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Eliciting Advice Instead of Feedback Improves Developmental Input

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Abstract. Most organizations encourage employees to provide feedback to one another to support learning, personal growth, and career advancement. However, employee feedback often fails to improve performance because it lacks concrete, specific guidance. We provide a temporal explanation for why workplace input processes routinely fail to produce valuable and concrete developmental insights: they are insufficiently focused on the future. In this paper, we theorize and demonstrate that encouraging input providers to think about the future leads them to produce more concrete developmental input. Across a large scale, preregistered field experiment ($n = 27{,}432$ comments) and two laboratory studies ($n = 806$), people provide more concrete and actionable developmental input when they are prompted to provide future-looking "advice" rather than "feedback," a common method of soliciting input in organizations. The effect of soliciting advice on input concreteness was mediated by providers' future focus. Moreover, in a follow-up study, such concrete input was assessed by independent raters as more useful. These findings highlight the role of temporal orientation in driving the content of developmental input. In doing so, our data suggest that individuals and organizations have the potential to promote higher-quality developmental input by attending to the temporal orientation that their input systems encourage.

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1. Introduction

Employees depend on developmental input, "helpful or valuable information that enables employees to learn, develop, and make improvements on the job" (Taylor et al. 1984; Zhou 2003, p. 415). This input is often colloquially referred to as "feedback." Organizations recognize the importance of collecting and sharing employee insights about how various colleagues can improve, in part because this information is associated with increased learning and firm-level performance (Ilgen et al. 1979, Edmondson 1999, DeNisi and Smith 2014). Accordingly, organizations often facilitate this information exchange, implementing both formal and informal "feedback systems" that primarily assess employees' past behaviors (Pearce and Porter 1986, Meyer 1991, London and Smither 2002, Taras 2005, DeNisi and Pritchard 2006). A growing majority of organizations rely on colleague-provided input (Schmidt 2021), with 64% of employees indicating their organization has an employee feedback program (AllVoices 2021) and 85% of Fortune 500 companies leveraging 360-degree feedback processes (Martinez 2023). Each year, organizations pay an estimated $35 million to facilitate the exchange of these valuable insights between employees (Sutton and Wigert 2019).

Despite the individual and organizational appetite for developmental information exchange, employees often express dissatisfaction with the developmental input that they receive from their colleagues (Mishra and Farooqi 2013, Wigert and Harter 2017). In a Gallup report, only 26% of employees "strongly agreed" that the "feedback" they received at work helped them do better work (Wigert and Harter 2017). Similarly, a review of feedback-seeking behavior in the

workplace revealed a weak relationship between feedback seeking—an action undertaken to generate colleague-provided developmental input—and objective performance (Anseel et al. 2015). These data reveal an inadequacy of status quo organizational and interpersonal approaches to elicit the information that employees need to improve their workplace performance.

Developmental input is often underwhelming for many reasons; for example, it can be perceived by recipients as unclear, unmotivating, and unfair (Liden et al. 1988, Cannon and Witherspoon 2005). Prior research suggests that all three of these deficits can be mitigated by improving a crucial dimension of developmental input: its concreteness (Kopelman 1986, Kluger and DeNisi 1996, Goodman et al. 2004). Concrete input can provide unique value to recipients by clarifying the actions they need to take to improve (Kopelman 1986, Goodman et al. 2004), which in turn can predict increased motivation by focusing recipients' efforts (Butler 1987, Shute 2008) and contributing to perceptions of input-provider credibility and fairness (Ilgen et al. 1981). Whereas prior research highlights the benefits of concrete developmental input, little work has explored how organizations can foster it. Moreover, input providers seldom provide sufficiently concrete input on their own (Gregory and Levy 2015, Correll et al. 2020, Harvey and Green 2022), leaving it up to organizations to play a vital role in driving this informational benefit.

Our investigation tests a novel way to address the challenges associated with providing high-quality input: by reorienting input providers' temporal focus, the extent to which people focus their attention on the past, present, or future (Bluedorn 2002, Shipp et al. 2009, Zimbardo et al. 2015). Research suggests that developmental input is a process that is associated with the past (Taras 2005, DeNisi and Pritchard 2006). We theorize and demonstrate that influencing input providers' thinking to focus on the *future* can significantly influence the concreteness of their input. Across a field experiment and two follow-up experiments that consider both downward (i.e., manager-to-direct report) and lateral (i.e., peer-to-peer) input, we induce a future focus by prompting employees to provide advice about their colleagues' performance. Our findings demonstrate that employees with a future focus deliver more concrete developmental input, which trained, independent raters evaluate as more actionable and useful.

Our work contributes to the feedback literature by showing how input providers' subjective temporal orientation affects the nature of the developmental input they provide. Although past research acknowledges that organizational feedback is often focused on past performance (Taras 2005), our investigation is the first to show that encouraging a future orientation can improve colleague-provided input. Moreover, our research extends beyond prior research that seeks to help employees move beyond providing past looking input (Kluger and Nir 2010) by tracing a clear theoretical means through which this future-looking temporal orientation influences input quality: by increasing its concreteness.

More broadly, our focus on the temporal orientation of the input provider allows us to advance developmental input research by highlighting the association between provider cognition and the input they provide. Past research has largely sought to improve developmental input processes by changing the system-level features surrounding the delivery of the input such as by changing the timing (Kluger and DeNisi 1996, Murphy 2020, Keiser and Arthur 2021). Recent research has started to consider the role of the providers themselves, highlighting the roles of static input provider traits such as self-efficacy (e.g., Kogan et al. 2012, De Kraker-Pauw et al. 2017, Dibble 2018) and providers' interpersonal considerations such as concerns about harming one's relationship with the recipient (Waung and Highhouse 1997, Finkelstein et al. 2017, Abi-Esber et al. 2022) on input delivery. Our research extends this prior research by showing how input providers' internal psychological states—in this case, their temporal orientation—shapes the developmental input they provide. Our findings suggest that organizations may benefit from focusing on how the design of input processes influences employees' thinking (e.g., their temporal focus), with consequences for the nature of the input they provide. Overall, we offer organizations a simple yet potentially powerful intervention to improve how employees exchange developmental input: shifting their temporal orientation by asking them to provide advice.

1.1. Theoretical Background

1.1.1. Developmental Input Concreteness. Prior empirical work has identified a variety of characteristics that contribute to input quality and that organizations can readily incorporate into the design of their developmental input systems, including timeliness (Ilgen et al. 1979, Butler et al. 2007), frequency (Kluger and DeNisi 1996), and the comparison of an employee's performance to an objective standard (Alvero et al. 2001). Research examining input content has identified another critical aspect of quality: its concreteness (Ilgen et al. 1981, Goodman et al. 2004). Concreteness is defined as the extent to which provided input is "specific and observable, rather than a broader schema or category" (Yeomans 2021, p. 81). Yet, because concreteness is derived from employees' personal thought processes and communication skills, it can be more challenging for organizations to foster directly.

Concreteness can improve the quality of developmental input in three fundamental ways. First, concreteness can help recipients clearly identify the

actions that they can avoid or take to improve (Kopelman 1986, Kluger and DeNisi 1996, Yeomans 2021, Goodman et al. 2004). Second, because of such action clarification, concrete input can be more motivating as compared with input that is less concrete. Namely, by increasing focus on a specific action or actions, concrete input can increase task focus and increase the recipients' involvement and interest (Butler 1987). In contrast, abstract developmental input can discourage recipients, which can engender feelings of uncertainty and reduced motivation (Shute 2008). Third, concrete developmental input is more likely to be viewed as credible and fair (Ilgen et al. 1981), features that are associated with recipient acceptance (Podsakoff and Farh 1989).

Concrete input demonstrates that the provider has paid close attention to the recipient's specific behaviors and actions. Consider two examples of employee input on a presentation. In one case, an employee suggests to "move the results from slide seven up two slides to emphasize the most important findings." In another, an employee simply advises to "change the order of the results." The first example provides more concrete input. It gives the recipient a clear picture of what actions to take to improve the work and provides clearer evidence that the input provider was attentive. Accordingly, the first example could more effectively motivate the employee to engage in the revision task. Experimental evidence of the relationship between developmental input concreteness and usefulness has followed this theorizing, demonstrating a positive relationship between input concreteness, perceived input quality, and performance (Liden and Mitchell 1985, Kopelman 1986, Goodman et al. 2004).

Despite the value of concrete developmental input, generating and delivering this information is a complex challenge. Crafting a developmental message requires providers to remember the recipients' behaviors and the impact of their actions, contemplate the specific actions that the recipient could take to improve their performance, and consider a narrative that the recipient is likely to understand and accept (Brutus 2010). These steps can be effortful, introducing a motivational hurdle for input providers. Attentively proceeding through these steps can also be cognitively challenging (Argyris 1982, Cannon and Witherspoon 2005, Blunden et al. 2020), providing a potential barrier to the successful delivery of concrete input—even if input providers are motivated to deliver valuable comments.

