15980.17

Note. One-factor model: Task- and meta-processes, together; Two-factor model: Task- and meta-processes, separately; One-factor model: Perceived accuracy, acceptance of feedback, desire to respond to feedback, and intended response, together; Two-factor model: Perceived accuracy, acceptance of feedback, desire to respond to feedback, and intended response, separately.

Table 3. Means, standard deviations, and zero-order correlations between study variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender	1.40	0.49															
2. Age	34.75	10.35	.08														
3. Condition	0.49	0.50	.03	.09													
4. Credibility	5.73	1.04	.08	-.06	.01	(.84)											
5. Fairness	3.96	0.74	.04	-.07	-.02	.73**	(.73)										
6. Feedback quality	5.79	1.03	.07	-.03	.01	.87**	.69**	(.85)									
7. Support	3.89	0.69	.02	.02	.03	.68**	.73**	.71**	(.93)								
8. Charisma	5.73	1.04	.06	-.03	.04	.87**	.62**	.85**	.73**	(.85)							
9. Feedback sign	7.01	3.56	-.02	-.00	.00	.22**	.31**	.25**	.37**	.23**							
10. Perceived accuracy	4.02	0.63	.04	-.06	.06	.76**	.68**	.72**	.69**	.72**	.21**	(.84)					
11. Feedback acceptance	5.60	1.31	.09	-.06	-.00	.69**	.71**	.66**	.71**	.64**	.28**	.78**	(.87)				
12. Desire to respond	4.02	0.69	.03	-.08	.01	.72**	.62**	.68**	.65**	.72**	.19**	.80**	.71**	(.71)			
13. Intended response	4.17	0.82	.01	-.09*	-.02	.61**	.45**	.57**	.46**	.61**	.10*	.64**	.52**	.71**			
14. Task-processes	5.71	1.09	.05	-.03	.06	.85**	.57**	.82**	.64**	.89**	.18**	.75**	.62**	.71**	.61**	(.86)	
15. Meta-processes	5.70	1.16	.09	-.00	.06	.82**	.65**	.80**	.71**	.83**	.25**	.75**	.72**	.72**	.57**	.84**	(.91)

Note. $N=452$. Condition refers to negative (1) and neutral (0) feedback; Feedback sign ranged from 1 (100% negative feedback) to 11 (100% positive feedback); Values along the diagonal represent reliability estimates (coefficient omega); Gender was coded as 1= male, 2=female, and 3=diverse.

* $p < .05$.

** $p < .01$.

Table 4. Fit indices for profile structure and selection.

# of Profile	LL	FP	AIC	BIC	SABIC	LMR(p)	Entropy
2	-3572.37	19	7182,75	7260,91	7200.61	< 0.05	0.97
3	-3101.32	26	6254,65	6361,61	6279.09	< 0.05	0.95
4	-2990.15	33	6046,31	6182,06	6077.33	< 0.05	0.95
5	-2884.24	40	5848,48	6013,03	5886.08	< 0.05	0.95
6	-2767.14	47	5628,28	5821,62	5672.46	< 0.05	0.95

Note. $N=452$. LL=log-likelihood; FP=free parameters; AIC=Akaike information criteria; BIC=Bayesian information criteria; SABIC=sample-size adjusted BIC; LMR(p) = p -value for the Lo (2001) test.

Finally, I checked for quantitative differences, and the results showed significant differences between the three profiles (Table 5). These results answer the first research question, revealing distinct qualitative and quantitative SF profiles.

4.3. Hypotheses testing

For the mediation and moderation analyses, I utilized the PROCESS tool (Hayes, 2012) in SPSS, applying bootstrapping with 5000 resamples and 95% confidence intervals.

Regression analysis revealed that, compared to low-quality SF, high-quality SF ($b=3.37$, $p < .001$) and medium-quality SF ($b=2.47$, $p < .001$) were significant predictors of the task processes. However, relatively similar results were shown for the meta-processes (Table 6). Similarly, compared to low-quality SF, high-quality SF ($b=3.37$, $p < .001$) and medium-quality SF ($b=2.47$, $p < .001$) were a significant predictor of both feedback acceptance ($b = .91$, $p < .05$) and desire to respond to feedback ($b = .19$, $p < .05$), representing cognitive and motivational feedback processing factors. However, this profile did not predict intentions to respond to feedback ($b = .02$, $p > .05$). Hence, these results partially support Hypothesis 1.

4.4. Mediation

The mediation analyses revealed that task and meta-processes significantly mediate the relationship between the SF profiles and employee feedback processing. For instance, compared to low-quality SF, there was a significant indirect effect of medium-quality SF on employee perceived accuracy mediated by task processes ($ab=0.50$, $SE = 0.13$, and 95% CI [.23, .36]), as well as meta-processes ($ab=0.44$, $SE = 0.14$, and 95% CI [0.21, 0.47]). These results partially confirm Hypothesis 2 (cf. Table 6).

