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Examining the relationship between supervisory feedback characteristics and employee feedback processing: a systematic review and meta-analysis

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Abstract

Supervisory feedback (SF) is a central organizational practice, yet its effectiveness remains inconsistent across studies. This study synthesizes research on how SF characteristics relate to employees' feedback processing, conceptualized as stage-specific facets (perception, acceptance, desire to respond, and intended response). Analyses included a systematic review and meta-analysis of 24 peer-reviewed empirical studies ($N=595,950$) yielding 75 effect sizes across 26 SF characteristics. Majority of studies ($n=12$) highlighted credibility as the most studied SF characteristic. In addition, the random-effects models indicated a moderate-to-strong overall association between SF characteristics and feedback processing facets ($\bar{r} = 0.36$, 95% CI [0.30, 0.41], $p < .001$). Furthermore, the subject-matter experts grouped the 26 characteristics into broader SF categories ($n=8$). Across these categories, credibility, feedback valence, feedback quality, support, and charisma showed comparatively stronger pooled associations with feedback-processing outcomes, although estimates varied across processing facets and characteristics. Overall, the findings highlight that SF characteristics (e.g., credibility) and message-related cues (e.g., feedback quality) are consistently associated with employee feedback processing. Findings yield important implications for both leaders and employees.

Keywords Supervisory feedback · Feedback processing · Systematic review · Meta-analysis

Providing feedback on work performance is a central organizational practice and a key mechanism for employee learning and development (Carroll et al., 2022). Yet feedback does not consistently produce beneficial outcomes, and in some cases it is associated with negative consequences (Kluger & DeNisi, 1996). Meta-analytic research indicates that feedback interventions (FIs) end with detrimental effects up to one-third of the time (Kluger & DeNisi, 1996), and more recent studies continue to document variability in feedback effects across contexts (Kim & Kim, 2020; Shao & Martin, 2020). For example, in creativity research, negative feedback has been linked to higher creativity in bottom-up exchanges but lower creativity in top-down contexts (Kim & Kim, 2020). Given that supervisors are a dominant

feedback source in organizations (DeNisi & Murphy, 2017), clarifying when and why supervisory feedback is received constructively remains an important issue for organizational research and practice.

One explanation for this variability is that feedback effectiveness depends on how employees process feedback. Employees may perceive feedback as inaccurate, reject it, accept it but lack motivation to act, or intend to implement it but fail to follow through (Anseel & Lievens, 2009; Campagna et al., 2022; Grundmann et al., 2021; Ilgen et al., 1979). In line with this work, feedback processing is conceptualized as a sequence of cognitive and motivational facets through which employees interpret and respond to supervisory feedback. The feedback processing model (FPM; Ilgen et al., 1979) emphasizes that perception and acceptance alone do not imply subsequent behavioral responding; later-stage processes—such as desire to respond and intentions—represent theoretically distinct facets that capture readiness to act on feedback. Consistent with this staged logic, intention-based perspectives (Fishbein & Ajzen,

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1975; Ajzen, 1991) highlight intentions as proximal predictors of response tendencies, providing a complementary lens for the behavioral response facets.

Furthermore, feedback processing is shaped not only by message content but also by characteristics of the supervisor and the feedback delivery. Employees tend to react differently depending on perceived credibility, expertise, trustworthiness, and supportiveness of the supervisor (Bear et al., 2017; London & Zyberaj, 2025; Ryu & Hong, 2020; Westerman et al., 2018). Feedback from supervisors viewed as knowledgeable and trustworthy is more likely to be perceived as valid and actionable (Campagna et al., 2022; Kinicki et al., 2004). Similarly, feedback valence (positive vs. negative) is also consistently discussed as a cue that influences receptivity and downstream processing (Bell & Arthur, 2008; Johnson & Connelly, 2014). Although positive feedback is often more readily accepted (Bell & Arthur, 2008; Grundmann et al., 2021), negative feedback may be associated with learning and improvement under some conditions (Finkelstein & Fishbach, 2012; Gregory & Levy, 2015), underscoring the need to examine how supervisory feedback characteristics relate to distinct feedback-processing facets rather than assuming uniform responses.

Despite the importance of supervisory feedback characteristics for understanding employee feedback processing, existing reviews have largely been qualitative and have not provided a consolidated meta-analytic synthesis of the magnitude of these associations. Moreover, prior work has often examined broad feedback-source properties without systematically integrating specific supervisory characteristics with feedback processing facets. To address these gaps, the present study synthesizes the empirical literature using a systematic review and meta-analysis to (1) identify supervisory feedback characteristics examined in relation to employee feedback processing, and (2) estimate pooled associations between supervisory feedback characteristics and stage-specific feedback processing facets.

This study contributes to organizational research in three important ways. First, it provides a structured synthesis of supervisory feedback characteristics studied in relation to employee feedback processing, addressing fragmentation and inconsistency across primary studies. Second, by focusing on feedback processing facets rather than distal performance outcomes, the study aligns with staged perspectives on employee responses to feedback (Ilgen et al., 1979) and clarifies where in the processing sequence supervisory characteristics are most consistently associated with employee responses. Third, the findings offer research-informed implications for supervisory feedback practice by identifying which characteristics are most consistently linked to more constructive employee feedback processing.

Theoretical framework

To explain why supervisory feedback characteristics are associated with variation in employee feedback processing, the present review is organized primarily around the FPM (Ilgen et al., 1979). FPM conceptualizes feedback responding as a staged process and therefore provides a direct basis for structuring both the systematic review and the meta-analytic synthesis around distinct feedback processing facets. Complementary perspectives are used selectively to clarify specific facets—most notably, intention-based models (Fishbein & Ajzen, 1975; Ajzen, 1991) for the intention and response facet—and to support interpretation of patterns.

The feedback processing model and feedback intervention theory

The FPM (Ilgen et al., 1979) offers a foundational framework for understanding how employees respond to feedback about performance. It proposes that feedback responses unfold sequentially: employees first perceive and interpret feedback, evaluate it (e.g., accuracy, fairness, relevance), and then decide whether to accept it, feel motivated to respond, and form intentions or responses. Importantly, this staged logic implies that early-stage outcomes (e.g., perception and acceptance) are not equivalent to later-stage outcomes (e.g., intentions and behavioral response), and that supervisory and message characteristics may relate differently to each facet. Consistent with this view, prior research suggests that credibility of the source and clarity or specificity of the message are central cues shaping how feedback is interpreted and accepted (Campagna et al., 2022; Kinicki et al., 2004).

In addition to FPM, the feedback intervention theory (FIT; Kluger & DeNisi, 1996) is used as a complementary perspective to interpret why some feedback characteristics may be more strongly associated with certain processing facets than others. FIT (Kluger & DeNisi, 1996) emphasizes that feedback can shift recipients' attention toward the task, the self, or other targets; this attention shifts may help explain variability in motivational and intentional responses to feedback. In the present synthesis, FIT is not treated as a separate model being tested, but as interpretive background for understanding why characteristics such as feedback valence, credibility, and quality may show different patterns across feedback processing facets.

Reasoned action theory and theory of planned behavior

Intention-based perspectives—specifically, the reasoned action theory (Fishbein & Ajzen, 1975) and the theory of planned behavior (Ajzen, 1991)—provide a complementary

lens for the intention and behavioral response facet of feedback processing. These theories highlight that intentions are shaped by attitudes, perceived norms, and perceived behavioral control, and they offer a parsimonious account of why employees may accept feedback but differ in their readiness to act on it.

In feedback contexts, employees may be more likely to form intentions to respond when feedback is perceived as fair, constructive, and relevant, whereas perceptions of unfairness, threat, or ambiguity may be associated with lower receptivity and weaker intentions (Anseel & Lievens, 2009; Ilgen et al., 1979). Importantly, these frameworks are used to contextualize the intention facet rather than to make causal claims about behavior change.

Supervisory feedback characteristics and employee feedback processing

Building on these foundations, supervisory feedback characteristics are expected to be differentially associated with feedback processing facets. For example, credibility-related characteristics (e.g., trustworthiness, expertise) should be especially relevant for perception and interpretation and acceptance because they shape whether feedback is viewed as diagnostic and legitimate (Bear et al., 2017; Campagna et al., 2022; Wang et al., 2024). In addition, the message-related characteristics such as feedback quality (e.g., specificity, clarity) may also be closely linked to early-stage processing by reducing ambiguity and supporting understanding of “what to do next” (Westerman et al., 2018). Furthermore, feedback valence is often discussed as a salient cue that can shape initial receptivity and downstream motivation, although its association may differ across feedback processing facets (Bell & Arthur, 2008; Grundmann et al., 2021; Kim & Kim, 2020). Accordingly, rather than assuming a single uniform relationship, the present synthesis examines how supervisory feedback characteristics relate to stage-specific employee feedback processing outcomes.

By using FPM as the primary organizing framework and applying complementary perspectives selectively, this study provides a theoretically grounded basis for synthesizing how supervisory feedback characteristics relate to distinct facets of employee feedback processing.

Theory-to-analysis alignment

The present study uses FPM (Ilgen et al., 1979) as its primary organizing framework because it explicitly conceptualizes feedback responses as a sequence of processing stages.

Consistent with this perspective, outcomes were coded into stage-specific feedback processing facets (perception, acceptance, desire to respond, and intended response) rather than treated as a unitary construct.