Another barrier to the delivery of concrete developmental input may result from providers not being aware of the shortcomings of their input. Input providers often have difficulty understanding the perspective of their recipients. Not only do input providers fail to recognize the extent to which their input is valued (Abi-Esber et al. 2022), but providers also overestimate the extent to which recipients will understand their input (Schaerer et al. 2018a). Such misperceptions suggest that input providers may mistakenly believe their comments are already sufficiently specific, preventing the effectiveness of a direct specificity appeal. This research suggests that input providers may not give more specific information when directly asked to do so. Our investigation considers a path to fostering input concreteness that may address input providers' cognitive challenges in developing concrete input: shifting their temporal orientation.

1.1.2. Organizational Developmental Input Provision Systems and Temporal Orientation. Research on time perception in organizations has not only found that people approach situations with a specific temporal orientation, attending to the past, present, or future (Zimbardo and Boyd 1999), but also that this temporal focus can be externally influenced by experimental manipulations (Cojuharenco et al. 2011, Guo et al. 2012). For example, when imbued with a future orientation, employees were more focused on distributive (versus interactional) injustice (Cojuharenco et al. 2011). Despite the potential impact of intervening on temporal orientations in the workplace, organizational research has only begun to explore how temporal orientation can facilitate workplace success (Shipp and Cole 2015). We propose that how developmental input is solicited will influence input providers' temporal orientation. Specifically, we propose that the prevailing design of input systems focuses employees toward the past or present (versus the future), which has implications for the quality of input elicited.

Academic literature has categorized employee input in various ways. One key distinction is between evaluative (appraisal-oriented) input and developmental (improvement-oriented) input, the latter of which is the focus of this research (Earley et al. 1990, Boswell and Boudreau 2002, Geister et al. 2006). However, in practice, organizational systems have seldom embraced such nuance (Kluger and Nir 2010, Kluger and Van Dijk 2010). Indeed, many typical situations in which employees receive developmental input are paired with an evaluation of their past performance.

At work, developmental input provision commonly occurs during annual or quarterly review sessions alongside assessments for awards and promotions (DeNisi and Pritchard 2006). Even when input is separated from such assessments, employees likely hold a mental association between receiving developmental input and receiving an evaluation of their performance that is driven by extensive experience between receiving developmental input in the context of performance evaluation. For example, even in school, developmental input is often provided in the context of receiving grades (Taras 2005). Such associations

are likely to result in employees approaching such developmental input interactions with a present or past orientation, given that performance evaluation contexts are inherently pastfocused. The link between developmental input and the lack of a future orientation is further evidenced by the terminology that is often used to describe such input: past-cueing "feed*back*."

In contrast to the status quo focus on the past or present, we propose that organizations can shift employees' temporal focus toward the future by changing how developmental information is solicited. Although requesting feedback is perhaps the most common way that organizations solicit developmental input from their employees, it is not the only means. In considering an alternative way to request this valuable information, we turn to prior research on time orientation and the influence of language on people's thought and behaviors. We build on empirical studies establishing that (1) people's time orientation can be readily manipulated (Foo et al. 2009, Cojuharenco et al. 2011, Guo et al. 2012), (2) language-based framing can impact people's thinking and behaviors (Petrinovich and O'Neill 1996, Kay and Ross 2003, Capraro and Vanzo 2019), and (3) there is a clear connection between language and future orientation (Liang et al. 2018). Drawing from this work, we propose that input request framing may represent a valuable, potentially underutilized way to increase input providers' future orientation. We specifically focus on reframing requests for feedback as requests for advice. Conceptually, this approach highlights the relationship between subjective temporal orientation and organizationally relevant phenomena—a link often overlooked in prior literature (Shipp and Cole 2015).

In the scholarly literature, advice has been defined as "a recommendation regarding a decision or course of conduct" (Bonaccio and Dalal 2006, p. 143). Researchers have often studied advice in the context of making decisions (e.g., Yaniv 2004, Bonaccio and Dalal 2006). However, the colloquial use of the term "advice" may also relate to inquiries intended to improve work performance (Cross et al. 2001, Landis et al. 2022). Importantly, advice provision emphasizes thinking about possible future actions (e.g., DeCapua and Dunham 1993, Blunden et al. 2019, Levari et al. 2022). For instance, in one study, advice givers commented more often on what the recipients *should do* rather than what they *did* do (Levari et al. 2022). Given the associations between language, thought, and behavior, we anticipate that framing the opportunity to provide developmental input as an opportunity to provide advice will lead providers to adopt a greater future focus.

Hypothesis 1. *Input providers will adopt a more future-oriented focus when they are asked to provide advice compared with when they are asked to provide feedback.*

1.1.3. Linking Input Provider Temporal Orientation with Input Content. We propose that input providers' temporal orientation will influence the content of input that they provide, such that encouraging a future focus may lead input providers to generate and deliver comments that are more concrete. First, future orientation may help providers overcome a cognitive challenge that is associated with providing concrete input: the cognitive burden of developing specific actions that a recipient could undertake to improve.

This proposition is supported by research on thinking about the future—often referred to in the literature as prospection. Past research suggests that people most readily engage in prospection about pragmatic goals, such as completing homework (Baumeister et al. 2016). Practical goals like these are especially likely to occur in work contexts because the daily, goal-oriented activities of employees and teams can drive organizational success (Smith et al. 1990).

Prospection occurs in two stages. First, people think about the future to imagine what they would like to happen. Second, people consider the future to map out how to achieve these aspirations, by considering the required steps, anticipated issues, and potential means to overcome them (Oettingen et al. 2001, Kappes et al. 2013, Baumeister et al. 2016). This type of future-focused thinking, then, necessarily entails some level of concrete action planning. Following this reasoning, providers of developmental input who are focused on the future should be more likely to imagine practical actions that a recipient could take to complete future actions and avoid future problems. For instance, consider providing input to a manager with poor team results. Absent a future focus, a senior director may reflexively suggest to this manager that "you did not motivate your employees well." Yet when imbued with a future focus, an input provider may be more likely to consider the specific steps that the recipient could take to motivate their employees, such as setting specific goals, providing clear guidance, and ensuring team members understand their roles.

Broader research on temporal orientation provides parallel support for the notion that holding a future orientation is likely to increase the concreteness of input providers' comments by increasing their motivation. First, past work has linked a future orientation with greater engagement in organizational citizenship behaviors (Balliet and Ferris 2013). Accordingly, future-focused input providers are likely to be more concrete to the extent that they anticipate specific input will be helpful to their recipient (as established in prior research; see Kopelman 1986, Goodman et al. 2004). Second, as those with a future orientation are more concerned with distributive justice (Cojuharenco et al. 2011), future-focused input providers may

strive to ensure their comments are equally clear; if they are specific in providing input to one colleague, they may be motivated to provide clear comments for all. Third, future orientation has been linked with an internal locus of control (Zimbardo and Boyd 1999, Shipp et al. 2009). Thus, future-focused input providers may have more faith in their control over their environment, and accordingly, that their comments will change the recipient's behaviors. Together, we build from this research to propose the following hypothesis.

Hypothesis 2. *Soliciting advice will yield more concrete developmental comments than soliciting feedback.*

Following our theoretical rationale for the link between imbuing input providers with a future-oriented focus when asked for advice and the hypothesized downstream consequence, the delivery of more concrete input, we propose the following hypothesis.

Hypothesis 3. *An input provider's future focus will mediate the effect of being asked to provide advice (versus feedback) on the concreteness of the input they provide.*

1.2. Present Research

In Study 1, we co-designed a field experiment with a large public-sector organization to improve the provision of developmental input. The field experiment included a future-focused, "advice" condition that reframed the request for feedback as a request for advice (testing Hypothesis 2) and a "feedback" condition that solicited input using feedback-oriented language similar to what had been used in previous years. The advice manipulation proved to be most effective at increasing the concreteness of input provided to employees in this process. In Study 2, we further investigated the advice intervention using more controlled experimental paradigms. We demonstrate that (i) framing developmental input as advice without the addition of future-oriented language positively impacts input concreteness (Hypothesis 2); (ii) that input providers adopt a more future-oriented focus when they are asked to provide advice (Hypothesis 1); and (iii) that the input provider's future focus mediates the effect of being asked for advice (versus feedback) on the concreteness of their comments (Hypothesis 3). Our findings offer managers and organizations a novel approach to potentially improve the exchange of developmental input among their employees.

Across the studies, we are interested in concreteness as a theoretically motivated outcome, and we operationalize concreteness in two ways. First, we measure concreteness directly from text comments obtained across all studies. To obtain concreteness measures of text comments, we use an algorithmic measure drawn from a published paper that developed a domain-specific model of concreteness in developmental information provision (Yeomans 2021; see Supplementary Appendix A). The Yeomans (2021) model outperformed every other domain-general concreteness dictionary in predicting human ratings and generalized well across different developmental input contexts, such as advice and feedback. This algorithmic measure offers three key advantages: it is highly scalable, it is interpretable, and it can assess content that cannot be shared with human annotators because of privacy constraints. These advantages were crucial for analyzing the Study 1 data. In Study 2, we introduce a second operationalization of concreteness. For this, we recruit human annotators to rate the actionability of each comment.

