The "sense" behind proactive behaviors: Feedback seeking, meaningfulness, and personal initiative

Bin Ma [1,*], Siyao Zhu [1,*], Kriti Jain

IE Business School, IE University, Madrid, Spain

ABSTRACT

With organizations increasingly requiring employees to proactively manage their job and career, researchers have examined various proactive behaviors, such as feedback-seeking behavior and personal initiative. However, few studies have explored the relationships and dynamics among these behaviors. Based on sensemaking theory, this paper argues that employees' feedback-seeking behavior is positively associated with their performance through two stages: meaningfulness and personal initiative. Our hypotheses were tested and supported using two samples: 196 supervisor-subordinate dyads from one large organization in China (Study 1) and panel data of 207 full-time employees from the UK (Study 2). Our findings highlight the importance of recognizing the distinctiveness of different forms of proactive behavior and the synergistic way they contribute to performance. We also demonstrate that employees can seek feedback and construct meaningful work experiences in an agentic manner, which contributes to the literature on career crafting and career self-management.

1. Introduction

Today's work environment is increasingly flexible, decentralized, and uncertain, making it essential for employees to proactively manage their performance and careers for continuous improvement (Frese & Fay, 2001; Sherf & Morrison, 2020; Vancouver & Morrison, 1995). As a result, researchers have focused extensively on the role of proactive behaviors, defined as self-directed and future-focused actions that individuals take to bring about changes in themselves or their environment within an organization (Bindl & Parker, 2011; Grant & Ashford, 2008), in the self-management process of performance and career development (e.g., Crant, 2000; Grant & Parker, 2009; Parker & Collins, 2010). Among these studies, researchers have examined a diverse set of proactive behaviors, including those employees undertake to gauge information regarding their own performance (e.g., Ashford & Black, 1996; Ashford & Cummings, 1983), change their work environment (e.g., Frese et al., 1996; Frese & Fay, 2001), and those that play important roles in career planning and exploration (e.g., De Vos et al., 2009; Jiang et al., 2019).

As knowledge of specific types of proactive behaviors increases, researchers have called for an effort to integrate previous research across domains using a process-oriented view, which includes the cognitive and behavioral processes involved in generating proactive goals, enacting those goals, and the sequential outcomes (e.g., Bindl et al., 2012; Grant & Ashford, 2008; Jiang et al., 2023; Parker et al., 2010). However, research examining whether one proactive behavior triggers another is still in its early stages (e.g., Crant,

---

* Corresponding authors.
  E-mail addresses: bin.ma@ie.edu (B. Ma), siyao.zhu@student.ie.edu (S. Zhu), kriti.jain@ie.edu (K. Jain).
[1] The first two authors contributed equally to this work.

2000). This is an important oversight, as different types of proactive behaviors have different antecedents (Cooper-Thomas et al., 2014; Parker & Collins, 2010; Wu et al., 2018), and it is necessary to examine how they relate to one another and how they synergistically contribute to an individual's self-management of performance and career as a process (Jiang et al., 2023), the knowledge of which could enrich the understanding of the dynamic nature of the career proactivity (Jiang et al., 2023). Sensemaking theory (Weick, 1993, 1995) provides a framework to address this gap, and the proposed process model (Fig. 1) indicates the positive relationship between *feedback-seeking behavior* and performance through *work meaningfulness* (Stage 1) and *personal initiative* (Stage 2).

Sensemaking theory is suitable for studying the role of proactive behavior in one's performance and career because it emphasizes the role of interpretation and meaning-making in shaping individuals' career goals and behaviors for personal growth (e.g., Vough & Caza, 2017), which is in line with the process-oriented view of proactive behaviors in the literature on performance and career self-management (e.g., Bindl et al., 2012; Jiang et al., 2023). According to sensemaking theory, individuals actively construct their reality by interpreting and assigning meaning to the events and experiences in their environment (Maitlis & Christianson, 2014; Weick et al., 2005). In the career context, employees who seek feedback from others are more likely to construct a meaningful understanding of their work and their role within it. This is because feedback-seeking behavior provides employees with information and perspectives that can help them to clarify their goals and make sense of their work experiences and meaningfulness (Ashford & Black, 1996; Wanberg & Kammeyer-Mueller, 2000) —the belief that one's work is worthwhile, significant, and purposeful (Lysova et al., 2019; Pratt & Ashforth, 2003; Rosso et al., 2010; Steger et al., 2012). Further, this meaningfulness is likely to guide an increased sense of personal agency (Tims et al., 2016), represented by personal initiative that involves taking proactive steps to achieve one's goals and improve performance (e.g., Frese et al., 1997; Tims et al., 2015). Due to the goal-directed and action-oriented nature of personal initiative (Frese et al., 1996), the construction of performance and career goals (i.e., feedback seeking and sensemaking of meaningfulness) is likely to direct such initiatives. In other words, feedback-seeking behavior and the experienced meaningfulness can start this process of self-management by motivating individuals to initiate actions and exert more control over their career-related outcomes.

This study makes a number of contributions to the literature. First, previous research has treated various proactive behaviors similarly without examining their intrapersonal relationships (e.g., Crant, 2000; Taber & Blankemeyer, 2015). By incorporating the concept of sensemaking, this study presents a process model that delineates the relationship between different proactive behaviors. It demonstrates that distinct proactive behaviors can play diverse roles in managing one's performance proactively.

Second, this study addresses the need to comprehend the cognitive process underlying proactive behaviors (Crant, 2000), which remains a black box. In particular, we respond to the call for research on the cognitive and sequential behavioral mediating process between feedback seeking and performance (Anseel et al., 2015; Lam et al., 2007). Additionally, existing empirical studies on the effects of feedback seeking on performance have produced mixed results. While some researchers observed a positive association between feedback seeking and performance (e.g., Huang, 2012; Morrison, 1993), others failed to establish this link (e.g., Anseel et al., 2015; Ashford & Black, 1996). Therefore, it is essential to explore the perceptions and actions underlying the relationship between feedback-seeking behavior and performance change (Anseel et al., 2015), and this study provides new insights in this regard.

Third, the research contributes to the literature on meaningfulness by showing that employees proactively interact with other organizational insiders at work to seek information and construct their own work meaningfulness. Previous research examining the role of other organizational insiders in employees' work meaningfulness has predominantly viewed employees as passive receivers of social influence at work (e.g., Arnold et al., 2007; Carton, 2018; Wrzesniewski et al., 2003). However, this study challenges this view and argues that employees are agentic when seeking and interpreting social cues to construct their own beliefs of work meaningfulness and initiating behavioral adaptations for performance (Weick, 1995; Weick et al., 2005).

2. Theory development and hypothesis

2.1. Proactive behaviors from the perspective of sensemaking

In the process of vocational development, employees often encounter uncertainty and ambiguity, which motivates them to seek feedback from other organizational insiders (Hays & Williams, 2011). Moreover, employees are expected to cognitively process such feedback and make sense of it, guiding their initiated behavioral adaptations (Sturges et al., 2019). Sensemaking theory provides a useful tool to map out the cognitive mechanism underlying these two types of proactive behaviors: feedback-seeking behavior and personal initiative. Specifically, sensemaking involves three sequential stages: 1) creation: extracting and bracketing cues of work experience from the organization; 2) interpretation: making sense of the gathered cues; 3) enactment: taking action within the organization based on the newly constructed sense (Sandberg & Tsoukas, 2015; Weick, 1995). Drawing on sensemaking theory (Maitlis, 2005; Maitlis & Christianson, 2014; Weick, 1993, 1995), we propose a process model of feedback-seeking behavior and performance, illustrating the mediating role of meaningfulness and personal initiative.

Consistent with the three stages of sensemaking, we argue that feedback-seeking behavior serves as the creation stage because it involves soliciting information regarding one's role, performance, and value in the organization (Ashford & Black, 1996;
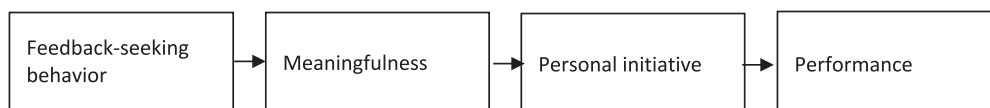

Fig. 1. Conceptual model.

Vandenberghe et al., 2021). When employees seek feedback, they are more likely to gather cues that provide a foundation for constructing a meaningful understanding of their work and role within it. With relevant information gathered from the creation stage, interpretation generates "sense," most commonly treated as the cognitive perception of interpreted cues (Sandberg & Tsoukas, 2015). Work meaningfulness is one type of cognitive outcome of this process (Aguinis & Glavas, 2019). Research has shown that employees must constantly seek social cues (e.g., verbal communications and behavioral interactions) from other insiders of the organization to make sense of their work and career and derive its meaningfulness (e.g., Heslin et al., 2020; Wrzesniewski et al., 2003). Furthermore, work meaningfulness leads to an increased sense of personal agency and assigns goals for personal initiative (Fletcher & Schofield, 2021), which involves taking proactive steps toward such goals and improving performance (e.g., Bakker et al., 2020; Hakanen et al., 2008). Personal initiative is a form of goal-directed proactive behavior closely related to an employee's performance (Bledow & Frese, 2009; Frese et al., 2007; Thomas et al., 2010), which thus can be considered as the enactment stage of sensemaking.

Overall, sensemaking can be viewed as a process of interactions between individuals and their environment during which employees extract cues from the environment (e.g., feedback seeking), interpret and make sense of the cues (e.g., meaningfulness), and adjust their behaviors (e.g., personal initiative) accordingly (Maitlis, 2005; Maitlis & Christianson, 2014; Weick, 1995). This perspective emphasizes the agentic nature of employees (Drazin et al., 1999; Ford, 2000; Hofmann et al., 2009), which is critical for employees in today's complex, competitive, uncertain work environment (Vancouver & Morrison, 1995).

In addition, as information regarding one's job performance and career may not always be available or remain constant over time (Ashford et al., 2003; Hofmann et al., 2009), employees must engage in continuous sensemaking processes to extract and interpret cues, develop and modify their understanding of their work, and adapt their behaviors accordingly to improve their performance. Therefore, further examination of the proposed relationships with a focus on temporality and ongoing changes is necessary.