In addition, FPM implies that different supervisory feedback characteristics should be proximally related to different stages via distinct mechanisms (e.g., perceived diagnosticity and trust for acceptance; affective and self-regulatory reactions for motivation and intentions). Accordingly, supervisory feedback characteristics were grouped into theoretically motivated classes via subject-matter expert categorization. Additional frameworks, such as the FIT (Kluger & DeNisi, 1996) are used only as complementary background to interpret patterns, rather than as separate models tested in the analyses.

Moreover, recent perspectives also conceptualize feedback engagement as part of a broader self-regulatory cycle (e.g., Lord et al., 2010), in which individuals allocate attention, regulate affect, compare current to desired states, and translate information into action plans. From this view, supervisory feedback characteristics (e.g., credibility, fairness, support, message quality) can be interpreted as cues that shape self-regulation at different stages of processing (e.g., whether feedback is attended to and accepted as diagnostic input, and whether it is converted into motivation and intended action). This mechanism-based lens complements the staged logic of the feedback processing model and aligns with broader work on self-regulation in organizational settings (Kilduff et al., 2026; Lord et al., 2010).

Research questions and synthesis aims

Supervisory feedback varies in content and delivery (e.g., valence, specificity, perceived credibility, and interpersonal tone), and prior research suggests that such characteristics are linked to how employees process feedback—how they interpret it, accept it, feel motivated by it, and intend to respond (e.g., Ilgen et al., 1979; Kinicki et al., 2004). However, findings are dispersed across constructs and outcomes, and quantitative conclusions about the overall magnitude of these associations—and their variability across feedback characteristics and processing stages—remain limited.

The present study therefore synthesizes the empirical literature using a systematic review and a meta-analysis. The systematic review maps how supervisory feedback characteristics have been conceptualized and measured, and the meta-analysis estimates pooled associations between feedback characteristics and stage-specific feedback processing facets. Consistent with research-synthesis aims, the study does not introduce new directional hypotheses; instead, it addresses the following research questions:

RQ1 (systematic review) Which supervisory feedback characteristics have been most frequently examined in relation to employee feedback processing?

What is the overall pooled association between supervisory feedback characteristics and employee feedback processing outcomes?

RQ2 (meta-analysis) Do pooled associations differ across (a) supervisory feedback characteristic and (b) feedback processing facets?

By integrating a systematic review with a meta-analytic approach, this study provides a structured synthesis of supervisory feedback characteristics and clarifies how these characteristics are associated with different stages of feedback processing across organizational contexts. Figure 1 depicts the overall research procedure and study variables.

Method

This study employed two complementary methodologies: a systematic review and a meta-analysis. The systematic review mapped how supervisory feedback characteristics have been conceptualized and examined in relation to employee feedback processing, and the meta-analysis estimated pooled associations across empirical studies. A

meta-analytic approach was appropriate given the absence of prior quantitative syntheses focused on supervisory feedback characteristics and feedback processing facets, as well as inconsistencies across primary findings. Meta-analysis enables more precise estimation of pooled associations and facilitates structured comparisons across supervisory feedback characteristics and feedback processing facets.

To ensure methodological rigor, the review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). Prior to the review, a protocol was developed and reviewed by two subject-matter experts (Ph.D.), who provided feedback on inclusion and exclusion criteria and the search strategy. The protocol specified the procedures for selecting, coding, and analyzing relevant studies (see supplementary material).

Literature search strategy

The literature search was conducted across four major academic databases: Web of Science, PsycINFO, EBSCOhost, and Google Scholar. To enhance coverage, manual searches were also conducted in leading journals (*Journal of Applied Psychology*, *Personnel Psychology*, *Academy of Management Journal*, *Journal of Organizational Behavior*, *Human Resource Management Journal*, and the *European Journal*

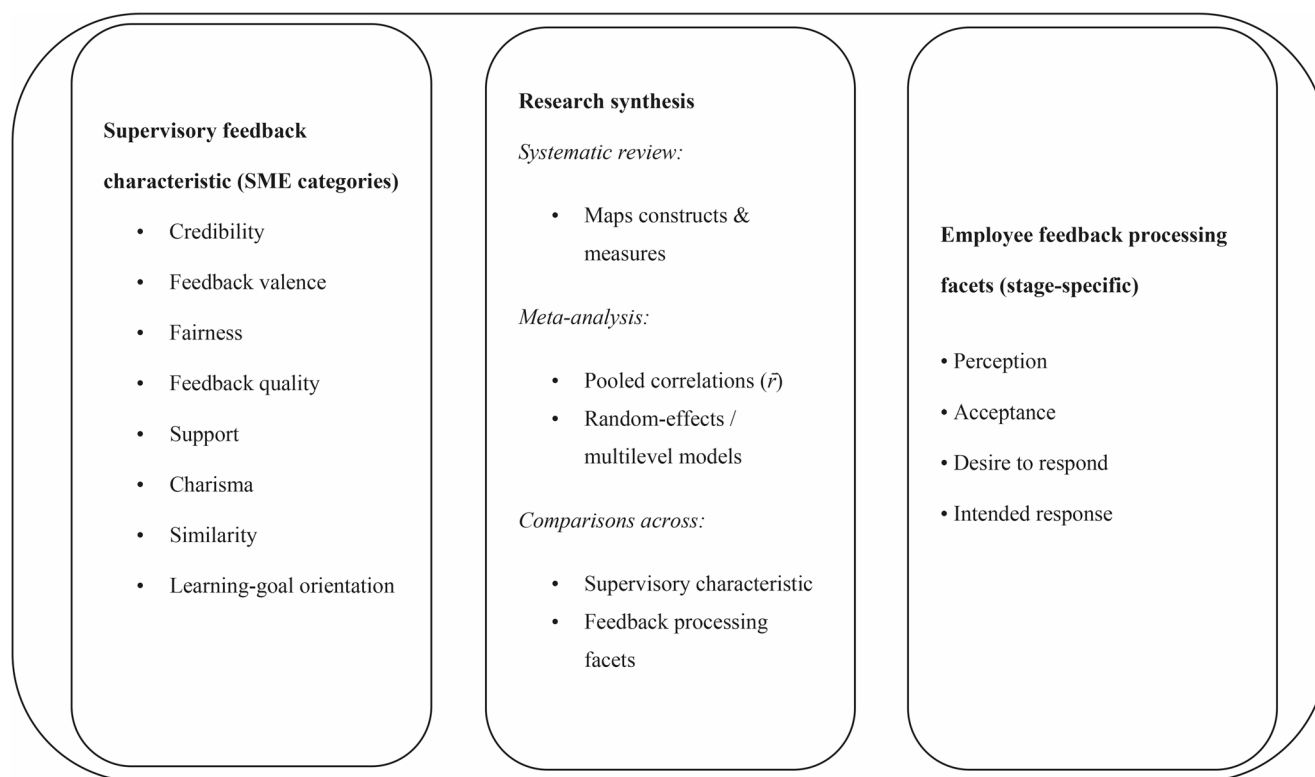


Fig. 1 Conceptual organizing model for the research synthesis

of Work and Organizational Psychology). Additional sources included professional associations (e.g., Academy of Management) and backward and forward searches using cross-references from prior reviews and meta-analyses.

The search strategy used Boolean operators and keywords aligned with supervisory feedback and feedback processing. Search terms included *supervisory feedback*, *performance feedback*, *performance appraisal*, *negative feedback*, *positive feedback*, *feedback processing*, *perceived feedback*, *acceptance of feedback*, *desire to respond to feedback*, *intended response*, *feedback provider*, *feedback source*, and *feedback valence*. Based on expert input, additional terms such as *constructive feedback*, *developmental feedback*, and *feedback acceptance* were added.

Inclusion and exclusion criteria

Eligibility criteria were structured using the PICO framework as an organizing tool (Amir-Behghadami & Janati, 2020). The population included employees or student samples with prior work experience. The focal phenomenon was supervisory and performance feedback characteristics (including positive and negative feedback). Outcomes were defined in line with the FPM (Ilgen et al., 1979) and included feedback processing facets: perception, acceptance, desire to respond to feedback, and intended response feedback.

Studies were included if they (a) were published in peer-reviewed academic journals, (b) reported empirical quantitative data with extractable statistics (e.g., correlations or statistics convertible to correlations), (c) were published after 1979, and (d) were written in English. Studies were excluded if they were conceptual papers without empirical data, qualitative studies without extractable quantitative information, grey literature (e.g., non-peer-reviewed reports), or student-only samples without prior work experience. Qualitative or mixed-methods papers were retained only when sufficient quantitative information was available to extract effect sizes (Table 1).

Screening and coding process

The initial search yielded 548 studies, with an additional 119 identified through cross-references and professional sources. After duplicate removal, 513 studies were screened for eligibility. Rayyan (Ouzzani et al., 2016) was used to manage and blind the independent screening decisions during the title/abstract and full-text screening stages reported in the PRISMA flow diagram. Screening was conducted independently by two coders trained in systematic review methodology (the author and a Ph.D. candidate in work and organizational psychology). Screening and record

management were supported using Rayyan (Ouzzani et al., 2016), including its blinding function to reduce bias during independent decisions. Interrater agreement for the screening stage was strong (Cohen's $\kappa=0.82$), and discrepancies were resolved through discussion; when needed, a third expert was consulted.

Following title and abstract screening, 457 records were excluded primarily due to irrelevance to supervisory feedback ($n=197$) or lack of extractable quantitative data on feedback processing ($n=260$). The remaining 56 full-text articles were assessed for eligibility, resulting in 24 studies (22 independent samples) included in the final systematic review and meta-analysis. The selection process is depicted in Fig. 2 (PRISMA flowchart). Included studies are marked with an asterisk in the reference list.