We report all exclusions, measures, conditions, and analyses from all studies. We also provide our preregistrations (and notes on deviations where relevant), all cleaning and analysis code, and data to reproduce all our analyses through the Open Science Framework (OSF) at https://osf.io/jtzg6/. Whereas this manuscript (and supplementary materials) summarizes the most important results and measures from the studies, for full transparency, we also provide additional information detailing the protocols from each experiment and other preregistered analyses in a series of appendices located in the OSF repository.

2. Study 1

2.1. Experimental Design

2.1.1. Research Collaboration. Study 1 was conducted as part of a research collaboration with the UK Behavioural Insights Team to improve the concreteness of the developmental information that employees provide to each other in a public-sector organization. Much of the design of this study was based on the organization's preexisting 360-degree review process and developed with sensitivity to the constraints of the context. This light-touch intervention, embedded into an existing organizational process, allowed us to study the impact of an individual-centered intervention in an organizational context (Lambert et al. 2022). The limitations of this design may have restricted our effect size, but it also allowed us to design a low-cost intervention in a real-world, ecologically valid setting.

2.1.2. Data Management. The data from Study 1 were collected between January and June 2021. The preregistration for Study 1 was written while the data were collected by the organization, but before the researchers had any access to the data. The researchers only received anonymized data, after identifiers were stripped. For more information on data handling, see OSF Appendix 1. Given the sensitive nature of the data, the raw comment text cannot be posted publicly. However, our OSF

repository includes an anonymized data set that can be used to reproduce the analyses reported here.

2.1.3. 360-Degree Review Experimental Protocol. The data in these studies were collected as part of an annual 360-degree review process conducted by a UK public-sector organization. These reviews do not have any direct impact on bonus, compensation, or promotions. Instead, these reviews are encouraged as a tool for reflection and learning within the organization (although recipients may interpret them as indirectly related to tangible outcomes—consistent with our argument that employees often perceive developmental input as tied to performance outcomes).

The review process started with the public-sector organization providing the survey company with a list of employees (all senior middle managers and higher) to be reviewed. The survey company then contacted the employees and asked them to nominate reviewers, including their manager, their direct reports, and up to 10 peers, by providing each reviewer's email address. The survey company then randomly assigned each reviewer to a condition (described in more detail in the next section) and emailed reviewers a survey for each employee who nominated them. The survey asked reviewers to provide 15 numeric ratings of their subjects' job performance and to complete three open-ended text boxes, which we used to conduct our manipulation and which we describe in more detail in the experimental conditions section.

Reviewers may have been nominated by multiple employees, and because random assignment was at the reviewer level, all the reviews they provided used the same condition questions. Conversely, because a given employee could nominate multiple reviewers, those reviewers would not necessarily all have been assigned to the same condition; therefore, most subjects received reviews from reviewers in different conditions. When all reviews were completed, the survey company aggregated the reviews and shared anonymized findings with the employees.

2.1.4. Experimental Conditions. To increase the likelihood that we would identify a beneficial intervention for our field partner, our experiment included two treatment conditions, resulting in a 2×2 factorial design. In this paper, we focus on comparisons of a future-looking advice condition to the no-treatment feedback condition, which paralleled the feedback-oriented language currently in use by the organization. The intervention was implemented by varying the language in three open-ended questions, which asked for input on the recipient's strengths, areas for development, and additional overall input.

In the future-focused advice condition, these questions explicitly referenced the future and requested advice. In the feedback condition, these questions did not reference the future (and were, in fact, backward looking) and requested feedback. In the areas for development question, the future-focused advice condition read, "What are their main leadership areas to develop in future? Please give your advice and include up to three examples," whereas the feedback condition read, "What have their main leadership areas to develop been? Please give your feedback, including up to three examples."

The second treatment condition tested a different intervention to influence developmental input concreteness that derived from a separate theoretical background (and is beyond the scope of the current paper; see OSF Appendix 3). Our reported models estimate the main effects of our focal intervention including both randomized treatment conditions. Following our factorial design, we also tested for (and did not find) additive effects of the second treatment condition.

2.1.5. Measures.

2.1.5.1. Dependent Variable. Given our focus of this research, our analyses concentrated on responses to the open-ended developmental question described above.[1] We focused on the concreteness of the input employees wrote, measured using the pre-trained advice model from the doc2concrete package (Yeomans 2021). To compare the effect of the intervention (advice) against the control condition (feedback), input concreteness scores were standardized to a common mean and variance.

2.1.5.2. Control Variables. Following best practices for using control variables (Becker et al. 2016, Bernerth and Aguinis 2016), we estimated our main effects both with and without controls. We controlled for the organizational relationship between the reviewer and subject, which were included in the data set with responses, as hierarchy can significantly influence employees' communication patterns and willingness to challenge a colleague (Galinsky et al. 2003, Reyt et al. 2016). We also controlled for recipient gender, as gender can influence the nature of the developmental input that people provide (Correll and Simard 2016, Jampol and Zayas 2021). Notably, we did not find gender differences in our data, and our results hold with and without the inclusion of this covariate.

Most importantly, we control for reviewers' perceptions of the employee's performance. If providers find it easier to think of specific actions that lower performers could take to improve, perceptions of performance could influence the concreteness of developmental input. We measured performance with an index of the 15 numeric ratings reviewers provided concerning their subjects' job performance ($\alpha = 0.96$, median pairwise correlation = 0.47; detailed in OSF Appendix 2) before

responding to the open-ended questions. These performance ratings are used for three purposes in this paper: (1) as a control variable when estimating the main effect of treatment, (2) as a validation of the algorithm's output (we measure the direct effect of performance on concreteness), and (3) as a benchmark for the treatment effect size—because it can be hard to make actionable suggestions to improve the performance of people who are already seen to be performing well.

Our measure of subjective performance was meant to capture the job performance of the subject, in the eyes of the reviewer. Absent an objective measure of performance we could benchmark against, we measured the degree to which a respondent's subjective performance ratings tracked "consensus" performance ratings by calculating the average of the ratings that all the other reviewers gave to each subject. The individual respondents' ratings ($r = 0.253$, $t(43{,}344) = 54.55$, $p < 0.001$) as well as the subjects' own self-ratings correlated with these consensus ratings ($r = 0.128$, $t(43{,}344) = 26.90$, $p < 0.001$), suggesting that this constructed performance index captures generally agreed upon aspects of a subject's performance.

2.1.6. Participants. The data set we received contained 48,496 unique survey response invitations ("reviews"). These invitations were sent to 23,404 unique reviewers and targeted 5,150 unique subjects. Of these, 5,150 responses were "self-reviews," in which the reviewers were asked to evaluate themselves as a subject (indicating that all subjects were sent a self-review). Seven hundred and fifty-seven subjects were only present in self-reviews. When these subjects were removed, we were left with a sample of 4,393 unique subjects who were targeted in a review invitation to another person, and 22,679 unique reviewers who were invited to write at least one review for another person, for a total of 43,346 unique reviews. Within this sample, each reviewer had an average of 1.91 reviews, and each subject had an average of 9.87 reviews. Table 1 provides descriptive statistics about the sample of reviewers and subjects for the two conditions described in this manuscript.

The treatment was assigned at the level of reviewer; that is, each reviewer saw the same survey condition for all of their reviews. This resulted in 21,529 reviews from a reviewer who received the feedback treatment, and 21,817 reviews from a reviewer who received the advice treatment. A series of balance checks, reported in Table 1, confirmed that there were no systematic differences in reviewers across each of the conditions in our factorial design.

2.2. Study 1 Results

For all analyses, we report the focal estimates and hypothesis tests in the main text and include full regression tables in OSF Appendix 3. We estimated all regressions using standard errors (SEs) clustered at the subject and respondent levels (Zeileis et al. 2020). The bivariate correlations between all our primary variables are reported in Table 2.

Table 1. Study 1 Descriptive Statistics and Balance Tests

Variable	Feedback	Advice	*p*-value
Unique reviews	21,529	21,817	
Subject % female	42.7	43.3	$p = 0.314$
Relationship			
% line managers	10.6	11.0	$p = 0.138$
% direct reports	38.9	38.4	
% peers	26.0	25.4	
% others	24.6	25.2	
Unique reviewers	11,388	11,291	$p = 0.39$
% female (%)	31.9	31.3	
Reviews, mean (SD)	1.89 (1.99)	1.93 (2.06)	

Note. We found no significant differences in the number of reviews for subjects ($F(3) = 0.35$, $p = 0.790$) or reviewers ($F(3) = 1.29$, $p = 0.277$), gender makeup of subjects ($X^2(6) = 5.0$, $p = 0.544$) or reviewers ($X^2(6) = 4.49$, $p = 0.611$), relationships between the two ($X^2(9) = 12.3$, $p = 0.196$), or the distribution of departments ($X^2(256) = 272$, $p = 0.235$).