2.2. Feedback-seeking behavior and meaningfulness

Feedback-seeking behavior is when employees seek clarification about what their work, organization, and environment expect from them (Brown et al., 2001). This helps satisfy their need to maintain self-concept and esteem in the work environment, which is essential for sensemaking (Ring & Van de Ven, 2000). By seeking more feedback, employees can better understand their role in the organization and align it with their self-concept and esteem (Kahn, 1990; Rosso et al., 2010; Tims et al., 2016; Wrzesniewski et al., 2003). Moreover, seeking feedback from organizational insiders also helps employees interpret cues and make sense of the organization (Maitlis, 2005; Sandberg & Tsoukas, 2015).

Employees' understanding of their role and knowledge about the organization are major sources of work meaningfulness (Bailey et al., 2017). Thus, work meaningfulness can be considered an outcome of employees' interpretation of cues extracted from feedback from others. For example, higher levels of feedback seeking can help employees understand the organization's values and norms, leading to better person-organization fit, and predicting higher work meaningfulness and commitment (Pratt & Ashforth, 2003; Rosso et al., 2010; Vandenberghe et al., 2021). Additionally, feedback-seeking behavior stimulates leader-member exchange (Lam et al., 2007) and enhances employees' sense of belongingness and connectedness, which are sources of work meaningfulness (May et al., 2004).

Taking into account intrapersonal changes over time, research has shown that feedback-seeking behavior tends to occur more frequently when there is an increase in work-related uncertainty (Ashford & Black, 1996; Ashford & Cummings, 1983). For example, feedback seeking tends to decrease as an employee's job tenure increases, as they become more familiar with their work and experience less uncertainty (Anseel et al., 2015). Additionally, newcomers tend to progressively decrease their feedback seeking, which can lead to decreased organizational commitment and increased turnover intention (Vandenberghe et al., 2021). Overall, feedback-seeking behavior is likely to fluctuate over time as employees navigate uncertainty in their work environment.

Given the uncertainty and complexity of today's business and work environment, feedback seeking is likely to be a common behavior throughout an employee's career (Hirschi & Koen, 2021), as they constantly adjust their feedback-seeking behavior to cope with changes in their work environment. These adjustments in feedback-seeking behavior are expected to have ongoing effects on employees' work meaningfulness. Thus, we hypothesize as follows:

H1a. Feedback-seeking behavior is positively associated with meaningfulness.

H1b. Change in feedback-seeking behavior is positively associated with change in meaningfulness.

2.3. Meaningfulness, personal initiative, and job performance

Personal initiative is a type of proactive behavior that "(1) is consistent with the organization's mission, (2) has a long-term focus, (3) is goal-directed and action-oriented, (4) is persistent in the face of barriers and setbacks, and (5) is self-starting and proactive" (Frese et al., 1996, p. 38). Personal initiative is important due to its positive association with desirable outcomes such as commitment (Hartog & Belschak, 2007), innovation (Hakanen et al., 2008; Rooks et al., 2016), and entrepreneurial success (Glaub et al., 2014). Despite previous research identifying antecedents of personal initiative, such as routinization (Ohly et al., 2006), control and complexity (Frese et al., 2007), and justice climate (De Dreu & Nauta, 2009), little is known about the cognitive processes involved in personal initiative as an outcome (Crant, 2000).

To fill this void, we propose a positive relationship between personal initiative and meaningfulness for several reasons. First, personal initiative is goal-directed (Frese et al., 1996), and meaningfulness has been shown to be critical in determining and achieving career goals (e.g., Berg et al., 2013; Wang & Chen, 2022), which may provide direction for personal initiative. Second, personal

initiative is long-term focused (Frese et al., 1996), which requires psychological resources to sustain (Bledow & Frese, 2009). Meaningfulness has been found to be essential in providing psychological resources and positive emotions necessary for career development (Elangovan et al., 2010; Fletcher et al., 2018; Soane et al., 2013), which can also be beneficial for sustaining personal initiative. Third, task-specific motivation can be enhanced by experienced work meaningfulness (Barrick et al., 2013), which can further lead to employees exhibiting a higher level of personal initiative (Fletcher & Schofield, 2021).

In addition, as we rationalized previously, feedback-seeking behavior initiates and sustains a continuous sensemaking process in which employees extract cues from feedback to interpret and modify their understanding of work (Ashford et al., 2003). As feedback-seeking behavior fluctuates due to changes in the work environment (Ashford & Cummings, 1983), the sequential variables in this sensemaking process, such as meaningfulness and personal initiative, are likely to change at an intrapersonal level over time (Crant, 2000). When employees seek more feedback, they may experience a greater sense of meaningfulness in their work. This increased sense of meaningfulness may then be associated with greater personal initiative in their work and career development. Taken together, we hypothesize:

H2a. Feedback-seeking behavior is positively associated with personal initiative via meaningfulness.

H2b. Change in feedback-seeking behavior has a positive indirect relationship with change in personal initiative via change in meaningfulness.

Furthermore, the relationship between personal initiative and performance has been well-established, from the individual to the organizational level, as evidenced by various studies (e.g., Bledow & Frese, 2009; Thomas et al., 2010). For instance, research has demonstrated that small business owners who receive intervention on personal initiative tend to attain higher entrepreneurial success. Additionally, middle managers who exhibit higher personal initiative intention tend to perform better in their jobs (Glaser et al., 2016). Personal initiative can also lead to positive changes in the work environment, resulting in benefits for the individual (Frese et al., 1996; Frese & Fay, 2001), such as improved work characteristics (Frese et al., 2007), which can ultimately contribute to one's performance. Moreover, employees with high personal initiative can develop and execute career plans that align more closely with the career and organization's goals (e.g., Frese et al., 1997; Hirschi et al., 2015; Raabe et al., 2007), potentially enhancing their work performance. Moreover, research has indicated that work meaningfulness is a distant predictor of work performance (Allan et al., 2019), the connection of which can be mediated by proactive behaviors (Fürstenberg et al., 2020). Given that personal initiative is a form of proactive behavior, it is possible that it could serve as a bridge between an individual's work meaningfulness and performance. In other words, employees may engage in a sensemaking process that involves seeking feedback, finding meaning in their work, and then taking personal initiative, ultimately leading to better performance and meeting organizational expectations.

Finally, as previously rationalized, the relationship between feedback-seeking behavior and performance mediated by work meaningfulness and personal initiative is likely to hold when taking into account intrapersonal changes over time. Given that feedback seeking is likely to fluctuate over time, the intrapersonal change in feedback-seeking behavior is likely to be associated with the change in performance through the change in meaningfulness and the change in personal initiative.

H3a. Feedback-seeking behavior is positively associated with performance via meaningfulness (Stage 1) and personal initiative (Stage 2).

H3b. Change in feedback-seeking behavior has a positive indirect relationship with change in performance via change in meaningfulness (Stage 1) and change in personal initiative (Stage 2).

3. Overview of studies

We conducted two independent studies to investigate our hypotheses. Study 1 used a sample of supervisor-subordinate dyads from a large organization in China. We collected survey data from two sources at three time points and conducted OLS regression analyses. To provide additional and stronger evidence supporting the proposed relationships, it is recommended to examine the intrapersonal effects of changes in one variable on changes in other variables, also known as "change-to-change" effects (Selig & Preacher, 2009; Wang et al., 2017). Thus, in Study 2, we analyzed three-wave panel data collected over one month using latent change score modeling (LCS) (Liu et al., 2016). LCS is a statistical method that explicitly captures intraperson changes, making it possible to examine how changes in one construct impact changes in another. By utilizing the longitudinal panel data structure and LCS modeling, we were also able to answer the call for research that distinguishes between the between- and within-person effects of proactive behaviors (Anseel et al., 2015; Grant & Ashford, 2008).

4. Study 1

4.1. Participants and procedure

The initial sample of our study comprised 250 supervisor-subordinate dyads from a large manufacturing company located in southeast China. The questionnaires were distributed online, and informed consent was obtained from the participants at the beginning of the survey. Participants were asked to provide a matching code assigned by the company's Human Resources department to enable the researchers to match supervisor-subordinate dyadic data from three time points, ensuring the confidentiality of the responses.

Data were collected through three waves of surveys with a two-week interval between each wave. At Time 1, supervisors evaluated their subordinate's feedback-seeking behavior over the past two weeks, while subordinates rated their meaningfulness at that moment and proactive personality. At Time 2, subordinates rated their personal initiative in the past two weeks. Finally, at Time 3, supervisors rated their subordinate's job performance over the past two weeks. All materials were presented in Chinese after following standard translation procedures (Brislin, 1986). Eventually, we received 196 matching responses, yielding a response rate of 78.4 %. Among the supervisors, 129 were male (65.82 %) with an average age of 48.27 (SD = 17.38) and an average 3.94 years of supervisor-subordinate dyadic relationship tenure (SD = 3.81). Among the subordinates, 123 were male (62.76 %) with an average age of 38.82 (SD = 11.69) and an average organizational tenure of 7.06 years (SD = 7.43).

4.2. Measures

Feedback-seeking behavior was assessed using a three-item feedback-inquiry subscale developed by Ashford (1986). Supervisor participants were asked to rate, over the past two weeks, how frequently their focal subordinate engaged in feedback-seeking behaviors. One sample item from the scale is: "Seeking feedback from the supervisor (i.e., you) about their work performance" (1 = *never*, 5 = *always*).

Meaningfulness was measured, by following Leunissen et al.'s (2018) practice, using the four-item scale from the Work and Meaning Inventory. The scale captures a sense that the work one is doing has personal significance, matters, and is meaningful (Steger et al., 2012). A sample item is: "At this moment, I have a good sense of what makes my job meaningful" (1 = *strongly disagree*, 7 = *strongly agree*).

Personal initiative was assessed using a seven-item scale developed and validated by Frese et al. (1997). One sample item is "In the past two weeks, I took initiative immediately even when others don't" (1 = *strongly disagree*, 7 = *strongly agree*).