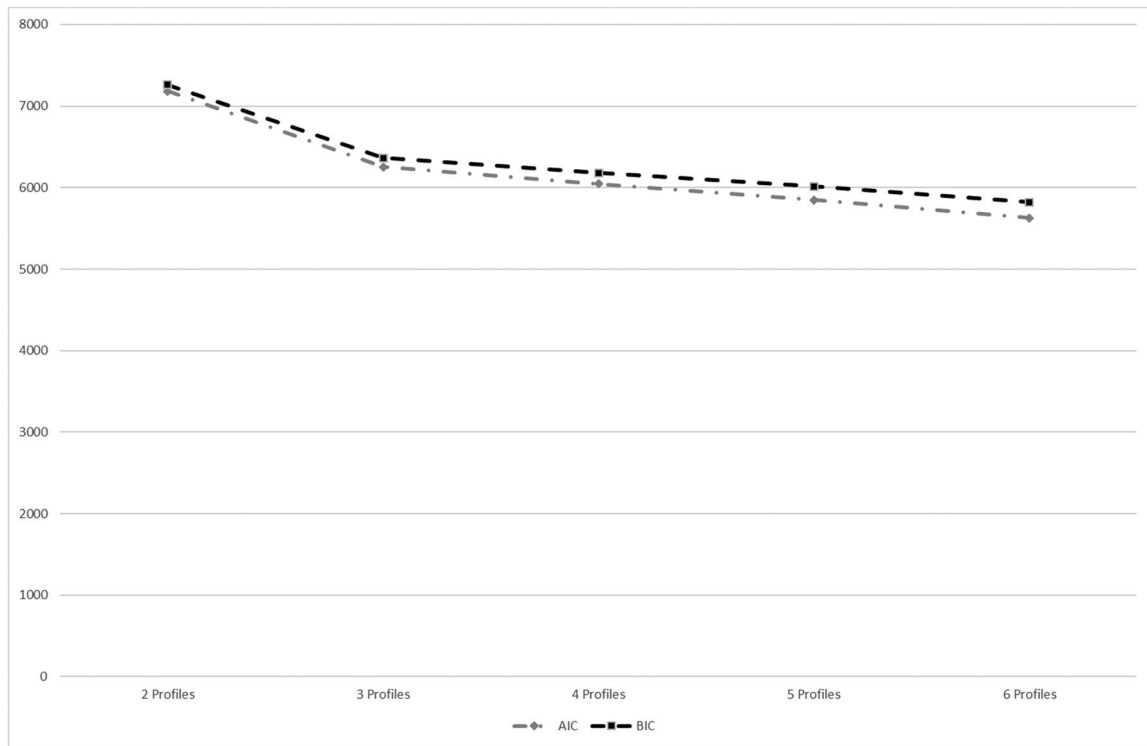


Figure 2. Elbow plot for BIC and AIC in determining profile solution. BIC: Bayesian Information; AIC: Akaike Information Criteria.

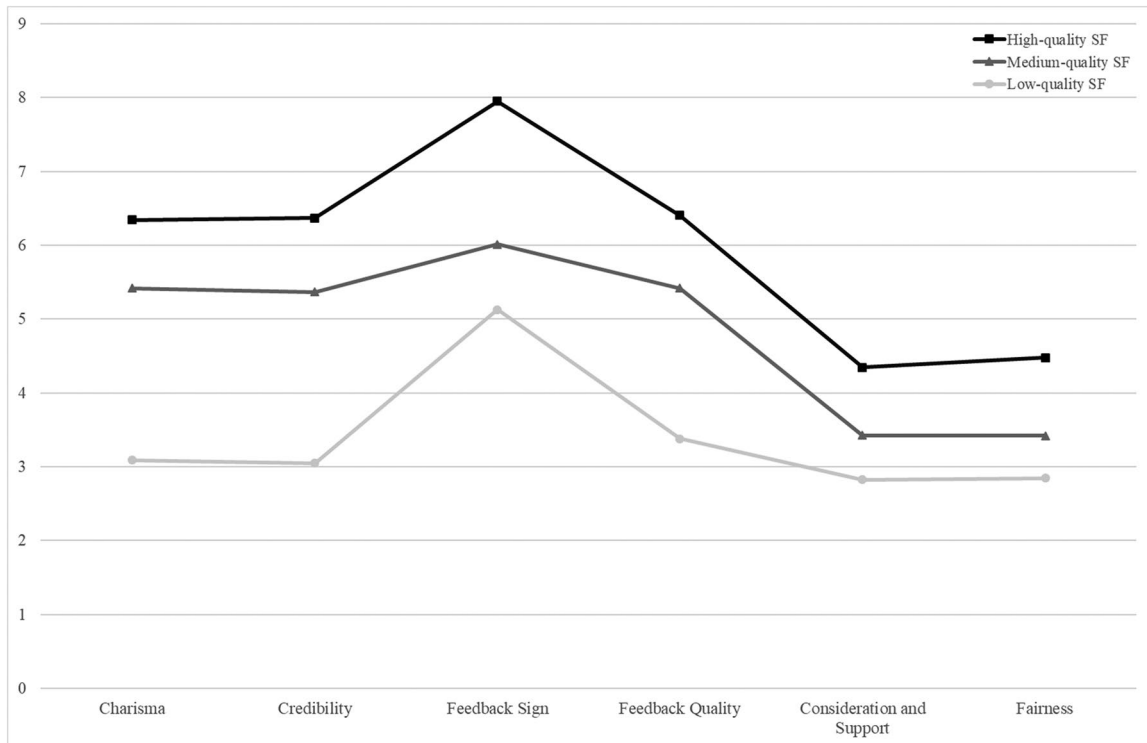


Figure 3. Latent profiles of supervisory feedback characteristics and the profile percentages. Profile memberships (i.e. percentage of people in each profile): Profile 1 (*high-quality SF*): 55.2%; Profile 2 (*medium-quality SF*): 36.3%; Profile 3 (*low-quality SF*): 8.5%.

