Inspire but don't interfere:
Managerial influence as a double-edged sword for innovation

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Abstract

Managers play a pivotal role in the innovation process; yet, the mechanisms through which managers enhance or undermine innovation are not well understood. Drawing upon self-concordance theory, we argue that managers can augment employees' self-concordance—defined as the congruence of goals and actions with inner values and preferences—through transformational behavior and thereby contribute to innovation. However, transformational behavior is closely coupled to another form of influence, namely process management, the attempt to directly manage innovation-related activities. This form of managerial influence reduces employees' self-concordance and thereby undermines innovation. We test our conceptual model in a sample of 188 innovation projects using a contextualized method that asked employees to assess their self-concordance and their managers' behavior during each project. Managers evaluated for each project the innovativeness of the outcome. Multi-level path-analysis provided support for our hypotheses. We discuss future research implications to disentangle innovation-facilitating and innovation-undermining facets of managerial influence.

Keywords: innovation project; managerial influence; process management; self-concordance; transformational leadership

Innovators are employees in charge of the development and introduction of new and useful ideas designed to benefit others (Anderson et al., 2014; West & Farr, 1990)—a task that is pivotal for contemporary organizations (Hughes et al., 2018; Rosenbusch et al., 2011). Innovators usually possess considerable leeway in determining how they approach and accomplish their task because they need to make decisions autonomously to adequately deal with the uncertainty and limited predictability involved in the innovation process (Bledow et al., 2009). Nevertheless, the work of innovators is also embedded in the hierarchy of an organization and innovators typically report to managers who can exert considerable influence on their actions (Mumford et al., 2002). Consequently, managers' behavior is a pivotal factor for whether innovators can succeed in their projects (e.g., Cai et al., 2019; Mumford et al., 2002; Sivasubramaniam et al., 2012).

However, the type of managerial influence that allows managers and innovators to coordinate their actions and successfully conduct innovation projects is barely understood (Kark et al., 2018; Tyssen et al., 2014; West, 2002). Multiple studies have focused on transformational leadership as a style of managerial influence that can activate the ability to generate and implement new ideas (e.g., Boerner et al., 2007; Gumusluoglu & Ilsev, 2009); however, these studies have largely considered general rather than project-specific work. Recent work has begun to dive deeper into mechanisms through which transformational leadership of portfolio managers influences innovation success in a project setting (Kissi et al., 2013). This direction is ever more promising since meta-analytical evidence reported that the total effect of transformational leadership may be positive, but its direct effect becomes weaker or negative when scholars take a more nuanced lens on co-occurring and mediating factors (Koh et al., 2019). We build here on this nascent stream of research and extend it in three ways.

First, we show that during innovation projects, managers' transformational behavior is intertwined with another form of influence that aims at guiding innovators in how they perform their task work (Herrmann & Felfe, 2014). We name this form of influence *process management*, defined as the manager's attempt to directly influence and control innovation-related activities of innovators. We disentangle process management—managers giving explicit instructions on how to act in the innovation process—from the inspirational core of transformational behavior. By extracting the inspirational core versus the instructional tone of leader behavior and unpacking their distinct consequences in innovation projects, we intend to explain why the positive link between transformational behavior and innovation is not as strong as theoretically expected (Koh et al., 2019; Rosing et al., 2011).

Second, we draw from self-concordance theory (Sheldon & Elliot, 1999) to outline how a manager's transformational behavior positively relates to innovative outcomes, namely through the generation of a feeling of ownership in the innovator. Self-concordance is defined as a psychological state in which goals and actions are congruent with inner values and preferences (Sheldon & Kasser, 1995), which supports the development of a sense of ownership during goal pursuit that is necessary to tackle the often difficult and unforeseeable innovation process (Bledow et al., 2009). We argue that on the one hand managers enhance innovators' self-concordance through transformational behavior that inspires and empowers innovators (Bono & Judge, 2003; Gumusluoglu & Ilsev, 2009; Pieterse et al., 2010). However, managers may also trigger a sense of external control through their instructional process management activities, which reduces the innovators' self-concordance and hence their sense of ownership. Considering both forms of managerial influence, we argue that the inspirational core of transformational behavior facilitates and the instructional tone of process management undermines innovation due to their differential effects on the innovators' self-concordance.

Third, our research expands the methodological repertoire of research on leadership and innovation. Specifically, a limitation of many studies is that participants are asked to provide information about their own and their managers' *general* behavioral tendencies instead of considering that the behavior of managers and innovators is situated in specific projects and can vary across projects and organizational contexts (Bledow & Frese, 2009; Osborn & Marion, 2009). That is, due to their temporary and unique nature, projects are characterized by different management requirements and work contents (Tyssen et al., 2014). To address this observation, we use a *project-specific* survey method—which we denote as the process reconstruction method—to test our conceptual model. This method captures the behaviors that managers and innovators displayed during concrete projects, thereby allowing for a contextualized assessment of behavior and a fine-grained analysis of the consequences of managerial influence for the innovativeness of the outcome that is achieved in specific projects.

Theoretical Background and Development of Hypotheses

The management of innovation is fundamentally different from the management of traditional, routine-oriented task work (Anderson et al., 2014; Bledow et al., 2009). The unpredictability of the innovation process, the need for divergent thinking and proactive behavior, and the challenge to align the different steps of innovation require that managers support innovators without interfering with the innovation process (Rosing et al., 2018). Indeed, research and practice alike have acknowledged that detailed instructions have only limited value for facilitating the activities of innovators (Amabile, 1998; Kohn, 1999; Pieterse et al., 2010). Instead, ownership is important, that is, innovators need to fully identify with a project and develop a sense of personal agency as they pursue innovation. In the following, we present an integrated perspective on two aspects of managerial influence during the innovation process—

transformational behavior and process management—and its consequence for innovators' feelings of self-concordance as a central psychological mechanism through which managerial influence impacts the innovativeness of the outcome achieved in innovation projects.