Job performance of the subordinate was rated by their supervisor using the three-item individual task proficiency scale by Griffin et al. (2007) on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). One example item is: "In the past two weeks, this subordinate carried out the core parts of his/her job well."

Control variable. In line with the literature on feedback seeking (e.g., Lam et al., 2007; Sherf & Morrison, 2020), meaningfulness (e. g., Allan et al., 2019; Frieder et al., 2018), and personal initiative (e.g., Fay & Sonnentag, 2002; Sonnentag, 2003), we controlled for the subordinate's age, gender, organizational tenure, and proactive personality (Bateman & Crant, 1993). Following the more recent practices (e.g., Parker et al., 2006; Wu et al., 2018), we also controlled for proactive personality, which was assessed using the four highest loading items of the Bateman and Crant (1993) scale. One sample item is: "No matter what the odds, if I believe in something I will make it" (1 = *strongly disagree*, 7 = *strongly agree*).

4.3. Results

For descriptives, correlations, and Cronbach's α scale reliabilities, please see Table 1.

Hypothesis 1a proposes a positive association between feedback-seeking and meaningfulness. The OLS model in Table 2 shows a significant association between feedback-seeking and meaningfulness ($\beta = 0.268$, SE = 0.090, $p < .01$), supporting Hypothesis 1a. Hypothesis 2a proposes that feedback-seeking is positively associated with personal initiative via meaningfulness. To test this hypothesis, we used the PROCESS Macro from Hayes (2013) Model 4. The confidence intervals of the mediation ($\beta = 0.039$, SE = 0.023, 95 % CI [0.007, 0.090]) excluded zero, indicating a significant indirect effect. Hence Hypothesis 2a is supported. Hypothesis 3a proposes that the positive relationship between feedback-seeking and performance is mediated by 1) meaningfulness and 2) personal initiative. We tested the serial mediation with PROCESS Model 6, and the results supported the hypothesized relationship ($\beta = 0.018$, SE = 0.014, 95 % CI [0.002, 0.055]).

Table 1
Study 1 Correlations and descriptive statistics.

Variable	Mean	SD	1	2	3	4	5	6	7	8
1.Feedback seeking	3.09	1.15	(0.89)							
2.Meaningfulness	5.10	1.42	0.36**	(0.94)						
3.Personal initiative	5.48	0.95	0.50**	0.50**	(0.90)					
4.Performance	6.12	0.91	0.19**	0.32**	0.41**	(0.92)				
5. Age	38.82	11.69	−0.04	0.21**	0.12	0.08				
6. Gender	1.39	0.52	−0.12	0.08	−0.07	0.09	0.10			
7.Tenure	7.06	7.43	0.07	0.22**	0.19**	0.15*	0.55**	0.05		
8. Proactive Personality	5.15	1.06	0.52**	0.43**	0.66**	0.14*	0.04	−0.07	0.10	(0.84)

Note. $N = 196$. Coefficient alpha reliabilities are reported on the main diagonal in parentheses. Age, tenure: years; Gender: 1 = male, 2 = female. * $p <$ .05 ** $p <$ .01.

Table 2
Study 1 Results of OLS regression analyses.

Predictors	Meaningfulness		Personal initiative		Performance	
	B	SE	B	SE	B	SE
Constant	0.943	0.590	2.081**	0.321	3.982**	0.434
Feedback seeking	0.268**	0.090	0.143**	0.050	0.021	0.062
Meaningfulness			0.145**	0.039	0.112**	0.050
Personal initiative					0.463**	0.089
Age	0.018*	0.009	0.003	0.005	−0.004	0.006
Gender	0.295*	0.172	−0.070	0.094	0.159	0.115
Tenure	0.017	0.014	0.008	0.008	0.008	0.010
Proactive Personality	0.410**	0.098	0.417**	0.055	−0.226**	0.077
R^2	0.517**		0.722**		0.484**	

Note. N = 196. Coefficients presented are unstandardized estimates. CI = confidence interval. * $p < .05$. ** $p < .01$.

5. Study 2

5.1. Participants and procedure

Data for Study 2 were obtained from full-time employees in the UK who were recruited using the online survey platform Prolific (Peer et al., 2017, 2022; Stanton et al., 2022). At Time 1, we recruited 250 full-time employees. Two weeks later, we administered the Time 2 survey as a follow-up to the Time 1 survey. A total of 233 participants completed the Time 2 survey, resulting in a response rate of 93 %. Another two weeks later, we administered the Time 3 survey as a follow-up to the Time 2 survey. We received responses from 215 participants at Time 3, resulting in a response rate of 86 %. All variables in this study were measured at all three time points. At each time point, participants were asked to finish the survey based on a reflection on what happened in the past two weeks. We used anonymous IDs to match responses from the same participants across all three rounds, and we combined the surveys of 215 participants.

Furthermore, we implemented the following strategies to ensure the quality of the data. First, we paid the participants following recommended standards (Goodman & Paolacci, 2017). Second, we excluded 8 responses that fell outside 3 standard deviations from the average response time, which is consistent with the suggested best practices for Prolific data collection (Peer et al., 2017, 2022; Stanton et al., 2022). Third, we added one attention checker question in the middle of the survey, and no participants failed this attention check, which is consistent with the relatively high quality of Prolific data reported by Peer et al. (2022) in their study regarding data quality of online platforms. As a result, the final sample consisted of 207 employees, including 107 females (51.69 %). On average, the participants were 37.33 years old (SD = 11.28), and 62 % held a bachelor's degree or above. They had worked in their current job for an average of 7.34 years (SD = 7.94). The participants came from a variety of industries, including finance, healthcare, manufacturing, and construction.

5.2. Measures

We assessed *feedback-seeking behavior, meaningfulness, personal initiative, and performance,* using the same scales as in Study 1, with an adaptation for self-report orientation for items of feedback-seeking behavior and performance. For example, regarding self-reported feedback-seeking behavior, participants were asked how frequently they engaged in "Seeking feedback from your supervisor about your work performance" (1 = *never*, 5 = *always*). One sample item for self-reported performance is "I carried out the core parts of my job well" (1 = *strongly disagree*, 7 = *strongly agree*).

Control variable. Consistent with Study 1, we controlled for demographic variables such as age, gender, and tenure in the organization, which were measured at T1. We also controlled for proactive personality, measured at Time 3 using the same 4-item scale as in Study 1 (Bateman & Crant, 1993; Parker et al., 2006; Wu et al., 2018). Since the control variables, except for gender, were not significantly related to our dependent variables, we excluded them from the analysis report following the best practice of control variable usage suggested by Bernerth and Aguinis (2016). However, the results retain the same pattern when these variables are included.

5.3. Analytical approach

As a first step, we conducted confirmatory factor analyses (CFAs) using the "lavaan" package for the R statistical computing environment to test the measurement model (Rosseel, 2012). We then conducted a measurement equivalence analysis using Mplus version 8.3 (Muthén & Muthén, 1998). To account for observed deviations from normality, we used a robust maximum likelihood estimator in both analyses (Foldnes & Olsson, 2015).

Subsequently, we followed previous research by employing an LCS model using structural equation modeling in Mplus version 8.3 (Muthén & Muthén, 1998) to capture the effect of change that occurred (the LCS method excludes measurement error; Matusik et al., 2021). More specifically, we used the simplified LCS modeling approach (Selig & Preacher, 2009) preferred by previous studies (e.g., Zacher et al., 2019) to test the hypothesized indirect effects.

Hypothesis 1b suggests that change in feedback seeking is positively associated with change in meaningfulness. To test Hypotheses 1b, the latent change variable for meaningfulness (from T2 to T3) was specified to be related to T1 feedback seeking, T1–T2 change in feedback seeking, and T2 meaningfulness. Hypothesis 2b proposes an indirect relationship between change in feedback seeking and change in personal initiative via change in meaningfulness. To test this hypothesis, the latent change variable for personal initiative was specified to be related to T1 feedback seeking, T1–T2 change in feedback seeking, T2 meaningfulness, T2–T3 change in meaningfulness, and T2 personal initiative. Hypothesis 3b proposes a two-stage serial mediation. To test it, the dependent variable, the latent change variable for performance (from T2 to T3), was specified to be related to T1 feedback seeking, T1–T2 change in feedback seeking, T2 meaningfulness, T2–T3 change in meaningfulness, T2 personal initiative, T2-T3 change in personal initiative, and T2 performance. We conducted bootstrapping on Mplus with 5000 resamples by following Selig and Preacher (2009).

Finally, we report the results of three supplementary analyses. First, we conducted a reverse indirect effect analysis using LCS modeling to examine the alternative explanation that employees with lower performance may be more eager to seek feedback to make sense of their job. Employees are more likely to engage in the sensemaking process when they experience problems at work (Weick, 1995). Therefore, in this model, we used T1 performance and T1–T2 change in performance to predict T2–T3 change in feedback seeking, which, in turn, was assumed to be associated with T2-T3 change in meaningfulness and then T2-T3 change in personal initiative. Second, another possible alternative explanation is that the change in feedback seeking directly improves employee performance (e.g., Gong et al., 2017), which could, in turn, affect one's meaningfulness and personal initiative. To exclude this alternative scenario, we tested the serial mediation model in which T1–T2 change in feedback seeking was employed to predict T2–T3 change in performance and, further, T2–T3 change in meaningfulness and T2-T3 change in personal initiative. Third, since feedback seeking and personal initiative are both proactive behaviors, we reversed their order in the model and tested a model with T1–T2 change in personal initiative predicting T2–T3 change in meaningfulness, then T2-T3 change in feedback seeking, and, in the end, T2–T3 change in performance.

5.4. Results

Table 3 shows the descriptive statistics, correlations, and internal consistency reliability of the measurements used in our study.