Table 5. Quantitative differences between profiles with means and standard deviations.

# of Profile	Credibility	Fairness	Feedback quality	Support	Charisma	Feedback sign	Difference	<i>p</i>
3	3.05 (0.77)	2.85 (0.49)	3.37 (0.116)	2.82 (0.50)	3.09 (0.81)	5.13 (2.88)	2-1	0.00
2	5.37 (0.50)	3.42 (0.60)	5.41 (0.58)	3.42 (0.46)	5.41 (0.59)	6.01 (3.26)	3-1	0.00
1	6.37 (0.31)	4.47 (0.29)	6.40 (0.35)	4.34 (0.40)	6.34 (0.36)	7.95 (3.55)	3-2	0.00

Note. *SD* is shown next to the *M* (in parentheses). Feedback sign was measured on a scale ranging between 1 (100% negative feedback) to 11 (100% positive feedback).

Table 6. Regression results testing the hypothesized model.

	Mediators		Outcomes			
	Task-processes	Meta-processes	Perceived accuracy	Acceptance of feedback	Desire to respond	Intended response
	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Intercept	3.08** (.17)	2.77** (.19)	1.71** (.14)	2.12** (.32)	1.83** (.17)	1.92** (.24)
Profile 2	2.47** (.15)	2.35** (.17)	-.12* (.12)	.17 (.28)	-.22* (.15)	.09 (.21)
Profile 1	3.37** (.15)	3.48** (.16)	.15* (.14)	.91* (.32)	.02 (.15)	.19** (.24)
Condition	.35 (.20)	.44 (.21)	.15 (.12)	-.34 (.28)	-.16 (.14)	.01 (.21)
Age	-.003 (.003)	-.001 (.00)	-.002 (.00)	-.006 (.00)	-.004 (.02)	-.00 (.00)
Gender	-.05 (.05)	-.04 (.06)	-.00 (.03)	-.12 (.08)	-.004 (.04)	-.03 (.06)
Condition*Profile 2	-.18 (.18)	-.19 (.24)	-.17 (.13)	.17 (.30)	.08 (.15)	-.20 (.23)
Condition*Profile 1	-.23 (.23)	-.35 (.23)	-.11 (.13)	.38 (.29)	.19 (.15)	-.01 (.22)
Task-processes			.21** (.03)	-.06 (.07)	.2** (.03)	.30** (.05)
Meta-processes			.19** (.03)	.58** (.07)	.21** (.03)	.11* (.05)
<i>R</i> ²	.67**	.68**	.66**	.58**	.60**	.39**

Note. *N*=442–444. Unstandardized coefficients are reported; Standard errors are shown in parentheses; Condition refers to negative (1) and neutral (0) feedback; Profile 3 is the reference profile.

***p* < .001.

**p* < .05.

4.5. Moderation

The moderation result revealed that the condition (i.e. negative vs. neutral feedback) did not moderate the difference between profiles regarding task- or meta-processes. Specifically, the difference between high-quality SF and low-quality SF in task- and meta-processes did not depend on condition ($b = -0.23$, $p > .05$ and $b = -0.35$, $p > .05$, respectively). The same pattern of results was found for the difference between medium quality SF and low quality SF ($b = -0.18$, $p > .05$ and $b = -0.19$, $p > .05$, respectively). Thus, these results rejected Hypothesis 3 (cf. Table 6).

5. Discussion

Why do some people accept feedback while others reject it? I found that characteristics of providers (e.g. credibility) influence employee feedback processing (e.g. feedback acceptance). In addition, I found a mediating role of the employee characteristics (i.e. focus on task or self) but not of feedback sign (i.e. negative vs. neutral) as a mediating variable. Using a person-centered approach, I designed supervisory feedback latent profiles, and in an online experiment with a within-subject design, I investigated profiles' effects on employee feedback processing. Overall, the results partially supported the hypotheses.

First, the results revealed three latent SF profiles. Profiles were quantitatively and qualitatively distinct, scoring above and below the mean. For example, Profile 1 scored relatively high in almost all SF characteristics (i.e. charisma, credibility, feedback sign, and feedback quality, except support and fairness, with medium-low scores). In addition, this profile represented the largest sample (55.3%) among all three profiles. Because of its scoring (i.e. above the mean) in most SF characteristics, I named this profile high-quality SF. Similarly, the other two profiles were relatively different, with Profile 2 showing medium-high levels of SF characteristics, which I labeled medium-quality SF, and Profile 3 scored low on SF characteristics and was labeled low-quality SF. Although with slightly different constellations on the supervisory feedback measurement, these results align with the study of Dahling et al. (2017), who also found three different types of SF profiles (i.e. high, medium, and low). For instance, similar to Dahling et al. (2017), Profile 1 (high-quality SF) was distinguished by high scores on the feedback sign.