In the next step, both coders independently extracted data from included studies using a standardized coding sheet. Extracted information included sample characteristics, study design, supervisory feedback characteristics, feedback processing facet measures, and effect sizes. Study characteristics documented included sample size, gender composition, participant background (students with work experience, employees, or mixed), and study location (Table 2). Measures used to assess supervisory feedback characteristics and feedback processing facets were recorded to ensure alignment with construct definitions and the staged processing logic of Ilgen et al.'s FPM (1979). Studies were also coded for design features (e.g., experimental vs. correlational) and feedback valence where applicable. Table 2 summarizes coded study characteristics and key variables.

Quality appraisal

Methodological quality and risk of bias were appraised using the Mixed Methods Appraisal Tool (MMAT; Pluye & Hong, 2014; Pace et al., 2012). The MMAT includes two screening questions and five criteria addressing design appropriateness, sampling strategy, measurement quality, risk of bias, and analytic rigor. Each study was assessed independently by both coders, with strong agreement (Cohen's $\kappa=0.80$). Ratings were recorded using MMAT response options (Yes/No/Can't tell). The appraisal identified recurring limitations including potential nonresponse bias ($n=5$), sample representativeness concerns ($n=2$), and measurement appropriateness issues ($n=3$). These issues were considered when interpreting the synthesis results. Table 1 reports MMAT assessments for all included studies.

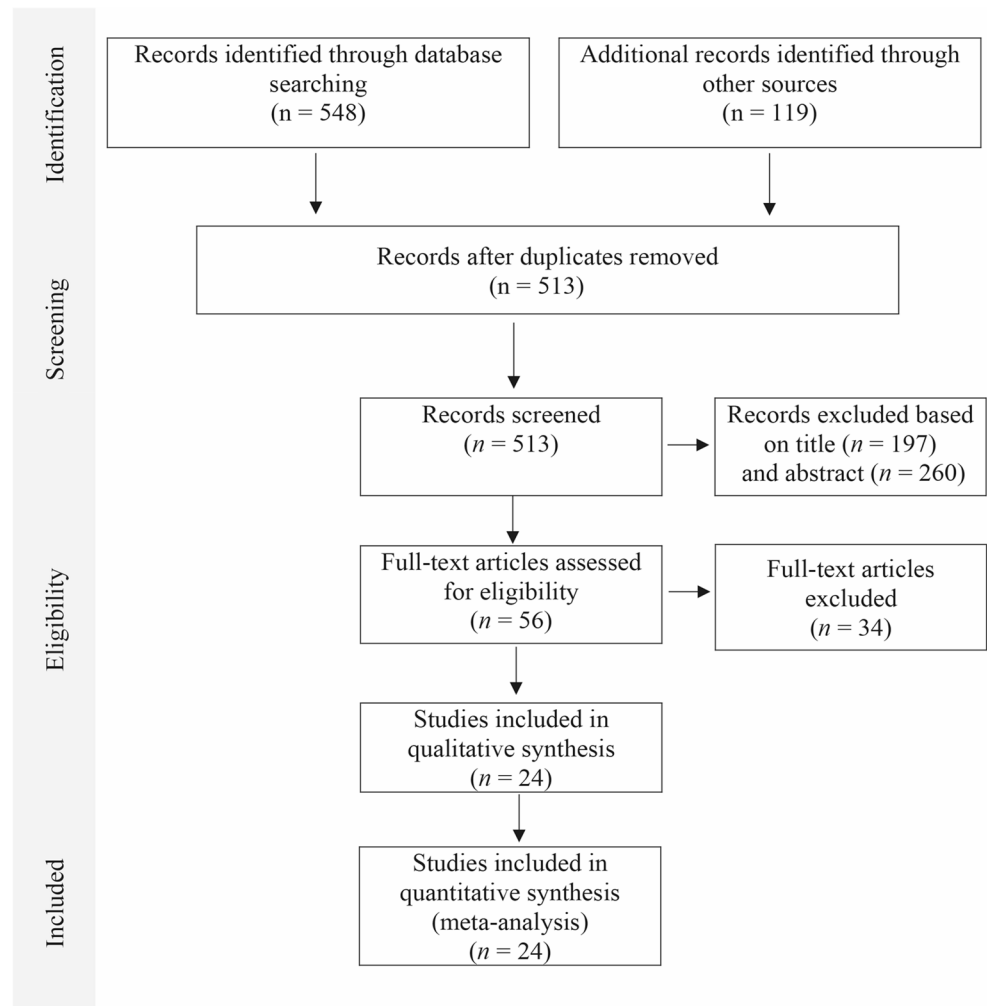
Screening and coding process

Screening and record management were conducted using Rayyan (Ouzzani et al., 2016). Two coders independently

Table 1 Assessment of risk of bias in included studies

Author(s), year	1. Screening Questions		4. Quantitative Descriptive Studies				
	S1. Are there clear research questions?	S2. Do the collected data allow to address the research questions?	4.1. Is the sampling strategy relevant to address the research question?	4.2. Is the sample representative of the target population?	4.3. Are the measurements appropriate?	4.4. Is the risk of nonresponse bias low?	2.5. Is the statistical analysis appropriate to answer the research question?
Anseel and Lievens (2009)	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes
Bell and Arthur (2008)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Christensen-Salem et al. (2018)	Yes	Yes	Yes	No	Yes	Yes	Yes
Gaddis et al. (2004)	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes
Geddes and Konrad (2003)	Yes	Yes	Yes	Can't tell	Yes	Can't tell	Yes
Harrison and Dossinger (2017)	Yes	Yes	Yes	Yes	Yes	No	Yes
Kacmar et al. (2009)	Yes	Yes	Yes	No	Yes	Yes	Yes
Kinicki et al. (2004)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leung (2001)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leung (2001)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Moon (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reinke and Baldwin (2001)	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes
Roberson and Stewart (2006)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ryu and Hong (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes
Son and Kim (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steelman and Rutkowski (2004)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stone et al. (1984)	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes
Tata (2002)	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes
Tuytens and Devos (2012)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Van De Vliert et al. (2004)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Westernam et al. (2018)	Yes	Yes	Yes	No	Yes	Yes	Yes
Wu and Leung (2000)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Young et al. (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Young et al. (2017)	Yes	Yes	Yes	Yes	wYes	Yes	Yes
Mixed methods appraisal tool (MMAT)							

Mixed methods appraisal tool (MMAT)

Fig. 2 Results of the prisma flow diagram for the study selection process

screened titles and abstracts ($N=513$) using Rayyan's blinding feature. Coders then cross-checked exclusions and resolved discrepancies through discussion (Cohen's $\kappa=0.80$); when disagreements persisted, a third expert was consulted. Next, the coders conducted full-text eligibility assessment of the remaining records, extracted relevant information, and finalized study inclusion.

Next, the coders conducted a full-text review of the remaining studies, extracted relevant information, and finalized study inclusion. Following Daniels' (2019) recommendations, key study characteristics were documented, including sample size, participants' gender, professional background (students with work experience, employees, or mixed), and study location (see Table 2). In addition, the measurement instruments used to assess supervisory feedback characteristics and the feedback processing facets were coded to ensure alignment with construct definitions. While coding was guided primarily by Ilgen et al.'s (1979) FPM, studies were also included when they used closely related theoretical frameworks and provided definitions consistent with FPM model.

Furthermore, studies were coded by research design (e.g., experimental vs. correlational) and feedback valence (e.g., positive vs. negative feedback), where applicable. Finally, correlations between supervisory feedback characteristics and feedback processing facets were extracted, and effect sizes were computed to support the meta-analytic synthesis. Table 2 presents the full coding results and summarizes study characteristics and key variables.

Results

Systematic review findings

The systematic review included 24 studies examining the relationship between supervisory feedback characteristics and employee feedback processing. As summarized in Table 2, the majority of studies were published between 2000 and 2010, reflecting the increased academic interest in feedback processes during this period. While a subset

Table 2 Overview of studies included in systematic review and meta-analysis

Author(s) (Year)	N	Men (%)	Sample Profession	Country	Correlation of SF and FP	Fishers' z ES (95% CI)	Supervisor Feedback Tool Author(s)	Supervisory Feedback Characteristics of SF	Feedback process- ing tool author(s)	Feedback Processing Measurement Tool	Outcome
Anseel and Lievens (2009)	125	36	University students	Belgium	$r = .50, p < .001$	0.55 (0.37, 0.73)	Chap- man et al. (2003)	FI Valence	Tonidan- del et al. (2002)	Experimental manipulation	FA
Bell and Arthur (2008)	141	47	Managers	USA	$r = .30, p < .001$	0.31 (0.14, 0.48)	Goldberg (1992)	FI Valence	Bell and Arthur (2008)	Self-report	FA
Chris- tensen- Salem et al. (2018)	63	81	Mixed	USA	$r = .67, p < .001$	0.81	Zhou (2003)	Supervisor developmental feedback	Bell and Arthur (2008)	Self-report	FA
Gaddis et al. (2004)	258	35	University students	USA	$r = .32, p > .05$	0.33 (0.21, 0.45)		Positive affect		Experimental manipulation	Effective- ness percep- tions (FA)
Geddes and Konrad (2003)	200	57	Mixed	USA, UK, Canada, Ireland, Australia, New Zealand, South Africa	Gender vs. PAP, $r = -.03$ $p > .05$; Gender dissimi- larity vs. PAP, $r = -.00$, $p > .05$; Race vs. PAP, $r = -.23, p < .001$; Race dissimilarity vs. PAP, $r = .12, p > .05$	0.03 (0.37, 0.73) 0.00 (0.37, 0.73) -0.23 (0.37, 0.73) 0.12 (-0.02, 0.26)	Tsui and O'Reilly (1989)	Gender Race	Ilgen et al. (1979)	Self-report	Fairness; Accuracy; Usefulness (FA)
Harrison and Dos- singer (2017)	39	69	Graphic designers	USA	$r = .17, p < .001$	0.17 (-0.15, 0.50)	Pennebaker et al. (2007)	Ambivalence	Litman (2008)	Self-report	Ambivalent feedback
Kacmar et al. (2009)	86	44	University students	USA	FI valence vs. Reaction to Supervisor, $r = .70$, $p < .001$; FI valence vs. Reaction to appraisal, r $= .68, p < .001$; FI valence vs. Feedback Intentions, r $= .62, p < .001$; IM vs. Reaction to Super- visor = 0.18, $p > .05$ IM vs. Reaction to Super- visor = 0.05, $p > .05$	0.87 0.83 0.73 (0.51, 0.94) 0.18 (-0.03, 0.40) 0.05	Kacmar et al. (2009)	FI Valence Impression management	Greller (1978) Fedor et al. (1990)	Experimental manipulation	Reactions Intentions