5.4.1. Discriminant validity test

The results of the CFA indicate that the variables differed from each other on each of the three measurement occasions (as shown in Table 4). For the T1 data, a four-factor model provided a good data fit: χ^2 (113) = 197.345; CFI = 0.957; TLI = 0.948; RMSEA = 0.063; SRMR = 0.057. This model fitted the data better than a one-factor model, a two-factor model (where the items of feedback-seeking behavior and personal initiative were loaded into one factor, and the items of meaningfulness and performance were loaded into one factor), or a three-factor model (where the items of feedback-seeking behavior and personal initiative were loaded into one factor). Similar results were observed for data at T2 and T3.

5.4.2. Measurement invariance

To ensure that the repeated measures of the constructs use the same measurement instrument at each time point, it is necessary to establish longitudinal measurement invariance (Matusik et al., 2021). The test of invariance involves comparing three levels of nested models: the configural invariance model, followed by the metric (weak) factorial invariance model, and ending with the scalar (strong) factorial invariance model (Widaman & Reise, 1997). Specifically, in the configural model, the same items load onto the same latent factor, while the factor loading and intercepts were unconstrained; in the metric (weak) invariance model, the factor loadings of the same variables were constrained to be equal across the three times; and in the scalar (strong) invariance model, the intercepts of the indicators were also constrained to be equal over time. Models were estimated in Mplus version 8.3 (Muthén & Muthén, 1998) using the MLR estimation procedure. Thresholds for accepting non-invariance were set according to Chen (2007): a change ≥ -0.010 in CFI supplemented by a change ≥ 0.015 in RMSEA or a change ≥ 0.010 in SRMR would denote non-invariance. For testing metric invariance, following suggestions by Chen (2007), the threshold for SRMR was set to ≥ 0.030, since this index is particularly sensitive to changes in factor loadings. The results, summarized in Table 5, showed that all measurement models proved to be invariant over time.

5.4.3. Hypothesis testing

Table 6 shows the results of the LCS model used to test the hypotheses. The model fit is acceptable: χ^2 (523) = 898.099, $p < .001$; CFI = 0.938; TLI = 0.930; RMSEA = 0.059; SRMR = 0.055. Hypothesis 1b suggests that the change in feedback-seeking behavior is positively associated with the change in meaningfulness. In support of this hypothesis, Table 6 shows that T1–T2 change in feedback-seeking behavior is positively associated with T2–T3 change in meaningfulness ($B = 0.244$, $SE = 0.092$, 95 % CI [0.059, 0.418]). Hypothesis 2b proposes that the change in feedback-seeking behavior is positively associated with personal initiative, mediated by the change in meaningfulness. As shown in Table 6, the 95 % confidence intervals around the indirect effects of T1–T2 change in feedback-seeking behavior on T2–T3 change in personal initiative through the change in meaningfulness did not include zero ($B = 0.069$, $SE = 0.042$, 95 % CI [0.005, 0.166]). Hence, the indirect effect was significant, which supported Hypothesis 2b. Hypothesis 3b states that there is a serial mediation: the change in feedback-seeking behavior is positively associated with change in performance, mediated first by the change in meaningfulness and then by the change in personal initiative. As illustrated in Table 6, the indirect effect was significant ($B = 0.021$, $SE = 0.014$, 95 % CI [0.001, 0.055]), supporting Hypothesis 3b.

Table 3
Study 2 Correlations and descriptive statistics.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.Feedback seeking T1	2.62	1.08	(0.79)															
2.Feedback seeking T2	2.40	1.17	0.55**	(0.87)														
3.Feedback seeking T3	2.46	1.09	0.47**	0.69**	(0.86)													
4.Meaningfulness T1	5.00	1.46	0.11	0.19**	0.12	(0.94)												
5.Meaningfulness T2	4.86	1.59	0.13	0.18*	0.13	0.86**	(0.96)											
6.Meaningfulness T3	4.86	1.62	0.03	0.18*	0.14*	0.82**	0.87**	(0.95)										
7.Personal initiative T1	5.15	1.11	0.30**	0.32**	0.18**	0.41**	0.48**	0.41**	(0.90)									
8.Personal initiative T2	5.01	1.26	0.17*	0.30**	0.22**	0.38**	0.46**	0.43**	0.69**	(0.92)								
9.Personal initiative T3	5.20	1.19	0.12	0.25**	0.26**	0.41**	0.46**	0.51**	0.68**	0.67**	(0.91)							
10.Performance T1	6.02	0.73	−0.03	−0.02	−0.07	0.25**	0.28**	0.24**	0.43**	0.31**	0.36**	(0.85)						
11.Performance T2	6.00	0.94	0.01	0.08	0.05	0.16*	0.23**	0.22**	0.42**	0.61**	0.43**	0.43**	(0.93)					
12.Performance T3	6.13	0.71	0.01	0.07	0.11	0.20**	0.35**	0.30**	0.42**	0.50**	0.54**	0.40**	0.49**	(0.86)				
13.Age	37.33	11.28	−0.24**	−0.22**	−0.20**	0.16*	0.17*	0.16*	0.06	0.11	0.12	−0.04	−0.00	0.03				
14.Gender	1.52	0.50	−0.06	0.00	−0.04	0.01	0.08	0.10	0.03	0.08	0.09	0.19**	0.18**	0.27**	−0.24**			
15.Tenure	7.34	7.94	−0.21**	−0.15*	−0.12	0.15*	0.15*	0.15*	−0.03	0.09	0.12	−0.02	0.04	0.05	0.64**	−0.16*		
16.Proactive personality	3.70	1.40	−0.05	0.09	0.07	0.05	0.08	0.09	−0.06	0.01	0.00	−0.04	0.04	0.07	−0.04	0.07	0.01	(0.90)

Note. N = 207. Coefficient alpha reliabilities are reported on the main diagonal in parentheses. Age, tenure: years; Gender: 1 = male, 2 = female. * p < .05 ** p < .01.

Table 4
Study 2 Results of confirmatory factor analyses.

Model	χ^2	df	p	CFI	TLI	RMSEA	SRMR
Measurement point: Time 1							
One factor	1061.632	119	<0.001	0.494	0.421	0.211	0.160
Two factors[ab]	597.192	118	<0.001	0.742	0.702	0.151	0.147
Three factors[a]	348.966	116	<0.001	0.880	0.859	0.104	0.093
Four factors	197.345	113	<0.001	0.957	0.948	0.063	0.057
Measurement point: Time 2							
One factor	1313.848	119	<0.001	0.485	0.411	0.246	0.167
Two factors[ab]	935.085	118	<0.001	0.661	0.609	0.200	0.197
Three factors[a]	467.888	116	<0.001	0.853	0.827	0.133	0.101
Four factors	233.445	113	<0.001	0.950	0.940	0.078	0.048
Measurement point: Time 3							
One factor	942.329	119	<0.001	0.533	0.466	0.215	0.149
Two factors[ab]	599.699	118	<0.001	0.736	0.696	0.163	0.157
Three factors[a]	380.610	116	<0.001	0.857	0.832	0.121	0.098
Four factors	179.665	113	<0.001	0.964	0.957	0.061	0.049

Note. N = 207. Estimator = MLR. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square. [a.] Feedback-seeking behavior and personal initiative items are loaded into one factor. [b.] Meaningfulness and performance items are loaded into one factor.

Table 5
Study 2 Longitudinal Measurement Invariance test for feedback-seeking behavior, meaningfulness, personal initiative, and performance scales.

	χ^2	df	c	CFI	RMSEA	SRMR	$\Delta\chi^2$	Δdf	ΔCFI	ΔRMSEA	ΔSRMR
Feedback seeking											
Configural	10.546	14	1.077	1.000	0.000	0.018					
Metric	11.572	18	1.080	1.000	0.000	0.021	2.080	4	0.000	0.000	−0.003
Scalar	29.505	22	1.079	0.991	0.041	0.029	20.175	4	0.009	−0.041	−0.008
Meaningfulness											
Configural	58.992	39	1.635	0.988	0.050	0.022					
Metric	70.078	45	1.545	0.985	0.052	0.041	8.362	6	0.003	−0.002	−0.019
Scalar	76.781	51	1.475	0.984	0.049	0.043	−0.777	6	0.001	0.003	−0.002
Personal initiative											
Configural	268.794	165	1.177	0.957	0.055	0.044					
Metric	283.140	177	1.180	0.956	0.054	0.058	73.67	12	0.001	0.001	−0.014
Scalar	315.480	189	1.168	0.950	0.056	0.061	31.76	12	0.006	−0.002	−0.003
Performance											
Configural	11.584	14	1.591	1.000	0.000	0.035					
Metric	14.750	18	1.507	1.000	0.000	0.065	7.061	4	0.000	0.000	−0.030
Scalar	21.986	22	1.384	1.000	0.000	0.068	3.704	4	0.000	0.000	−0.003

Note. N = 207. χ^2 = Satorra-Bentler scaled chi-square; c = scaling correction factor. The first two items in feedback-seeking behavior T1 were allowed to correlate. The Item 1 and Item 3 of performance in T3 were allowed to correlate.

5.4.4. Supplementary analyses

We tested three alternative models. Alternative Model 1 was tested to determine whether T1 performance and T1–T2 change in performance predict T2–T3 change in feedback-seeking behavior, followed by T2–T3 change in meaningfulness and T2–T3 change in personal initiative. The alternative LCS model yielded a model fit index similar to that of the hypothesized model: χ^2 (523) = 863.399, $p < .001$; CFI = 0.945; TLI = 0.938; RMSEA = 0.056; SRMR = 0.054. However, neither T1 performance ($B = −0.050$, $SE = 0.089$, 95 % CI [−0.229,0.121]) nor T1–T2 change in performance ($B = 0.041$, $SE = 0.095$, 95 % CI [−0.151,0.217]) had a significant effect on T2–T3 change in feedback-seeking behavior. Therefore, neither the serial mediation model with T1 performance ($B = −0.001$, $SE = 0.004$, 95 % CI [−0.011, 0.005]) nor the one with T1–T2 change in performance ($B = 0.001$, $SE = 0.004$, 95 % CI [−0.008, 0.009]) as predictors was significant.