Second, regression results showed medium-to-large effects of SF profiles on employee feedback processing. For instance, Profile 1, which scored high in crucial SF characteristics, was a good predictor of employee feedback processing. These results align with the study of Zyberaj (2022), where charisma and credibility predicted employee feedback processing. Similar results were found by Dahling et al. (2017), where a high-quality supervisory feedback environment positively predicted several outcomes, such as intrinsic motivation and affective commitment. Ilgen et al. (1979) noted motivation as representing one's desire to respond to feedback.

Third, in addition to leadership qualities, I investigated whether employee characteristics mediate the effects of SF profiles on the way they process SF feedback. Results partially supported the second hypothesis, showing that both task processes and meta-processes mediate the effects of SF profiles on employee feedback processing. However, while task processes mediate the relationships positively, meta-processes reveal different results from expectations and hypotheses. According to the FIT (Kluger & DeNisi, 1996), task processes facilitate employee performance by keeping the recipient focused on the task and away from the self and ego concerns. However, meta-processes have the opposite effect. Driving the recipient's attention toward meta-processes increases focus on the self and depletes cognitive and affective processes, hindering one's performance. Nevertheless, according to the FIT, there is one scenario when meta-processes might not affect recipients as strongly: when the task is simple or 'if the recipient diverts attention back down to the task-motivation or -learning level' (Kluger & DeNisi, 1996, p. 267). Hence, this could be one explanation for these results – recipients might have been able to grasp vignettes well and move easily between task processes and meta-processes.

Finally, I investigated whether feedback sign (negative vs. neutral) moderates the effects of SF profiles on employee task processes and meta-processes. I found no significant effects, which various mechanisms can explain. Research has found that the effects of feedback sign can be mitigated by the type of task (van Dijk & Kluger, 2011; Vancouver & Tischner, 2004), which aligns with the FIT assumptions (Kluger & DeNisi, 1996). For instance, Vancouver and Tischner (2004) found that the intensity of the task played a significant role in the effects of negative feedback on performance. This could mean that variance in the level of the negative feedback intensity (i.e. high or low) might also affect its power concerning behavior and performance. Hence, vignettes' power (i.e. intensity) could be one factor for not finding an effect of feedback sign on feedback processing through task processes and meta-processes. In addition, feedback sign focused solely on losses (i.e. negative feedback). Keith et al. (2022) reported that focusing on losses rather than gains might explain these effects of feedback sign. For example, Keith et al. (2022) found that earning money after each correct answer (gains) had better effects on learning compared to the incentives framed as losing money for each wrong answer (losses). Hence, although the feedback was correct (i.e. honest feedback based on participants' performance), focusing only on the losses (negative feedback only) might be vague and useless for the recipient (Fulham et al., 2022; Keith et al., 2022). Fulham et al. (2022) noted that 'feedback-recipients are unlikely to learn from or use feedback when the feedback provided is vague... or does not relate to the feedback-recipient's goals' (p. 2).

5.1. Implications, limitations, and future directions

Practically, this study showed that SF characteristics could be a relatively robust intervention for organizations. With a person-centered approach, I found that different constellations of the SF characteristics might play a significant role in the effects of their feedback for employee feedback processing. This could signify that organizations pay attention to the various features and attributes of the supervisory feedback. For instance, findings showed that Profile 1 (i.e. high-quality SF) could significantly affect how employees react to SF, even though this profile scored relatively low in fairness and support. Hence, although supervisors must act fairly (Sparr & Sonnentag, 2008), showing credibility and feedback quality is often more critical (Kinicki et al., 2004) for successful feedback interventions. According to the FPM (Ilgen et al., 1979), trust is a core foundation of a supervisor's credibility. This way, building trust might be critical and complement other (lacking) skills. The person-centered approach showed that mutual characteristics could make up for each other. Leadership research has noted leaders might benefit from person-centered approaches since the lack of some characteristics can be compensated by other skills (Dai et al., 2013; Kaiser, 2011). For instance, Dai et al. (2013) reported that managers must adopt a

holistic approach and utilize various skills and competencies. Therefore, enhancing SF qualities mutually (e.g. conjointly, through training; London, 2003) could be vital for organizations (i.e. leadership).