2.2.1. Nonresponse. Respondents were not required to answer any of the questions on the survey, and many did not do so, even after accepting an invitation. Out of all the invitations sent, 50.9% of recipients completed every question, 28.8% answered some of the questions, and 20.4% answered no questions. Roughly a third of participants did not write a single word in the development text box (33.0%). Following our preregistration, we focus our analysis on responses that are at least five words long (see OSF Appendix 3). This cutoff strategy results in a sample of 27,432 responses to the development question, with a total of 15,002 respondents and 4,385 subjects. Completion rates of the development question were higher in the advice condition ($\beta_{Advice} = 0.021$, $SE = 0.007$, $t(43{,}343) = 2.94$, $p = 0.003$). Our results are robust to other cutoff strategies, including quantile cutoffs that remove a similar number of texts from each condition (thus eliminating concerns about selection bias).

2.2.2. Response Length. After removing texts fewer than five words long, consistent with our preregistration, the remaining texts were all substantive (mean (M) = 66.00 words, standard deviation (SD) = 60.11 words). Compared with the feedback condition, the advice condition had no effect on the length of the development comments ($\beta = -0.40$, SE = 1.01, $t(27{,}429) = 0.40$, $p = 0.692$).

2.2.3. Verb Tense. As a manipulation check, we examined the comments using the past-tense and future-tense dictionaries from the Linguistic Inquiry and Word Count dictionary (LIWC) (Tausczik and Pennebaker

Table 2. Summary Statistics and Bivariate Correlations for Study 1

	Summary statistics			Bivariate correlations		
Variable name	*N*	Mean	SD	*Gender*	*Performance*	*Concrete (development)*
Gender (male = 1)	48,496	0.48	0.50			
Performance (standardized)	48,496	0.00	1.00	−0.024***		
Concreteness (development)	32,502	0.01	0.43	0.013*	−0.089***	
Word count (development)	48,496	41.4	56.87	0.009*	−0.082***	0.11***

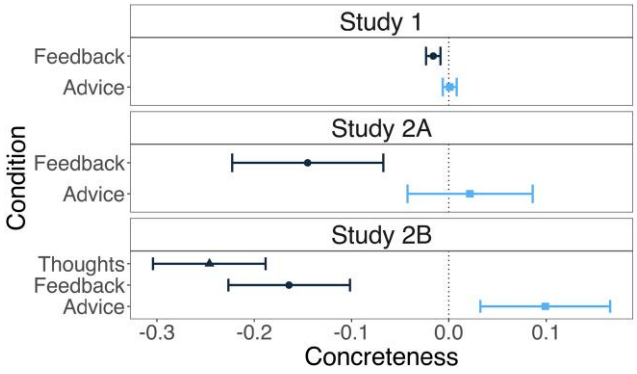
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

2010). The advice manipulation increased the percentage of future-tense words ($\beta = 0.074\%$, $SE = 0.025\%$, $t(27{,}429) = 2.92$, $p = 0.004$) and decreased the percentage of past-tense words ($\beta = -0.200\%$, $SE = 0.028\%$, $t(27{,}429) = 7.20$, $p < 0.001$).

2.2.4. Concreteness. Our primary hypothesis concerned the concreteness of employees' reviews. In Figure 1, we display the mean concreteness of the development text box for the advice versus feedback condition. Table 3 provides examples of text responses that were high and low in concreteness.

The advice intervention increased the concreteness of the development text ($\beta = 0.039$, $SE = 0.014$, $t(27{,}429) = 2.79$, $p = 0.005$) compared with the feedback condition. These results held in a model in which we also controlled for performance, gender, and relationship ($\beta = 0.039$, $SE = 0.014$, $t(27{,}424) = 2.83$, $p = 0.005$), as well as in a model including these controls with subject-level fixed effects ($\beta = 0.034$, $SE = 0.015$, $t(23{,}041) = 2.25$, $p = 0.025$). We also used these control variables to benchmark the effect size of the advice intervention. The advice condition increased concreteness by approximately 27% of the difference in concreteness between what managers wrote to their direct reports (more concrete), and what those reports wrote to their managers (less concrete).

Figure 1. (Color online) Effect of Condition on Concreteness of Input Language Across All Studies



Notes. Points represent group means, and the error bars represent 95% confidence intervals. The *x*-axis represents concreteness, in units of standard deviations that were calculated from within the training data in Yeomans (2021).

Alternatively, the increase in concreteness in the advice condition was equivalent to the increase in concreteness that was expected from a 0.47 standard deviation decrease in the subjective performance of the recipient (i.e., as judged by the reviewer).

2.2.5. Outcome Validation. To confirm our concreteness measure identifies expected differences in concreteness, we conducted several validation checks to ensure that this variable performed as expected with respect to other variables. First, as expected, the development question elicited comments that were more concrete than the strengths question ($\beta = 0.270$, $SE = 0.008$, $t(66{,}531) = 32.54$, $p < 0.001$). Furthermore, employees who were rated as having higher subjective performance were given less concrete comments on the development question ($\beta = -0.082$, $SE = 0.007$, $t(27{,}430) = 12.10$, $p < 0.001$) and the overall question ($\beta = -0.077$, $SE = 0.007$, $t(22{,}505) = 10.51$, $p < 0.001$), though not for the strengths question ($\beta = -0.009$, $SE = 0.006$, $t(31{,}645) = 1.47$, $p = 0.141$). Finally, managers gave more concrete comments to their direct reports than vice versa, on the development question ($\beta = 0.145$, $SE = 0.021$, $t(31{,}121) = 6.79$, $p < 0.001$) and the overall question ($\beta = 0.074$, $SE = 0.025$, $t(24{,}508) = 3.00$, $p = 0.003$), although they gave less concrete comments on the strengths question ($\beta = -0.093$, $SE = 0.022$, $t(35{,}402) = 4.27$, $p < 0.001$). All three of these results—showing that comments are more concrete when they are focused on areas for development, given to poorer performers, and given by managers—are logical and increase confidence in our measure of concreteness as a critical component of comment quality.

2.3. Study 1 Discussion

Study 1 showed that asking for advice, rather than feedback, improved the specificity of developmental input. This approach yielded more concrete responses than the organization's standard method—that is, soliciting feedback. The advice intervention produced more specific input without increasing response length. This finding is noteworthy because longer responses are often more specific (Yeomans 2021). The effect occurred despite minor differences in instructions: participants were asked to provide feedback "including up to three examples" versus advice "and

Table 3. Examples of Dependent Variable Scores Across Studies

Study	High concreteness	Low concreteness
1	I would like Riley to set up regular supervision sessions with me where we can spend time talking about work and my team members and I would appreciate more feedback, more often on my own performance. (Concreteness: 1.02)	Riley is clearly very talented but sometimes I feel like she is so focused on the job in hand that I do not always feel listened to or that she values my input. (Concreteness: −1.14)
1	He could delegate much more (including day to day and routine issues) and, having delegated, ensures he gives more space to people to deliver before following up/monitoring/checking, which can be frequent. (Concreteness: 0.99)	There is no doubt that Riley lives and breathes collective leadership in not letting anyone or the team fail—Riley will gravitate to lead when things get tough because she is a leader—and that is awesome. (Concreteness: −1.14)
1	Riley has recently been trying to include others by asking them questions by name when in meetings, but perhaps still needs to dial the talking back a notch or two to give some more space for listening. In hindsight (which is easy to say) it would have been preferable to have had more cover from his team even if that meant turning down leave request or asking people to return to work more quickly than planned. (Concreteness: 0.94)	Even after some time working together, I do not feel that I got to know Riley very well as a person; nor do I feel that he got to know me. (Concreteness: −1.20)
1	Development areas might include doing more to involve junior team members in decision-making and long-term planning, especially as the team is growing in size, and creating more space to focus on corporate issues (finance, headcount, etc.). (Concreteness: 0.92)	While I don't fully buy this, or think it is exactly what Riley does, there is something about I don't feel she has methods of systematically overseeing all of the areas, when it gets too big. (Concreteness: −1.25)
2A	I would tell her she needs to slow down and relax, and to make sure they count out the payment accurately and double check it is correct before handing the money to the customer. (Concreteness: 1.18; developmental: 1.88; actionable: 4.67; useful: 4.52)	You did a good job in not assigning blame, even though you were personally inconvenienced by the mix-up and it was not your fault. Stay with that strategy, even though it is unsatisfying sometimes, it is the one that will lead to the best outcomes most of the time. (Concreteness: −0.93; developmental: −0.50; actionable: 3.11; useful: 3.22)
2A	The advice I would give is to verify that the musicians found the parts. I would also tell him to check the file every day to make sure that enough parts were available. If parts were missing, they might need to be ordered. Riley should also respond in a timely manner to the musicians questions regarding the parts. (Concreteness: 1.08; developmental: 0.5; actionable: 3.83; useful: 4.11)	I would (did) tell her that she did a great job selling the store card. My only feedback at the time was to relax a little, and maybe sound less nervous if she could. I don't think she's actually nervous, just trying to do a good job. It comes off as nervous to the customers though. (Concreteness: −0.81; developmental: 0.5; actionable: 3.78; useful: 3.61)
2B	You could change "since I like reading a lot" to something more focused on helping children. I would end the sentence after the word "phonics," and add another sentence talking about your experience as a teacher. You should give an example of children you have helped. (Concreteness: 1.62; developmental: 1.57; actionable: 5.05; useful: 3.91)	It really doesn't sound all that literate. There's nothing in particular wrong with it on first glance but it just doesn't seem very professional. (Concreteness: −0.92; developmental: −0.67; actionable: 2.83; useful: 2.80)
2B	The first red flag is the lack of grammar and sentence structure throughout the letter. The second is the language used. You need to better list your skill set and experience instead of in passing. How long have you taught? What age groups do you work with? Do you have a degree? A Master's? Be sure to give, at the very least, your basic qualifications. Also, the last two sentences need to be completely revamped. Instead of telling them to "find" your resume, attach it or offer to send upon request, and end with "I look forward to hearing from you." (Concreteness:1.72; developmental: 0.43; actionable: 4.52; useful: 4.05)	There are a few errors within the letter; while they're not significant, they still leave a bad impression. Aside from that, this feels like a "copy and paste" letter. It sounds like this is a standard letter that the applicant sends to every position they apply to, without trying to customize it to the position at all. This is especially apparent when the applicant states they're applying for the position that is advertised by "your company" as it's clearly advertised by a couple of parents, not a company. While I understand trying to apply to every position possible, and even using a basic "template" for your letter, an applicant should take a few minutes to customize their letter to the job they're applying for. (Concreteness: −1.00; developmental: −0.86; actionable: 2.86; useful: 3.38)