Alternative Model 2 states that T1–T2 change in feedback-seeking behavior predicts T2–T3 change in performance, followed by T2–T3 change in meaningfulness and finally, T2–T3 change in personal initiative. This alternative LCS model also yielded acceptable model fit: χ^2 (523) = 898.099, $p < .001$; CFI = 0.938; TLI = 0.930; RMSEA = 0.059; SRMR = 0.055. Nevertheless, T1–T2 change in feedback-seeking behavior did not directly predict T2–T3 change in performance ($B = 0.024$, $SE = 0.063$, 95 % CI [−0.103, 0.147]).

Table 6

Study 2 Standardized results of the bootstrapped LCS model for direct and mediating effects.

Predictor variable	Estimate	Standard error	MC 95 % CI Lower	MC 95 % CI Upper
Outcome variable: Δ Meaningfulness T2 to T3				
Gender	0.057	0.076	−0.095	0.206
Meaningfulness T2	−0.203	0.080	−0.349	−0.034
Feedback seeking T1	−0.131	0.087	−0.302	0.039
Δ Feedback seeking T1 to T2	0.244	0.092	0.059	0.418
Outcome variable: Δ Personal initiative T2 to T3				
Gender	0.011	0.064	−0.113	0.138
Personal initiative T2	−0.581	0.086	−0.740	−0.402
Feedback seeking T1	0.046	0.072	−0.094	0.190
Δ Feedback seeking T1 to T2	−0.008	0.092	−0.185	0.178
Meaningfulness T2	0.286	0.085	0.126	0.460
Δ Meaningfulness T2 to T3	0.282	0.115	0.051	0.503
Outcome variable: Δ Performance T2 to T3				
Gender	0.168	0.051	0.067	0.269
Performance T2	−0.928	0.085	−1.077	−0.740
Feedback seeking T1	−0.089	0.059	−0.206	0.028
Δ Feedback seeking T1 to T2	−0.028	0.067	−0.163	0.105
Meaningfulness T2	0.046	0.065	−0.082	0.176
Δ Meaningfulness T2 to T3	−0.171	0.088	−0.346	−0.003
Personal initiative T2	0.434	0.102	0.239	0.636
Δ Personal initiative T2 to T3	0.310	0.081	0.152	0.473
Indirect effect estimates with 95 % confidence intervals	Estimate	Standard error	MC 95 % CI Lower	MC 95 % CI Upper
Δ Feedback seeking T1 to T2 ➜ Δ Meaningfulness T2 to T3 ➜ Δ Personal initiative T2 to T3	0.069	0.042	0.005	0.166
Δ Feedback seeking T1 to T2 ➜ Δ Meaningfulness T2 to T3 ➜ Δ Personal initiative T2 to T3 ➜ Δ Performance T2 to T3	0.021	0.014	0.001	0.055

Note. N = 207. Bootstrapping sample = 5000. Δ = change in; T = time. Gender: 1 = male, 2 = female.

Hence the serial mediation was not significant ($B = -0.001$, $SE = 0.005$, 95 % CI [−0.015, 0.007]).

Alternative Model 3 tests whether T1–T2 change in personal initiative predicts T2–T3 change in performance via T2–T3 change in work meaningfulness and T2–T3 change in feedback-seeking behavior. This alternative LCS model yielded acceptable model fit: χ^2 (523) = 840.300, $p < .001$; CFI = 0.948; TLI = 0.941; RMSEA = 0.054; SRMR = 0.054. However, the results show that T1–T2 change in personal initiative did not directly predict T2–T3 change in meaningfulness ($B = 0.091$, $SE = 0.095$, 95 % CI [−0.107, 0.270]); the serial mediation was thus not significant either ($B = 0.000$, $SE = 0.002$, 95 % CI [−0.003, 0.006]). These results from the alternative models provided supplementary evidence for our proposed model.[2]

6. Discussion

The existing research from various domains has investigated a wide range of proactive behaviors (e.g., Taber & Blankemeyer, 2015; Thomas et al., 2010). However, very few studies have explored the relationship among them, including whether one proactive behavior leads to another. In this study, we investigate the dynamic process between two types of proactive behaviors: feedback-seeking behavior and personal initiative. Specifically, based on the sensemaking theory, our theoretical model suggests that feedback-seeking behavior is positively associated with performance, through meaningfulness and personal initiative. Our hypotheses were supported by the multi-source and multi-wave data of Study 1 and the panel data of Study 2, providing consistent evidence. The findings highlight the importance of examining and comprehending the relationships between different forms of proactive behaviors. Moreover, this research contributes to our understanding of the development of work meaningfulness by showing that employees are proactive in seeking and incorporating feedback from others at work, indicating their agentic aspect.

6.1. Theoretical contribution

This study makes several contributions to the literature on proactive behaviors, work meaningfulness, and performance. First, the study fills a gap in the literature by investigating the dynamic process by which one proactive behavior (feedback-seeking behavior) is linked to another proactive behavior (personal initiative) through the mediating role of work meaningfulness. The findings provide support for the notion that different forms of proactive behaviors serve different purposes and are generated in different contexts (e.g., Taber & Blankemeyer, 2015; Wu et al., 2018). While earlier studies have recognized distinct proactive behaviors (e.g., Crant, 2000),

---

[2] Results of supplementary analyses are provided in the supplementary tables.

only recently have scholars started to link these distinct behaviors and investigate their relationships (e.g., Schilpzand et al., 2018). Thus, this study provides a temporal and dynamic perspective to help develop a fuller understanding of various proactive behaviors and reveals the underlying cognitive mechanism (i.e., work meaningfulness) linking feedback-seeking behavior and personal initiative.

Furthermore, this temporal and dynamic perspective of proactivity contributes to the trait versus state discussion in the literature on career proactivity. Earlier research has examined proactivity from a trait perspective. For example, feedback seeking has been operationalized as a trait construct (see Anseel et al., 2015, for a review), suggesting that an individual's feedback seeking tends to be relatively stable. However, other studies have indicated that feedback seeking fluctuates based on the level of uncertainty in the workplace (Ashford & Black, 1996; Ashford & Cummings, 1983) and gradually decreases for newcomers as their knowledge of the job and the organization improves (Vandenberghe et al., 2021). Our work aligns with this more recent state perspective of proactivity (Jiang et al., 2023) by capturing the intrapersonal changes in feedback seeking and personal initiative over time. In this sense, employees may continually choose to increase or decrease their feedback seeking to effectively manage the uncertainty in their job and career proactively.

Second, previous studies on the relationship between feedback seeking and performance have shown mixed results (e.g., Ashford & Black, 1996; Huang, 2012; Nae et al., 2015), which suggests the need for further research on the intermediate process in this relationship (Anseel et al., 2015). Our study highlights both the direct linear relationship and the within-person dynamics of feedback-seeking behavior and its sequential outcomes, including work meaningfulness, personal initiative, and performance, which added new insights to the line of research on feedback seeking in performance and career self-management literature (e.g., Hirschi & Koen, 2021).

Third, this study extends the research on work meaningfulness by taking an employee-centric view (Boeck et al., 2019) and showing that employees proactively take ongoing interpersonal actions (i.e., feedback-seeking behavior) to constantly modify their work meaningfulness and behaviors. This complements earlier research that views work meaningfulness as a subjective experience susceptible to an individual's personal construction (e.g., Martela et al., 2021; Pratt & Ashforth, 2003; Rosso et al., 2010). Moreover, this study contributes to the line of research that uses a third-person perspective on one's work meaningfulness (e.g., Arnold et al., 2007; Colbert et al., 2016; Tosti-Kharas & Michaelson, 2021; Wrzesniewski et al., 2003). Our findings not only echo the prior research on the role of others in the construction of one's meaningfulness but also suggest that employees can seek feedback proactively to develop their work meaningfulness, highlighting the agentic nature of employees.

In addition, studies across various fields have identified numerous proactive behaviors with various measurement scales, raising concerns about the potential duplication of similar concepts (Parker & Collins, 2010). Past literature has attempted to address this issue by examining the antecedents and outcomes of various proactive behavior measures through the study of their nomological network (e.g., Parker & Collins, 2010; Thomas et al., 2010; Tornau & Frese, 2013). This research contributes to this discussion by introducing a temporal perspective for solving this measurement issue.

Methodologically, the two independent studies conducted in this paper are complementary, supporting the robustness and reliability of our findings. Regarding the samples, Study 1 included a sample of supervisor-subordinate dyads from a large organization in China. By having supervisors report their subordinates' feedback-seeking behavior and performance, we mitigated potential self-serving biases. Study 2 recruited a sample of full-time employees from the UK via Prolific, which provides a diverse range of organizational contexts and enhances the external validity of our findings. Moreover, while Study 1 employed OLS regression analyses to test the proposed relationships in our model, Study 2 examined the intrapersonal effects of changes in one variable on changes in other variables, also known as "change-to-change" effects, thereby providing additional evidence for the proposed relationships (Selig & Preacher, 2009; Wang et al., 2017). Overall, the combination of these two studies offers a rigorous examination of the proposed relationships, increasing confidence in our findings. Future studies can adopt this practice of testing both between-person effects from multi-source data and within-person effects (i.e., intrapersonal effects) from longitudinal data to enhance rigor, as well as answering the call for research that distinguishes between the between- and within-person effects of proactive behaviors (Anseel et al., 2015; Grant & Ashford, 2008).

6.2. Practical implications

The findings of this study provide practical insights for organizations. Firstly, our study highlights the importance of feedback-seeking behavior in proactively self-managing one's career in terms of constructing meaningfulness, which is a fundamental need for employees (Yeoman, 2014). Work meaningfulness is related to various positive outcomes, such as job satisfaction, life satisfaction, and general health (Arnold et al., 2007; Shockley et al., 2016; Steger et al., 2012). Moreover, Michaelson (2011) argued that organizations have a moral obligation to provide their employees with meaningful work, and organizations today strive to manage work meaningfulness (Bailey et al., 2017). Our study suggests that organizations should recognize the agentic aspect of employees and encourage them to proactively seek feedback to facilitate their work meaningfulness. To create an environment conducive to feedback-seeking, organizations should provide employees with more autonomy (Beenen et al., 2017), which can help them overcome the fear of a negative image that hinders feedback-seeking behavior (Anseel et al., 2007).