Furthermore, with non-significant results for the sign of the feedback, the findings of this study could imply that supervisors pay attention to how they construct their feedback. Much research calls for more future- and behaviorally-focused feedback than corrective feedback only (Fulham et al., 2022; Gnepp et al., 2020; Gregory & Levy, 2015; Murphy, 2020). Hence, for supervisory negative feedback to work, supervisors should strive to be honest with their feedback and provide ways for improvements through specific and future-focused feedback. According to the FIT (Kluger & DeNisi, 1996), feedback cues (i.e. particular components of the task) 'are likely to direct attention to learning processes and generate working hypotheses, or at least cause their reevaluation' (p. 263). However, Kluger and DeNisi (1996) noted that cues might also divert attention away from the task and to the self. Hence, supervisors can provide more future-focused and task-related feedback to mitigate the negative effects of cues (Fulham et al., 2022; Gnepp et al., 2020; London et al., 2023). This, in turn, increases recipients' focus on the task and learning processes and keeps them away from self-evaluations and ego concerns. For instance, coaching and feedforward could be helpful to interventions because they focus on the future and what works rather than on evaluations only (Fulham et al., 2022; Kluger & Nir, 2010).

Finally, I focused solely on negative feedback and neglected positive feedback. Hence, future research might need to investigate the role of other feedback formats, such as positive or future-focused feedback (van Dijk & Kluger, 2011) or more listening-supported formats (Kluger et al., 2023). Researchers have recommended coaching and feedforward sessions in which feedback providers focus on 'what works, instead of focusing on fixing what's wrong' (Kluger & Nir, 2010, p. 236).

Theoretically, this study provides hints concerning leadership structure and adds to research on its implications about feedback through the person-centered approach. Traditionally, research focuses on variable-centered approaches in investigating leadership structure (Brickley et al., 1997; Dai et al., 2013). However, the study showed that the person-centered approach could be another promising intervention, which yields significantly better ways for interventions by merging different constellations of SF characteristics. Drawing on the concept of leadership pipeline (Kaiser, 2011), Dai et al. (2013) noted that because person-centered approaches identify patterns rather than single variables, a multivariate analysis of the impact of leadership skills could be a better approach in studying configurations of leadership competencies. According to Dai et al. (2013), this approach provides a better possibility for leaders because of its complementary nature, noting that 'the lack of one leadership competencies may be compensated for by other characteristics' (p. 166). This was indeed shown in this research. For instance, profile 1 (high-quality SF) scored high on feedback sign, credibility, charisma, and feedback quality but medium-low on fairness and support. This could imply that high-quality characteristics can compensate for the medium and low-quality supervisory feedback characteristics (Dai et al., 2013; Kaiser, 2011). Therefore, future research should account for person-centered approaches and investigate ways to provide a better overview of leadership structure by combining various features of SF and not relying on single constructs.

Relatedly, future research should provide more insights concerning the mediating variables affecting feedback effectiveness and not direct performance. This study demonstrates that the several mechanisms of feedback processing, such as acceptance and desire to respond to feedback, could explain a great deal of failing feedback. As Fulham et al. (2022) note, 'for feedback to promote learning and improvement, feedback-recipients must be receptive to the feedback...' (p. 1). Similarly, feedback processing mechanisms must be studied conjointly and not as separate constructs (FPM; Ilgen et al., 1979). I found that most research reports only some (i.e. mainly feedback acceptance) of the four mechanisms noted by Ilgen et al. (1979). While feedback acceptance is crucial, this might not suffice. FPM (Ilgen et al., 1979) and the Theory of Planned Behavior (Ajzen, 1985) note that intentions might be the most approximate evaluation of feedback effectiveness. Hence, more research is needed to explain the mechanisms and circumstances under which feedback is accepted or rejected.

Finally, this study is not without limitations. First, I collected data from employees only. Hence, it would be important that future research looks for ways to incorporate both employee and supervisor evaluations. This approach can provide more robust results on feedback assessments. Second, I focus solely on feedback processing and neglect job outcomes. Future research shall replicate findings by involving possible job outcomes. This can provide more direct hints on the implications of employee

feedback processing. Third, I was only interested in negative feedback. Hence, future research shall replicate findings and investigate whether there would be differences concerning positive feedback. Similarly, future research could employ other feedback forms, not only normative ones. Fourth, although the sample was quite robust in size and representativeness, future research could look into other contexts since culture and context might have ramifications on SF profiles and their effects on employee feedback processing. Fifth, future research could investigate whether there will be differences in results if there are variations in vignettes (both in terms of power, such as intensity, and in terms of quantity, such as using two or more vignettes). Finally, some correlations are relatively large, which could indicate low divergent validity across scales. However, model results and LPA are not influenced by such results.

6. Conclusion

I found three supervisory feedback profiles. All three profiles were distinct from each other both qualitatively and quantitatively. The experimental vignette results revealed that profiles differ in their effects on employee feedback processing. Profiles scoring high on supervisory feedback characteristics (i.e. high-quality SF) yielded better effects than low-scoring profiles. Importantly, results further revealed that employee characteristics play a significant role in supervisory feedback, with both task processes and meta-processes mediating the effects of SF on their feedback processing.

Acknowledgements

The publication of this article was supported by the Open Access publication fund of the University of Bamberg.

Author contributions

Jetmir Zyberaj was responsible for conceptualization, methodology, software and writing (original draft, review and editing).

Disclosure statement

No potential conflict of interest was reported by the author(s).