Managerial Influence: Transformational Behavior and Process Management

Managers who display transformational leadership engage in four types of influence, namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration of subordinates (Bass, 1985). First, through idealized influence and inspirational motivation, managers provide compelling visions, ideals, and value-laden appeals that can motivate innovators to engage intensively in tasks or projects (Boerner et al., 2007). Furthermore, intellectual stimulation provides innovators with access to new knowledge and motivates innovators to question the status quo. Lastly, by individualized consideration, managers treat subordinates not just as members of a team but recognize their individual strengths and support their development. Taken together, managers who engage in these behaviors show a person-oriented, empowering leadership style that supports and stimulates self-regulatory processes among innovators (Gumusluoglu & Ilsev, 2009; Pieterse et al., 2010) by instilling a strong sense of inner purpose and direction (Kuhnert, 1994).

In line with the research purpose of this study, our theorizing focuses on transformational behavior in the context of a specific project rather than on transformational leadership as a general leadership style. Moreover, it focuses on the inspirational core of transformational behavior that manifests in the four types of influence in a project setting. Specifically, we extract the encouraging tone as observable in a manager's idealized influence behavior that instills confidence in the innovator's own abilities needed for a project, inspirational motivating behavior that infuses the innovator with enthusiasm and a project vision, intellectually

stimulating behavior that encourages the innovator to consider several perspectives, and individualized behavior that stimulates the innovator to develop their own strengths in a project. We conceptually separate from this inspirational core, managerial behavior that aims at exerting control over employees' specific behaviors during the innovation process (e.g., suggesting new ways of looking at how to complete assignments). In doing so, we exclude the interfering (i.e., directive or instructional) aspects of transformational leadership that have been criticized for being confounded with the transformational core, resulting in ambiguity about what is meant with transformational behavior (van Knippenberg & Sitkin, 2013; Yukl, 1999). Our theoretical rationale for disentangling the directive from transformational aspects of a manager's behavior lies in the aim to organize and make sense of several so far unconnected research findings on the potential negative side effects of transformational leadership (e.g., Eisenbeiß & Boerner, 2010; Howell & Avolio, 1993; Kark et al., 2003), the importance of innovators' psychological empowerment for successful innovation (Koh et al., 2019; Pieterse et al., 2010), and innovation-specific leadership practices in project work (Tyssen et al., 2014).

Indeed, some scholars acknowledged that managers who display transformational behavior can make employees more dependent (instead of empowered) because they make employees strive for the transformational leaders' approval (e.g., Eisenbeiß & Boerner, 2010; Kark et al., 2003). An increase in employee dependence can be facilitated by transformational managers because they tend to also engage in specific instructional behaviors such as providing guidance on work tasks to manage projects (Eisenbeiß & Boerner, 2010; Herrmann & Felfe, 2014). These instructional behaviors are different from transactional activities, that is, the exchange of resources between the leader and the follower such that the leader clarifies expectations and outlines the rewards for delivering upon them (Judge & Piccolo, 2004). We

conceptualize these innovation process-specific leader behaviors under the umbrella term of *process management*. Process management is defined as a form of managerial influence that encompasses explicit instructions directed at the innovator on how to act as well as suggestions for the adaption of the innovator's behaviors during the innovation process with the ultimate goal of improving the outcome. We adapt this construct from the organizational level literature on innovation (Benner & Tushman, 2003), in which processes are understood as the collection of activities that, taken together, produce certain outputs. More specifically, process management activities aim at influencing behavior in such a way that it aligns with the goals of an organization by improving what and how employees conduct their work.

Applied to the level of the individual manager, process management entails that the manager attempts to influence the behavior of the innovator during all steps of the innovation process to ultimately achieve innovation success. The innovation process involves two competing activities—exploration to generate ideas and exploitation to implement idea—and the literature on leadership and innovation has argued that managers need to use different leadership behaviors (i.e., opening, closing, and alternating) at different times to stimulate these two activities in innovators (Rosing et al., 2011; Zacher & Rosing, 2015; Zacher et al., 2014; Zacher et al., 2016). We draw from this research to specify the process management activities of managers in innovation projects. However, in line with our conceptual understanding of process management as representing an instructional tone of leader behavior, we limit our application of this research (Rosing et al., 2011; Zacher & Rosing, 2015; Zacher et al., 2014; Zacher et al., 2016) to identify specific activities that managers can guide during the innovation process.

Specifically, in terms of opening activities, process management behavior is represented for example by a manager who steps in and asks the innovator to search for additional

perspectives and generate new ideas. A manager's process management behavior that illustrates and attempts to close the innovation process is provided by a manager who asks employees to stop searching for alternatives and to focus on implementation. Lastly, process management can also encompass alternating activities when managers switch over time between opening and closing behaviors. The shared and defining feature of the opening, closing, and alternating facets of process management is the instructional mode and underlying attitude of the manager. It is not the empowering and inspirational attitude that lies at the core of transformational behavior and encourages the innovator to explore new perspectives, but a directive attitude that attempts to clarify what innovators should do at every point of the innovation process. Process management is thus a form of external control that seeks to influence an innovator's specific behaviors and shift agency over the innovation process from the innovator to the manager.

As two forms of managerial influence, we expect that the inspirational core of transformational behavior and the instructional tone represented in process management are tightly coupled. We ground our reasoning in the ambiguity that characterizes leadership in innovation settings (Alvesson & Sveningsson, 2003). The ambiguity of leadership describes the observation that the managers' idealized aim of engaging in transformational behavior is regularly countervailed by the day-to-day demands on micro-managing the innovation process and urgent or pressing administrative questions during the innovation project that require managerial attention (Alvesson & Sveningsson, 2003). Furthermore, managers who deeply identify with an innovation project will be prone to act transformational, but due to their high identification, these managers will also be highly motivated to ensure success by giving operational advice. To illustrate, when managers point out compelling visions for a project and engage strongly with the developed ideas, they will typically also want to ensure that their

ideas are put into action. Thus, they try to give concrete instructions such as pointing out which idea they think should be developed further. Providing evidence for this assumption, a study analyzing the interactions of 30 organizational teams found that managers who were perceived as transformational also showed the tendency to directly influence a team's problem-solving behavior by actively making many concrete suggestions for solutions (Lehmann-Willenbrock et al., 2015). Overall, the ambiguity of leadership in innovation settings thus describes the prevalent struggles of managers who aim to empower their employees through transformational behavior, but then are hit by organizational reality which urges them to exercise detailed management control of the innovation process (Alvesson & Sveningsson, 2003). To summarize, we pose the following hypothesis:

Hypothesis 1: There is a positive relationship between the levels of transformational behavior and process management a manager displays on an innovation project.