In addition to practical implications for work meaningfulness, our study also has implications for organizational effectiveness. Personal initiative can bring positive changes from the bottom of the organizational hierarchy, but employees may be hesitant to engage in such proactive behavior due to the stigma of seeming rebellious (Frese & Fay, 2001). Our study suggests that creating an environment that helps employees proactively make sense of their own position in the organization can motivate them to engage in personal initiative. Human resources departments and leaders can organize training to help employees experience more

meaningfulness in the organization (Fletcher & Schofield, 2021). Transformational leadership and the organization's commitment to corporate social responsibility can also boost employees' sense of meaningfulness (Aguinis & Glavas, 2019; Frieder et al., 2018), which can stimulate personal initiative that is constructive toward the organization's goals (Frohman, 1997). By recognizing and encouraging employees' agentic aspect, organizations can facilitate both employee well-being and organizational effectiveness.

6.3. Limitations and directions for future research

There are several limitations to our study. First, while our study utilized a three-wave survey design in Study 2 to examine the proposed relationships, it does not permit us to determine the time lags between meaningfulness, personal initiative, and performance. Thus, we recommend future research employ additional rounds of surveys and/or complementary designs to improve in this regard.

Second, we controlled for proactive personality in both studies. However, the correlations between proactive personality and the studied variables are significant in Study 1 but not in Study 2. Although previous studies have shown that proactive personality is not always correlated with proactive behaviors (e.g., Fuller et al., 2006; Hong et al., 2016; Wu et al., 2018), the dominant assumption in this field is that proactive personality automatically increases proactive behaviors. Thus, there is a lack of recognition of these nonsignificant correlations in previous studies, as well as an absence of effort to uncover possible reasons behind them. Conceptually, these (non)significant correlations between proactive personality and proactive behaviors may imply that proactive personality does not necessarily translate into proactive behaviors. Exploring the boundary conditions and underlying mechanisms, such as attitudes, cognition, and specific individual and organizational characteristics, deserves further research attention.

Additionally, in our Study 2, we collected data on proactive personality in the last section of the Time 3 data collection, which may have caused fatigue or a lack of focus at the end of a month-long multi-wave survey. This could potentially be a factor contributing to the nonsignificant correlations between proactive personality and behaviors. Therefore, future studies may consider measuring proactive personality on multiple occasions (e.g., both at the start and the end of the survey) in order to 1) assess its intrapersonal consistency and 2) eliminate the potential influence of fatigue.

Third, to advance our understanding of the relationships among different forms of proactive behaviors, future research should consider the possibility that feedback-seeking behavior may lead to other proactive behaviors, such as network-building in newcomers' onboarding process and beyond (Ferris et al., 2005; Vandenberghe et al., 2021). Furthermore, our study focused on the frequency fluctuation of feedback-seeking behavior and its impact on meaningfulness, but did not explore other aspects, such as the affective tone or target of feedback-seeking behavior (e.g., VandeWalle, 2003). Therefore, future studies should explore the effects of feedback-seeking behavior from these nuanced perspectives.

Lastly, the samples of our two studies are from different countries. Therefore, we conducted invariance tests to assess the equivalence of the measures of our four studied variables across the two study groups. We compared all four measures in Study 1 (two self-reported and two leader-reported) with the respective measures from Study 2 Time 1 (all self-reported) using the MLR estimation procedure in Mplus version 8.3 (Muthén & Muthén, 1998). The results indicate that the scales measure the same construct similarly in both studies (see the supplementary material for the table of full results). These findings provide confidence in the use of these measures in a cross-cultural setting, thereby opening opportunities to investigate the role of cultural differences in career proactivity. For instance, previous research has demonstrated that certain cultural characteristics, such as individualism-collectivism and uncertainty avoidance, can influence individuals' feedback-seeking behavior (see Sully De Luque & Sommer, 2000, for a review). Hence, it is reasonable to speculate that similar cultural characteristics may have comparable impacts on personal initiative, as well as on the relationships proposed and examined in this study. Future research can further explore this avenue by employing a cross-cultural framework.

7. Conclusion

In this study, we investigated the relationship between two proactive behaviors, feedback-seeking behavior and personal initiative, and their importance for work meaningfulness and performance from a sensemaking perspective. Our findings demonstrate that feedback-seeking behavior is positively associated with performance, with meaningfulness and personal initiative serving as the underlying cognitive and behavioral mechanisms, respectively. These results make important theoretical contributions to the literature on career self-management, job and career crafting, and work meaningfulness. Additionally, our findings have practical implications for human resource managers seeking to enhance employee initiative and performance by fostering a work environment that values proactive behaviors and promotes meaningful work experiences.

Credit author statement

Bin Ma: conceptualization, theory, methodology, and writing; Siyao Zhu: conceptualization, methodology, data analysis, and writing; Kriti Jain: conceptualization and general revision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Acknowledgements

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jvb.2023.103896.

References

Aguinis, H., & Glavas, A. (2019). On corporate social responsibility, Sensemaking, and the search for meaningfulness through work. *Journal of Management, 45*(3), 1057–1086. https://doi.org/10.1177/0149206317691575

Allan, B. A., Batz-Barbarich, C., Sterling, H. M., & Tay, L. (2019). Outcomes of meaningful work: A meta-analysis. *Journal of Management Studies, 56*(3), 500–528. https://doi.org/10.1111/joms.12406

Anseel, F., Beatty, A. S., Shen, W., Lievens, F., & Sackett, P. R. (2015). How are we doing after 30 years? A meta-analytic review of the antecedents and outcomes of feedback-seeking behavior. *Journal of Management, 41*(1), 318–348. https://doi.org/10.1177/0149206313484521

Anseel, F., Lievens, F., & Levy, P. E. (2007). A self-motives perspective on feedback-seeking behavior: Linking organizational behavior and social psychology research. *International Journal of Management Reviews, 9*(3), 211–236. https://doi.org/10.1111/j.1468-2370.2007.00210.x

Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12*(3), 193–203. https://doi.org/10.1037/1076-8998.12.3.193

Ashford, S. J. (1986). Feedback-seeking in individual adaptation: A resource perspective. *The Academy of Management Journal, 29*(3), 465–487. https://doi.org/10.2307/256219

Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology, 81*(2), 199–214. https://doi.org/10.1037/0021-9010.81.2.199

Ashford, S. J., Blatt, R., & VandeWalle, D. (2003). Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. *Journal of Management, 29*(6), 773–799. https://doi.org/10.1016/S0149-2063_03_00079-5

Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational Behavior and Human Performance, 32*(3), 370–398. https://doi.org/10.1016/0030-5073(83)90156-3

Bailey, C., Madden, A., Alfes, K., Shantz, A., & Soane, E. (2017). The mismanaged soul: Existential labor and the erosion of meaningful work. *Human Resource Management Review, 27*(3), 416–430. https://doi.org/10.1016/j.hrmr.2016.11.001

Bakker, A. B., Hetland, J., Olsen, O. K., Espevik, R., & De Vries, J. D. (2020). Job crafting and playful work design: Links with performance during busy and quiet days. *Journal of Vocational Behavior, 122*, 1034–1078. https://doi.org/10.1016/j.jvb.2020.103478

Barrick, M. R., Mount, M. K., & Li, N. (2013). The theory of purposeful work behavior: The role of personality, higher-order goals, and job characteristics. *Academy of Management Review, 38*(1), 132–153. https://doi.org/10.5465/amr.2010.0479

Bateman, T., & Crant, J. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior, 14*, 103–118. https://doi.org/10.1002/job.4030140202

Beenen, G., Pichler, S., & Levy, P. E. (2017). Self-determined feedback seeking: The role of perceived supervisor autonomy support. *Human Resource Management, 56* (4), 555–569. https://doi.org/10.1002/hrm.21787

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J. Dik, Z. S. Byrne, & M. F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 81–104). Washington, DC: American Psychological Association. https://doi.org/10.1037/14183-005

Bernerth, J. B., & Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology, 69*(1), 229–283. https://doi.org/10.1111/peps.12103

Bindl, U. K., & Parker, S. K. (2011). Proactive work behavior: Forward-thinking and change-oriented action in organizations. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, Vol 2: Selecting and developing members for the organization. (pp. 567–598)*. American Psychological Association. https://doi.org/10.1037/12170-019

Bindl, U. K., Parker, S. K., Totterdell, P., & Hagger-Johnson, G. (2012). Fuel of the self-starter: How mood relates to proactive goal regulation. *Journal of Applied Psychology, 97*(1), 134–150. https://doi.org/10.1037/a0024368

Bledow, R., & Frese, M. (2009). A situational judgment test of personal initiative and its relationship to performance. *Personnel Psychology, 62*, 229–258. https://doi.org/10.1111/j.1744-6570.2009.01137.x

Boeck, G., Dries, N., & Tierens, H. (2019). The experience of untapped potential: Towards a subjective temporal understanding of work meaningfulness. *Journal of Management Studies, 56*(3), 529–557. https://doi.org/10.1111/joms.12417

Brislin, R. W. (1986). The wording and translation of research instruments. In W. L. Lonner, & J. W. Berry (Eds.), *Field methods in cross-cultural research* (pp. 137–164). CA: Newbury Park.