About the author

Jetmir Zyberaj is a doctoral researcher at the University of Bamberg. He earned his Master's degree from the Technical University of Munich (TUM) in Munich and worked at FiBS Research Institute for the Economics of Education and Social Affairs in Berlin. After his research stay at the State University of New York at Stony Brook in New York, he started working as a Human Resources Expert at Roland Berger in Munich.

ORCID

Jetmir Zyberaj  <http://orcid.org/0000-0002-3871-002X>

Data availability statement

The data that support the findings of this study are available from the corresponding author, [JZ], upon reasonable request.

References

- Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, 17(4), 1–18. <https://doi.org/10.1177/1094428114547952>
- Aguinis, H., Villamor, I., & Ramani, R. S. (2021). MTurk research: Review and recommendations. *Journal of Management*, 47(4), 823–837. <https://doi.org/10.1177/0149206320969787>

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control* (pp. 11–39). Springer.
- Anseel, F., & Lievens, F. (2009). The mediating role of feedback acceptance in the relationship between feedback and attitudinal and performance outcomes. *International Journal of Selection and Assessment*, 17(4), 362–376. <https://doi.org/10.1111/j.1468-2389.2009.00479.x>
- Atwater, L., & Brett, J. (2006). Feedback format: Does it influence manager's reactions to feedback? *Journal of Occupational and Organizational Psychology*, 79(4), 517–532. <https://doi.org/10.1348/096317905X58656>
- Audia, P. G., & Locke, E. A. (2003). Benefiting from negative feedback. *Human Resource Management Review*, 13(4), 631–646. <https://doi.org/10.1016/j.hrmr.2003.11.006>
- Bakaç, C., Zyberaj, J., & Barela, J. C. (2023). Predicting employee telecommuting preferences and job outcomes amid COVID-19 pandemic: A latent profile analysis. *Current Psychology*, 42(10), 8680–8695. <https://doi.org/10.1007/s12144-021-02496-8>
- Bannister, B. D. (1986). Performance outcome feedback and attributional feedback: Interactive effects on recipient responses. *Journal of Applied Psychology*, 71(2), 203–210. <https://doi.org/10.1037/0021-9010.71.2.203>
- Belschak, F. D., & Den Hartog, D. N. (2009). Consequences of positive and negative feedback: The impact on emotions and extra-role behaviors. *Applied Psychology*, 58(2), 274–303. <https://doi.org/10.1111/j.1464-0597.2008.00336.x>
- Bennett, A. A., Gabriel, A. S., Calderwood, C., Dahling, J. J., & Trougakos, J. P. (2016). Better together? Examining profiles of employee recovery experiences. *The Journal of Applied Psychology*, 101(12), 1635–1654. <https://doi.org/10.1037/apl0000157>
- Bouckennooghe, D., De Clercq, D., & Raja, U. (2019). A person-centered, latent profile analysis of psychological capital. *Australian Journal of Management*, 44(1), 91–108. <https://doi.org/10.1177/0312896218775153>
- Brickley, J. A., Coles, J. L., & Jarrell, G. (1997). Leadership structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance*, 3(3), 189–220. [https://doi.org/10.1016/S0929-1199\(96\)00013-2](https://doi.org/10.1016/S0929-1199(96)00013-2)
- Burt, J., Abel, G., Elmore, N., Lloyd, C., Benson, J., Sarson, L., Carluccio, A., Campbell, J., Elliott, M. N., & Roland, M. (2016). Understanding negative feedback from South Asian patients: An experimental vignette study. *BMJ Open*, 6(9), e011256. <https://doi.org/10.1136/bmjopen-2016-011256>
- Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessments of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology*, 80(4), 468–478. <https://doi.org/10.1037/0021-9010.80.4.468>
- Christensen-Salem, A., Kinicki, A., Zhang, Z., & Walumbwa, F. O. (2018). Responses to feedback: The role of acceptance, affect, and creative behavior. *Journal of Leadership & Organizational Studies*, 25(4), 416–429. <https://doi.org/10.1177/1548051818757691>
- Collins, D. R., & Stukas, A. A. (2006). The effects of feedback self-consistency, therapist status, and attitude toward therapy on reaction to personality feedback. *The Journal of Social Psychology*, 146(4), 463–483. <https://doi.org/10.3200/SOCP.146.4.463-483>
- Cusella, L. P. (1982). The effects of source expertise and feedback valence on intrinsic motivation. *Human Communication Research*, 9(1), 17–32. <https://doi.org/10.1111/j.1468-2958.1982.tb00680.x>
- Dahling, J. J., Gabriel, A. S., & MacGowan, R. (2017). Understanding typologies of feedback environment perceptions: A latent profile investigation. *Journal of Vocational Behavior*, 101, 133–148. <https://doi.org/10.1016/j.jvb.2017.05.007>
- Dai, Y.-D., Dai, Y.-Y., Chen, K.-Y., & Wu, H.-C. (2013). Transformational vs transactional leadership: Which is better?. *International Journal of Contemporary Hospitality Management*, 25(5), 760–778. <https://doi.org/10.1108/IJCHM-Dec-2011-0223>
- Donald, B., Rensvold, R. B., & Adams, S. M. (1992). An investigation of factors expected to affect feedback seeking: A longitudinal field study. *Personnel Psychology*, 45(4), 779–802. <https://doi.org/10.1111/j.1744-6570.1992.tb00968.x>
- Eskreis-Winkler, L., & Fishbach, A. (2019). Not learning from failure—the greatest failure of all. *Psychological Science*, 30(12), 1733–1744. <https://doi.org/10.1177/0956797619881133> 31702452
- Fulham, N. M., Krueger, K. L., & Cohen, T. R. (2022). Honest feedback: Barriers to receptivity and discerning the truth in feedback. *Current Opinion in Psychology*, 46, 101405. <https://doi.org/10.1016/j.copsyc.2022.101405>
- Gnepp, J., Klayman, J., Williamson, I. O., & Barlas, S. (2020). The future of feedback: Motivating performance improvement through future-focused feedback. *PLoS One*, 15(6), e0234444. <https://doi.org/10.1371/journal.pone.0234444>
- Gregory, J. B., & Levy, P. E. (2015). *Using feedback in organizational consulting*. American Psychological Association. <https://doi.org/10.1037/14619-000>
- Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation*. <http://www.afhayes.com/public/process2012.pdf>.
- Heim, A., Ravaud, P., Baron, G., & Boutron, I. (2018). Designs of trials assessing interventions to improve the peer review process: A vignette-based survey. *BMC Medicine*, 16(1), 191. <https://doi.org/10.1186/s12916-018-1167-7>
- Hughes, R., & Huby, M. (2002). The application of vignettes in social and nursing research. *Journal of Advanced Nursing*, 37(4), 382–386. <https://doi.org/10.1046/j.1365-2648.2002.02100.x>
- Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64(4), 349–371. <https://doi.org/10.1037/0021-9010.64.4.349>
- Ilgen, D. R., Mitchell, T. R., & Fredrickson, J. W. (1981). Poor performers: Supervisors' and subordinates' responses. *Organizational Behavior and Human Performance*, 27(3), 386–410. [https://doi.org/10.1016/0030-5073\(81\)90030-1](https://doi.org/10.1016/0030-5073(81)90030-1)
- Keith, N., Horvath, D., Klamar, A., & Frese, M. (2022). Failure to learn from failure is mitigated by loss-framing and corrective feedback: A replication and test of the boundary conditions of the tune-out effect. *Journal of Experimental Psychology. General*, 151(8), e19–e25. <https://doi.org/10.1037/xge0001170>