Managerial Influence and Self-Concordance

Next, we employ a self-concordance lens (Sheldon & Elliot, 1999) to specify the consequences of the ambiguity of leadership in the context of innovation, namely that leaders display both transformational behavior and project management. The innovators' actions during a project can be described as self-concordant when they are pursued because of the innovators' autonomous or identified motivation (Sheldon & Elliot, 1999). When innovators identify with the project goals and feel they voluntarily work toward achieving them, these "self-concordant goals are likely to achieve sustained effort over time" (Sheldon & Elliot, 1999: 484). In other words, because individuals perceive a sense of ownership and personal identification, they invest high effort to tackle the often difficult and unforeseeable innovation process (Bledow et al., 2009).

Managerial behaviors that help innovators to take ownership should foster innovators' self-concordance. When managers engage in transformational behavior, they support self-regulatory processes among innovators through inspiration and intellectual stimulation (Gumusluoglu & Ilsev, 2009; Pieterse et al., 2010), thereby instilling a strong sense of inner purpose and direction (Kuhnert, 1994). Transformational leader behavior arouses innovators' personal motives (House & Shamir, 1993) and serves as an accelerator of self-regulation, meaning followers are encouraged to self-organize their behaviors (Hetland et al., 2011; Kovjanic et al., 2012). This in turn should increase the innovators' feeling that what they do in the project is concordant with their inner values and preferences and allows them to fully identify with their actions as those are felt to emanate from self-choices (Sheldon & Elliot, 1999). It is then through this increased level of self-concordance that innovators build the drive to persistently work on the ups and downs of innovation projects (Bono & Judge, 2003).

However, due to the ambiguity a manager faces during innovation processes (Alvesson & Sveningsson, 2003), the manager's inspirational approach as manifesting in transformational behavior is usually accompanied by instructional suggestions as manifesting in process management. Process management works against the innovators' ability to autonomously manage the innovation process in accordance with their own goals and preferences and masks the positive effect of transformational leader behaviors for their self-concordance. In other words, process management reduces the innovators' feelings of self-concordance because the manager takes control by suggesting what they should work on, thereby interfering with the innovators' self-determined goal content.

To illustrate, a manager who supports an innovator to develop personal strengths during a project (= a transformational behavior) may allow the innovator to align activities with what they

think they are good at, thereby guaranteeing a high fit between the innovators' actions and their interests. In contrast, imagine a manager who stops an innovator's search process for new ideas by telling them to move on and complete a task. This process management behavior aimed at closing the idea search process reduces the innovator's ability to guide the project in a way they deem best for project success and instead pushes them to move into a predefined direction. However, a perceived external locus of causality of actions—i.e., the instructions of the manager asking the innovator to behave in a certain way—increases the likelihood that the innovator perceives the content of what they work on as not self-determined, but instead as other-determined (Sheldon & Elliot, 1999). This in turn reduces ownership and identification with the project. As another illustration, a manager could also have the impression that an innovator is thinking too narrowly and decides to intervene by instructing the innovator to explore other not so obvious alternatives. This process management behavior aimed at opening the innovation process takes away agency from the innovator who may have decided that what they work on is promising enough to stop the idea search process. Against this backdrop, the manager's behavior may pressure the innovator into spending time on exploring alternatives that they do not necessarily want to explore and that may contradict their own interests or preferences. The last example describes a manager who combines both behaviors in managing the innovation process. That is, when this manager feels it is the right time to open up the idea search, they instruct the innovator to do so, but when the manager gets the impression that narrowing down explorative behavior is the right course of action, they switch their instructions and ask the innovator to focus on implementation. Thus, instead of allowing the innovator to focus on what they think makes sense at the different stages of the innovation process, the manager intervenes by making (often well-intended) suggestions for the content of innovation-related activities that they think is

best for reaching the goals of the project. Overall, regardless of which facet of process management is shown by a manager, agency is taken away from the innovator in determining what they want to work on, thus reducing the amount of time that the innovator can engage in autonomous (i.e., freely chosen) behavior that expresses evolving interests (Sheldon & Elliot, 1999). External control, however, undermines the innovators' psychological involvement and intrinsic motivation (Carmeli & Schaubroeck, 2007; Zhou, 2003) and negatively impacts the volitional strength when obstacles are encountered (Sheldon & Elliot, 1999).

Taken together, we thus hypothesize that the positive relationship between managers' transformational behavior and innovators' self-concordance is attenuated because their transformational behavior co-occurs with process management. If this attenuating influence is accounted for, the unmasked positive relationship between the inspirational core of transformation behavior and self-concordance becomes observable.

Hypothesis 2: The strength of the positive relationship between transformational behavior and innovators' self-concordance increases if the indirect, negative effect of transformational behavior via process management is controlled for.

A Double-Edged Sword: Managerial Influence and Innovation

Bringing the different paths of our model together (see Figure 1), we infer that managerial influence acts as a double-edged sword for the innovativeness of the outcome of a project. This is because managers inspire and empower innovators through transformational behavior, which increases self-concordance, but at the same time, they also tend to exert process management, which reduces self-concordance. However, only in a state of self-concordance, in which goals and actions are congruent with a person's values and preferences, will innovators be optimally motivated and capable of dealing with the complex demands of innovation

(Bledow et al., 2009). That is, we propose that self-concordance constitutes a psychological process through which managerial influence affects the innovativeness of a project's outcome. In doing so, our conceptual model organizes several so far unconnected research findings on the importance of innovators' psychological empowerment for successful innovation (Koh et al., 2019; Pieterse et al., 2010), the potential negative side effects of transformational leadership (e.g., Eisenbeiß & Boerner, 2010; Howell & Avolio, 1993), and innovation-specific leadership practices in project work (Tyssen et al., 2014).

Hypothesis 3: The strength of the positive relationship between transformational behavior and the innovativeness of a project's outcome through the innovators' self-concordance increases if the indirect, negative effect of transformational behavior via process management is controlled for.