Notes. For anonymity, recipient names appearing in the data were changed to "Riley," but these comments are not all addressing the same employee. Study 2A statistics are $M_{Concrete} = -0.06$, $SD = 0.36$; $M_{Actionable} = 3.22$, $SD = 1.29$; $M_{Developmental} = 0.15$, $SD = 1.47$; $M_{Useful} = 0.00$, $SD = 1.00$. Study 2B statistics are $M_{Concrete} = -0.11$, $SD = 0.48$; $M_{Actionable} = 2.96$, $SD = 1.31$; $M_{Developmental} = -0.02$, SD = 1.47; $M_{Useful} = 0.00$, SD = 1.00.

include up to three examples." This pattern of results suggests that reviewers in the advice condition were particularly concise when providing actionable input.

One month later, we conducted a follow-up study (Study S1 in Supplementary Appendix B). In this study, we asked all subjects of the review process described in Study 1 who received comments from their line manager ($n = 2{,}776$) to report in a survey how helpful, accurate, and motivating they found each comment to be. We found no differences between conditions, even after controlling for the employee's performance. In contrast to prior findings and our conceptual model, concreteness did not predict recipient ratings. Rather, receiving a high numeric score from one's manager was the only factor that predicted whether recipients viewed their managers' comments favorably (as measured by a composite of the helpful, accurate, and motivating ratings; $\beta = 0.329$, $SE = 0.039$, $t(944) = 8.45$, $p < 0.001$).

Why did we fail to observe an association between concreteness and comment quality? It is possible that recipients who received high performance ratings may have rated their developmental input as more useful without attending to the content of the input itself, potentially mitigating any beneficial effects of input concreteness on comment perceptions. It is also possible that perceptions of input accuracy, helpfulness, and self-reported motivation could have faded in the month-long interval between when recipients received the input and when they were asked to explicitly reflect on this input and to rate it as part of the follow-up study. During this interval, recipients may have incorporated the comments or diminished their memory of in-the-moment comment helpfulness. Another possibility is that recipients may not be the best judges of the input they receive. They might focus more on recognition of their past behavior rather than on how the input could be used to improve their future performance. To address this possibility, in Studies 2A and 2B we assess others' perceptions of input usefulness without the potentially overwhelming influence of a quantitative performance measure.

3. Studies 2A and 2B

Study 1 employed a high-powered field experiment to show that framing requests for developmental input as advice can increase their concreteness. Study 2 (comprised of Study 2A and 2B) seeks to address the limitations of this study. To maximize the potential for organizational impact, Study 1 manipulated advice and future focus simultaneously. Study 2 explores the impact of advice framing without an explicit mention of future focus, directly measures providers' future focus, and tests whether future focus mediates the effect of asking for advice on concreteness. Study 2 also uses human annotators to evaluate the comments across these studies. These human annotations help to (1) validate our algorithm as an outcome measure, (2) understand content differences between advice and feedback, and (3) provide a measure of developmental information quality that is independent from reviewers' numeric ratings.

3.1. Study 2A

Study 2A examines whether asking real-life colleagues to give advice rather than feedback produces more concrete developmental input across a variety of real-world workplace tasks.

3.1.1. Study 2A Methods. We recruited 194 employed adults who worked at least 21 hours a week (39.69% female; $M_{age} = 32.41$ years, $SD_{age} = 10.86$) from Amazon Mechanical Turk to answer a survey about their workplace experiences. We then recruited 188 independent raters to assess their comments (45.78% female; $M_{age} = 32.41$ years, $SD_{age} = 10.86$; 6.78 raters per comment, $SD = 1.21$).

Employees recalled the most recent instance in which they had observed a colleague performing a work task that they could have evaluated. Using an open-response format, employees described their relationship with this colleague, the task they observed, and their colleague's performance. The task descriptions averaged 30.68 words ($SD = 19.43$), and employees described a variety of tasks, ranging from "putting labels on items" to "creating a new marketing strategy." Participants were then randomly assigned to "provide feedback (advice) to your colleague" about the performance they had observed using an open-response format. As our main dependent variable, we assessed the concreteness of these comments using the same algorithmic approach from Study 1.

After writing their comment, input providers indicated how focused they were on the recipients' future (versus past) performance while providing their comments. They rated their focus on a Likert-type scale from −2 (mostly on what the recipient (writer) has done) to +2 (mostly on what the recipient (writer) could do).

We collected additional information as control variables because input concreteness may vary based on employee status (Galinsky et al. 2003), closeness (Finkelstein et al. 2017), and performance (see Section 2.2.5). Participants provided details about their recalled situation, including their relative rank to the recipient (Schaerer et al. 2018b), measured as −1 for "recipient is higher in rank," 0 for "same rank," and 1 for "recipient is lower in rank" ($M = 0.29$, $SD = 0.67$). They also reported their interpersonal closeness to the recipient (adapted from Aron et al. 1992) by answering "How would you describe your relationship with the recipient?" on a scale from one (extremely distant) to seven (extremely close;

$M = 4.29$, $SD = 1.48$). Last, participants rated their perception of the colleague's performance quality by responding to "I thought [the recipient's] performance on the task I described above was …" on a scale from one (very poor) to seven (very good; $M = 5.37$, $SD = 1.61$).

As future focus may operate as one of several potential mechanisms, our survey also included several additional exploratory measures—including potential relational mechanisms, such as perceptions of trustworthiness. We found no differences across conditions for any of these variables (see OSF Appendix 4). Finally, participants indicated their age and gender, and exited the study.

After these primary data were collected, we recruited a separate sample of independent raters who assessed the characteristics of each comment using a method adapted from Milkman et al. (2009) and an analytic approach proposed by Biesanz and Human (2010). These independent raters were blind to our hypotheses. First, raters clicked through a series of training pages where they reviewed five random comments. Then, they rated 5–10 randomly chosen comments on three dimensions of interest: developmental nature, actionability, and usefulness.

3.1.1.1. Developmental Nature. We first defined the developmental and evaluative nature of a comment for the raters: "A comment is developmental when it focuses on developing specific strategies to improve someone's level of performance. A comment is evaluative when it focuses primarily on appraising whether someone's level of performance is satisfactory." Raters then rated the developmental (versus evaluative) nature of each comment, indicating its predominant tone by responding to the question "Do you think this comment is more evaluative or developmental?" with a five-point Likert-type scale ranging from negative two (mostly evaluative) to two (mostly developmental).

3.1.1.2. Actionability. We assessed perceived input actionability using a three-item actionability scale. Using a scale ranging from one (not at all) to five (a great deal), raters indicated their agreement with three statements that began with "Compared with the average comment the current comment …" followed by "is clearer on what actions the recipient should take to improve his/her performance," "provides highly actionable suggestions," and "gives [the rater] a better idea of what actions the recipient should take if he/she were to perform the task again." We created a composite of perceived actionability by taking the average of the three ratings (Cronbach's alphas reported in the corresponding results section; all >0.90).

3.1.1.3. Usefulness. Raters completed a three-item scale assessing the usefulness of each comment. Participants indicated the extent to which they agreed with the statement "Compared with the average comment, the comment is more …" "constructive," "useful," or "helpful," using a scale ranging from one (not at all) to five (a great deal). We averaged these three items, after standardizing each, to create a composite usefulness score (Cronbach's alphas reported in the corresponding results section; all >0.90).

3.1.2. Study 2A Results and Discussion.

3.1.2.1. Concreteness. Using the algorithm described above, we evaluated the concreteness of all written text. Participants in the advice condition gave significantly more concrete input ($M = 0.022$, $SD = 0.332$) compared with participants in the feedback condition ($M = -0.145$, $SD = 0.380$; $\beta = 0.167$, $SE = 0.051$, $t(192) = 3.27$, $p = 0.001$). These results held controlling for closeness, rank, performance, age, and gender ($\beta = 0.154$, $SE = 0.050$, $t(187) = 3.07$, $p = 0.002$). The average effects of condition on concreteness are plotted in Figure 1.