- Kim, Y. J., & Kim, J. (2020). Does negative feedback benefit (or harm) recipient creativity? The role of the direction of feedback flow. *Academy of Management Journal*, 63(2), 584–612. <https://doi.org/10.5465/amj.2016.1196>
- Kinicki, A. J., Prussia, G. E., Wu, B. J., & McKee-Ryan, F. M. (2004). A covariance structure analysis of employees' response to performance feedback. *The Journal of Applied Psychology*, 89(6), 1057–1069. <https://doi.org/10.1037/0021-9010.89.6.1057>
- Kluger, A. N., & Nir, D. (2010). The feedforward interview. *Human Resource Management Review*, 20(3), 235–246. <https://doi.org/10.1016/j.hrmmr.2009.08.002>
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254–284. <https://doi.org/10.1037/0033-2909.119.2.254>
- Kluger, A. N., Lehmann, M., Aguinis, H., Itzhakov, G., Gordon, G., Zyberaj, J., & Bakaç, C. (2023). A meta-analytic systematic review and theory of the effects of perceived listening on work outcomes. *Journal of Business and Psychology*, 39(2), 295–344. <https://doi.org/10.1007/s10869-023-09897-5>
- Lechermeier, J., & Fassnacht, M. (2018). How do performance feedback characteristics influence recipients' reactions? A state-of-the-art review on feedback source, timing, and valence effects. *Management Review Quarterly*, 68(2), 145–193. <https://doi.org/10.1007/s11301-018-0136-8>
- Leung, K., Su, S., & Morris, M. W. (2001). When is criticism not constructive? The roles of fairness perceptions and dispositional attributions in employee acceptance of critical supervisory feedback. *Human Relations*, 54(9), 1155–1187. <https://doi.org/10.1177/0018726701549002>
- Lo, Y. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88(3), 767–778. <https://doi.org/10.1093/biomet/88.3.767>
- London, M., Volmer, J., Zyberaj, J., & Kluger, A. N. (2023). Attachment style and quality listening: Keys to meaningful feedback and stronger leader-member connections. *Organizational Dynamics*, 52(2), 100977. <https://doi.org/10.1016/j.orgdyn.2023.100977>
- London, M. (2003). *Job feedback: Giving, seeking, and using feedback for performance improvement* (2nd ed.). Applied Psychology. Lawrence Erlbaum Associates.
- London, M., & Smither, J. W. (2002). Feedback orientation, feedback culture, and the longitudinal performance management process. *Human Resource Management Review*, 12(1), 81–100. [https://doi.org/10.1016/S1053-4822\(01\)00043-2](https://doi.org/10.1016/S1053-4822(01)00043-2)
- McCroskey, J. C., & Teven, J. J. (1999). Goodwill: A reexamination of the construct and its measurement. *Communication Monographs*, 66(1), 90–103. <https://doi.org/10.1080/03637759909376464>
- Murphy, K. R. (2020). Performance evaluation will not die, but it should. *Human Resource Management Journal*, 30(1), 13–31. <https://doi.org/10.1111/1748-8583.12259>
- Murphy, K. R., Herr, B. M., Lockhart, M. C., & Maguire, E. (1986). Evaluating the performance of paper people. *Journal of Applied Psychology*, 71(4), 654–661. <https://doi.org/10.1037/0021-9010.71.4.654>
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*, 14(4), 535–569. <https://doi.org/10.1080/10705510701575396>
- Nylund-Gibson, K., & Choi, A. Y. (2018). Ten frequently asked questions about latent class analysis. *Translational Issues in Psychological Science*, 4(4), 440–461. <https://doi.org/10.1037/tps0000176>
- Peugh, J., & Fan, X. (2013). Modeling unobserved heterogeneity using latent profile analysis: A Monte Carlo simulation. *Structural Equation Modeling*, 20(4), 616–639. <https://doi.org/10.1080/10705511.2013.824780>
- Qian, J., Han, Z. R., Guo, Z., Yang, F., Wang, H., & Wang, Q. (2016). The relation of feedback-seeking motives and emotion regulation strategies to front-line managers' feedback source profiles: A person-centered approach. *Journal of Management & Organization*, 22(1), 68–79. <https://doi.org/10.1017/jmo.2015.7>
- Shrauger, J. S. (1975). Responses to evaluation as a function of initial self-perceptions. *Psychological Bulletin*, 82(4), 581–596. <https://doi.org/10.1037/h0076791>
- Son, S., & Kim, D. -Y. (2016). The role of perceived feedback sources' learning-goal orientation on feedback acceptance and employees' creativity. *Journal of Leadership & Organizational Studies*, 23(1), 82–95. <https://doi.org/10.1177/1548051815613732>
- Sparr, J. L., & Sonnentag, S. (2008). Fairness perceptions of supervisor feedback, LMX, and employee well-being at work. *European Journal of Work and Organizational Psychology*, 17(2), 198–225. <https://doi.org/10.1080/13594320701743590>
- Spurk, D., Hirschi, A., Wang, M., Valero, D., & Kauffeld, S. (2020). Latent profile analysis: A review and “how to” guide of its application within vocational behavior research. *Journal of Vocational Behavior*, 120, 103445. <https://doi.org/10.1016/j.jvb.2020.103445>
- Steelman, L. A., Levy, P. E., & Snell, A. F. (2004). The feedback environment scale: Construct Definition, measurement, and validation. *Educational and Psychological Measurement*, 64(1), 165–184. <https://doi.org/10.1177/0013164403258440>
- Tein, J. -Y., Coxé, S., & Cham, H. (2013). Statistical power to detect the correct number of classes in latent profile analysis. *Structural Equation Modeling*, 20(4), 640–657. <https://doi.org/10.1080/10705511.2013.824781>
- Thorndike, E. L. (1931). *Human learning*. The Century Co.
- van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior*, 32(8), 1084–1105. <https://doi.org/10.1002/job.725>
- Vancouver, J. B., & Tischner, E. C. (2004). The effect of feedback sign on task performance depends on self-concept discrepancies. *The Journal of Applied Psychology*, 89(6), 1092–1098. <https://doi.org/10.1037/0021-9010.89.6.1092>