Methods

Participants

We contacted directors from various organizations in Belgium that worked on the development and delivery of innovative products or services to recruit a heterogeneous sample that allows for a generalization across industries and job functions. If the directors decided to support our research, we contacted all innovators employed in the company and administered a short survey with open-ended questions requesting the innovators to provide their informed consent to participate in our research and to name and describe two completed innovation projects. To reduce biases in the selection of projects, we provided a specific set of constraints. First, we asked participants to consider only innovative projects that were intended to introduce something new and useful for their organization or client. Second, we asked participants to select only projects that were completed recently in their current jobs. Third, participants must have played a major role in the project and the supervisor on both projects needed to be the same.

Next, participants received two different questionnaires with standardized questions to measure the variables of interest and two return envelopes. Participants were asked to respond to one questionnaire and to hand the other questionnaire and the description of the two projects to their manager. The description of the two projects did not contain any evaluative information to ensure that the ratings of managers were not influenced. To ensure anonymity, the two questionnaires were sent back separately by the innovator and the manager and contained a unique code that allowed us to match both questionnaires.

This strategy resulted in a final sample of 94 unique innovator-manager dyads reporting on 188 projects who returned complete questionnaires (i.e., no missings on the variables of interest). This constitutes a satisfying return rate of 54% of the 175 initially approached dyads. Participants worked in various professions such as research and development engineers (24%), product designers (21%), and marketers (8%). The most represented industries were the metal industry (20%), the advertising industry (11%), the chemical industry (9%), and the textile industry (7%). The innovators' age ranged from 22 to 54 years, with an average age of 34.19 years (SD = 8.29). Managers (72% male) were between 26 and 64 years (M = 42.80; SD = 7.98). Seventy-one percent of the innovators were male, 28% female and 1% did not indicate their gender. On average, innovators have been working for 4.75 years (SD = 4.23) with the manager supervising their projects.

Procedure: Process Reconstruction Method

To disentangle the effects of innovation-facilitating and innovation-inhibiting managerial influence, we sought to examine managerial behavior as a project-specific phenomenon that can vary from one project to another. As such, we wanted to employ a design that considered that managerial behavior can vary between situations (Morgeson et al., 2010; Porter & McLaughlin, 2006) and that global assessments of leader behavior may be inaccurate because employees have to

make broad and abstract inferences (Costall & Leudar, 1996). We thus decided to employ a process reconstruction method, which is an adaptation of the day reconstruction method (Kahneman et al., 2004) and complements similar approaches that examine within-person variability such as experience sampling studies (e.g., Diener & Tay, 2014; Dimotakis & Ilies, 2013). Specifically, our process reconstruction method attempts to quantify behavior that occurred during concrete episodes, such as a project with a defined time frame. It thus does not require participants to make broad inferences about their leader's behavior but to access their episodic memory and report on what they had observed in a specific performance context.

To implement this idea, we asked participants to report on two innovation projects and to answer a set of standardized questions regarding their own and their manager's behavior for each project separately. We divided the questionnaire for innovators into two project-specific parts. In each part, we asked the innovators to name the innovation project and encouraged them to vividly remember their work and their manager's behavior in this project as detailed as possible to be able to answer questions on their project-specific behaviors and perceptions. Examples of projects that were conducted by innovators are the development of a wireless nurse call button, the initiation of a social media analysis strategy, or changing the way how aluminum profiles were milled. Innovators then rated their perceptions of self-congruence and their manager's behavior using multiple items for each of the two projects separately. Managers evaluated the innovativeness of a project's outcome separately for the two projects. They received a short description of each project and were informed that this information was provided by one of their supervised innovators and describes a project that was intended to introduce something new and useful for their organization or client.

Measures

Transformational behavior.

We assessed managers' transformational behavior with five items from Bass and Avolio (1995) that represent the inspirational aspect of the construct. Practicalities of our research setting (i.e., measures had to be answered for each project) required us to use a shortened measure. As recommended when confronted with such constraints (Heggestad et al., 2019; Stanton et al., 2002), we selected the five items based on (1) their suitability for capturing project-specific inspirational behaviors rather than overall descriptions of a manager (i.e., theoretical reasons) and (2) content validity considerations (i.e., capturing all facets of the construct). First, we used theoretical judgment to guide our decision, such that we included items that capture the core conceptual features of transformational leadership that are the focus of this research: its general empowering function in supporting and stimulating self-regulatory processes among innovators. Accordingly, we chose the items based on their conceptual fit with transformational leadership as representing a generally inspiring tone of leader behavior that stands in contrast to process management that reflects an instructional tone to guide the specific requirements of the innovation process. Second, in selecting the items, we also cared about content validity by ensuring that we included the inspirational component of all sub-facets of transformational leadership. In that regard, previous research has shown that the items and sub-dimensions of the Bass and Avolio (1995) instrument are highly correlated, providing a justification that a shortened version can sufficiently capture the construct (Carless et al., 2000), as has also been demonstrated by extant research using a five-item measure of transformational leadership (e.g., Breevaart et al., 2014; Kuonath et al., 2017).

The items that we used were “My manager articulated a compelling vision for the project”, “My manager was talking enthusiastically about the project”, “My manager supported me in developing my strengths in this project”, “My manager instilled a sense of strength and pride in me during this project” and “My manager stimulated me to see problems from many different angles”. Cronbach’s Alpha for the scale was $\alpha = .85$ for Project 1 and $\alpha = .85$ for Project 2. Results showed that innovators reported variability in their manager’s transformational behavior between projects (ICC1 = .58). The mean difference in the innovators’ perceptions of manager’s transformational behavior between Projects 1 and 2 was 0.56 points on a five-point Likert scale, indicating a considerable amount of variance in managers’ inspirational activities across different innovation projects.

Process management.

We measured managers’ process management with nine items that we developed by adapting Zacher and Rosing’s (2015) descriptions of opening, closing, and alternating activities during the innovation process. The adaption process consisted of rephrasing the items such that they reflect an instructional tone of the manager’s behavior during the innovation-related activities. Three items concerned behaviors related to the manager’s instructions for ‘opening’ the innovation process (In this project, my manager… “asked me to explore other not so obvious alternatives”; “made it clear that I need to broaden my vision”, “instructed me to bring forward more ideas”). Three items addressed the closing component of the innovation process (My manager… “asked me to focus and work towards a solution”, “instructed me to integrate different points of view”, “made it clear that I had to stop looking for alternatives”). Lastly, three items captured alternating between opening and closing behaviors (My manager… “asked me one time to broaden my vision and emphasized the other time I had to focus”, “gave me one time

a clear direction while other times he gave me more freedom", "stressed the importance of exploring new ideas one time while other times emphasized the need to make decisions"). Cronbach's Alpha for the scale was α = .86 for Project 1 and α = .82 for Project 2. The mean difference in the innovators' perceptions of manager's process management between Projects 1 and 2 was 0.48 points on a five-point Likert scale (ICC1 = .60).