Brown, S. P., Ganesan, S., Challagalla, G., Brown, S. P., Ganesan, S., & Challagalla, G. (2001). Self-efficacy as a moderator of information-seeking effectiveness. *Journal of Applied Psychology, 86*(5), 1043–1051. https://doi.org/10.1037/0021-9010.86.5.1043

Carton, A. M. (2018). "I'm not mopping the floors, I'm putting a man on the moon": How NASA leaders enhanced the meaningfulness of work by changing the meaning of work. *Administrative Science Quarterly, 63*(2), 323–369. https://doi.org/10.1177/0001839217713748

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 464*–504. https://doi.org/10.1080/10705510701301834

Colbert, A. E., Bono, J. E., & Purvanova, R. K. (2016). Flourishing via workplace relationships: Moving beyond instrumental support. *Academy of Management Journal, 59*(4), 1199–1223. https://doi.org/10.5465/amj.2014.0506

Cooper-Thomas, H. D., Paterson, N. L., Stadler, M. J., & Saks, A. M. (2014). The relative importance of proactive behaviors and outcomes for predicting newcomer learning, well-being, and work engagement. *Journal of Vocational Behavior, 84*(3), 318–331. https://doi.org/10.1016/j.jvb.2014.02.007

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*(3), 435–462. https://doi.org/10.1177/014920630002600304

De Dreu, C., & Nauta, A. (2009). Self-interest and other-orientation in organizational behavior: Implications for job performance, prosocial behavior, and personal initiative. *The Journal of Applied Psychology, 94*, 913–926. https://doi.org/10.1037/a0014494

De Vos, A., De Clippeleer, I., & Dewilde, T. (2009). Proactive career behaviours and career success during the early career. *Journal of Occupational and Organizational Psychology, 82*(4), 761–777. https://doi.org/10.1348/096317909X471013

Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organizations: A sensemaking perspective. *Academy of Management Review, 24*(2), 286–307. https://doi.org/10.5465/amr.1999.1893937

Elangovan, A. R., Pinder, C. C., & McLean, M. (2010). Callings and organizational behavior. *Journal of Vocational Behavior, 76*(3), 428–440. https://doi.org/10.1016/j.jvb.2009.10.009

Fay, D., & Sonnentag, S. (2002). Rethinking the effects of stressors: A longitudinal study on personal initiative. *Journal of Occupational Health Psychology, 7*(3), 221–234. https://doi.org/10.1037/1076-8998.7.3.221

Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwarter, W. A., Kacmar, C. J., Douglas, C., & Frink, D. D. (2005). Development and validation of the political skill inventory. *Journal of Management, 31*(1), 126–152. https://doi.org/10.1177/0149206304271386

Fletcher, L., Bailey, C., & Gilman, M. W. (2018). Fluctuating levels of personal role engagement within the working day: A multilevel study. *Human Resource Management Journal, 28*(1), 128–147. https://doi.org/10.1111/1748-8583.12168

Fletcher, L., & Schofield, K. (2021). Facilitating meaningfulness in the workplace: A field intervention study. *The International Journal of Human Resource Management, 32*(14), 2975–3003. https://doi.org/10.1080/09585192.2019.1624590

Foldnes, N., & Olsson, U. H. (2015). Correcting too much or too little? The performance of three chi-square corrections. *Multivariate Behavioral Research, 50*(5), 533–543. https://doi.org/10.1080/00273171.2015.1036964

Ford, C. M. (2000). Creative developments in creativity theory. *Academy of management. The Academy of Management Review, 25*(2), 284–285. https://doi.org/10.1177/1056492607312215

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23*, 133–187. https://doi.org/10.1016/S0191-3085(01)23005-6

Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology, 70*(2), 139–161. https://doi.org/10.1111/j.2044-8325.1997.tb00639.x

Frese, M., Garst, H., & Fay, D. (2007). Making things happen: Reciprocal relationships between work characteristics and personal initiative in a four-wave longitudinal structural equation model. *Journal of Applied Psychology, 92*(4), 1084–1102. https://doi.org/10.1037/0021-9010.92.4.1084

Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between east and West Germany. *Academy of Management Journal, 39*(1), 37–63. https://doi.org/10.2307/256630

Frieder, R. E., Wang, G., & Oh, I.-S. (2018). Linking job-relevant personality traits, transformational leadership, and job performance via perceived meaningfulness at work: A moderated mediation model. *Journal of Applied Psychology, 103*(3), 324–333. https://doi.org/10.1037/apl0000274

Frohman, A. L. (1997). Igniting organizational change from below: The power of personal initiative. *Organizational Dynamics, 25*(3), 39–53. https://doi.org/10.1016/S0090-2616(97)90046-2

Fuller, J. B., Marler, L. E., & Hester, K. (2006). Promoting felt responsibility for constructive change and proactive behavior: Exploring aspects of an elaborated model of work design. *Journal of Organizational Behavior, 27*(8), 1089–1120. https://doi.org/10.1002/job.425

Fürstenberg, N., Alfes, K., & Shantz, A. (2020). Meaningfulness of work and supervisory-rated job performance: A moderated-mediation model. *Human Resource Management, hrm.22041.* https://doi.org/10.1002/hrm.22041

Glaser, L., Stam, W., & Takeuchi, R. (2016). Managing the risks of proactivity: A multilevel study of initiative and performance in the middle management context. *Academy of Management Journal, 59*, 1339–1360. https://doi.org/10.5465/amj.2014.0177

Glaub, M. E., Frese, M., Fischer, S., & Hoppe, M. (2014). Increasing personal initiative in small business managers or owners leads to entrepreneurial success: A theory-based controlled randomized field intervention for evidence-based management. *Academy of Management Learning & Education, 13*(3), 354–379. https://doi.org/10.5465/amle.2013.0234

Gong, Y., Wang, M., Huang, J.-C., & Cheung, S. Y. (2017). Toward a goal orientation–based feedback-seeking typology. *Journal of Management, 43*(4), 1234–1260. https://doi.org/10.1177/0149206314551797

Goodman, J. K., & Paolacci, G. (2017). Crowdsourcing consumer research. *Journal of Consumer Research, 44*(1), 196–210. https://doi.org/10.1093/jcr/ucx047

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior, 28*, 3–34. https://doi.org/10.1016/j.riob.2008.04.002

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive per- spectives. *Academy of Management Annals, 3*(1), 317–375. https://doi.org/10.1080/19416520903047327

Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 50*(2), 327–347. https://doi.org/10.5465/amj.2007.24634438

Hakanen, J. J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behavior, 73*(1), 78–91. https://doi.org/10.1016/j.jvb.2008.01.003

Hartog, D. N., & Belschak, F. D. (2007). Personal initiative, commitment and affect at work. *Journal of Occupational and Organizational Psychology, 80*(4), 601–622. https://doi.org/10.1348/096317906X171442

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis, first edition: A regression-based approach.*

Hays, J. C., & Williams, J. R. (2011). Testing multiple motives in feedback seeking: The interaction of instrumentality and self protection motives. *Journal of Vocational Behavior, 79*(2), 496–504. https://doi.org/10.1016/j.jvb.2011.01.007

Heslin, P. A., Keating, L. A., & Ashford, S. J. (2020). How being in learning mode may enable a sustainable career across the lifespan. *Journal of Vocational Behavior, 117*, 1023–1024. https://doi.org/10.1016/j.jvb.2019.103324

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87*, 1–10. https://doi.org/10.1016/j.jvb.2020.103505

Hirschi, A., & Koen, J. (2021). Contemporary career orientations and career self-management: A review and integration. *Journal of Vocational Behavior, 126*, Article 103505.

Hofmann, D. A., Lei, Z., & Grant, A. M. (2009). Seeking help in the shadow of doubt: The sensemaking processes underlying how nurses decide whom to ask for advice. *Journal of Applied Psychology, 94*(5), 1261–1274. https://doi.org/10.1037/a0016557

Hong, Y., Liao, H., Raub, S., & Han, J. H. (2016). What it takes to get proactive: An integrative multilevel model of the antecedents of personal initiative. *Journal of Applied Psychology, 101*(5), 687–701. https://doi.org/10.1037/apl0000064

Huang, J.-T. (2012). Be proactive as empowered? The role of trust in one's supervisor in psychological empowerment, feedback seeking, and job performance. *Journal of Occupational Social Psychology, 42*(S1), E103–E127. https://doi.org/10.1111/j.1559-1816.2012.01019.x

Jiang, Z., Newman, A., Le, H., Presbitero, A., & Zheng, C. (2019). Career exploration: A review and future research agenda. *Journal of Vocational Behavior, 110*, 338–356. https://doi.org/10.1016/j.jvb.2018.08.008

Jiang, Z., Wang, Y., Li, W., Peng, K. Z., & Wu, C. H. (2023). Career proactivity: A bibliometric literature review and a future research agenda. *Applied Psychology, 72*(1), 144–184. https://doi.org/10.1111/apps.12442

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*(4), 692–724. https://doi.org/10.2307/256287

Lam, W., Huang, X., & Snape, E. (2007). Feedback-seeking behavior and leader-member exchange: Do supervisor-attributed motives matter? *Academy of Management Journal, 50*(2), 348–363. https://doi.org/10.5465/amj.2007.24634440

Leunissen, J. M., Sedikides, C., Wildschut, T., & Cohen, T. R. (2018). Organizational nostalgia lowers turnover intentions by increasing work meaning: The moderating role of burnout. *Journal of Occupational Health Psychology, 23*(1), 44–57. https://doi.org/10.1037/ocp0000059

Liu, Y., Mo, S., Song, Y., & Wang, M. (2016). Longitudinal analysis in occupational health psychology: A review and tutorial of three longitudinal modeling techniques. *Applied Psychology, 65*(2), 379–411. https://doi.org/10.1111/apps.12055

Lysova, E. I., Allan, B. A., Dik, B. J., Duffy, R. D., & Steger, M. F. (2019). Fostering meaningful work in organizations: A multi-level review and integration. *Journal of Vocational Behavior, 110*, 374–389. https://doi.org/10.1016/j.jvb.2018.07.004

Maitlis, S. (2005). The social processes of organizational sensemaking. *The Academy of Management Journal, 48*(1), 21–49. https://doi.org/10.2307/20159639

Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *Academy of Management Annals, 8*(1), 57–125. https://doi.org/10.5465/19416520.2014.873177

Martela, F., Gómez, M., Unanue, W., Araya, S., Bravo, D., & Espejo, A. (2021). What makes work meaningful? Longitudinal evidence for the importance of autonomy and beneficence for meaningful work. *Journal of Vocational Behavior, 131*, 1026–1031. https://doi.org/10.1016/j.jvb.2021.103631

Matusik, J. G., Hollenbeck, J. R., & Mitchell, R. L. (2021). Latent change score models for the study of development and dynamics in organizational research. *Organizational Research Methods, 24*(4), 772–801. https://doi.org/10.1177/1094428120963788

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology, 77*(1), 11–37. https://doi.org/10.1348/096317904322915892

Michaelson, C. (2011). Whose responsibility is meaningful work? *Journal of Management Development, 30*(6), 548–557. https://doi.org/10.1108/02621711111135152

Morrison, E. W. (1993). Newcomer information seeking: Exploring types, modes, sources, and outcomes. *The Academy of Management Journal, 36*(3), 557–589. https://doi.org/10.2307/256592

Muthén, L. K., & Muthén, B. O. (1998). *Mplus user's guide* (8th ed.). Muthén & Muthén.