Table 2 (continued)

Author(s) (Year)	N	Men (%)	Sample Profession	Country	Correlation of SF and FP	Fishers' z ES (95% CI)	Supervisor	Supervisory Feedback		Feedback Processing Measurement Tool		
							Feedback Tool Author(s)	Characteristics of SF	Feedback-rich environment	Feedback process- ing tool author(s)	Self-report	Correlational or experimental
Kinicki et al. (2004)	128	20	Bank employees	USA	Specificity of feedback vs. PA, $r = .51, p < .05$; vs. FA, $r = .48, p < .05$; vs. DR, $r = .24, p < .05$; vs. IR, $r = .30, p < .05$; Frequency of feedback vs. PA, $r = .33, p < .05$; vs. FA, $r = .43, p < .05$; vs. DR, $r = .28, p < .05$; vs. IR, $r = .32, p < .05$; FI Valence vs. PA, $r = .50, p < .05$; vs. FA, $r = .26, p < .05$; vs. DR, $r = .16, p > .05$; vs. IR, $r = .16, p > .05$; Trust vs. PA, $r = .40, p < .05$; vs. FA, $r = .41, p < .05$; vs. DR, $r = .28, p < .05$; vs. IR, $r = .24, p < .05$; Credibility vs. PA, $r = .36, p < .05$; vs. FA, $r = .50, p < .05$; vs. DR, $r = .31, p < .05$; vs. IR, $r = .39, p < .05$	0.56 (0.39, 0.74) 0.52 (0.35, 0.70) 0.24 (0.07, 0.42) 0.31 (0.13, 0.48) 0.34 (0.17, 0.52) 0.46 (0.28, 0.64) 0.29 (0.11, 0.46) 0.33 (0.16, 0.51) 0.55 (0.38, 0.72) 0.27 (0.09, 0.44) 0.16 (−0.01, 0.34) 0.16 (−0.01, 0.34) 0.42 (0.25, 0.60) 0.44 (0.26, 0.61) 0.29 (0.11, 0.46) 0.24 (0.07, 0.42) 0.38 (0.20, 0.55) 0.55 (0.37, 0.72) 0.32 (0.15, 0.50) 0.41 (0.24, 0.59)	Vandaveer (1982)	Feedback-rich environment Trust Credibility	Ivancevich's (1982) Kinicki et al. (2004)	Self-report	NF, PF	Perceived accuracy; FA; Desire to respond; Intended response

Table 2 (continued)

Author(s) (Year)	N	Men (%)	Sample Profession	Country	Correlation of SF and FP	Fishers' z ES (95% CI)	Supervisor Feedback Tool Author(s)	Supervisory Feedback		Feedback Processing Measurement Tool	
								Characteristics of SF	Feedback process- ing tool author(s)	Correlational or experimental	Outcome
Leung et al. (2001)	135	77	University students	USA, Hong Kong	Just treatment vs. FA $r = .27, p < .001$ Unjust treatment vs. FA $r = -.23, p < .001$	0.28 (0.11, 0.45) 0.23 (0.09, 0.38)	Leung et al. (2001)	Just treatment	Podsakoff et al. (1990)	Experimental manipulation	FA
Leung et al. (2001)	189	52	Mixed	Hong Kong	Unjust treatment vs. FA $r = -.10, p < .001$	-0.10 (-0.24, 0.04)	Moorman (1991)	Just treatment	Leung et al. (2001)	Experimental manipulation	FA
Moon (2019)	400	56	Mixed	South Korea	Feedback specificity vs. FA, $r = .66, p < .001$; Trust in manager vs. FA, $r = .88, p < .001$	0.79 (0.69, 0.89) 1.38	Quaglieri (1982) Fulk et al. (1985)	Trust Feedback specificity	Nease et al. (1999)	Self-report	FA
Reinke and Baldwin (2001)	595	85	Army employees	USA	Trust vs. Accuracy, $r = .55, p < .001$; Trust vs. Fairness, $r = .67, p < .001$; Expertise vs. Accuracy, $r = .37, p > .05$; Expertise vs. Fairness, $r = .53, p > .05$; Similarity vs. Accuracy, $r = .00, p > .05$; Similarity vs. Fairness, $r = -.08, p > .05$	0.62 (0.54, 0.70) 0.81 (0.73, 0.89) 0.39 (0.31, 0.47) 0.59 (0.51, 0.67) 0.00 (-0.08, 0.08) -0.08 (-0.16, 0.00)	Kahn et al. (1964)	Feedback specificity Trust Expertise Similarity	Nagle (1953)	Self-report	Accuracy Fairness
Rober-son and Stewart (2006)	236	43	University students	USA	$r = .23, p < .001$	0.23 (0.11, 0.36)	Fedor et al. (1989)	Credibility	Podsakoff and Fahr (1989)	Self-report	FA
Ryu and Hong (2020)	598,003	56	Federal Employee Viewpoint Survey (FEVS)	USA	Constructive performance feedback vs. Fairness, $r = .61, p < .001$; Trust vs. Fairness, $r = .81, p < .001$;	0.71 (0.71, 1.13)	Jong (2016)	Constructive feedback Trust	Yang and Kasekert (2010) Kim and Kim (2020)	Self-report	Constructive performance Feedback
Son and Kim (2016)	243	59	Mixed	South Korea	PLGO vs. FA, $r = .12, p > .05$; Feedback quality vs. FA, $r = .23, p < .001$; Credibility vs. FA, $r = .20, p < .001$	0.12 (-0.001, 0.25) 0.23 (0.11, 0.36) 0.31 (0.18, 0.44)	Vande-Walle (1997) Steelman et al. (2004)	Learning-goal orientation Feedback quality Credibility	Allen et al. (2010)	Self-report	FA

Table 2 (continued)

Author(s) (Year)	<i>N</i>	Men (%)	Sample Profession	Country	Correlation of SF and FP	Fishers' <i>z</i> ES (95% CI)	Supervisor	Supervisory Feedback		Feedback Processing Measurement Tool		
							Feedback Tool Author(s)	Characteristics of SF	Feedback process- ing tool author(s)	Correlational or experimental	Outcome	
Steelman and Rut- kowski (2004)	405	88	Manu- facturing employees	USA	Credibility vs. Satisfac- tion, $r = .73, p < .001$; FI Quality vs. Satisfac- tion, $r = .76, p < .001$; FI Delivery vs. Satisfaction, $r = .69, p < .001$; Cred- ibility vs. Motivation, $r =$ $.36, p < .001$; FI Quality vs. Motivation, $r = .40,$ $p < .001$; FI Delivery vs. Motivation, $r = .34, p$ $< .001$	0.93 0.1 0.85 (0.75, 0.95) 0.38 (0.28, 0.47) 0.42 (0.33, 0.52) 0.35 (0.26, 0.45)	Steelman et al. (2004)	Credibility Feedback quality Consideration	Steel- man et al. (2004) Dorfman et al. (1986)	Self-report	Satisfac- tion with feedback; Motivation to use FI	
	Stone et al. (1984)	107	65	University students ⁴	USA	$r = .55, p < .001$	0.62 (0.43, 0.81)		Expertise		Experimental manipulation	NF, PF
Tata (2002)	151	59	Techni- cians and clerics	USA	Perceived adequacy of account vs. Intended response, $r = .16, p < .05$; Perceived sincerity of account vs. Intended response, $r = .12, p > .05$; Perceived interpersonal fairness vs. Intended response, $r = .19, p < .05$	0.16 (0.00, 0.32) 0.12 (-0.04, 0.28) 0.19 (0.03, 0.35)	Bies and Shapiro (1987) Bies et al. (1988)	Adequacy of account Sincerity of account Fairness Credibility	Moorman (1991) Konovsky and Cropan- zano (1991)	Self-report	NF	Intended Response
Tuytens and Devos (2012)	299	29	Second- ary school teachers	Belgium	Charismatic leadership vs. FA, $r = .63, p < .001$ Charismatic leadership vs. Feedback utility, $r = .68, p$ $< .001$; Procedural justice vs. FA, $r = .51, p < .001$; Procedural justice vs. Feedback utility, $r = .48,$ $p < .001$	0.74 (0.63, 0.86) 0.83 (0.72, 0.94) 0.56 (0.45, 0.68) 0.52 (0.41, 0.64)	Bycio et al. (1995)	Charisma Procedural justice	Heneman and Mila- nowski (2003)	Self-report		FA Feedback utility