Self-concordance.

We measured self-concordance with two items from Kuhl and Fuhrmann's (1998) volitional components inventory: "Almost everything I did in this project, I did because I wanted it" and "I can identify myself fully with the work that I did on this project". Cronbach's Alpha for the scale was α = .84 for Project 1 and α = .71 for Project 2. The mean difference in innovators' self-concordance between Projects 1 and 2 was 0.74 points on a five-point Likert scale (ICC1 = .19).

Innovativeness of project outcomes

Scholars have called for studies that use supervisor ratings of innovation rather than self-reports that potentially suffer from self-serving bias when studying transformational leader behavior (Bednall et al., 2018; Eisenbeiß & Boerner, 2013). Supervisors may be able to provide a less biased and more objective rating of the innovativeness of a project's outcome (Spector, 2019). Therefore, we asked managers to assess the innovativeness of a project's outcome by answering three items based on Motowidlo et al. (1990). Specifically, we took the three-item overall performance measure of Motowidlo et al. (1990) and changed both the referent of items (from individual to project) and the aspect of performance (overall performance to innovativeness). Using the revised items, managers assessed whether (1) the outcome of the project was very innovative and (2) the outcome of the project was more innovative than comparable projects, and

(3) a reversed coded item stating that the project outcome was not innovative. Cronbach's Alpha was $\alpha = .89$ for Project 1 and $\alpha = .70$ for Project 2. The data indicated considerable variability in the innovativeness of the outcome of the two projects (ICC1 = .04).

Results

Descriptive Analysis

Table 1 provides the descriptive statistics and correlations among the study variables. Both manager's project-specific transformational behavior ($r = .27$) and innovator's project-specific self-concordance ($r = .36$) were positively correlated with innovativeness. In contrast, project-specific process management ($r = -.02$) was not significantly associated with innovativeness.

To ensure that the inspirational tone described in transformational behavior and the instructional tone manifesting in process management indeed represent distinguishable leadership constructs, we conducted a confirmatory factor analysis (CFA) using the items of transformational behavior and process management. Results indicated that the best fit was obtained with transformational behavior as one factor and process management as a second factor consisting of the three sub-facets [1] opening (three items), [2] closing (three items), and [3] alternating (three items). The ration of the $\chi 2$ relative to the degrees of freedom of this model is 2.07, which is in line with acceptable threshold levels (Hooper et al., 2008). This model had a χ^2 of 150.95 ($df = 73$; $RMSEA = .09$; $CFI = .85$; $SRMR = .07$) and fitted the data better than the one-factor model ($df = 77$; $\chi^2 = 339.94$; $RMSEA = .15$; $CFI = .59$; $SRMR = .09$), a two-factor model with transformational behavior and process management as latent leadership factors (i.e., not modelling the three interrelated sub-facets of process management ($df = 76$; $\chi^2 = 271.65$; $RMSEA = .14$; $CFI = .67$; $SRMR = .09$), or a two-factor model integrating

opening activities and transformational behavior into one (second-order) factor (*df* = 76; χ^2 = 256.65; *RMSEA* = .13; *CFI* = .70; *SRMR* = .10).

Testing the Theoretical Model

We applied multi-level path-analysis in Mplus (Muthén & Muthén, 1998-2012) to control for the fact that each manager-innovator dyad reported on two projects (i.e., nested data structure). We modelled manager-innovator dyads as level-2 units (*N* = 94) and all study variables as level-1 variables (*N* = 188).

In Hypothesis 1, we proposed a positive link between managers' transformational behavior and process management. Providing support for this hypothesis, managers' transformational behavior was a significant predictor of process management (see Figure 2a). Furthermore, Table 1 shows that transformational behavior correlated significantly with process management (*r* = .50).

In the second hypothesis, we assumed that controlling for the negative, indirect effect of transformational behavior via process management will increase the strength of the positive relationship between transformational behavior and innovators' self-concordance. In other words, we expect that the positive direct effect of transformational behavior on innovators' self-concordance (*c*'; the effect of transformational behavior on innovators' self-concordance when the indirect effect via process management is modeled, which means, is controlled for) is greater than the positive total effect of transformational behavior on innovators' self-concordance (*c*). This is because we expect a *negative* indirect effect of transformational behavior on innovators' self-concordance via process management ($a \times b$). When testing this inconsistent mediation model (Model 1, see Table 2), we found a positive total effect of transformational behavior on innovator's self-concordance (*c*; $\gamma = .29$, $p < .01$), and a positive direct effect of transformational behavior on innovator's self-concordance (*c*'; $\gamma = .42$, $p < .01$). We tested for a significant difference between

the effect of transformational behavior on innovators' self-concordance (*c*; illustrated in Figure 2b) and the effect of transformational behavior on innovators' self-concordance when process management was controlled for (*c*'; illustrated in Figure 2a). The test value *c* – *c*' significantly differed from zero (Estimate = -0.138, *SE* = 0.046, $p < .01$), indicating that the strength of the relationship differed significantly when process management was considered. The estimated coefficient relating transformational behavior to process management was positive (*a* path; $\gamma = .42$; $p < .001$) and the link between process management and innovator's self-concordance was negative (*b* path; $\gamma = -.33$ $p < .001$). The indirect effect ($a \times b$) was -.14 ($p < .01$). Taken together, the overall positive effect of transformational behavior on innovator's self-concordance was reduced through the co-occurrence of process management, supporting Hypothesis 2.