3.1.2.2. Annotated Measures: Developmental Nature, Actionability, and Usefulness. Colleagues asked to provide advice (versus feedback) wrote comments that independent raters assessed as more developmental ($M_{Advice} = 0.498$, $SD_{Advice} = 1.34$; $M_{Feedback} = -0.250$, $SD_{Feedback} = 1.50$; $\beta = 0.762$, $SE = 0.08$, $t(1{,}250) = 10.1$, $p < 0.001$), more actionable ($\alpha = 0.92$; $M_{Advice} = 3.452$, $SD_{Advice} = 1.19$; $M_{Feedback} = 2.958$, $SD_{Feedback} = 1.34$; $\beta = 0.469$, $SE = 0.06$, $t(1{,}214) = 7.30$, $p < 0.001$), and more useful ($\alpha = 0.91$; $M_{Advice} = 0.122$, $SD_{Advice} = 0.966$; $M_{Feedback} = -0.138$, $SD_{Feedback} = 1.02$; $\beta = 0.229$, $SE = 0.05$, $t(1{,}194) = 4.77$, $p < 0.001$). These results are consistent when we controlled for closeness, rank, performance, age, and gender. These measures provide additional confidence that the algorithm is detecting a meaningful aspect of the data.

3.1.2.3. Future Focus. Input providers were more focused on their colleague's future performance when they were asked to offer advice ($M = 0.529$, $SD = 1.10$) rather than feedback ($M = 0.044$, $SD = 1.33$; $\beta = 0.486$, $SE = 0.174$, $t(192) = 2.79$, $p = 0.006$).[2]

3.1.2.4. Discussion. Study 2A provides evidence that, across a variety of workplace tasks, employees who were asked to provide advice (versus feedback), without mention of the future, provided input that was more concrete. Study 2B provides a higher-powered, preregistered conceptual replication of Study 2A in a more controlled experimental setting with an additional control condition.

3.2. Study 2B

To pinpoint whether our results stem from an increase in input concreteness from those asked for advice or a decrease in concreteness from those asked to provide

feedback, Study 2B included an additional condition. Following a pretest indicating that employees occasionally solicit developmental input by asking for "thoughts" (see Study S2A in Supplementary Appendix C), we included a third, "thoughts" condition. In Study 2B, we again measured future focus as a potential mediator. The preregistration is available at https://aspredicted.org/3zkv-4sds.pdf. Additional preregistered analyses are reported in OSF Appendix 5.

3.2.1. Study 2B Methods. We recruited 612 adults (50.00% female; M_{age} =34.44 years, SD_{age} = 12.28) from Amazon Mechanical Turk to provide developmental input on a job application cover letter (word count: M = 34.65; SD = 25.91). We then recruited 624 independent raters to rate these comments (45.03% female; M_{age} = 33.52 years, SD_{age} = 10.93; 6.77 raters per comment, SD = 1.17) using the comment coding procedures outlined above.

The writers read a medium-quality job application cover letter. We randomly assigned each participant to "give the writer your [feedback/advice/thoughts]" using an open-response format (adapted from Grant et al. 2007). We assessed the concreteness of these comments with the algorithm used in Studies 1 and 2A. To explore whether asking for advice led input providers to adopt a greater future focus than the other solicitation methods, we assessed the input provider's future focus using a three-item scale: "While providing my [advice/feedback/thoughts] to the writer I: …" "focused mostly on what the writer had done" (−2) to "mostly on what the writer could do" (+2), "looked mostly backward to consider the work the writer had done" (−2) to "mostly forward to consider the work the writer could do" (+2), and "thought mostly about how the writer had performed" (−2) to "mostly about how the writer could perform" (+2). Participants then completed several items that assessed their emotional investment in the recipient (these analyses are not central to our theory and are reported in OSF Appendix 5). After completing these measures, participants indicated their age and gender and exited the study.

3.2.2. Study 2B Results and Discussion.

3.2.2.1. Concreteness. Participants in the advice condition gave significantly more concrete input (M = 0.099, SD = 0.483) as compared with participants in the feedback condition (M = −0.164, SD = 0.458; β = −0.263, SE = 0.05, $t(609)$ = 5.84, $p < 0.001$) and participants in the thoughts condition (M = −0.246, SD = 0.422; β = −0.345, SE = 0.45, $t(609)$ = 7.64, $p < 0.001$). The average effects of condition on concreteness are plotted in Figure 1.

3.2.2.2. Annotated Measures: Developmental Nature, Actionability, and Usefulness. Using the same coding procedure from Study 2A, independent raters rated the developmental nature, actionability, and usefulness of the comments. Consistent with our proposed conceptual model, the developmental nature of the input was assessed by independent raters as greater when the request was framed as advice (M = 0.418, SD = 1.39) rather than feedback (M = −0.116, SD = 1.45; β = −0.530, SE = 0.05; $t(3{,}874)$ = 10.33, $p < 0.001$) or thoughts (M = −0.339, SD = 1.46; β = −0.766, SE = 0.05, $t(3{,}895)$ = 14.85, $p < 0.001$). The composite measure of perceived actionability (α = 0.94) yielded similar results (M_{Advice} = 3.304, SD = 1.20; $M_{Feedback}$ = 2.860, SD = 1.31; β = −0.406, SE = 0.04, $t(3{,}785)$ = 9.37, $p < 0.001$; $M_{Thoughts}$ = 2.737, SD = 1.33; β = −0.560, SE = 0.04, $t(3{,}801)$ = 12.83, $p < 0.001$). Finally, comments offered in response to requests for advice (M = 0.191, SD = 0.94) were also rated as more useful (α = 0.92) than comments provided to those who requested feedback (M = −0.057, SD = 1.01; β = −0.220, SE = 0.03, $t(3{,}750)$ = 6.81, $p < 0.001$) or thoughts (M = −0.128, SD = 1.02; β = −0.320, SE = 0.03, $t(3{,}763)$ = 9.87, $p < 0.001$).

In Table 4, we report bivariate correlations between human annotations (averaged for each comment) and the algorithm's concreteness score (pooling data across both Studies 2A and 2B to improve sample size). We find consistent evidence that the concreteness algorithm relates to some component of independent, human-rated actionability, developmental nature, usefulness, and future focus—though of the set, it is most closely correlated with the developmental ratings.

3.2.2.3. Future Focus. The three items were collapsed into a single standardized index (α = 0.82). A one-way analysis of variance revealed a significant effect of condition on future focus ($F(2, 609)$ = 11.97, $p < 0.001$). Post hoc pairwise comparisons revealed that, in line with Hypothesis 2, providers were more future focused when the request was framed as advice (M = 0.564, SD = 0.92) than when the request was framed as feedback (M = 0.154, SD = 1.02; $t(403)$ = 4.29, $p < 0.001$, d = 0.42), or thoughts (M = 0.134, SD = 1.06; $t(396)$ = 4.37, $p < 0.001$, d = 0.43). Providers who were asked for feedback were no more future focused than providers who were asked for their thoughts ($t(406)$ = 0.19, p = 0.848, d = 0.02).[3]

3.3. Study 2: Mediation

We conducted an exploratory mediation analysis across the pooled data from Studies 2A and 2B (n = 5,456 ratings, 806 documents). We pooled the data to increase the sample size and to more reliably estimate the effects. This mediation analysis tested whether the input provider's future focus mediated the impact of advice as opposed to feedback or thoughts on the concreteness of the comments offered by providers. (We combined the feedback and thoughts conditions from Study 2B into

Table 4. Summary Statistics and Bivariate Correlations for Data Pooled Across Study 2

		Summary statistics			Bivariate correlations			
Variable name	$N_{Subjects}$	$N_{Ratings}$	Mean	SD	*Concreteness*	*Actionability*	*Developmental*	*Future focus*
Concreteness	806	5,456	−0.09	0.45				
Actionability[a]	806	5,456	3.03	1.31	0.429***			
Developmental	806	5,456	0.02	1.47	0.456***	0.787***		
Future focus	806	5,456	0.29	1.07	0.179***	0.124***	0.229***	
Useful	806	5,456	0.00	1.00	0.357***	0.905***	0.686***	0.094**

Note. Human annotations are averaged for each comment.

[a]This is an estimate for the out-of-sample accuracy of the pretrained algorithm, using data from a novel context. In the original paper (Yeomans 2021), the authors used transfer learning to estimate the accuracy of the algorithm across a wide range of advice contexts and found a similar result ($r = 0.23$).

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

one non-advice condition.) We conducted a mediation path analysis using the "mediation" package in R (Imai et al. 2010), bootstrapping standard errors across 20,000 resamples. Supporting Hypothesis 3, the input provider's greater future focus mediated the effects of framing the request as advice (versus feedback or thoughts) on the concreteness of the input, as evidenced by confidence intervals (CIs) that do not cross zero (average causal mediation effect (ACME) = 0.0216; 95% CI [0.0164, 0.0271]; $p < 0.001$). These results suggest that the data are consistent with our theoretical model; requesting advice rather than feedback elicited a greater future focus from the input provider, which predicted the provision of more concrete input.