Nae, E. Y., Moon, H. K., & Choi, B. K. (2015). Seeking feedback but unable to improve work performance? Qualified feedback from trusted supervisors matters. *Career Development International, 20*(1), 81–100. https://doi.org/10.1108/CDI-08-2014-0107

Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior, 27*(3), 257–279. https://doi.org/10.1002/job.376

Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management, 36*(4), 827–856. https://doi.org/10.1177/0149206310363732

Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*(3), 633–662. https://doi.org/10.1177/0149206308321554

Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology, 91*(3), 636–652. https://doi.org/10.1037/0021-9010.91.3.636

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology, 70*, 153–163. https://doi.org/10.1016/j.jesp.2017.01.006

Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2022). Data quality of platforms and panels for online behavioral research. *Behavior Research Methods, 54*(4), 1643–1662.

Pratt, M. G., & Ashforth, B. E. (2003). Fostering meaningfulness in working and at work. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (1st ed., pp. 309–327). Berrett-Koehler.

Raabe, B., Frese, M., & Beehr, T. A. (2007). Action regulation theory and career self-management. *Journal of Vocational Behavior, 70*(2), 297–311. https://doi.org/10.1016/j.jvb.2006.10.005

Ring, P. S., & Van de Ven, A. H. (2000). Formal and informal dimensions of transactions. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the Management of Innovation: The Minnesota studies* (pp. 171–192). Oxford University Press.

Rooks, G., Sserwanga, A., & Frese, M. (2016). Unpacking the personal initiative-performance relationship: A multi-group analysis of innovation by ugandan rural and urban entrepreneurs. *Applied Psychology, 65*(1), 99–131. https://doi.org/10.1111/apps.12033

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2). https://doi.org/10.18637/jss.v048.i02

Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior, 30*, 91–127. https://doi.org/10.1016/j.riob.2010.09.001

Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior, 36*(S1), S6–S32. https://doi.org/10.1002/job.1937

Schilpzand, P., Houston, L., & Cho, J. (2018). Not too tired to be proactive: Daily empowering leadership spurs next-morning employee proactivity as moderated by nightly sleep quality. *Academy of Management Journal, 61*(6), 2367–2387. https://doi.org/10.5465/amj.2016.0936

Selig, J. P., & Preacher, K. J. (2009). Mediation models for longitudinal data in developmental research. *Research in Human Development, 6*(2–3), 144–164. https://doi.org/10.1080/15427600902911247

Sherf, E. N., & Morrison, E. W. (2020). I do not need feedback! Or do I? Self-efficacy, perspective taking, and feedback seeking. *Journal of Applied Psychology, 105*(2), 146–165. https://doi.org/10.1037/apl0000432

Shockley, K. M., Ureksoy, H., Rodopman, O. B., Poteat, L. F., & Dullaghan, T. R. (2016). Development of a new scale to measure subjective career success: A mixed-methods study. *Journal of Organizational Behavior, 37*(1), 128–153. https://doi.org/10.1002/job.2046

Soane, E., Shantz, A., Alfes, K., Truss, C., Rees, C., & Gatenby, M. (2013). The association of meaningfulness, well-being, and engagement with absenteeism: A moderated mediation model. *Human Resource Management, 52*(3), 441–456. https://doi.org/10.1002/hrm.21534

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between nonwork and work. *Journal of Applied Psychology, 88*(3), 518–528. https://doi.org/10.1037/0021-9010.88.3.518

Stanton, K., Carpenter, R. W., Nance, M., Sturgeon, T., & Villalongo Andino, M. (2022). A multisample demonstration of using the prolific platform for repeated assessment and psychometric substance use research. *Experimental and Clinical Psychopharmacology, 30*(4), 432–443. https://doi.org/10.1037/pha0000545

Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment, 20*(3), 322–337. https://doi.org/10.1177/1069072711436160

Sturges, J., Clinton, M., Conway, N., & Budjanovcanin, A. (2019). I know where I'm going: Sensemaking and the emergence of calling. *Journal of Vocational Behavior, 114*, 57–68. https://doi.org/10.1016/j.jvb.2019.02.006

Sully De Luque, M. F., & Sommer, S. M. (2000). The impact of culture on feedback-seeking behavior: An integrated model and propositions. *Academy of Management Review, 25*(4), 829–849. https://doi.org/10.5465/AMR.2000.3707736

Taber, B. J., & Blankemeyer, M. (2015). Future work self and career adaptability in the prediction of proactive career behaviors. *Journal of Vocational Behavior, 86*, 20–27. https://doi.org/10.1016/j.jvb.2014.10.005

Thomas, J. P., Whitman, D. S., & Viswesvaran, C. (2010). Employee proactivity in organizations: A comparative meta-analysis of emergent proactive constructs. *Journal of Occupational and Organizational Psychology, 83*(2), 275–300. https://doi.org/10.1348/096317910X502359

Tims, M., Bakker, A. B., & Derks, D. (2015). Job crafting and job performance: A longitudinal study. *European Journal of Work and Organizational Psychology, 24*(6), 914–928. https://doi.org/10.1080/1359432X.2014.969245

Tims, M., Derks, D., & Bakker, A. B. (2016). Job crafting and its relationships with person–job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior, 92*, 44–53. https://doi.org/10.1016/j.jvb.2015.11.007

Tornau, K., & Frese, M. (2013). Construct clean-up in proactivity research: A meta-analysis on the nomological net of work-related proactivity concepts and their incremental validities. *Applied Psychology, 62*(1), 44–96. https://doi.org/10.1111/j.1464-0597.2012.00514.x

Tosti-Kharas, J., & Michaelson, C. (2021). To mean is to be perceived: Studying the meaning of work through the eyes of others. *Academy of Management Perspectives, 35*(3), 503–516. https://doi.org/10.5465/amp.2018.0156

Vancouver, J. B., & Morrison, E. W. (1995). Feedback inquiry: The effect of source attributes and individual differences. *Organizational Behavior and Human Decision Processes, 62*(3), 276–285. https://doi.org/10.1006/obhd.1995.1050

Vandenberghe, C., Landry, G., Bentein, K., Anseel, F., Mignonac, K., & Roussel, P. (2021). A dynamic model of the effects of feedback-seeking behavior and organizational commitment on newcomer turnover. *Journal of Management, 47*(2), 519–544. https://doi.org/10.1177/0149206319850621

VandeWalle, D. (2003). A goal orientation model of feedback-seeking behavior. *Human Resource Management Review, 13*(4), 581–604. https://doi.org/10.1016/j. hrmr.2003.11.004

Vough, H. C., & Caza, B. B. (2017). Where do I go from here? Sensemaking and the construction of growth-based stories in the wake of denied promotions. *Academy of Management Review, 42*(1), 103–128. https://doi.org/10.5465/amr.2013.0177

Wanberg, C., & Kammeyer-Mueller, J. (2000). Predictors and outcomes of proactivity in the socialization process. *The Journal of Applied Psychology, 85*, 373–385. https://doi.org/10.1037//0021-9010.85.3.373

Wang, L., & Chen, Y. (2022). Success or growth? Distinctive roles of extrinsic and intrinsic career goals in high-performance work systems, job crafting, and job performance. *Journal of Vocational Behavior, 135*, Article 103714. https://doi.org/10.1177/00332941231159607

Wang, M., Beal, D. J., Chan, D., Newman, D. A., Vancouver, J. B., & Vandenberg, R. J. (2017). Longitudinal research: A panel discussion on conceptual issues, research design, and statistical techniques. *Work, Aging and Retirement, 3*, 1–24. https://doi.org/10.1093/workar/waw033

Weick, K. E. (1993). Sensemaking in organizations: Small structures with large consequences. In J. K. Murnighan (Ed.), *Social psychology in organizations: Advances in theory and research* (pp. 10–37). Prentice Hall.

Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks: Sage Publications. http://archive.org/details/trent_0116403577194.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science, 16*(4), 409–421. https://doi.org/10.1287/orsc.1050.0133

Widaman, K. F., & Reise, S. P. (1997). Exploring the measurement invariance of psychological instruments: Applications in the substance use domain. In K. J. Bryant, M. Windle, & S. G. West (Eds.), *The science of prevention: Methodological advances from alcohol and substance abuse research* (pp. 281–324). American Psychological Association. https://doi.org/10.1037/10222-009.

Wrzesniewski, A., Dutton, J. E., & Debebe, G. (2003). Interpersonal sensemaking and the meaning of work. *Research in Organizational Behavior, 25*, 93–135. https://doi.org/10.1016/S0191-3085(03)25003-6

Wu, C.-H., Parker, S. K., Wu, L.-Z., & Lee, C. (2018). When and why people engage in different forms of proactive behavior: Interactive effects of self-construals and work characteristics. *Academy of Management Journal, 61*(1), 293–323. https://doi.org/10.5465/amj.2013.1064

Yeoman, R. (2014). Conceptualising meaningful work as a fundamental human need. *Journal of Business Ethics, 125*(2), 235–251. https://doi.org/10.1007/s10551-013-1894-9

Zacher, H., Schmitt, A., Jimmieson, N. L., & Rudolph, C. W. (2019). Dynamic effects of personal initiative on engagement and exhaustion: The role of mood, autonomy, and support. *Journal of Organizational Behavior, 40*(1), 38–58. https://doi.org/10.1002/job.2277