In Hypothesis 3, we proposed that the positive relation between transformational behavior and innovativeness of project's outcome through the innovators' self-concordance will significantly increase when the negative, indirect effect of transformational behavior via process management is controlled for. In other words, we expect that the positive indirect effect linking transformational behavior with innovativeness via innovators' self-concordance when process management is controlled for ($c' \times d$; *d* denotes the effect of innovators' self-concordance on innovativeness; illustrated in Figure 2a) is greater than the positive indirect effect linking transformational behavior with innovativeness via innovators' self-concordance when process management is *not* controlled for ($c \times d$; illustrated in Figure 2b). This is because we expect a *negative* indirect effect of transformational behavior on innovativeness via process management and via innovators' self-concordance ($a \times b \times d$). When testing this inconsistent mediation model (Model 2, see Table 2), we found a positive effect of transformational behavior on project innovativeness via innovators' self-concordance ($c \times d$; $\gamma = .10$, $p < .05$), and a positive effect of transformational behavior on project innovativeness via innovators' self-concordance when

process management was taken into account ($c' \times d$; $\gamma = .15$, $p < .05$). We tested the difference between the indirect effect $c \times d$ and the indirect effect $c' \times d$. The test value $(c \times d) - (c' \times d)$ significantly differed from zero (Estimate = -0.044, $SE = 0.021$, $p < .05$), indicating that the strength of the indirect effect significantly increases when process management is taken into account.

The indirect effect ($a \times b \times d$) of regressing innovativeness on transformational behavior through process management and self-concordance (Model 2, see Table 2) was significant ($\gamma = -.04$, $p < .05$).The direct path between transformational behavior and innovativeness remained significant ($\gamma = .30$; $p = .001$). Taken together, the overall positive indirect effect of transformational behavior on innovativeness via innovator's self-concordance was reduced through the co-occurrence of process management, supporting Hypothesis 3.[1]

Exploratory Analyses: Sub-Facets of Process Management

To understand in more depth which aspects of process management interfere with innovators' self-concordance, we ran our analysis separately with each of the three sub-facets of process management. First, the opening process management facet was not a significant predictor of self-concordance ($\gamma = -.06$, $p = .457$), and the indirect effect of transformational behavior on self-concordance through opening was not significant. Second, the closing process management facet was a significant and negative predictor of self-concordance ($\gamma = -.26$, $p = .009$), and the indirect effect of transformational behavior on self-concordance through closing was significant ($\gamma = -.11$, $p = .024$). Third, the alternating process management facet was also a

[1] To rule out that age, gender, education, or tenure of the innovator drove the observed differences in innovativeness, we rerun the full model with the standardized residuals of a regression analyses predicting innovativeness from the demographic variables as the dependent variable. In the regression analyses, neither gender, education, nor tenure were significant predictors of innovativeness, whereas age was a significant positive predictor of innovativeness. The pattern of results for our model, however, remained the same.

significant and negative predictor of self-concordance ($\gamma = -.28$, $p = .001$), and the indirect effect of transformational behavior on self-concordance through alternating was significant ($\gamma = -.09$, $p = .001$). These findings indicate that the closing and alternating process management facets drove the inconsistent mediation effect. The opening process management facet did not negatively affect self-concordance.

Discussion

In an attempt to contribute to the debate surrounding the role of effective managerial behavior for innovation projects, we developed and tested a model that specifies transformational behavior and process management as frequently co-occurring forms of managerial influence that have distinct consequences. Three main findings accrued from our study. First, we disentangled the innovation-facilitating and innovation-undermining effects of managerial influence in innovation projects by unraveling that the inspirational core of transformational behavior is attenuated by the often co-occurring instructional tone of process management. Second, we established innovators' self-concordance as a central psychological mechanism linking managerial influence with the innovativeness of the outcome of a project. Third, we found that managers do not always show the same level of transformational behavior or process management but adapt their means of influence to different innovation projects. This was indicated by the fact that the innovators' ratings of their managers' behavior across the two projects varied considerably. On a methodological note, our findings thus suggest that global measures of managerial influence could be supplemented with more specific behavioral measures during theoretically relevant episodes such as innovation projects to capture phenomena of interest more accurately.

Theoretical and Managerial Implications

Our study adds to the leadership literature by focusing on the inspirational core of transformational leadership and providing a fine-grained analysis of co-occurring instructional behaviors that can explain indirect paths through which transformational behavior links to innovation outcomes. More specifically, we elucidate that the positive effect of transformational behavior can be masked by other activities that managers exhibit to address the ambiguous requirements of the innovation process (Alvesson & Sveningsson, 2003). A core insight of our research is thus that leadership scholars are well-advised to not lump together different actions (e.g., encouraging followers and providing direction) in one leadership style, but instead be very specific about the tone and function of different leader behaviors to accurately predict whether they will positively or negatively influence project outcomes.

More generally, our findings speak against a prevailing assumption in leadership research, which appears to be that managers may often not be effective at stimulating innovation because they do too little. Yet, although this idea that managers should directly manage the innovation process is intuitively appealing, it contradicts studies outlining that innovators have a low need for guidance by managers and a high need for autonomy (Eisenbeiss & Boerner, 2010; Raelin, 1985). In line with this notion, the conceptual and empirical evidence of our research suggest that to effectively guide innovation, managers may want to inspire innovators but are better off at refraining from micro-managing the innovation process during project work. In other words, managers who overcome the internal urge or external demands to micro-manage the day-to-day requirements of the innovation process may be rewarded with highly innovative project outcomes.

Interestingly, this notion is further supported by our exploratory analysis of the different facets of innovation process management (i.e., opening up or closing down the search for new

ideas or alternating between both behaviors). We found that managerial behaviors that asked innovators to explore new ideas did not affect self-concordance, indicating that these behaviors do not undermine the attempt of innovators to drive the project in a direction they deem best and to work on what aligns with their interests. Accordingly, scholars that seek to develop theory on leadership styles pertinent to stimulating innovation may want to put particular emphasis on behaviors that inspire the innovators' exploration and specify why these leader behaviors do not undermine self-concordance, even if expressed in an instructional manner. The need for conceptual work to consider the downstream consequences via which opening behaviors influence innovation is further underlined by recent work that provides some evidence for a positive effect of leader opening (and alternating) behavior on innovation outcomes, but no such effect for closing behavior (Klonek et al., 2020). In sum, our work implies that theory must be more specific in clarifying how innovation-related behaviors are expressed by the leader to draw an accurate picture of whether these behaviors influence innovators' sense of ownership and thus ultimately outcomes of innovation projects. In that regard, it is important to note that process management differs from the construct of ambidextrous leadership that has a broader understanding of opening, closing, and alternating leader behaviors as being less instructional and instead also including inspiring and transformational components (e.g., Gerlach et al., 2020; Klonek et al., 2020).