Table 2 (continued)

Author(s) (Year)	N	Men (%)	Sample Profession	Country	Correlation of SF and FP	Fishers' z ES (95% CI)	Supervisor Feedback Tool Author(s)	Supervisory Feedback Characteristics of SF	Feedback process- ing tool authors(s)	Feedback Processing Measurement Tool	Outcome
Van De Vliert et al. (2004)	433	59	University students	China Netherlands	Quality of feedback vs. Constructive intentions, $r = .14, p > .05$; Quality of feedback vs. Destructive intentions, $r = .17, p > .05$; Collectivist orientation vs. Constructive intentions, $r = .11, p > .05$; Collectivist orientation vs. Destructive intentions, $r = .15, p > .05$	0.14 (0.05, 0.24) 0.17 (0.08, 0.27) 0.11 (0.02, 0.20) 0.15 (0.06, 0.25)	Singelis (1994)	Perceived qual- ity of feedback Supervisors' collectivist orientation	London, (1997) Schein, (1988)	Self-report Correlational or experimental	Intention Various
Wester- nam et al. (2018)	447	40.9	Mixed	USA	Expertise vs. DR, $r = .32, p < .001$; Trustwor- thiness vs. DR, $r = .30, p < .001$; Goodwill vs. DR, $r = .40, p < .001$; 0.52)	0.33 (0.24, 0.42) 0.31 (0.22, 0.40) 0.42 (0.33, 0.52)	McCroskey and Teven (1999)	Credibility	Wester- man et al. (2018)	Experimental manipulation	NF, PF DR (i.e., Impression)
Wu and Leung (2000)	248	44	Manu- facturing employees	China	Supervisor dominance vs. FA, $r = -.29, p < .001$ Subordinate nurturance vs. FA, $r = .39, p < .001$	-0.30 (-0.42, -0.17) 0.41 (0.29, 0.54)	Wu and Leung (1996)	Perceived supervisory intentions	Podsakoff et al. (1990) Wu and Leung (2000)	Self-report	NF Intention; FA
Young et al. (2017)	177	51	Mixed	USA	Empathic concerns vs. Perceived effectiveness, $r = .29, p < .05$	0.30 (0.15, 0.45)	Richard et al. (2016)	Empathy	Watson et al. (1988)	Self-report	NF Perceived effectiveness
Young et al. (2017)	306	29	Manage- ment employees	USA	Empathic concerns vs. Perceived effectiveness, $r = .59, p < .001$	0.68 (0.57, 0.79)	Gentry et al. (2015) Sadri et al. (2011)	Empathy	Steel- man et al. (2004)	Self-report	NF Feedback quality

Note. SF = Supervisory feedback, FP = Feedback Processing, FI = Feedback, NF = Negative Feedback, SDF = Supervisor developmental feedback, IM = Impression Management, FA = Feedback Acceptance, DR = Desire to respond, PAP = Performance Appraisal, PA = Perceived Accuracy, IR = Intended Response, PLGO = Perceived feedback sources' learning-goal orientation

of studies employed experimental manipulation designs ($n=7$), the majority relied on self-reported questionnaires ($n=15$).

Sample description

The sample size varied considerably across studies, with a mean of 250 participants ($Mdn=218$). The smallest sample consisted of 39 participants (Harrison & Dossinger, 2017), while the largest study analyzed 598,003 participants (Ryu & Hong, 2020). In terms of participant background, most studies included mixed-profession samples ($n=7$), followed by studies conducted with university students ($n=6$). Notably, student samples were more prevalent in studies utilizing experimental manipulation designs ($n=5$).

Regarding gender distribution, over 50% of the studies ($n=14$) had a predominantly male sample. Additionally, geographic representation was heavily skewed toward the United States ($n=17$), with limited studies conducted in other cultural and organizational contexts. These findings suggest potential sampling biases in the existing literature, suggesting a need for future research to explore more diverse international settings.

Supervisory feedback characteristics

Across the included studies, supervisory feedback characteristics were operationalized using a wide range of measures, with credibility ($n=12$) emerging as the most frequently assessed characteristic. Measurement approaches varied substantially, ranging from brief four-item scales (e.g., Christensen-Salem et al., 2018) to more extensive instruments with up to 50 items (e.g., Wu & Leung, 2000).

A notable pattern in the literature was the use of feedback valence (i.e., positive vs. negative feedback) as an indicator of perceived supervisory qualities. In these studies, supervisors were evaluated based on how employees perceived the tone of their feedback, with positive feedback often described as more supportive and negative feedback more likely to be experienced as critical or less constructive, depending on the context and measurement approach.

Overall, the systematic review indicates that studies commonly examine supervisory characteristics (e.g. credibility) and feedback characteristics (e.g., feedback valence, feedback quality) in relation to employees' feedback processing outcomes. For example, several studies report that supervisors perceived as more credible and those delivering more positively framed feedback tend to be associated with higher levels of feedback acceptance (e.g., Anseel & Lievens, 2009; Bell & Arthur, 2008). Table 3 provides an overview of the frequencies of supervisory feedback characteristics examined across the included studies.

Supervisory feedback characteristics: Subject-matter expert categorization

The systematic review identified 26 distinct supervisory feedback characteristics. Because several labels overlapped conceptually across studies, a two-step categorization procedure was used to consolidate characteristics into higher-order classes. First, characteristics were provisionally grouped based on theoretical definitions and operationalizations reported in the included studies. Second, five subject-matter experts (SMEs) reviewed and refined the provisional grouping.

SMEs independently assigned the 26 characteristics to higher-order categories. The resulting classifications largely aligned with the provisional grouping. Discrepancies emerged primarily for charisma and learning-goal orientation. Charisma was consistently treated as conceptually distinct, whereas learning-goal orientation was classified variably across raters. To preserve conceptual clarity and avoid forcing non-equivalent constructs into broader categories, learning-goal orientation was retained as a distinct category. The final categorization is presented in Table 3, and categories are ordered by their frequency of occurrence in the reviewed studies. This categorization addresses RQ1 by identifying the supervisory feedback characteristics most frequently examined in relation to employee feedback processing.

Categorization of supervisory feedback characteristics

The first and most frequently reported category was credibility, encompassing attributes such as credibility, trust, expertise, and sincerity of account. According to the FPM (Ilgen et al., 1979), the credibility of a feedback source is shaped by the supervisor's expertise in the task domain and the recipient's trust in the supervisor's intentions. When supervisors are perceived as competent and well-intentioned, employees are generally more likely to respond constructively to feedback, particularly at early processing stages such as attention to, interpretation of, and acceptance of the message. Supporting this view, Tata (2002) found that supervisors who provided justifications and concessions in their feedback helped reduce recipient anger and strengthened fairness-related perceptions, which in turn was associated with greater feedback acceptance and motivation to respond.

The second category was feedback valence, encompassing positive and negative feedback. Prior research suggests that feedback valence can serve as a heuristic cue through which employees evaluate the supervisor and the message. For instance, Kacmar et al. (2009) reported that recipients

Table 3 Predictors, their frequencies, and subject-matter expert categorization

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

*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). Number of effect sizes shows the number of times each variable (i.e., predictor) was used in relation to the outcome (i.e., specific feedback processing variable). **I merged results from the predictors through categorization (numbering was done according to the level of frequency). ***Collectivist vs. individualist orientation, FI=Feedback, SME=Subject-matter expert

attributed more positive intentions to supervisors who provided positive feedback than to those delivering negative feedback. In practice, employees often experience positive feedback as supportive and affirming, whereas negative feedback can be perceived as threatening or discouraging, potentially leading to divergent reactions across feedback processing facets (e.g., acceptance versus subsequent intentions to respond).

The third category was fairness, incorporating dimensions such as just treatment, procedural justice, impression management, and perceived supervisory intentions. Perceptions of fairness in feedback provision are consistently highlighted as central to how employees interpret and respond to supervisory input. For example, Leung et al. (2001) and Tuytens and Devos (2012) demonstrated that procedural justice in feedback contexts shapes recipients' attributions toward authority figures, which can influence willingness to accept feedback and act upon it. Similarly, Steelman et

al. (2004) showed that supervisors' feedback manner (e.g., being considerate) was associated with employees' motivational reactions to feedback.

The fourth category was feedback quality, covering constructs such as specificity, constructive feedback, and a feedback-rich environment. Across the literature, high-quality feedback is typically characterized as concrete, developmental, and goal-directed. Kinicki et al. (2004) argued that frequent and specific feedback contributes to a feedback-rich environment and is associated with greater engagement and learning-relevant responses. Likewise, Ryu and Hong (2020) emphasized that objective and unambiguous feedback is linked to higher feedback acceptance and subsequent adjustment-related responses.

The fifth category was support, which included empathy, affect, and goodwill. Research suggests that relational and emotional cues accompanying feedback shape how employees experience and process supervisory input. Young et al.

(2017), for example, argued that supervisors who express empathic concern can help buffer negative emotional reactions to feedback, thereby increasing receptivity. Overall, this stream of work underscores the relevance of supportive supervisor behavior for feedback processing, consistent with models emphasizing the social and emotional context of performance feedback.