We also conducted an exploratory analysis examining the extent to which these effects contributed to the perceived usefulness of the comments, estimating a serial mediation model with the advice condition as an independent variable, future focus and concreteness as sequential mediators, and independently rated usefulness as a dependent variable. Our results revealed an indirect effect that is consistent with our theorizing: the effect of advice (versus feedback or thoughts) on comment usefulness was serially mediated by the pathway from future focus to concreteness, with an indirect effect estimate of 0.009 and a confidence interval that did not cross zero (95% CI [0.003, 0.015]; $p = 0.002$).

3.4. Study 2B Discussion

Study 2B offers evidence that framing requests for developmental input as advice rather than other commonly used framings, feedback and thoughts, yields input that is independently assessed as more concrete, developmental, actionable, and ultimately, useful.

3.5. Study 2A and 2B Discussion

Study 2A and 2B replicate and strengthen our findings from Study 1. We show that simply manipulating the word "advice" affects people's future orientation and, correspondingly, their input concreteness, without their being explicitly instructed to focus on the future. We further validate our findings through independent assessments. Raters evaluated the developmental nature and actionability of participants' comments. These ratings align with our algorithmic measures of concreteness, providing additional support for our results. Study 2B provides a higher powered, more controlled, conceptual replication of Study 2A with a neutral "thoughts," condition, language that is not time-referent, suggesting that the effect is primarily driven by the future focus spurred by the advice framing rather than by negative consequences of the feedback framing. Pooling the results of Study 2A and 2B together helps to illustrate that comment givers' future focus mediates the relationship between advice and concrete comments. Moreover, Studies 2A and 2B illustrate the value of such concrete comments; independent raters assessed them as more useful.

4. General Discussion

Organizations, managers, and employees depend on the exchange of useful developmental information between employees (Ilgen et al. 1979, Ashford et al. 2016). Yet, facilitating this exchange is often more difficult than organizational actors anticipate (Brutus 2010). Our research, consisting of a large-scale field study and two follow-up experiments, demonstrates a consistent finding: when developmental information is requested as advice, the resulting input is more concrete than when this information is obtained through other common solicitation methods. Additionally, independent raters judged these responses as more useful compared with input gathered through alternative approaches, most notably, feedback (see Supplementary Appendix C).

In Study 1, drawing from 27,432 employee reviews, when reviewers were asked for their advice, they delivered more concrete comments. In Studies 2A and 2B, we demonstrated in more controlled settings that (a) merely soliciting advice rather than feedback or thoughts yielded developmental input that was more concrete; (b) that this low-touch intervention influenced input providers' future focus; (c) that providers' future focus mediated the effect of soliciting advice

versus feedback on input concreteness; and (d) that concrete comments were independently rated as more useful.

4.1. Theoretical Implications

These studies help us understand a key barrier to—and propose a viable solution for—prompting employees to provide high-quality developmental comments. In doing so, our findings contribute to the managerial and workplace development literature in several ways.

First, our investigation reveals a new avenue through which organizations may influence the developmental input that employees exchange: shifting employees' thinking to focus on the future. Previous research, such as Kluger and Nir (2010), has recognized that requests for developmental input often prompt a focus on past events. Our work is the first to leverage this insight to explore how shifting employees' temporal orientation may increase the concreteness of the developmental input they provide. Previous efforts to enhance developmental input in organizations have focused on making structural changes to the solicitation process, such as increasing the frequency of feedback requests (Kluger and DeNisi 1996) or broadening the range of employees involved like managers, subordinates, and peers (London and Beatty 1993). Our research takes a different approach. We demonstrate that by shifting employees' temporal focus, organizations may unlock new potential for improving the quality of developmental input.

Our research contributes to an emerging area of organizational scholarship: the perspective of the input provider. Whereas past research has largely focused on the role of the input providers' statistic traits (Kogan et al. 2012, De Kraker-Pauw et al. 2017, Dibble 2018) or interpersonal relationships (Waung and Highhouse 1997, Finkelstein et al. 2017, Levine et al. 2020, Abi-Esber et al. 2022), we highlight the role of input providers' temporal orientation in influencing the content they deliver. This focus is notable because managers could be much more readily able to influence input provider temporal orientation than static traits or relationships.

Moreover, our investigation reveals that engendering a future focus in input providers may be a more effective means of soliciting developmental input than direct requests for employees to be more specific. Prior to Study 1, we conducted a large-scale experiment that offers empirical support for this possibility (see Study S3 in Supplementary Appendix D). We analyzed developmental input from high-level UK public-sector employees, involving 45,693 reviews. One group was explicitly instructed to provide concrete details when generating developmental input for their colleagues, with the prompt "What are their main areas to develop as a leader? Please include concrete examples of what they could do to achieve this." Surprisingly, the developmental input from this group was not more concrete than that from a control group who received no such instruction. This finding suggests that merely asking for concrete details may not be sufficient to improve the specificity of developmental input. Orienting input providers toward the future may better help them overcome the cognitive challenge of generating specific action steps for recipients to improve. This focus on prospection, or future thinking, seems to enable input providers to more easily conceptualize concrete ways that the recipient could develop.

Our findings indicate that the language used in organizational systems for exchanging developmental information can significantly influence the effectiveness of these systems. Asking for feedback is a widely used approach to eliciting developmental input, both as part of interpersonal requests for developmental input (see Study S2A in Supplementary Appendix C) and as part of organizations' developmental input systems (see Study S2B in Supplementary Appendix C). Our investigation reveals a key insight: one of the most common methods of requesting developmental input may not be the most effective for generating actionable recommendations. Our data suggest that these traditional approaches fail to adequately focus input providers on the future.

Our investigation reveals an alternative solicitation method: asking for advice. By drawing from the future orientation of advice (DeCapua and Dunham 1993, Levari et al. 2022), our work takes a first step at incorporating advice giving into the developmental input literature. In parallel to research on feedback, the advice literature has traditionally conceptualized advice more narrowly, as recommendations about the alternative a decision maker should choose (also, at times, distinguishing between such recommendations, recommendations about what decision not to choose, information about alternatives, recommendations about how to decide, and social support; Dalal and Bonaccio 2010). By highlighting advice solicitation as an effective means of generating developmental insights, our investigation contributes to a small, growing body of work that broadens this conceptualization of advice (Goldsmith and Fitch 1997), contributing to both literatures by answering calls to begin connecting them (Lim et al. 2020, Abel et al. 2022).

Finally, we contribute to a growing literature that applies natural language processing methods to texts generated in organizational contexts to gain insight into organizational cognition and to leverage this understanding to try to improve outcomes. Previous studies tend to use these methods with observational data as a lens to understand the natural functioning of organizations (e.g., Srivastava et al. 2018, Gallus and

Bhatia 2020, Yeomans et al. 2020, Lawson et al. 2022, Lix et al. 2022). Yet, observational research—with or without text analysis—is often limited by concerns about causality. Thus, we pair these tools with preregistered field and laboratory experiments to directly address this concern and to suggest a potential new path forward for organizational research by more frequently combining natural language processing approaches with naturalistic experiments.

4.2. Practical Implications

From a practical standpoint, our findings point to an efficient and effective way to increase the concreteness (and likely, usefulness) of employee-provided developmental input: by soliciting employees' advice. Whereas organizations largely solicit employees' input by asking them to provide feedback, a tendency mirrored by employees themselves (see Supplementary Appendix C), our research suggests that such methods are less effective in generating concrete developmental input. By embedding this straightforward intervention into preexisting communications between colleagues, our work demonstrates an actionable protocol that organizations can consider adopting to improve their own developmental input procedures (DellaVigna et al. 2024).

Our investigation also reveals that other, seemingly more straightforward methods of soliciting concrete developmental input do not necessarily achieve this goal. As described above (and in Supplementary Appendix D), asking reviewers to provide specific examples does not lead to the provision of more concrete feedback. Although it was not the focus of this investigation, in Study 1, employees asked for advice had a significantly higher response rate (64.3%) than employees in the control condition (62.3%, $t(43{,}343) = 2.94$, $p = 0.003$). In contrast, in a different study, when employees were directly asked to provide concrete input (see Supplementary Appendix D), their response rate decreased (concrete intervention: 59.2%; control: 55.6%; $t(45{,}691) = 5.2$, $p < 0.001$). These results suggest that an advice intervention may foster input concreteness without the observed potential drawbacks of directly asking for it.

Our research offers two significant contributions to modern, data-driven organizations. First, we introduce a highly scalable intervention that managers can easily implement to enhance the concreteness of developmental input exchanged between employees. Second, we promote transparency and reproducibility in organizational research by providing all materials and code in our OSF repository. Organizations interested in testing the effects of infusing a future focus into their input collection processes can thus readily leverage our materials and code to test the effect of the intervention within their own context. As we discuss next, there may be several boundary conditions, underscoring the value of direct testing by managers to assess the benefits of this intervention across diverse contexts.