From a managerial perspective, our findings can inform Human Resource Management in terms of offering training and development activities that help managers to increase awareness of their leadership behaviors. For example, previous research suggests that mindful leaders are better at controlling and paying attention to their behavior (George, 2012; Hyland et al., 2015). Thus, mindfulness practices could be incorporated into leadership training programs to help managers to recognize when they start interfering with the innovation processes through process management. Moreover, our findings suggest that organizations are well-advised to consider the candidates'

tendency for engaging in process management when selecting managers that are supposed to guide innovation projects. For instance, organizations could adapt the recruitment and assessment center process (Den Hartog et al., 2007; Lauring & Jonasson, 2018) to identify candidates who are good at providing broad empowering visions but otherwise give freedoms to the innovators.

Strengths and Limitations

We tested our model with a process-reconstruction method that has serval key strengths. It allows researchers to examine variability in behavior across performance contexts and can be applied to behavior that unfolds over longer time frames than captured by experience sampling studies or by research relying on a day-reconstruction approach. The development of the process-reconstruction method was based on the idea that features of qualitative research may help to improve quantitative survey studies. Similar to qualitative interviews, the process reconstruction method asks participants to report about behavior they have observed in specific performance contexts. It thus relies less on participants' generalized inferences about their own or another person's behavior and more on their episodic memory than traditional surveys (Wheeler et al., 1997). To reduce the burden on participants' ability to recall, we asked them to refer to recent projects and behavior during an entire project rather than behavior on a highly specific occasion in the past that may not be accurately remembered. Along with these strengths, however, come potential weaknesses and open questions related to this relatively novel survey technique. In particular, the method depends on the adequacy of participants' memory and may be subject to attributional biases. We used multi-source data—i.e., the dependent variable (innovativeness) was assessed by managers, and the independent and mediating variables were rated by the innovators—to account for more than one perspective and to reduce potential biases. It needs to be noted, however, that participants may not have been completely accurate in their ratings.

First, managers may have rated the innovativeness of a project's outcome more positively if

they had a good relationship with the innovators (Schuh et al., 2018). Future research may thus want to replicate our findings using objective innovation outcome ratings. When doing so, one could also capture the downstream success of innovation projects, such as time-to-market, return on investment, and schedule or cost performance. We cannot generalize from our outcome measure (which focused on the innovativeness of the project results) that these other aspects of project success are affected in the same way by the variables we studied. It would for example be plausible that closing and alternating behaviors relate differently to conceptually distinct aspects of project success (e.g., time-to-market, return on investment, and schedule or cost performance) because these outcome measures rely less on radical thinking (Keller, 2006).

Second, self-serving attributions (Mezulis et al., 2004) could have motivated innovators to indicate a high amount of process management and a low degree of self-concordance for projects in which the outcome was low in innovativeness. In this way, innovators would hand over the responsibility for project failure to their manager. We attempted to reduce attribution biases by focusing on the innovativeness of a project's outcome rather than on the performance evaluations of the innovators. Moreover, the positive relationship between transformational behavior (as rated by the innovators) and innovativeness of a project's outcome (as rated by the manager) speaks against a simple attribution bias because the ratings indicate that innovators did acknowledge the positive role of managers. It is nevertheless important for future research to examine managerial influence with a more objective method such as manipulating leader behavior (Gerlach et al., 2020; Klonek et al., 2020). In doing so, one could also identify additional process management behaviors such as the manager bringing in own ideas or requesting frequent status reports, which may equally represent the construct and have not yet been included in our theoretically grounded measure (Rosing et al., 2011).

Going beyond the scope of this study, future studies could further investigate the

antecedents and boundary conditions that enhance the co-occurrence of transformational behavior and process management. For example, the amount of process management could be affected by the innovation project's importance for managers. When project outcomes are pivotal for the manager's next career step or linked to financial rewards, the manager may be more inclined to control the innovation process. Furthermore, based on the trait activation model (Tett & Burnett, 2003), the manager's personality could play a role in linking transformational behavior to process management. The situational context may enhance the effect of certain personality traits on particular leadership behaviors (Phaneuf et al., 2016). For example, extraverted leaders might be more likely to display process management in an open, free-spirited innovation environment, where—paradoxically—such behavior can be particularly disadvantageous for the innovator teams' performance (Grant et al., 2011; Keller, 2006). Thus, future research might want to shed light on the conditions that allow leaders with certain personality traits to refrain from managing the innovation process in an instructional manner.

Lastly, we also consider it valuable to shed more light on the link between process management and innovators' feelings of self-concordance. This relationship may be stronger for innovators with particular personality profiles. On the one hand, intuitive self-regulators or individuals with a high need for autonomy might feel more affected in their degree of self-concordance when managers engage in process management than innovators scoring low on these characteristics. On the other hand, innovators who can make sense of and cope with complex and contradictory leader behaviors (Ishaq et al., in press) may feel less restricted in their self-concordance when managers engage in process management. Similarly, innovators who have a high personal need for structure (Rietzschel et al., 2014) may appreciate closer guidance. To conclude, we encourage future research to pay closer attention to follower characteristics when disentangling innovation-facilitating and innovation-undermining facets of managerial influence.

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Table 1. *Means, standard deviations and intercorrelations of study variables.*

Variables	*M*	*SD*	1	2	2a	2b	2c	3
1. Transformational behavior	3.41	.85						
2. Process management	2.30	.71	.50**					
2a. Opening	2.36	.89	.49**	.82**				
2b. Closing	2.39	.85	.43**	.87**	.63**			
2c. Alternating	2.16	.86	.31**	.77**	.39**	.52**		
3. Self-concordance	3.70	.86	.28**	-.07	.09	-.09	-.17*	
4. Innovativeness	3.70	.98	.27**	-.02	.04	-.05	.05	.36**

Note: $N = 188$ innovation projects. $^{*}p \leq .05$; $^{**}p \leq .01$.