The sixth category was similarity, referring to demographic and perceptual similarity between supervisors and employees. Research on social categorization and similarity-attraction processes suggests that employees may respond more favorably to feedback from supervisors who share salient demographic characteristics (e.g., race and gender) or who are perceived as similar, which may shape receptivity and acceptance processes.

The seventh category was learning-goal orientation, reflecting supervisors' focus on development and improvement. Drawing from signaling theory (Spence, 1978), Son and Kim (2016) posited that supervisors with a strong learning-goal orientation may foster a growth-focused feedback environment, encouraging employees to view feedback as an opportunity for development and skill enhancement.

The eighth and final category was charisma, referring to leaders' ability to inspire and influence employees. Charismatic supervisors may draw on vision, enthusiasm, and motivational communication to shape how employees receive and interpret feedback (Tuytens & Devos, 2012). Employees may be more inclined to internalize and respond to feedback when it is delivered by a supervisor perceived as engaging and transformative.

Overall, these SME-validated categorizations provide a structured synthesis of supervisory feedback characteristics examined in the literature and support the systematic review's aim of clarifying which characteristics have been studied most frequently and how they relate to employee feedback processing. Table 3 summarizes the final categorization of supervisory feedback characteristics as reviewed and refined by the SMEs.

Feedback processing

Although feedback acceptance was the most frequently studied dimension of feedback processing ($n=12$), few studies examined it in close alignment with Ilgen et al.'s (1979 FPM. According to Ilgen et al. (1979), understanding employees' reactions to feedback requires considering not only acceptance of feedback but also subsequent desire and intentions to respond. These later-stage components represent motivational and intentional facets of feedback processing and help distinguish between initial agreement with feedback and subsequent readiness to act on it (Ilgen et al., 1979; Kinicki et al., 2004; Zyberaj & Volmer, 2021).

Ilgen et al. (1979) further noted that employees may accept feedback cognitively yet still show limited behavioral responding, stating the value of examining intended responses alongside acceptance. More recent research is consistent with this view, suggesting that intentions are often associated with subsequent feedback-related responses. For instance, Kinicki et al. (2004) identified feedback acceptance as a mediator between the feedback environment (e.g., feedback specificity) and employees' intentions to act upon feedback. Overall, these findings support a more holistic conceptualization of feedback processing in which cognitive (acceptance) and motivational and intentional components (desire and intentions) are considered jointly when synthesizing research on supervisory feedback.

Statistical analyses

Meta-analytic approach

Effect sizes (ES) and confidence intervals (CI) were calculated and are visualized in Fig. 3. Analyses were conducted in *R* (RStudio) using *metafor* (Viechtbauer, 2010). The analytic workflow followed four steps. First, bivariate associations between supervisory feedback characteristics and feedback processing facets were extracted from each study. When correlations were not reported, available statistics (e.g., t , F) were converted to correlation coefficients (r) using established conversion routines (e.g., *compute.es*; Del Re, 2013). All effects were oriented so that higher values reflected more positive supervisory feedback characteristics (as operationalized in the original study) and more positive feedback processing facets (e.g., greater acceptance or stronger desire and intention to respond).

Second, effect sizes were prepared for synthesis by computing sampling variances using *escalc* in *metafor*. For comparability, effect sizes were analyzed as correlations (r) and pooled under random effects using REML estimation.

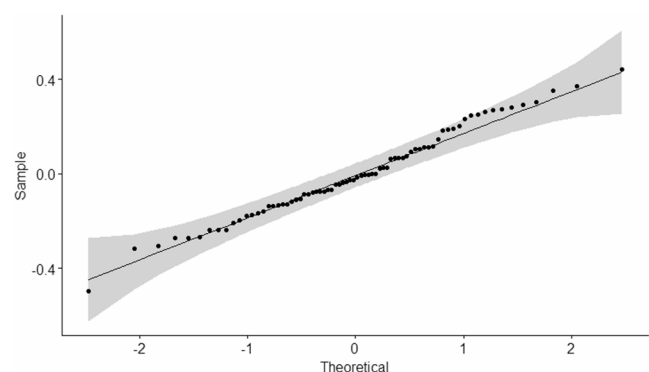


Fig. 3 Test of normality of the included studies ($n=24$)

Third, because several studies contributed multiple effect sizes from the same sample (e.g., multiple characteristics and multiple feedback processing facets), dependence among effects was modeled using multilevel or multivariate random-effects models (Van den Noortgate et al., 2014). Specifically, pooled estimates were obtained with *rma.mv*, treating effect sizes as nested within studies and samples and estimating random effects to account for within-study clustering and between-study heterogeneity.

Fourth, consistent with FPM (Ilgen et al., 1979), outcomes were coded and synthesized as stage-specific facets (perception, acceptance, desire to respond, and intended response). Accordingly, pooled associations are reported separately for each supervisory feedback characteristic and each feedback processing facet (Table 4).

Relationship between supervisory feedback characteristics and employee feedback processing facets

To preserve construct validity, meta-analytic estimates were computed and reported separately for each feedback processing facet (perceived feedback, acceptance of feedback, desire to respond, and intended response), rather than averaging across sequential stages. Table 4 summarizes the pooled correlations for each supervisory feedback characteristic–facet combination.

Across feedback processing facets, credibility showed consistently positive pooled associations, with the largest estimates for perceived feedback ($\bar{r} = 0.56$, 95% *CI* [0.45, 0.68]) and acceptance of feedback ($\bar{r} = 0.48$, 95% *CI* [0.19, 0.98]), and smaller but still positive associations for desire

Table 4 Meta-analytic associations between supervisory feedback characteristics and feedback processing facets

Supervisory Feedback Characteristic	<i>k</i>	<i>N</i>	$\bar{r}$	95% <i>CI</i>		Feedback Processing
				<i>lb</i>	<i>ub</i>	
Credibility	8	588,120	0.56***	0.45	0.68	Perceived feedback
	6	1,242	0.48***	0.19	0.98	Acceptance of feedback
	5	1,555	0.32***	0.28	0.37	Desire to respond to feedback
	3	407	0.25*	0.10	0.41	Intended response
Feedback valence	1	128	0.50***	0.16	0.84	Perceived feedback
	5	566	0.49***	0.29	0.70	Acceptance of feedback
	1	128	0.16*	−0.01	0.33	Desire to respond to feedback
	2	214	0.41***	0.22	0.60	Intended response
Fairness	0	–	–	–	–	Perceived feedback
	6	1,308	0.17*	−0.02	0.36	Acceptance of feedback
	1	299	0.48***	0.39	0.57	Desire to respond to feedback
	3	388	0.18**	0.02	0.34	Intended response
Feedback quality	5	588,120	0.59***	0.45	0.74	Perceived feedback
	6	1,001	0.45***	0.26	0.65	Acceptance of feedback
	4	1,066	0.35***	0.30	0.40	Desire to respond to feedback
	4	1,122	0.22***	0.10	0.35	Intended response
Support	2	483	0.45***	0.22	0.48	Perceived feedback
	1	258	0.32*	−0.13	0.77	Acceptance of feedback
	1	447	0.40***	0.32	0.48	Desire to respond to feedback
	0	–	–	–	–	Intended response
Similarity	2	1,190	−0.04*	−0.27	0.19	Perceived feedback
	4	800	−0.04*	−0.27	0.19	Acceptance of feedback
	0	–	–	–	–	Desire to respond to feedback
	2	866	0.13*	−0.04	0.30	Intended response
Charisma	0	–	–	–	–	Perceived feedback
	1	299	0.63**	0.19	0.99	Acceptance of feedback
	1	299	0.68***	0.62	0.74	Desire to respond to feedback
	–	–	–	–	–	Intended response
Learning-goal orientation	–	–	–	–	–	Perceived feedback
	1	243	0.12*	−0.34	0.58	Acceptance of feedback
	–	–	–	–	–	Desire to respond to feedback
	–	–	–	–	–	Intended response

k=number of effect sizes; *N*=cumulative sample size across contributing effects for the given row; $\bar{r}$

= pooled correlation estimate (random-effects). Cells marked “–” indicate no available effect sizes for that characteristic–facet combination (*k*=0) ****p* < .001, ***p* < .01, **p* < 0.05.

to respond ($\bar{r} = 0.32$, 95% *CI* [0.28, 0.37]) and intended response ($\bar{r} = 0.25$, 95% *CI* [0.10, 0.41]). Feedback valence also demonstrated positive pooled associations for perceived feedback ($\bar{r} = 0.50$, 95% *CI* [0.16, 0.84]) and acceptance ($\bar{r} = 0.49$, 95% *CI* [0.29, 0.70]), whereas estimates for desire to respond were smaller and included zero ($\bar{r} = 0.16$, 95% *CI* [-0.01, 0.33]); the association with intended response was positive ($\bar{r} = 0.41$, 95% *CI* [0.22, 0.60]). Feedback quality was positively associated with all four facets, including comparatively larger estimates for perceived feedback ($\bar{r} = 0.59$, 95% *CI* [0.45, 0.74]) and acceptance ($\bar{r} = 0.45$, 95% *CI* [0.26, 0.65]), and smaller but positive associations for desire to respond ($\bar{r} = 0.35$, 95% *CI* [0.30, 0.40]) and intended response ($\bar{r} = 0.22$, 95% *CI* [0.10, 0.35]). Support showed positive pooled associations with perceived feedback ($\bar{r} = 0.45$, 95% *CI* [0.22, 0.48]), acceptance ($\bar{r} = 0.32$, 95% *CI* [-0.13, 0.77]), and desire to respond ($\bar{r} = 0.40$, 95% *CI* [0.32, 0.48]); no effect sizes were available for intended response.