4.3. Generalizability and Boundary Conditions

Our findings, derived from both field and online experiments, point toward the value of imbuing input providers with a future focus to attain concrete developmental input. Yet there are likely several boundary conditions to the success of this intervention. First, we focus on the provision of developmental input, which we theoretically and empirically establish as desired by organizations and employees alike. However, imbuing providers with a future focus may not improve the concreteness of other types of input that are not developmental. In Study 1, the advice condition decreased the concreteness of responses to an open-ended question about recipients' strengths (see OSF Appendix 3). This question may have failed to necessitate the development of future action steps to improve. It is also possible that a future focus may not increase the specificity of evaluative feedback, which depends more on the synthesis of past actions than on the formulation of future action plans. Similarly, a future-oriented approach may be less effective for developmental exercises that are inherently focused on analyzing past actions, such as postmortems (Myllyaho et al. 2004, Kramer 2015). These exercises, which aim to dissect past events to achieve organizational goals, may not benefit from a shift toward future thinking.

The effectiveness of a future-focused approach in generating concrete feedback may also be influenced by the individual characteristics of the input providers themselves and the nature of their relationship with the recipient. These factors could potentially moderate the connection between an input provider's future orientation and the specificity of their comments. For example, prior work suggests that those with greater expertise often communicate more abstractly (Hinds et al. 2001, Reyt et al. 2016). Such tendencies could mitigate the impact of being asked to provide advice on input concreteness. Although our results were not moderated by any of the variables that we collected that are associated with expertise such as performance, seniority, and age, a more precise exploration of expertise could potentially uncover mitigating effects. Relatedly, the depth of the relationship between the input provider and recipient can significantly affect the content of the input (Finkelstein et al. 2017). Relationship depth might therefore overshadow the impact of future focus on input concreteness.

The impact of future focus on concrete developmental input may also vary across different organizational and national cultures. For example, organizations with well-established feedback cultures (London and Smither 2002, Steelman et al. 2004) might already

have consistent norms for providing developmental input. In such environments, the effect of an individual's temporal orientation on input concreteness might be less pronounced. More broadly, our studies were conducted among employees in English-speaking populations within western cultures, and our effects may not generalize beyond this setting. Different cultures have different future orientations (Venaik et al. 2013). Given that our intervention and measures are rooted in natural language, it is possible that these effects may vary when applied to other languages, especially those that invoke the future differently. In languages like Mandarin, which lacks a distinct future tense and often uses the present tense to discuss future events, the linguistic cues for future focus might be less salient. This difference could potentially alter the effectiveness of our future-oriented intervention in such language contexts.

There are also several likely boundary effects for the association between input concreteness and perceived usefulness. For example, concrete input may hold particular value for employees considering their task (versus overall) performance, as the implementation of concrete insights is likely to be clearer (and therefore more useful) in the context of a specific task or activity. Moreover, in the context of input about one's holistic performance over a period of time (i.e., not task-specific performance), more *abstract* insights may provide more valuable information, as abstract insights may provide a more holistic picture of how one is largely viewed. For example, in reviewing the sample comments from Study 1 in Table 3, many of the less concrete comments pertain to reviewers' overall perceptions of an employee, which could provide valuable insight that employees are otherwise unable to attain.

To more formally test this possibility, we conducted an additional study to examine the effects of advice versus feedback framing across both task-specific and holistic input contexts. This study, detailed as Study S4 in Supplementary Appendix E, used a 2×2 design that manipulated both intervention type (advice versus feedback) and topic focus (task-specific versus holistic, in which employees were asked to rate their colleague's overall performance in the prior three months). Our analysis of the data from this study replicated our main effect: those asked for advice provided more concrete input than those asked for feedback. It also revealed a positive interaction between the advice condition and the task-focused condition on each of the annotated measures. Across both task-specific and holistic input contexts, concrete input was rated as more actionable, developmental, and useful. However, each of these effects was more pronounced in the task-specific conditions. These findings suggest that although increased developmental input concreteness (prompted by the advice framing) is valued in both task-specific and holistic contexts, it is rated as particularly beneficial in the context of task-specific comments. This initial evidence indicates that the effectiveness of our advice intervention may be enhanced when applied to specific tasks rather than general performance assessments. However, more concrete input may fail to be perceived as valuable if an organization has goals other than the provision of concrete developmental input. For example, organizations seeking to rank its employees' performance to inform pay decisions may find greater value in abstract, holistic characterizations. Separately, if organizational actors seek to unite employees around core values rather than foster individual or team development, the use of more abstract, consistent statements may more strongly unite employees.

Although our investigation uncovers some benefits of imbuing input providers with a future focus—specifically the generation of more concrete input—encouraging a future focus could yield undesired consequences. For example, when focused on the future, employees may underemphasize significant negative events in their colleague's past (Strelan and Covic 2006, Pica et al. 2022), which may be important to attend to (e.g., leaders may not want to inadvertently de-emphasize an ethical violation). Adopting a future focus could also lead input providers to orient their thinking around employees' potential. Prior work has shown that consideration of an employee's potential (rather than present performance) can lead to greater gender or racial bias (Reskin and McBrier 2000, Lamont 2012, Stephens et al. 2020). Thus, organizational actors seeking to increase employees' future focus should thoughtfully examine the potential for bias within their development systems.

4.4. Limitations and Future Directions

Our study, although informative, has certain limitations that point to promising future directions. First, our investigation treats reviewers as able and willing to provide developmental input (assumptions met within our field study context). Accordingly, we focused on a low-touch, scalable means of increasing the concreteness of these comments. However, employees in other contexts may be unmotivated or unable to provide useful concrete comments, or these exchanges may take place in settings where the exchange of such comments is merely symbolic. Such lack of interest, ability, or organizational supports could limit the potential of our intervention to improve the content of developmental information that employees deliver. Alternatively, in line with prior findings that being asked for advice is flattering (DeCapua and Huber 1995, Bailey 2015), it is possible that our intervention could increase people's motivation to deliver developmental insights. Future

work could therefore consider how the context of development input influences these results.

Our assessment of input usefulness relied on third-party ratings. Notably, when recipients themselves rated the input in Study 1, input from the advice condition was not rated as more useful (see Study S1 in Supplementary Appendix B). As we noted in the Study 1 discussion, recipient perceptions of their numeric ratings could have tainted their perceptions of input value, although we did not observe an effect even when controlling for performance in this study. Future work could assess the relationship between developmental input concreteness and recipient perceived usefulness in contexts less likely to anchor employees' assessments (e.g., that do not include numeric ratings or that do not focus on reviewers with power over the recipient, both features of Study 1). Future work could also test the impact of employee perceptions of developmental input on downstream outcomes, such as raises, promotions, and performance improvement.

Although the present work sheds light on the provision of constructive comments from the provider's perspective, our investigation does not link these comments to actions taken on the recipient side, such as how these comments influence their motivation, their ability to internalize input, or their performance. Future research could examine recipient-side responses to constructive input framed as advice or feedback. Developmental input recipients often discount the information they receive (Podsakoff and Farh 1989) and dislike the providers of this information (Blakely 1993, John et al. 2019). This is because people often infer that constructive comments indicate negative evaluations about themselves (Blaine and Crocker 1993). However, if the same information is framed as advice rather than feedback, recipients may be more willing to act on it because the future-oriented nature of the input may (1) be less likely to spur negative emotion and (2) expand the input seekers' perceived options. Indeed, recent research has found that framing information as advice can increase its influence (Çelen et al. 2010, Hütter and Fiedler 2019, Hertz et al. 2021, Milyavsky and Gvili 2024) and that input recipients are more motivated to improve when the comments focus more on future actions rather than past performance (Gnepp et al. 2020). These findings suggest that framing feedback as advice may foster greater adoption. Future research should test this proposition.

5. Conclusion

Despite widespread use of "feedback" systems, we find evidence that reframing the provision of developmental information as advice giving increases the concreteness of the comments that employees provide to one another. It is our hope that these findings can be used to design organizational systems that can foster high-quality input that supports employees and organizations alike.

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Endnotes

[1] Although not the focus of this investigation, our analyses pertaining to the other two questions that employees rated each other on can be found in OSF Appendix 3.

[2] We also tested this using the past-tense and future-tense dictionaries from LIWC (Tausczik and Pennebaker 2010). The advice manipulation increased the percentage of future-tense words ($\beta = 0.446$, $SE = 0.14$, $t(192) = 3.17$, $p = 0.002$) and decreased the percentage of past-tense words ($\beta = -0.302$, $SE = 0.14$, $t(192) = 2.12$, $p = 0.035$) compared to feedback.

[3] We also tested this using the past-tense and future-tense dictionaries from LIWC (Tausczik and Pennebaker 2010). The advice manipulation increased the percentage of future-tense words (compared to feedback: $\beta = 0.230$, $SE = 0.10$, $t(609) = 2.36$, $p = 0.018$; compared to thoughts: $\beta = 0.469$, $SE = 0.10$, $t(609) = 4.81$, $p < 0.001$), but had no significant impact on the percentage of past-tense words compared with feedback ($\beta = -0.152$, $SE = 0.10$, $t(609) = 1.55$, $p = 0.12$), and decreased the percentage of past-tense words compared with thoughts ($\beta = -0.296$, $SE = 0.10$, $t(609) = 2.99$, $p = 0.003$).

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