Table 2. *Model results: direct, indirect, and total effects and their confidence intervals.*

	Model 1 (DV: self-concordance)				Model 2 (DV: innovativeness)			
	Path	LCI	Estimate	UCI	Path	LCI	Estimate	UCI
Total effect								
Transformational behavior	*c*	.12	.29**	.46		.17	.32***	.46
Direct effects								
Transformational behavior	*c*’	.24	.42**	.61		.14	.30**	.46
Self-concordance					*d*	.17	.32**	.47
Process management	*b*	-.50	-.33**	-.16		-.35	-.19	-.02
Indirect effects								
Transformational behavior	*a* × *b*	-.22	-.14**	-.06	*a* × *b* × *d*	-.08	-.04*	-.01
Transformational behavior					*c*’ × *d*	.04	.14*	.23
Process management					*b* × *d*	-.19	-.11*	-.03

Note. DV = dependent variable. Within-level unstandardized parameter estimates with lower (LCI) and upper (UCI) 5% confidence intervals for the multi-level path model (N = 188 projects). $^{*}p \leq .05$; $^{**}p \leq .01$.

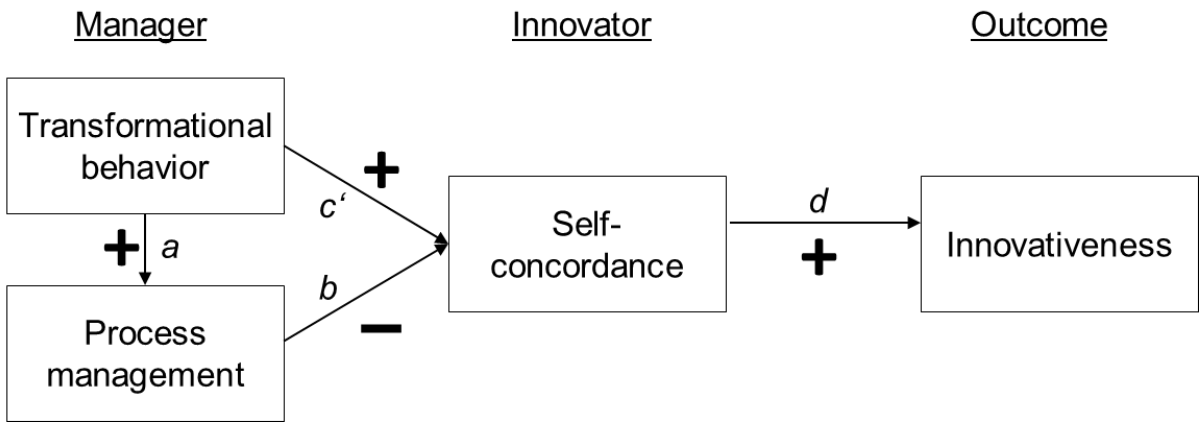

Figure 1. *Conceptual model.*

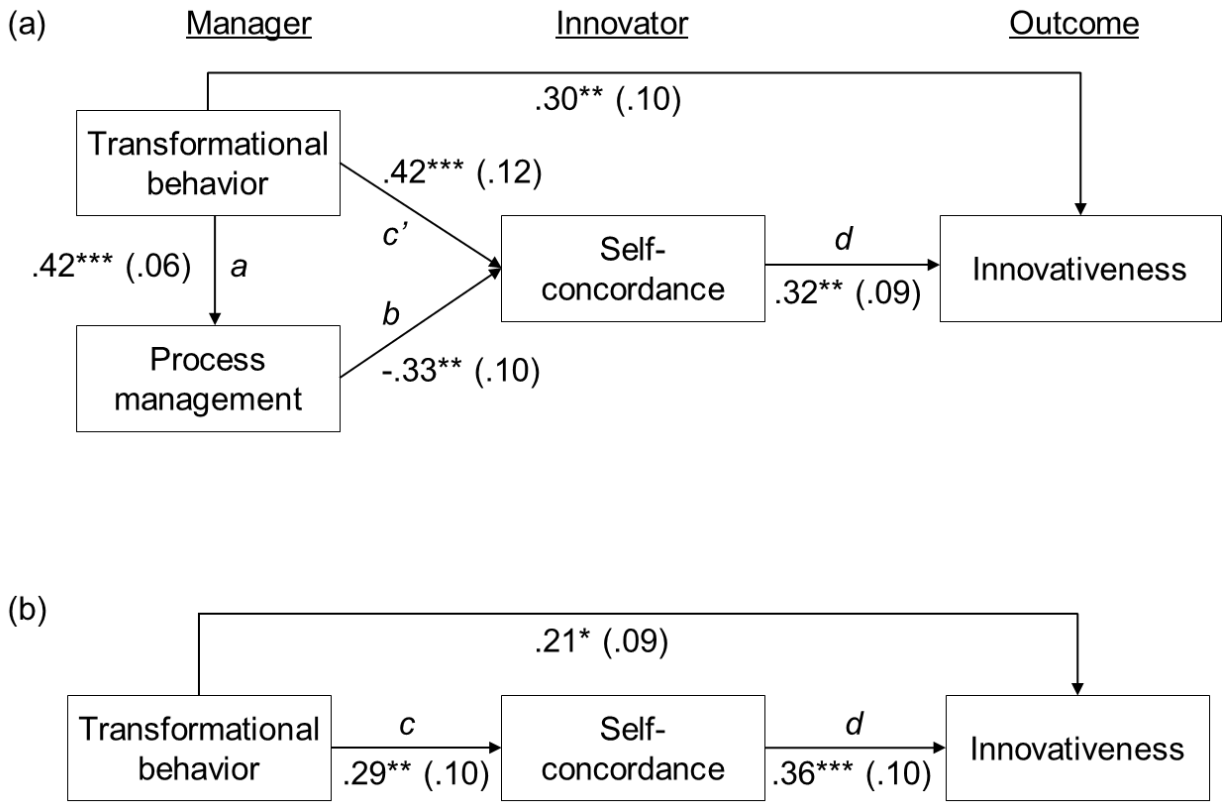

Figure 2. *Results for the multi-level mediation analysis.*

Notes. The values are the within-level parameter estimates (N = 188 projects) for the regression weights (γ). Standard errors are indicated in parentheses. $^{*}p \leq .05$; $^{**}p \leq .01$ (two-sided). The letters indicate the denotations used in the results section to refer to the respective paths.