For fairness, pooled associations were available for acceptance ($\bar{r} = 0.17$, 95% *CI* [-0.02, 0.36]) and desire to respond ($\bar{r} = 0.48$, 95% *CI* [0.39, 0.57]), whereas no effect sizes were available for perceived feedback or intended response. Similarity yielded pooled estimates near zero ($\bar{r} = -0.04$) with confidence intervals that included zero. Charisma was available for acceptance of feedback ($\bar{r} = 0.63$, 95% *CI* [0.19, 0.99]) and desire to respond ($\bar{r} = 0.68$, 95% *CI* [0.62, 0.74]); no effect sizes were available for perceived feedback or intended response. Finally, learning goal orientation was available only for acceptance and yielded an imprecise estimate ($\bar{r} = 0.12$, 95% *CI* [-0.34, 0.58]).

Overall, these facet-specific results align with feedback processing perspectives in suggesting that source- and message-related characteristics (e.g., credibility and message quality) are most consistently associated with early-stage processing (perception and acceptance), while associations with later-stage outcomes (e.g., intended response) are more variably estimated and, for some characteristics, based on limited research (see Table 4).

In addition to reporting pooled estimates, the facet-specific results reveal several consistent patterns. First, credibility and feedback quality show positive associations across multiple feedback processing facets, with comparatively larger estimates for earlier-stage facets (perception and acceptance) and smaller—but still positive—associations for later-stage facets (desire to respond and intended response). This pattern is consistent with the staged logic of feedback processing, in which employees' initial interpretation and acceptance of feedback are prerequisites for subsequent motivation and intended response.

Second, feedback valence is positively associated with several facets, but the magnitude of the association varies across stages, suggesting that valence may be more closely aligned with how feedback is interpreted and accepted than with downstream intentions in the available research.

Third, characteristics such as fairness and support show positive pooled estimates where data are available, but the research base is uneven across facets, limiting cross-stage conclusions for some predictors. Finally, for similarity, pooled estimates are near zero with confidence intervals that include zero, indicating little research of a systematic association in the current literature. For charisma, research is available for acceptance and desire to respond ($k=1$ each), but conclusions should be interpreted cautiously given the small research base.

These patterns reveal that supervisory feedback characteristics are not uniformly related to all stages of feedback processing; rather, associations appear to vary by both the type of characteristic and the specific processing facet examined.

In the final step, findings were visualized with a forest plot (Fig. 3), which showed effect sizes consistently favoring positive correlations. The plot illustrates that most effect sizes are concentrated on the right-hand side, indicating a moderate and relatively consistent positive correlation between supervisory feedback characteristics and employee feedback processing.

Evaluation of publication bias

Potential publication bias and small-study effects were assessed using several complementary approaches. First, study quality and risk-of-bias concerns were appraised using the MMAT, which identified nine studies with potential limitations (Table 1). Because the robustness of the meta-analytic findings may be influenced by study quality, additional distributional and sensitivity checks were conducted.

First, a quantile–quantile (Q–Q) plot was examined using the *qqnorm* plotting functionality in *metafor* to evaluate whether the distribution of effect sizes deviated markedly from normality. The Q–Q plot suggested that the distribution of effect sizes across the included studies was approximately normal, with limited dispersion (Fig. 4).

Second, potential publication bias was examined visually using a funnel plot (Fig. 5). Although some dispersion was observed, the overall pattern did not suggest pronounced asymmetry, indicating that publication bias is unlikely to be a major concern in the present dataset.

Third, heterogeneity was quantified using the *Q* statistic and *I*², indicating substantial between-study variability ($Q=58.54$, $I^2 = 95\%$, $p < .001$), which is common in

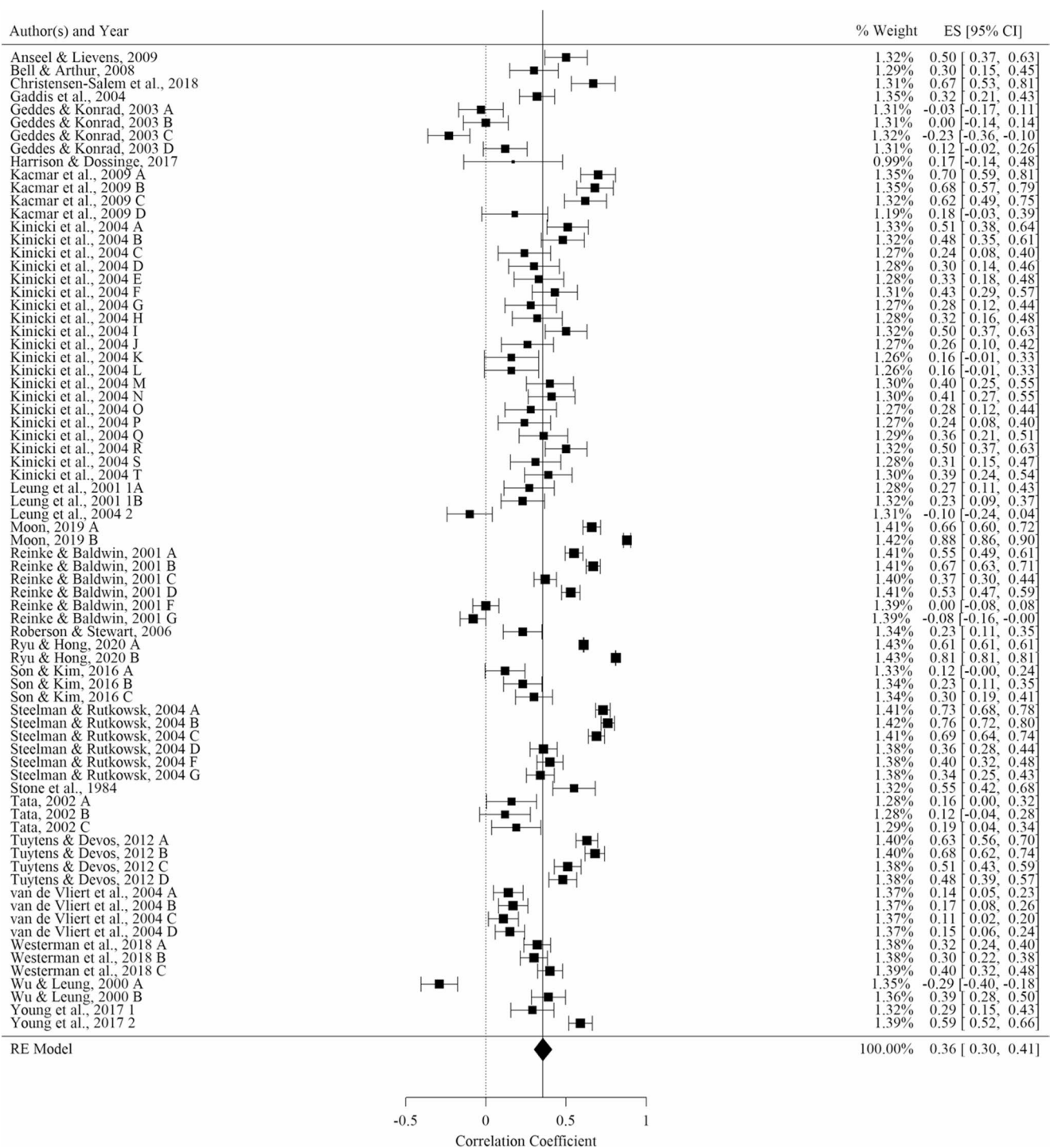
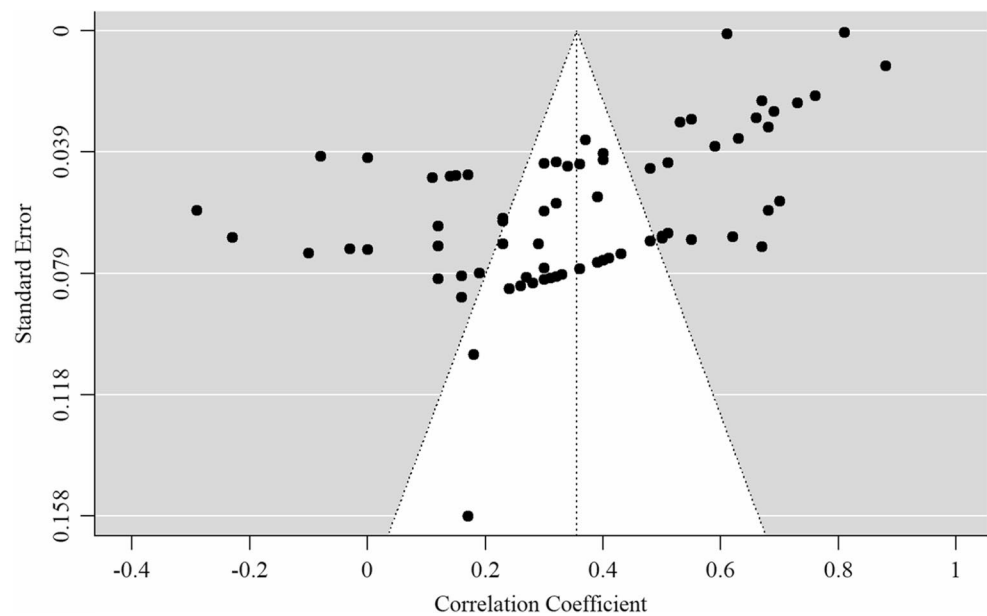


Fig. 4 Forest plot of extracted correlations and 95% confidence intervals (random-effects model)

meta-analyses that synthesize studies with diverse methodologies, samples, and operationalizations.