- Wang, M., & Hanges, P. J. (2011). Latent class procedures: Applications to organizational research. *Organizational Research Methods, 14*(1), 24–31. <https://doi.org/10.1177/1094428110383988>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063–1070. <https://doi.org/10.1037/0022-3514.54.6.1063>
- Woehr, D. J., & Lance, C. E. (1991). Paper people versus direct observation: An empirical examination of laboratory methodologies. *Journal of Organizational Behavior, 12*(5), 387–397. <https://doi.org/10.1002/job.4030120504>
- Woo, S. E., Jebb, A. T., Tay, L., & Parrigon, S. (2018). Putting the “person” in the center. *Organizational Research Methods, 21*(4), 814–845. <https://doi.org/10.1177/1094428117752467>
- Zyberaj, J., Bakaç, C., & Seibel, S. (2022). Latent transition analysis in organizational psychology: A simplified „how to“ guide by using an applied example. *Frontiers in Psychology, 13*, 977378. <https://doi.org/10.3389/fpsyg.2022.977378>
- Zyberaj, J., & Volmer, J. (2021). Evaluation or guidance: Which approach promotes the effectiveness of supervisor feedback best? Moderating role of employees’ epistemic beliefs. In *The German Psychological Society (DGPs) Congress, Division of Work, Organizational, and Business Psychology*. Chemnitz.
- Zyberaj, J. (2022). *Supervisory feedback characteristics that predict employee feedback processing best: A systematic review and meta-analysis*. Department of Psychology, University of Bamberg.