Fourth, additional analyses examined whether heterogeneity differed across predictor and outcome operationalizations. Heterogeneity remained largely unchanged, with only a slight reduction when accounting for predictor measures ($\Delta P = 4\%$).

Finally, to evaluate the influence of a single large-sample study (Ryu & Hong, 2020), a leave-one-out sensitivity check was conducted excluding this study. The overall pooled association remained substantively unchanged ($\bar{r} = 0.36$, 95% CI [0.30, 0.41], $p < .001$), supporting the robustness of the findings.

Fig. 5 Funnel plot of publication

Discussion

This study systematically reviewed and meta-analyzed associations between supervisory feedback characteristics and employee feedback processing facets, conceptualized as core organizational processes. Grounded primarily in the FPM (Ilgen et al., 1979) and supplemented by FIT as interpretive background (Kluger & DeNisi, 1996), the findings indicate that supervisory-related attributes such as credibility, feedback valence, and feedback quality are positively associated with how employees perceive and react to feedback. Pooled associations were generally positive but varied in magnitude across feedback characteristics and feedback processing facets, revealing the relevance of supervisory feedback characteristics for understanding employee feedback processing. Because most included studies are correlational and rely heavily on self-report measures, the pooled estimates should not be interpreted causally.

Interpreted through a self-regulation lens, the facet-specific pattern of results is consistent with the idea that supervisor and message cues may facilitate (or constrain) employees' attention allocation, affect regulation, and action planning during feedback processing (Lord et al., 2010). Moreover, in many organizations performance management increasingly incorporates more continuous feedback practices rather than relying solely on episodic appraisal events. Research on continuous performance management behaviors suggests that ongoing feedback and related daily practices can be linked to employees' job attitudes and performance, indicating that feedback context may matter for sustained engagement with feedback over time (Zhang & Qian, 2025).

Theoretical contribution

This study contributes to feedback theory in several ways. First, consistent with FPM (Ilgen et al., 1979), the results highlight that feedback responding is linked not only to message features but also to source-related characteristics. Credibility- and quality-related characteristics showed comparatively consistent positive associations across multiple feedback processing facets, particularly at earlier stages (perception and acceptance). This pattern is aligned with FPM's emphasis on the diagnostic value and legitimacy of the feedback source and message in shaping receptivity.

Second, while FIT emphasizes attentional processes, the present synthesis suggests that relational and socio-emotional cues (e.g., perceived support and trust) are also meaningfully associated with feedback processing, complementing task-focused accounts. Rather than implying superiority of one feedback channel over another (e.g., supervisory vs. system-generated), these findings indicate that interpersonal characteristics may be relevant for employee receptivity and motivation in feedback contexts. At the same time, several characteristics (e.g., similarity and learning goal orientation) yielded imprecise estimates or research that was limited to a small number of effects, highlighting gaps in the current research base.

Third, the study provides a structured categorization of supervisory feedback characteristics by synthesizing 26 constructs into eight higher-order categories validated by subject-matter experts. This taxonomy helps reduce construct fragmentation and offers a clearer framework for accumulating research on how supervisory feedback characteristics relate to distinct feedback processing facets.

Practical implications

These findings yield significant recommendations for individuals and organizations implementing organizational interventions. Given the substantial meta-analytic results, supervisory feedback is a critical organizational tool that can shape employee development and organizational outcomes. Thus, organizations should assess factors that may negatively impact supervisory feedback interventions rather than disregarding them altogether. The results highlight the importance of supervisory feedback for feedback processing, reinforcing the need for organizational strategies that enhance acceptance and desire to respond to feedback (London et al., 2023). Instead of merely encouraging employees to accept feedback, organizations should integrate findings into organizational practices (e.g., training and development) and focus on improving supervisory feedback characteristics that facilitate employee engagement.

Supervisory credibility emerged as one of the most significant predictors of employee feedback processing. Organizations can enhance credibility by ensuring that supervisors possess job-relevant expertise, deliver clear and specific feedback, and cultivate trust-based relationships with employees (Kinicki et al., 2004; Westerman et al., 2018). Trust in leadership is directly linked to higher feedback acceptance and motivation to act upon feedback (Gillespie & Mann, 2004). Therefore, organizational interventions should prioritize credibility-building initiatives by developing supervisors' technical competence, ethical leadership, and feedback communication skills.

Meta-analytic results also revealed that charisma strongly correlates with feedback processing facets. Prior research suggests that charisma can be taught and developed through leadership training (Antonakis et al., 2011), highlighting its role in enhancing employee engagement. Organizations should aim to integrate charismatic leadership development programs, particularly in feedback training initiatives. Supervisors who inspire confidence, use engaging communication, and build rapport with employees are more likely to foster positive feedback interactions (Wang et al., 2016). While leadership development should start at the managerial level, organizations should also empower employees by fostering a culture of trust and open communication to enhance feedback receptivity.

Moreover, this study found that feedback quality (i.e., specificity, constructiveness) serves as a key indicator of supervisor credibility and feedback effectiveness. Organizations should increase the quality of supervisory feedback by implementing structured organizational interventions. Ensuring that feedback is timely, specific, and constructive can enhance understanding and ease feedback processing (Steelman et al., 2004). Organizations can further improve

feedback interactions by adopting future-focused feedback strategies rather than focusing solely on past performance evaluations (Gnepp et al., 2020; London et al., 2023). Providing clear, goal-oriented feedback ensures that employees are more likely to engage in meaningful development and performance improvements.

Feedback valence was also shown to play a crucial role in feedback effectiveness. Since feedback often elicits emotional reactions, leaders should carefully balance positive and negative feedback to avoid defensive responses (Johnson & Connelly, 2014). Research suggests that starting feedback conversations with positive elements can help reduce resistance to negative feedback (Prochazka et al., 2020). Additionally, structured feedback delivery—such as framing constructive criticism as an opportunity for growth—can improve feedback acceptance (Von Bergen et al., 2014). Supervisors should also consider individual employee characteristics and organizational context when delivering feedback (Gregory & Levy, 2015; Kinicki et al., 2004).

Finally, supervisors should exhibit fairness, empathy, and transformational leadership qualities when providing feedback. Transformational leaders—who actively listen, demonstrate concern, and provide developmental support—are more effective in eliciting positive feedback responses (Wang et al., 2016). Supervisors who foster an inclusive, trust-based feedback culture can significantly reduce adverse reactions to critical feedback. Training programs that develop emotional intelligence, active listening, and coaching skills can further equip leaders to deliver feedback in ways that promote employee growth and engagement (Kluger et al., 2023; London et al., 2023; Zyberaj, 2025).

Recommendation for organizational-focused research on supervisory feedback

Several directions may strengthen the research base on supervisory feedback characteristics and feedback processing. First, cross-cultural comparative studies could examine how cultural dimensions (e.g., power distance, individualism–collectivism) are associated with feedback processing facets, because cultural norms may shape how employees interpret and evaluate feedback.

Second, research in multinational organizations could investigate how feedback practices operate in culturally diverse teams and how expectations about feedback vary across contexts. Third, future work should examine language and communication style (e.g., direct vs. indirect feedback; verbal and non-verbal cues) as potential influences on feedback perception and acceptance, particularly in multilingual workplaces.

Fourth, as technology reshapes feedback practices, studies could compare digital feedback tools (e.g., real-time

performance systems, virtual coaching platforms) with face-to-face supervisory feedback in relation to feedback processing facets.

Finally, future research could evaluate supervisor training approaches (e.g., active listening, coaching, emotional intelligence) using stronger designs and consistent measurement of feedback processing facets.

Limitations

Several limitations should be acknowledged. First, the inclusion criteria focused on peer-reviewed studies, which may exclude relevant grey literature and unpublished work. Broadening research sources in future syntheses could strengthen robustness and reduce the risk of dissemination bias.

Second, most included studies were correlational and relied heavily on self-report measures; therefore, causal inference is limited and common-method variance may inflate observed associations. Future research using longitudinal, multi-source, and experimental designs would strengthen confidence in the directionality and mechanisms underlying these relationships.

Third, heterogeneity across studies was substantial, reflecting variation in operationalizations, contexts, and study designs. Although random-effects and multilevel models were used to account for between-study variability and effect-size dependence, the available research base limits fine-grained conclusions for some characteristics and facets. Future primary studies should report results in ways that facilitate cumulative synthesis (e.g., clearer operational definitions and consistent reporting of feedback processing facets).

Finally, the current research base does not consistently report contextual variables (e.g., feedback frequency, delivery channel, organizational climate) in a way that supports robust meta-regression. Future research should improve reporting of such contextual variables to enable more systematic tests of when and for whom supervisory feedback characteristics are most strongly associated with feedback processing facets.

Conclusion

This study synthesizes research showing that supervisory feedback characteristics are generally positively associated with how employees process and respond to feedback, with variability across characteristics and feedback processing facets. Credibility- and quality-related characteristics showed comparatively consistent positive associations across multiple facets, whereas research for some characteristics (e.g., charisma, similarity, learning goal orientation) was limited for some facets. These findings provide a

structured synthesis of supervisory feedback characteristics and clarify how they relate to distinct stages of employee feedback processing, offering research-informed implications for feedback practice while revealing the need for stronger primary studies to support causal conclusions.

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Declarations

Conflict of interest The author declares no competing interests.

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